

Table 4.2.5 (18/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
|---------------------------------|--------|--------------------------|----------------|----------|-----------|------|-------|--------|--------|---------|----------|
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Labour | | | | | | | | | | | |
| | L-2-1 | Foreman | day | 3 | 0 | 0 | 48800 | 0 | 0 | 146,400 | |
| | L-2-28 | Chief of Concrete Worker | day | 0.2 | 0 | 0 | 58600 | 0 | 0 | 11,720 | |
| | L-2-17 | Concrete Worker | day | 1.75 | 0 | 0 | 39000 | 0 | 0 | 68,250 | |
| | L-2-23 | Common Labour | day | 3 | 0 | 0 | 35100 | 0 | 0 | 105,300 | |
| Material | | | | | | | | | | | |
| | M-G-4 | PVC Pipe, Dia. 50mm | m | 11.11 | 0 | 2340 | 5460 | 0 | 25,997 | 60,661 | |
| | M-G-13 | Geotextile | m ² | 0.13 | 7837.5 | 0 | 412.5 | 1,019 | 0 | 54 | |
| Working Base Cost | | | | | | | | | | | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | | | | | | | | | |
| | | % | | 15 | 0.8 | | 0.2 | 50,328 | 0 | 12,582 | |
| Profit and Overhead Cost | | | | | | | | | | | |
| | | % | | 10 | 0.8 | | 0.2 | 38,585 | 0 | 9,646 | |
| | | Miscellaneous | L.S. | | | | | 68 | 3 | 88 | Round Up |
| Total for 10 m | | | | | | | | | | | |
| | | | | | | | | 90,000 | 26,000 | 414,700 | |
| Unit Cost for 1 m | | | | | | | | | | | |
| | | | | | | | | 9,000 | 2,600 | 41,470 | |
| Unit Cost for 1 nos | | | | | | | | | | | |
| | | | | | | | | 3,147 | 909 | 14,500 | |

- *1 Composition of Manpowers is quoted from Working Cost of PU
- *2 PVC pipe 1 m / 0.9 x 10 m - 11.11
- *3 Palm Fiber 0.01 m² / 0.75 x 10 m - 0.13

| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
|--------------------------------------|---------|--|----------------|----------|------------|------|-----------|-----------|--------|-----------|----------|
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | | | | | | | | | | | |
| | A-2-1-7 | Backhoe, 0.6 m ³ | hourly | 6.45 | 125542.908 | 2040 | 80965.076 | 809,752 | 13,158 | 586,725 | |
| Labour | | | | | | | | | | | |
| | L-2-27 | Chief of Mason | day | 0.51 | 0 | 0 | 58600 | 0 | 0 | 29,886 | |
| | L-2-11 | Mason | day | 1.53 | 0 | 0 | 39000 | 0 | 0 | 59,670 | |
| | L-2-23 | Common Labour | day | 2.55 | 0 | 0 | 35100 | 0 | 0 | 89,505 | |
| Material | | | | | | | | | | | |
| | M-E-72 | Gabion Cylinder, 2.7mm, Dia. = 50cm, Galvanized and PVC Coated | m | 51 | 65407.5 | 0 | 3442.5 | 3,335,783 | 0 | 175,568 | |
| | M-B-7 | Boulder | m ³ | 10 | 0 | 2500 | 47500 | 0 | 25,000 | 475,000 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | | | | | | | | | |
| | | % | | 15 | 0.8 | | 0.2 | 672,005 | 0 | 168,001 | |
| Profit and Overhead Cost | | | | | | | | | | | |
| | | % | | 10 | 0.8 | | 0.2 | 515,204 | 0 | 128,801 | |
| | | Miscellaneous | L.S. | | | | | 56 | 42 | 44 | Round Up |
| Total for 10 m³ | | | | | | | | | | | |
| | | | | | | | | 5,332,800 | 38,200 | 1,713,200 | |
| Unit Cost for 1 m³ | | | | | | | | | | | |
| | | | | | | | | 533,280 | 3,820 | 171,320 | |

- *1 All composition numbers are quoted from Japanese Standard.

Table 4.2.5 (19/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
|--------------------------------|--------|--------------------------|----------------|----------|-----------|------|------|--------|-------|--------|----------|
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Working Base Cost | | | | | | | | | | | |
| | CW-1-4 | Backfill (Soil) D | m ³ | 10 | 6038 | 133 | 7114 | 60,380 | 1,320 | 71,140 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 15,941 | 0 | 3,985 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 12,221 | 0 | 3,055 | |
| | | Miscellaneous | L.S. | | | | | 58 | 80 | 19 | Round Up |
| Total for 10 m ³ | | | | | | | | 88,600 | 1,400 | 78,200 | |
| Unit Cost for 1 m ³ | | | | | | | | 8,860 | 140 | 7,820 | |

*1 Volume of Soil 10 / 0.9 = 11.11
 *2: Dump Truck : 10 ton/dump / 1.5 m³/ton = 6.67 m³/dump
 1 km/rnd / 30 km/hr + 20 mins(loss) = 0.37 hours
 10 m³ / 6.67 m³/dump = 1.5 dp/10m²
 1.5 dp/10m² x 0.37 hours = 0.56 hours
 Including in Item Excavation

| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
|--------------------------------|---------|---|----------------|----------|------------|------|-----------|-----------|--------|-----------|----------|
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | | | | | | | | | | | |
| | A-2-1-7 | Backhoe, 0.6 m ³ | hourly | 2.7 | 125542.908 | 2010 | 90965.076 | 338,966 | 5,508 | 245,606 | |
| Labour | | | | | | | | | | | |
| | L-2-27 | Chief of Mason | day | 0.45 | 0 | 0 | 58600 | 0 | 0 | 26,370 | |
| | L-2-11 | Mason | day | 0.48 | 0 | 0 | 39000 | 0 | 0 | 18,720 | |
| | L-2-23 | Common Labour | day | 1.7 | 0 | 0 | 35100 | 0 | 0 | 59,670 | |
| Material | | | | | | | | | | | |
| | M-E-68 | Gabion Mattress; 2.7m, 3.0x1.0x0.5m, Galvanized | pcs | 15 | 327037.5 | 0 | 17212.5 | 4,905,563 | 0 | 258,188 | |
| | M-B-7 | Boulder | m ³ | 10 | 0 | 2500 | 47500 | 0 | 25,000 | 475,000 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 763,031 | 0 | 190,758 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 584,990 | 0 | 146,248 | |
| | | Miscellaneous | L.S. | | | | | 51 | 92 | 42 | Round Up |
| Total for 10 m ³ | | | | | | | | 6,592,600 | 30,600 | 1,420,600 | |
| Unit Cost for 1 m ³ | | | | | | | | 659,260 | 3,060 | 142,060 | |

*1 All composition numbers are quoted from Japanese Standard.

Table 4.2.5 (20/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
|--------------------------|---------|---------------------|--------|----------|------------|------|-----------|---------|--------|---------|----------|
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | A-2-1-7 | Backhoe; 0.6 m3 | hourly | 0.31 | 125542.908 | 2040 | 90965.076 | 38.918 | 632 | 28.199 | |
| Labour | L-2-1 | Foreman | day | 0.05 | 0 | 0 | 48800 | 0 | 0 | 2,440 | |
| | L-2-23 | Common Labour | day | 0.2 | 0 | 0 | 35100 | 0 | 0 | 7,020 | |
| Material | M-B-6 | River Gravel(Stone) | m3 | 10 | 0 | 2250 | 42750 | 0 | 22.500 | 427,500 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 63,265 | 0 | 15,816 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 48,503 | 0 | 12,126 | |
| | | Miscellaneous | L.S. | | | | | 13 | 68 | 99 | Round Up |
| Total for | | 10 m3 | | | | | | 150,700 | 23,200 | 493,200 | |
| Unit Cost for | | 1 m3 | | | | | | 15,070 | 2,320 | 49,320 | |

*1: Manpower; Foreman: 1 man/day / 200 m3/day x 10 m2 = 0.05
 Common Labor: 4 man/day / 200 m3/day x 10 m2 = 0.2
 Common Labor: 1 manpower = 50 m3/day

*2: Backhoe: 3600 x q x f x E
 Cm
 f: 0.9 q: 0.59 E: 0.5 Cm: 30
 Hence, Volume = 31.86 m3/hour

| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
|--------------------------|---------|--------------------------|--------|----------|------------|------|-----------|---------|--------|---------|----------|
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | A-2-1-7 | Backhoe; 0.6 m3 | hourly | 0.31 | 125542.908 | 2040 | 90965.076 | 38.918 | 632 | 28.199 | |
| Labour | L-2-1 | Foreman | day | 1.25 | 0 | 0 | 48800 | 0 | 0 | 61,000 | |
| | L-2-23 | Common Labour | day | 5 | 0 | 0 | 35100 | 0 | 0 | 175,500 | |
| Material | M-B-10 | Crushed Stone for Riprap | m3 | 10 | 0 | 2350 | 44650 | 0 | 23.500 | 446,500 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 92,910 | 0 | 23,227 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 71,231 | 0 | 17,808 | |
| | | Miscellaneous | L.S. | | | | | 41 | 68 | 66 | Round Up |
| Total for | | 10 m3 | | | | | | 203,100 | 24,200 | 753,300 | |
| Unit Cost for | | 1 m3 | | | | | | 20,310 | 2,420 | 75,330 | |

*1: Manpower; Foreman: 1 man/day / 8 m3/day x 10 m2 = 1.25
 Common Labor: 4 man/day / 8 m3/day x 10 m2 = 5
 Common Labor: 1 manpower = 2 m3/day

*2: Backhoe: 3600 x q x f x E
 Cm
 f: 0.9 q: 0.59 E: 0.5 Cm: 30
 Hence, Volume = 31.86 m3/hour

Table 4.2.5 (21/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

ID No. Working Name Calculation Quantity Remarks
 R-P1-Bq-94 Furnishing and Driving PC Sheet Pile (K-500, t=220mm, w=500mm) 10 m
 R-P1-Bq-160 Furnishing and Driving Concrete PC Pile (K-500, t=220mm, w=500mm)
 R-P1-Bq-204 Furnishing and Driving PC Sheet Pile (K-500, t=220mm, w=500mm)
 R-P1-Bq-336 Furnishing and Driving PC Sheet Pile (K-500, t=220mm, w=500mm)
 R-P2-Bq-45 Furnishing and Driving PC Sheet Pile (Prestressed Concrete K-500, t=220mm, w=500mm)
 R-P2-Bq-52 Furnishing and Driving Concrete Sheet Pile (Prestressed Concrete K-500, t=220mm, w=500mm)

| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
|-------------------|---------|---|------|----------|-----------|------|-------|-----------|-------|---------|----------|
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Material | | | | | | | | | | | |
| | M-C-48 | Prestressed Concrete Sheet Pile (B=0.5m, t=0.22m) | m | 10 | 190000 | 0 | 10000 | 1,900,000 | 0 | 100,000 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-3-11 | Driving In of Concrete Sheet Pile (t=22) | m | 7.14 | 15343 | 136 | 12963 | 109,549 | 971 | 92,556 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 264,369 | 0 | 66,092 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 202,683 | 0 | 50,671 | |
| | | Miscellaneous | L.S. | | | | | 99 | 29 | 81 | Round Up |
| Total for | | | | | | | | 2,476,700 | 1,000 | 309,400 | |
| Unit Cost for | | | | | | | | 247,670 | 100 | 30,940 | |

| Length of Sheet Pile | Length of Driving |
|----------------------|-------------------|
| 1 | 8.5 |
| 2 | 3 |
| 3 | 6 |
| 4 | 0 |
| 5 | 0 |
| 6 | 0 |
| Total | 17.5 |
| Ratio | 10 |

ID No. Working Name Calculation Quantity Remarks
 R-P1-Bq-95 Fixing Steel Tie Rod, Steel Cannel and Steel Plate to PC Sheet Pile 100 kg

| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
|-------------------|---------|---------------------------|------|----------|-----------|------|-------|-----------|---------|-----------|----------|
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Working Base Cost | | | | | | | | | | | |
| | CW-3-18 | Installation of Tie Rod-A | kg | 11.76 | 68880 | 96 | 25764 | 810,029 | 1,129 | 302,985 | |
| | CW-3-16 | Wale Work-A | kg | 88.24 | 30770 | 1550 | 27006 | 2,715,145 | 136,772 | 2,383,009 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 761,888 | 0 | 190,472 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 584,114 | 0 | 146,029 | |
| | | Miscellaneous | L.S. | | | | | 24 | 99 | 5 | Round Up |
| Total for | | | | | | | | 4,871,200 | 138,000 | 3,022,500 | |
| Unit Cost for | | | | | | | | 48,712 | 1,380 | 30,225 | |

| Ratio between Tie Rod and Wale (kg) | Tie Rod | Wale | Total |
|-------------------------------------|---------|-------|-------|
| | 100 | 750 | 850 |
| | 11.76 | 88.24 | 100 |

ID No. Working Name Calculation Quantity Remarks
 R-P1-Bq-99 Gabion Mattress (Galvanized) t=300mm with Soil Covering 10 m³

| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
|---------------|---------|--|----------------|----------|------------|------|-----------|-----------|--------|-----------|----------|
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | | | | | | | | | | | |
| | A-2-1-7 | Backhoe; 0.6 m ³ | hourly | 2.8 | 125542.908 | 2040 | 90965.076 | 351,520 | 5,712 | 254,702 | |
| Labour | | | | | | | | | | | |
| | L-2-27 | Chief of Mason | day | 0.39 | 0 | 0 | 58600 | 0 | 0 | 22,854 | |
| | L-2-11 | Mason | day | 0.33 | 0 | 0 | 39000 | 0 | 0 | 12,870 | |
| | L-2-23 | Common Labour | day | 2.06 | 0 | 0 | 35100 | 0 | 0 | 72,306 | |
| Material | | | | | | | | | | | |
| | M-E-70 | Gabion Mattress; 2.7mm, 2.0x1.0x0.3m, Galvanized | pcs | 16.7 | 163518.75 | 0 | 8606.25 | 2,730,763 | 0 | 143,724 | |
| | M-B-7 | Boulder | m ³ | 10 | 0 | 2500 | 47500 | 0 | 25,000 | 475,000 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 491,334 | 0 | 122,834 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 376,690 | 0 | 94,172 | |
| | | Miscellaneous | L.S. | | | | | 93 | 88 | 37 | Round Up |
| Total for | | | | | | | | 3,950,400 | 30,800 | 1,198,500 | |
| Unit Cost for | | | | | | | | 395,040 | 3,080 | 119,850 | |

*1 All composition numbers are quoted from Japanese Standard.

Table 4.2.5 (22/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | | |
|--------------------------|---------|---------------------------------|----------------|----------------------|------------|------|-----------|-------------------|---------|---------|----------|--|
| R-P1-Bq-100 | | Riprap Mound (Dia.250 to 400mm) | | 10 m ³ | | | | | | | | |
| R-P1-Bq-146 | | Riprap Mound (Dia.250 to 400) | | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks | |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | | |
| Direct Cost | | | | | | | | | | | | |
| Equipment | | | | | | | | | | | | |
| | A-2-1-7 | Backhoe; 0.6 m ³ | hourly | 0.62 | 125542.908 | 2040 | 90965.076 | 77.837 | 1,265 | 56,398 | | |
| Labour | | | | | | | | | | | | |
| | L-2-1 | Foreman | day | 0.03 | 0 | 0 | 48800 | 0 | 0 | 1,464 | | |
| | L-2-23 | Common Labour | day | 0.13 | 0 | 0 | 35100 | 0 | 0 | 4,563 | | |
| Material | | | | | | | | | | | | |
| | M-B-10 | Crushed Stone for Riprap | m ³ | 10 | 0 | 2350 | 44650 | 0 | 23,500 | 446,500 | | |
| Indirect Cost | | | | | | | | | | | | |
| Site Expense | | | | | | | | | | | | |
| | | % | | 15 | 0.8 | | 0.2 | 73,383 | 0 | 18,346 | | |
| Profit and Overhead Cost | | | | | | | | | | | | |
| | | % | | 10 | 0.8 | | 0.2 | 56,260 | 0 | 14,063 | | |
| | | Miscellaneous | L.S. | | | | | 30 | 35 | 64 | Round Up | |
| Total for | | | | | | | | 10 m ³ | 207,500 | 24,800 | 541,400 | |
| Unit Cost for | | | | | | | | 1 m ³ | 20,750 | 2,480 | 54,140 | |

*1 : Manpower ; Foreman : 1 man/day / 300 m³/day x 10 m² = 0.03
 Common Labor : 4 man/day / 300 m³/day x 10 m² = 0.13
 Common Labor : 1 manpower = 75 m³/day (Assistant of Backhoe)
 *2 : Backhoe : 3600 x q x f x E
 Cm
 f : 0.9 q : 0.3 E : 0.5 Cm : 30
 Hence, Volume = 16.2 m³/hour

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | | |
|--------------------------|---------|----------------------|----------------|----------------------|-----------|------|---------|-------------------|---------|--------|----------|--|
| R-P1-Bq-104 | | Backfill with Gravel | | 10 m ³ | | | | | | | | |
| R-P2-Bq-30 | | Backfill Gravel | | | | | | | | | | |
| R-P2-Bq-226 | | Backfill with Gravel | | | | | | | | | | |
| R-P1-Bq-114 | | Backfill with Gravel | | | | | | | | | | |
| R-P2-Bq-126 | | Backfill Gravel | | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks | |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | | |
| Direct Cost | | | | | | | | | | | | |
| Working Base Cost | | | | | | | | | | | | |
| | CW-1-16 | Backfilling Gravel A | m ³ | 10 | 0 | 4060 | 83560 | 0 | 40600 | 835600 | | |
| Indirect Cost | | | | | | | | | | | | |
| Site Expense | | | | | | | | | | | | |
| | | % | | 15 | 0.8 | | 0.2 | 105,144 | 0 | 26,286 | | |
| Profit and Overhead Cost | | | | | | | | | | | | |
| | | % | | 10 | 0.8 | | 0.2 | 80,610 | 0 | 20,153 | | |
| | | Miscellaneous | L.S. | | | | | 46 | 0 | 61 | Round Up | |
| Total for | | | | | | | | 10 m ³ | 185,300 | 40,600 | 882,100 | |
| Unit Cost for | | | | | | | | 1 m ³ | 18,530 | 4,060 | 88,210 | |

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | | |
|--------------------------|---------|--|----------------|----------------------|-----------|------|---------|-------------------|---------|---------|----------|--|
| R-P1-Bq-38 | | Rubble Stone Bedding | | 10 m ³ | | | | | | | | |
| R-P1-Bq-105 | | Rubble Stone Bedding | | | | | | | | | | |
| R-P1-Bq-176 | | Rubble Stone Bedding | | | | | | | | | | |
| R-P1-Bq-338 | | Rubble Stone Bedding | | | | | | | | | | |
| R-P1-Bq-115 | | Rubble Stone Bedding | | | | | | | | | | |
| R-P1-Bq-193 | | Rubble Stone Bedding | | | | | | | | | | |
| R-P2-Bq-225 | | Rubble Stone Bedding | | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks | |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | | |
| Direct Cost | | | | | | | | | | | | |
| Working Base Cost | | | | | | | | | | | | |
| | CW-1-19 | Foundation River Gravel (Rubble Stone) | m ³ | 10 | 0 | 2790 | 62080 | 0 | 27,900 | 620,800 | | |
| Indirect Cost | | | | | | | | | | | | |
| Site Expense | | | | | | | | | | | | |
| | | % | | 15 | 0.8 | | 0.2 | 77,844 | 0 | 19,461 | | |
| Profit and Overhead Cost | | | | | | | | | | | | |
| | | % | | 10 | 0.8 | | 0.2 | 59,680 | 0 | 14,920 | | |
| | | Miscellaneous | L.S. | | | | | 76 | 0 | 19 | Round Up | |
| Total for | | | | | | | | 10 m ³ | 137,600 | 27,900 | 655,200 | |
| Unit Cost for | | | | | | | | 1 m ³ | 13,760 | 2,790 | 65,520 | |

Table 4.2.5 (23/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
|--|----------|--|--------|----------|------------|-------|-----------|-----------|---------|------------|----------|
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| ID No. Working Name Calculation Quantity Remarks R-P1-Bq-106 Concrete, Type D including Formwork 10 m3 R-P1-Bq-162 Concrete for Main Body, Type D including Formwork R-P2-Bq-104 Concrete Type D including Formwork R-P2-Bq-229 Concrete Type D including Form Work | | | | | | | | | | | |
| Direct Cost | | | | | | | | | | | |
| Equipment | A-2-1-79 | Truck Mixer; 4.5 m3 | hourly | 3.02 | 77957.8757 | 1560 | 60651.605 | 235,433 | 4,711 | 183,168 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-1-23 | Form Work A | m2 | 159.1675 | 60 | 0 | 14798 | 9,550 | 0 | 7,130,386 | |
| | CW-2-40 | Breaking-up the Concrete Form Reinforced Concrete Work | m2 | 159.1675 | 0 | 0 | 3700 | 0 | 0 | 588,920 | |
| | CW-1-57 | Type D by Pump | m3 | 10 | 20270 | 40730 | 179170 | 202,700 | 407,300 | 1,791,700 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 1,266,464 | 0 | 316,616 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 970,956 | 0 | 242,739 | |
| | | Miscellaneous | L.S. | | | | | 97 | 89 | 72 | Round Up |
| Total for | 10 m3 | | | | | | | 2,685,200 | 412,100 | 10,253,600 | |
| Unit Cost for | 1 m3 | | | | | | | 268,520 | 41,210 | 1,025,360 | |

*1: Total Concrete Volume : 4287.293 m3
 *2: Total Formwork Area : 68239.77 m2
 Average Formwork Area : 159.1675 m2/unit m3
 *3: Dump Truck : 10.2 m3 / 4.5 m3/truck = 2.27 Truck
 10 km/hr / 30 km/hr = 60 mts(loss) = 1.33 hours
 2.27 Truck x 1.33 hours = 3.02 hours

Con Fm
 R-P2-Bq-119.1 3.3 33.4
 R-P1-Bq-104 3663.294 67788.47
 R-P1-Bq-162 551.699 303.399
 R-P2-Bq-230.31 69 114.5

| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
|---|---------|-------------------------------------|------|----------|-----------|------|-------|---------|---------|-----------|----------------------------------|
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| ID No. Working Name Calculation Quantity Remarks R-P1-Bq-110 Steel Fence (with Anti-corrosion Painting), H=1,100mm 6 m R-P1-Bq-121 Steel Fence (with Anti-corrosion Painting), H=1,100mm R-P2-Bq-234 Steel Fence (with Anti-corrosion Painting), H=110cm | | | | | | | | | | | |
| Direct Cost | | | | | | | | | | | |
| Labour | | | | | | | | | | | |
| | L-2-29 | Chief of Steel Worker | day | 2.09 | 0 | 0 | 58600 | 0 | 0 | 122,474 | |
| | L-2-6 | Welder | day | 3 | 0 | 0 | 39000 | 0 | 0 | 117,000 | |
| | L-2-16 | Steel Worker | day | 4.59 | 0 | 0 | 39000 | 0 | 0 | 179,010 | |
| | L-2-23 | Common Labour | day | 9.16 | 0 | 0 | 35100 | 0 | 0 | 321,516 | |
| Material | | | | | | | | | | | |
| | M-E-27 | Galvanized Steel Pipe, Dia. 50mm | m | 12 | 14250 | 0 | 750 | 171,000 | 0 | 9,000 | |
| | M-E-28 | Galvanized Steel Pipe, Dia. 75mm | m | 4.5 | 19000 | 0 | 1000 | 85,500 | 0 | 4,500 | |
| | M-E-1 | Reinforcing Bar, Round U-30 | kg | 46.93 | 0 | 2500 | 2500 | 0 | 117,325 | 117,325 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-2-89 | Pulishing and 2times Shiny Painting | m2 | 4.5 | 0 | 3800 | 21600 | 0 | 17100 | 97200 | |
| Others | | | | | | | | | | | |
| | | Small Tool | % | 5 | | | | 12,825 | 6,721 | 48,401 | Weld Machine, generator and etc. |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 171,228 | 0 | 42,807 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 131,275 | 0 | 32,819 | |
| | | Miscellaneous | L.S. | | | | | 73 | 54 | 48 | Round Up |
| Total for | 6 m | | | | | | | 571,900 | 141,200 | 1,092,100 | |
| Unit Cost for | 1 m | | | | | | | 95,317 | 23,533 | 182,017 | |

*1: All production rate are quoted from Indonesian Standard

Table 4.2.5 (24/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|--------------------------|----------|---|----------------|----------------------|-----------|---------|-----------|-----------|---------|-----------|------------------------------|
| R-P1-Bq-131 | | Reinforced Concrete Pile, Concrete Type A3, Section 200x200 | | 10 m ³ | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | A-2-1-71 | Truck Crane; 11(10) ton, Oil Pressure | hourly | 2.5 | 99321.89 | 1020 | 85928.774 | 243.305 | 2,550 | 214.822 | |
| Labour | L-2-28 | Chief of Concrete Worker | day | 1 | 0 | 0 | 58600 | 0 | 0 | 58,600 | |
| | L-2-17 | Concrete Worker | day | 2 | 0 | 0 | 39000 | 0 | 0 | 78,000 | |
| | L-2-23 | Common Labour | day | 2 | 0 | 0 | 35100 | 0 | 0 | 70,200 | |
| Material | M-C-9 | Ready Mixed Concrete; 350kg/cm ² , 25mm (A3) | m ³ | 10.7 | 0 | 46000 | 184000 | 0 | 492,200 | 1,968,800 | |
| Working Base Cost | CW-2-40 | Breaking-up the Concrete Form | m ² | 202 | 0 | 0 | 3700 | 0 | 0 | 747,400 | |
| | CW-1-23 | Form Work A | m ² | 202 | 30 | 0 | 22399 | 6,060 | 0 | 1,521,598 | Recycle Use (2 times) |
| | CW-1-29 | Reinforcing Bar Setup 1 | t | | 0 | 3120900 | 3325100 | 0 | 0 | 0 | |
| Others | | Tools | % | 1 | | | | 2,544 | 4,948 | 76,624 | Vibrator, Generator and etc. |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 1,019,478 | 0 | 254,870 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 781,600 | 0 | 195,400 | |
| | | Miscellaneous | L.S. | | | | | 14 | 2 | 86 | Round Up |
| Total for | | 10 m ³ | | | | | | 3,058,000 | 499,700 | 8,189,400 | |
| Unit Cost for | | 1 m ³ | | | | | | 205,800 | 49,970 | 818,940 | |

Concrete: 10 m³ x (1 + 7%) = 10.7
 Manpower ; Chief of Concrete Worker: 1 man/day / 10 m³/day x 10 m³ = 1
 Concrete Worker: 2 man/day / 10 m³/day x 10 m³ = 2
 Common Labor: 2 man/day / 10 m³/day x 10 m³ = 2
 Concrete Worker: 1 manpower = 5 m³/day
 Equipment : Truck Crane: 0.1 hr/pcs / 0.4 m³/pcs x 10 m³ = 2.5 hour/10m³

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|--------------------------|---------|--------------------------------------|------|----------------------|------------|----------|-----------|---------|-------|---------|--------------------------|
| R-P1-Bq-132 | | Test Piling for D.8.2 | | 10 m | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Working Base Cost | CW-3-13 | Pile Work of Concrete Pile for Groyn | m | 10 | 35838.5714 | 251.4286 | 37592.857 | 358,386 | 2,514 | 375,929 | |
| | | Test Piling | m | 10 | | | 10000 | 0 | 0 | 100,000 | Incl. Reporting and etc. |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 100,119 | 0 | 25,105 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 76,988 | 0 | 19,247 | |
| | | Miscellaneous | L.S. | | | | | 7 | 86 | 20 | Round Up |
| Total for | | 10 m | | | | | | 535,800 | 2,600 | 520,300 | |
| Unit Cost for | | 1 m | | | | | | 53,580 | 260 | 52,030 | |

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|--------------------------|---------|--------------------------------------|------|----------------------|------------|----------|-----------|---------|-------|---------|----------|
| R-P1-Bq-133 | | Driving RC Pile | | 10 m | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Working Base Cost | CW-3-13 | Pile Work of Concrete Pile for Groyn | m | 10 | 35838.5714 | 251.4286 | 37592.857 | 358,386 | 2,514 | 375,929 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 88,419 | 0 | 22,105 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 67,788 | 0 | 16,947 | |
| | | Miscellaneous | L.S. | | | | | 7 | 86 | 20 | Round Up |
| Total for | | 10 m | | | | | | 514,600 | 2,600 | 415,000 | |
| Unit Cost for | | 1 m | | | | | | 51,460 | 260 | 41,500 | |

Table 4.2.5 (25/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | Working Name | Calculation Quantity | Remarks | | | | | | | | |
|------------------------------|-------------------|----------------------|---------|----------|------------|------|-----------|---------|------|---------|-----------------|
| R-P1-Bq-134 | Cutting Pile Head | 10 m3 | | | | | | | | | |
| R-P2-Bq-133 | Cutting Pile Head | | | | | | | | | | |
| R-P2-Bq-53 | Cutting Pile Head | | | | | | | | | | |
| R-P2-Bq-57 Cutting Pile Head | | | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | A-2-2-67 | Concrete Cutter | daily | 16.67 | 33628.8876 | 0 | 13588.816 | 560.594 | 0 | 226.526 | |
| Labour | | | | | | | | | | | |
| | L-2-1 | Foreman | day | 0.4 | 0 | 0 | 48800 | 0 | 0 | 19.520 | |
| | L-2-23 | Common Labour | day | 2 | 0 | 0 | 35100 | 0 | 0 | 70.200 | |
| Others | | | | | | | | | | | |
| | | Small Tools | % | 5 | | | | 28,030 | 0 | 15,812 | Hammer and etc. |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 110,482 | 0 | 27,620 | |
| Profit and Overhead Cost | | | | | | | | | | | |
| | | Miscellaneous | L.S. | 10 | 0.8 | | 0.2 | 84,703 | 0 | 21,176 | |
| | | | | | | | | 92 | 0 | 46 | Round Up |
| Total for 10 m3 | | | | | | | | | | | |
| Unit Cost for 1 m3 | | | | | | | | | | | |

Manpower : Foreman : 1 man/day / 25 m3/day x 10 m3 = 0.4
 Common Labor : 5 man/day / 25 m3/day x 10 m3 = 2
 Common Labor : 1 manpower = 6 pcs/day 5 m3/day
 Equipment : Concrete Cutter : 10 nuts/pc / 0.02 m3/pc / 300 nuts/day
 x 10 m3 = 16.67 day/10m3

| ID No. | Working Name | Calculation Quantity | Remarks | | | | | | | | |
|--------------------------|--|-------------------------------|---------|----------|------------|-------|-----------|-----------|---------|-----------|----------|
| R-P1-Bq-135 | Concrete Type C1 for Beam including Formwork | 10 m3 | | | | | | | | | |
| R-P2-Bq-112 | Concrete Type-C1 including Formwork and Scaffolding | | | | | | | | | | |
| R-P1-Bq-206 | Concrete for Structure, Type C1 including Formwork | | | | | | | | | | |
| R-P1-Bq-370 | Concrete, Type C1 including Formwork | | | | | | | | | | |
| R-P2-Bq-194 | Concrete Type-C1, including Scaffolding and Formwork | | | | | | | | | | |
| R-P2-Bq-228 | Concrete, Type C1 including Scaffolding and Formwork | | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | A-2-1-79 | Truck Mixer; 4.5 m3 | hourly | 3.02 | 77957.8757 | 1560 | 60651.605 | 235,433 | 4,711 | 183,168 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-1-24 | Form Work B | m2 | 42.17726 | 10030 | 75 | 52910 | 423,038 | 3,163 | 2,231,599 | |
| | CW-2-10 | Breaking-up the Concrete Form | m2 | 42.17726 | 0 | 0 | 3700 | 0 | 0 | 156,056 | |
| | CW-1-42 | Tublar Scaffold for Re-Con IV | m2 | 43.8477 | 24970 | 70 | 23610 | 1,094,877 | 3,069 | 1,035,244 | |
| | CW-1-44 | Frame Support | m3 | 7.700645 | 11370 | 50 | 22310 | 87,556 | 385 | 171,801 | |
| | | Concrete Work for Reinforced | | | | | | | | | |
| | CW-1-20 | Concrete C1 by Pump | m3 | 10 | 20270 | 41770 | 183330 | 202,700 | 417,700 | 1,833,300 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 970,056 | 0 | 242,514 | |
| Profit and Overhead Cost | | | | | | | | | | | |
| | | Miscellaneous | L.S. | 10 | 0.8 | | 0.2 | 743,710 | 0 | 185,927 | |
| | | | | | | | | 30 | 71 | 90 | Round Up |
| Total for 10 m3 | | | | | | | | | | | |
| Unit Cost for 1 m3 | | | | | | | | | | | |

*1 : Total Concrete Volume : 274.377 m3
 *2 : Total Scaffolding Area : 1203.08 m2
 Average Scaffolding Area : 43.8477 m2/unit m3
 Total Formwork Area : 1157.247 m2
 Average Formwork Area : 42.17726 m2/unit m3
 *3 : Truck Mixer : 10.2 m3 / 10 km/hr = 2.27 Truck
 30 km/hr + 60 mnts(lost) = 1.33 hours
 x 1.33 hours = 3.02 hours

| ID | Can | Fin | Sea | Sup |
|---------------|--------|---------|---------|---------|
| R-P1-Bq-133 | 32.335 | 323.352 | 780.581 | 0 |
| R-P1-Bq-196 | 78.662 | 284.171 | 93.745 | 58.33 |
| R-P1-Bq-340 | 27.324 | 125.527 | 136 | 19.296 |
| R-P2-Bq-123 | 58.743 | 110.596 | | 104.413 |
| R-P2-Bq-124.4 | 48.6 | 199.852 | 115.318 | 29.249 |
| R-P2-Bq-230.3 | 28.713 | 113.749 | 77.436 | |

Table 4.2.5 (26/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | Working Name | Calculation Quantity | Remarks |
|-------------|---|----------------------|---------|
| R-P1-Bq-136 | Deformed Reinforcing Bars for Beam | 1000 kg | |
| R-P1-Bq-372 | Deformed Reinforcing Bars including Anchor bars for Gauging House | | |
| R-P2-Bq-62 | Deformed Reinforcing Bar for Item E.1.2 | | |
| R-P2-Bq-64 | Deformed Reinforcing Bar for Item E.1.4 | | |
| R-P2-Bq-79 | Deformed Reinforcing Bar for Item E.2.2 | | |
| R-P2-Bq-91 | Deformed Reinforcing Bars for Items E.3.3 | | |
| R-P2-Bq-99 | Deformed Reinforcing Bars for Items E.4.2 | | |
| R-P2-Bq-101 | Deformed Reinforcing Bars for Items E.4.4 | | |
| R-P2-Bq-103 | Deformed Reinforcing Bars for Items E.4.6 | | |
| R-P2-Bq-113 | Deformed Reinforcing Bars for E.5.3 | | |
| R-P2-Bq-195 | Deformed Reinforcing Bars for Item K.1.5 | | |
| R-P1-Bq-107 | Deformed Reinforcing Bars for Item D.5.5 | | |
| R-P2-Bq-230 | Deformed Reinforcing Bars for Item L.2.8 | | |

| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
|--------------------|--------|--------------------------------|------|----------|-----------|---------|---------|---------|-----------|-----------|----------|
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Working Base Cost | | | | | | | | | | | |
| | | Reinforcing Bar Setup by using | | | | | | | | | |
| | | CW-1-32 Crane 2 | l | 1 | 123300 | 2809800 | 3097935 | 123,300 | 2,809,800 | 3,097,935 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | | 723,724 | 0 | 180,931 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | | 554,855 | 0 | 138,714 | |
| | | Miscellaneous | L.S. | | | | | 21 | 0 | 20 | Round Up |
| Total for 1000 kg | | | | | | | | | | | |
| Unit Cost for 1 kg | | | | | | | | | | | |

| ID No. | Working Name | Calculation Quantity | Remarks |
|-------------|----------------------|----------------------|---------|
| R-P1-Bq-142 | Rubble Stone Filling | 10 m ³ | |

| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
|--------------------------------|----------|------------------------------------|----------------|----------|------------|------|-----------|--------|--------|---------|----------|
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | | | | | | | | | | | |
| | A-2-1-84 | Tugboat; 15 ton | hourly | 0.34 | 129433.062 | 4410 | 140042.2 | 44,007 | 1,510 | 47,614 | |
| | A-2-2-37 | Pontoon Barge; 100 ton | daily | 0.05 | 314821.292 | 0 | 237790.55 | 15,741 | 0 | 11,890 | |
| | A-2-1-1 | Backhoe; 2 m ³ Long Arm | hourly | 0.19 | 512434.992 | 4410 | 355749.21 | 97,363 | 844 | 67,592 | |
| Labour | | | | | | | | | | | |
| | L-2-1 | Foreman | day | 0.03 | 0 | 0 | 48800 | 0 | 0 | 1,464 | |
| | L-2-23 | Common Labour | day | 0.13 | 0 | 0 | 35100 | 0 | 0 | 4,563 | |
| Material | | | | | | | | | | | |
| | M-8-10 | Crushed Stone for Riprap | m ³ | 10 | 0 | 2350 | 44650 | 0 | 23,500 | 446,500 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | | 91,510 | 0 | 22,878 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | | 70,158 | 0 | 17,540 | |
| | | Miscellaneous | L.S. | | | | | 21 | 47 | 60 | Round Up |
| Total for 10 m ³ | | | | | | | | | | | |
| Unit Cost for 1 m ³ | | | | | | | | | | | |

*1: Manpower; Foreman: 1 man/day / 300 m³/day x 10 m² = 0.03
 Common Labor: 4 man/day / 300 m³/day x 10 m² = 0.13
 Common Labor: 1 manpower = 75 m³/day (Assistant of Backhoe)

*2: Backhoe: 3600 x q x f x E
 Cm
 f: 0.9 q: 1 E: 0.5 Cm: 30
 Hence, Volume = 54 m³/hour

*3: Tagboat & Pontoon
 10 m³ / 54 m³/hour = 0.19 hour/10m³
 = 0.03 day/10m³
 0.19 hour x 10 m³ / (1 round) = 130 m³ x 10 km
 / 10 km/hour x 2 = 0.34 hour/10m³
 = 0.05 day/10m³

| ID No. | Working Name | Calculation Quantity | Remarks |
|-------------|---|----------------------|---------|
| R-P1-Bq-143 | Placing Filter Cloth (Geotextile sheet) | 10 m ² | |
| R-P2-Bq-130 | Geotextile Filter Cloth | | |

| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
|--------------------------------|----------|---------------------------------------|----------------|----------|-----------|------|-----------|--------|------|--------|---------------|
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | | | | | | | | | | | |
| | A-2-1-71 | Truck Crane; 11(10) ton, Oil Pressure | hourly | 0.25 | 99321.89 | 1020 | 85928.774 | 24,830 | 255 | 21,482 | |
| Labour | | | | | | | | | | | |
| | L-2-1 | Foreman | day | 0.02 | 0 | 0 | 48800 | 0 | 0 | 976 | |
| | L-2-23 | Common Labour | day | 0.06 | 0 | 0 | 35100 | 0 | 0 | 2,106 | |
| Material | | | | | | | | | | | |
| | M-G-13 | Geotextile | m ² | 10.5 | 7837.5 | 0 | 412.5 | 82,294 | 0 | 4,331 | |
| Others | | | | | | | | | | | |
| | | Small Tools | % | 5 | | | | 5,356 | 13 | 1,415 | Glue and etc. |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | | 17,171 | 0 | 4,293 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | | 13,164 | 0 | 3,291 | |
| | | Miscellaneous | L.S. | | | | | 85 | 32 | 76 | Round Up |
| Total for 10 m ² | | | | | | | | | | | |
| Unit Cost for 1 m ² | | | | | | | | | | | |

Geotextile: 10 m² x (1+ 5%) = 10.5
 *1 All composition numbers are quoted from Japanese Standard. (P152)
 *2 Truck Crane: 60% of Common Labor

Table 4.2.5 (27/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|----------------------|---------|--|------|----------------------|------------|----------|-----------|---------------|-----------|---------------|-------------------|
| R-P1-Bq-154 | | Coffering and Dewatering | | 1 L.S. | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Material | | | | | | | | | | | |
| | M-B-9 | Soil for Backfilling | m3 | 291.5 | 0 | 400 | 7600 | 0 | 116,600 | 2,215,400 | for Earth Filling |
| Working Base Cost | | | | | | | | | | | |
| | CW-1-46 | Excavation A | m3 | 145.75 | 2361 | 39 | 1711 | 344,116 | 5,684 | 249,378 | for Earth Filling |
| | CW-1-47 | Excavation B | m3 | 72.875 | 2951 | 48 | 2138 | 215,054 | 3,498 | 155,807 | for Earth Filling |
| | CW-1-48 | Excavation C | m3 | 72.875 | 3943 | 65 | 2857 | 287,346 | 4,737 | 208,204 | for Earth Filling |
| | CW-1-58 | Spreading and Compaction for Earth Filling | m3 | 583 | 2833.80293 | 36.252 | 2632.6181 | 1,652,107 | 21,135 | 1,534,816 | for Earth Filling |
| | CW-4-8 | Temporary Steel Sheet Pile (Type-C) | nos | | 1420686.26 | 85.90653 | 949534.95 | 0 | 0 | 0 | |
| | CW-4-7 | Sand Bags | nos | | 88.3375 | 758.9625 | 4199.6625 | 0 | 0 | 0 | |
| | CW-4-11 | Temporary Double Steel Sheet Pile | m | 157 | 11624101.3 | 15805.53 | 8175659.6 | 1,824,983,897 | 2,481,469 | 1,283,578,552 | |
| | CW-4-12 | Temporary Dewatering by D100mm | m | 157 | 291463.509 | 12974.4 | 212460.62 | 45,759,771 | 2,036,981 | 33,356,318 | |
| Others | | | | | | | | | | | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 383,905,304 | 0 | 95,976,326 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 294,327,400 | 0 | 73,581,850 | |
| | | Miscellaneous | L.S. | | | | | 4 | 96 | 48 | |
| Total for 1 L.S. | | | | | | | | 2,551,475,000 | 4,670,200 | 1,490,856,700 | |
| Unit Cost for 1 L.S. | | | | | | | | 2,551,475,000 | 4,670,200 | 1,490,856,700 | |

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|--------------------|----------|---|--------|----------------------|------------|------|-----------|---------|--------|---------|----------|
| R-P1-Bq-159 | | Replacement of Base Soil under the Ground Sill by Selected Material | | 10 m3 | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | | | | | | | | | | | |
| | A-2-1-48 | Dumptruck; 10 ton | hourly | 0.87 | 77268.9961 | 3060 | 70744.121 | 67,224 | 2,662 | 61,547 | |
| Labour | | | | | | | | | | | |
| | L-2-1 | Foreman | day | | 0 | 0 | 48800 | 0 | 0 | 0 | |
| | L-2-23 | Common Labour | day | | 0 | 0 | 35100 | 0 | 0 | 0 | |
| Material | | | | | | | | | | | |
| | M-B-9 | Soil for Backfilling | m3 | 3 | 0 | 400 | 7600 | 0 | 1,200 | 22,800 | |
| | M-B-9 | Soil for Backfilling | m3 | 3 | 0 | 400 | 7600 | 0 | 1,200 | 22,800 | |
| | M-B-2 | Coarse Aggregate | m3 | 4 | 0 | 2600 | 49400 | 0 | 10,400 | 197,600 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-1-1 | Backfill (Soil) A | m3 | 5.56 | 6076 | 87 | 5043 | 33,783 | 484 | 28,039 | |
| | CW-1-48 | Excavation C | m3 | 5.56 | 3943 | 65 | 2857 | 21,923 | 361 | 15,885 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 58,549 | 0 | 14,637 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 44,888 | 0 | 11,222 | |
| | | Miscellaneous | L.S. | | | | | 34 | 93 | 69 | Round Up |
| Total for 10 m3 | | | | | | | | 226,400 | 16,400 | 374,600 | |
| Unit Cost for 1 m3 | | | | | | | | 22,640 | 1,640 | 37,460 | |

*1: Soil Material for Replacement 5 m3 / 0.9 = 5.56
 10 ton/dump / 1.5 m3/ton = 6.67 m3/dump
 10 km/hr / 40 km/hr + 20 min(loss) = 0.58 hours
 10 m3 / 6.67 m3/dump - 1.5 dp/10m3
 1.5 dp/10m3 x 0.58 hours - 0.87 hours

Table 4.2.5 (28/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | Working Name | Calculation Quantity | Remarks |
|-------------|--|----------------------|--|
| R-P1-Bq-161 | Leveling Concrete, Type E including Formwork | 10 m3 | |
| R-P1-Bq-205 | Leveling Concrete, Type E including Formwork | | |
| R-P1-Bq-259 | Concrete, Type E including Formwork | | |
| R-P2-Bq-60 | Leveling Concrete, Type-E including Formwork | R-P1-Bq-369 | Concrete, Type E including Formwork |
| R-P2-Bq-97 | Leveling Concrete, Type E including Formwork | R-P2-Bq-77 | Leveling Concrete, Type-E |
| R-P2-Bq-193 | Leveling Concrete, Type-E including Formwork | R-P2-Bq-111 | Leveling Concrete, Type-E including Formwork |
| R-P2-Bq-227 | Leveling Concrete, Type-E including Formwork | | |

| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
|--------------------------|----------|--------------------------------------|--------|----------|------------|-------|-----------|---------|---------|-----------|----------|
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | A-2-1-79 | Truck Mixer, 4.5 m3 | hourly | 3.02 | 77957.8757 | 1560 | 60651.605 | 235,433 | 4,711 | 183,168 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-1-28 | Form Work F | m2 | 5.662967 | 0 | 0 | 36510 | 0 | 0 | 206,755 | |
| | CW-1-22 | Concrete Work for Levelling Concrete | m3 | 10 | 120 | 37130 | 158740 | 1,200 | 371,300 | 1,587,400 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 310,796 | 0 | 77,699 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 238,277 | 0 | 59,569 | |
| | | Miscellaneous | L.S. | | | | | 94 | 89 | 9 | Round Up |
| Total for | | 10 m3 | | | | | | 785,800 | 376,100 | 2,114,600 | |
| Unit Cost for | | 1 m3 | | | | | | 78,580 | 37,610 | 211,460 | |

*1 : Form Work Area : Total Form work area / Concrete Volume = Form Work Area m2 / concrete 1m3
 493.591 / 871.612 = 0.5662967 m2/m3

*2 : Dump Truck : 10.2 m3 / 4.5 m3/truck = 2.27 Truck
 10 km/end / 30 km/hr + 60 mnts(loss) = 1.33 hours
 2.27 Truck x 1.33 hours = 3.02 hours

| Cost | Fm |
|---------------|-----------------|
| R-P2-Bq-69 | 666.458 347.591 |
| R-P2-Bq-86 | 83.326 54.99 |
| R-P2-Bq-108 | 8.118 9.34 |
| R-P2-Bq-122 | 7.992 1.08 |
| R-P1-Bq-154 | 48.727 41.85 |
| R-P1-Bq-195 | 7.62 10.014 |
| R-P1-Bq-339 | 1.553 2.2 |
| R-P2-Bq-124.6 | 1.808 1.818 |
| R-P2-Bq-230.2 | 46 24.708 |

| ID No. | Working Name | Calculation Quantity | Remarks |
|-------------|---|----------------------|---------|
| R-P1-Bq-145 | Placing Palm Fiber Filter under Gabion Mattress | 10 m2 | |
| R-P1-Bq-172 | Placing Palm Fiber Filter under Gabion Mattress | | |
| R-P1-Bq-190 | Placing Palm Fiber Filter under Gabion Mattress | | |
| R-P2-Bq-131 | Palm Fiber | | |

| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
|--------------------------|----------|---------------------------------------|--------|----------|-----------|------|-----------|--------|--------|---------|----------|
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | A-2-1-71 | Truck Crane, 11(10) ton, Oil Pressure | hourly | 0.25 | 99321.89 | 1020 | 85928.774 | 24,830 | 255 | 21,482 | |
| Labour | | | | | | | | | | | |
| | L-2-1 | Foreman | day | 0.02 | 0 | 0 | 48800 | 0 | 0 | 976 | |
| | L-2-23 | Common Labour | day | 0.06 | 0 | 0 | 35100 | 0 | 0 | 2,106 | |
| Material | M-L-1 | Palm Fiber, 20mm thick | m2 | 10.5 | 0 | 1100 | 20900 | 0 | 11,550 | 219,450 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 33,678 | 0 | 8,419 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 25,820 | 0 | 6,455 | |
| | | Miscellaneous | L.S. | | | | | 72 | 95 | 11 | Round Up |
| Total for | | 10 m2 | | | | | | 84,400 | 11,900 | 258,900 | |
| Unit Cost for | | 1 m2 | | | | | | 8,440 | 1,190 | 25,890 | |

*1 Palm Fiber : 10 m2 x (1+ 5%) = 10.5
 All composition numbers are quoted from Japanese Standard. (P152)

*2 Truck Crane : 60% of Common Labor

Table 4.2.5 (29/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | Working Name | Calculation Quantity | Remarks | | | | | | | | | | |
|--------------------------|--------------------------|--|---------|----------|------------|----------|-----------|-------------|---------|------------|-------------------|---------|------------|
| R-P1-Bq-196 | Coffering and Dewatering | 1 L.S. | | | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks | | |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | | | |
| Direct Cost | | | | | | | | | | | | | |
| Material | | | | | | | | | | | | | |
| | M-B-9 | Soil for Backfilling | m3 | 52.5 | 0 | 400 | 7600 | 0 | 21,000 | 399,000 | for Earth Filling | | |
| Working Base Cost | | | | | | | | | | | | | |
| | CW-1-46 | Excavation A | m3 | 26.25 | 2361 | 39 | 1711 | 61,976 | 1,024 | 44,914 | for Earth Filling | | |
| | CW-1-47 | Excavation B | m3 | 13.125 | 2951 | 48 | 2138 | 38,732 | 630 | 28,061 | for Earth Filling | | |
| | CW-1-48 | Excavation C | m3 | 13.125 | 3943 | 65 | 2857 | 51,752 | 853 | 37,498 | for Earth Filling | | |
| | CW-1-58 | Spreading and Compaction for Earth Filling | m3 | 105 | 2833.80293 | 36.252 | 2632.6181 | 297,549 | 3,806 | 276,425 | for Earth Filling | | |
| | CW-4-8 | Temporary Steel Sheet Pile (Type-C) | nos | 75 | 1420686.26 | 85.90653 | 949534.95 | 106,551,470 | 6,443 | 71,315,121 | | | |
| | CW-4-7 | Sand Bags | nos | 512 | 88.5375 | 758.9625 | 4199.6625 | 45,331 | 388,589 | 2,150,227 | | | |
| | CW-4-11 | Temporary Double Steel Sheet Pile | m | | 11624101.3 | 15805.53 | 8175659.6 | 0 | 0 | 0 | | | |
| | CW-4-12 | Temporary Dewatering by D100mm | m | | 291463.509 | 12974.4 | 212460.62 | 0 | 0 | 0 | | | |
| Others | | | | | | | | | | | | | |
| Indirect Cost | | | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 21,794,448 | 0 | 5,448,612 | | | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 16,709,077 | 0 | 4,177,269 | | | |
| | | Miscellaneous | L.S. | | | | | 65 | 55 | 72 | | | |
| Total for | | | | | | | | 1 L.S. | | | 145,550,400 | 422,400 | 83,777,200 |
| Unit Cost for | | | | | | | | 1 L.S. | | | 145,550,400 | 422,400 | 83,777,200 |

| ID No. | Working Name | Calculation Quantity | Remarks | | | | | | | | | | |
|--------------------------|--|--------------------------|---------|----------|------------|-------|-----------|-----------|---------|-----------|-----------|---------|-----------|
| R-P1-Bq-198 | Demolition and Removal of Existing Concrete and Masonry Structures | 100 m3 | | | | | | | | | | | |
| R-P1-Bq-252 | Demolition of Existing Structure (Concrete and Wet Masonry) | | | | | | | | | | | | |
| R-P2-Bq-190 | Demolition and Removal of Existing Concrete and Wet Masonry Structures | | | | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks | | |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | | | |
| Direct Cost | | | | | | | | | | | | | |
| Equipment | | | | | | | | | | | | | |
| | A-2-1-7 | Backhoe; 0.6 m3 | hourly | 8.33 | 125,543 | 2,040 | 90,965 | 1,045,772 | 16,993 | 757,739 | | | |
| | A-2-2-10 | Concrete Breaker; 20 kg | daily | 1.21 | 9136.07656 | 0 | 3181.3124 | 11,055 | 0 | 3,849 | | | |
| | A-2-1-48 | Dumptruck; 10 ton | hourly | 17.13 | 77268.9961 | 3060 | 70744.121 | 1,323,618 | 52,418 | 1,211,847 | | | |
| | A-2-2-16 | Generator; 125 kVA | daily | 7.24 | 271912.19 | 15120 | 209095.97 | 1,968,644 | 109,469 | 1,513,855 | | | |
| | A-2-2-35 | Pick Hammer | daily | 14.49 | 5716.91089 | 0 | 2030.0867 | 82,854 | 0 | 29,422 | | | |
| Labour | | | | | | | | | | | | | |
| | L-2-1 | Foreman | day | 3.62 | 0 | 0 | 48800 | 0 | 0 | 176,812 | | | |
| | L-2-10 | Drill Worker | day | 14.49 | 0 | 0 | 39000 | 0 | 0 | 565,217 | | | |
| | L-2-23 | Common Labour | day | 14.49 | 0 | 0 | 35100 | 0 | 0 | 508,696 | | | |
| Working Base Cost | | | | | | | | | | | | | |
| | CW-1-54 | Excavation I | m3 | 100 | 5072 | 83 | 3675 | 507,200 | 8,300 | 367,500 | | | |
| Indirect Cost | | | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 1,231,351 | 0 | 307,838 | | | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 944,036 | 0 | 236,009 | | | |
| | | Miscellaneous | L.S. | | | | | 70 | 20 | 17 | Round Up | | |
| Total for | | | | | | | | 100 m3 | | | 7,114,600 | 187,200 | 5,678,800 |
| Unit Cost for | | | | | | | | 1 m3 | | | 71,146 | 1,872 | 56,788 |

Manpower Composition; Foreman: 1 man/day
 Common Labor: 4 man/day
 Drill Worker: 4 man/day

*1 50m3 x $\frac{T_a}{T \times 60}$ x Composition of Manpower = Foreman 3.62 Drill Worker 14.49 Common 14.49

*2 100m3 x $\frac{T_b}{60}$ = Dump Truck 17.13 hour

*3 50m3 x $\frac{T_a}{T \times 60}$ = Generator 3.62 days

*4 50m3 x $\frac{T_c}{60}$ = Backhoe and Breaker 8.33 hour 1.21 day

*5 Truck Crane Working Time / Piling Working Time = 60%

*6 Average Daily Working Time of Generator, Labor, Breaker $T = \frac{690}{100} = 6.9$ (hour/day)

Working Time by Hand Breaker / 1m3 (Ta) $T_a = 30$ minutes/m3

Working Time by Dump Truck / 1m3 (Tb) $T_b = \left(\frac{5 \text{ km(one way)} \times 2}{20 \text{ minutes}} \right) \times \frac{40 \text{ km/hour}}{10 \text{ ton truck}} = 10.28$ minutes/m3

Working Time by Backhoe and Breaker / 1m3 (Tc) $T_c = 10$ minutes/m3

Table 4.2.5 (30/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

ID No. Working Name Calculation Quantity Remarks
 R-P1-Bq-207 Concrete for Blockout, Type C2 including Formwork 10 m³
 R-P1-Bq-261 Concrete, Type-C2 including Formwork
 R-P2-Bq-69 Concrete Type-C2 including Formwork for Blockout in Gate Pier and Floor Slab and Floor of Control House
 R-P2-Bq-82 Concrete Type-C2 for Blockout in Gate Pier

| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
|-------------------|-------------------|---------------------------------|----------------|-----------|------------|-------|-----------|-----------|---------|-----------|-----------------------|
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | A-2-1-79 | Truck Mixer; 4.5 m ³ | hourly | 3.02 | 77957.8737 | 1560 | 60651.605 | 235,433 | 4,711 | 183,168 | |
| Working Base Cost | | | | | | | | | | | |
| | | Concrete Work for Type-C3 by | | | | | | | | | |
| | CW-1-61 | Shoot Hopper | m ³ | 10 | 120 | 43660 | 197860 | 1,200 | 436,600 | 1,978,600 | |
| | CW-1-27 | Form Work E | m ² | 22,045.67 | 0 | 0 | 46138 | 0 | 0 | 1,023,757 | |
| Others | | | | | | | | | | | |
| | | Small Tools | % | 5 | | | | 11,832 | 22,066 | 159,276 | Shoot Hopper and etc. |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 486,797 | 0 | 121,699 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 373,211 | 0 | 93,303 | |
| | | Miscellaneous | L.S. | | | | | 27 | 23 | 97 | Round Up |
| Total for | 10 m ³ | | | | | | | 1,108,500 | 463,400 | 3,539,900 | |
| Unit Cost for | 1 m ³ | | | | | | | 110,850 | 46,340 | 355,990 | |

*1: Concrete: $10 \times (1 + 0.02) = 10.2m^3$
 *2: Form Work Area: Total Form work area / Concrete Volume = Form Work Area m² / concrete 1m³
 $384.935 / 174.608 = 2.204566801 \text{ m}^2/\text{m}^3$
 *3: Truck Mixer: 10.2 m³ / 4.5 m³/truck = 2.27 Truck
 $10 \text{ km/hr} + 30 \text{ km/hr} = 60 \text{ mats(loss)} = 1.33 \text{ hours}$
 $2.27 \text{ Truck} \times 1.33 \text{ hours} = 3.02 \text{ hours}$
 R-P2-Bq-78 141.358 313.29
 21.972 16.78
 R-P2-Bq-91 10.121 48.165
 R-P1-Bq-197 1.157 6.7

ID No. Working Name Calculation Quantity Remarks
 R-P1-Bq-211 Furnishing and Installing Slide Gate, H=1.6m x W=1.6m 1 L.S.

| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
|---------------|--------|--------------------------|------|----------|-----------|---------|-----------|-----------|---------|-----------|--------------------------|
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| | | Furnishing | L.S. | 1 | 2,532,728 | 2,533 | 5,907,167 | 2,532,728 | 2,533 | 5,907,167 | including Transportation |
| | | Installation | L.S. | 1 | 324,000 | 108,000 | 648,000 | 324,000 | 108,000 | 648,000 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 1,142,691 | 0 | 285,673 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 876,063 | 0 | 219,016 | |
| | | Miscellaneous | L.S. | | | | | 17 | 67 | 45 | Round Up |
| Total for | 1 L.S. | | | | | | | 4,875,500 | 110,600 | 7,039,900 | |
| Unit Cost for | 1 L.S. | | | | | | | 4,875,500 | 110,600 | 7,039,900 | |

*1: The Costs above are estimated through quotation of gate firms.

ID No. Working Name Calculation Quantity Remarks
 R-P1-Bq-212 Furnishing and Installing Hoist 1 L.S.

| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
|---------------|--------|--------------------------|------|----------|-----------|--------|-----------|-----------|--------|-----------|--------------------------|
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| | | Furnishing | L.S. | 1 | 1,363,777 | 1,364 | 3,180,782 | 1,363,777 | 1,364 | 3,180,782 | including Transportation |
| | | Installation | L.S. | 1 | 81,000 | 27,000 | 162,000 | 81,000 | 27,000 | 162,000 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 577,911 | 0 | 144,478 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 443,065 | 0 | 110,766 | |
| | | Miscellaneous | L.S. | | | | | 48 | 36 | 74 | Round Up |
| Total for | 1 L.S. | | | | | | | 2,465,800 | 28,400 | 3,598,100 | |
| Unit Cost for | 1 L.S. | | | | | | | 2,465,800 | 28,400 | 3,598,100 | |

*1: The Costs above are estimated through quotation of gate firms.

Table 4.2.5 (31/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|---------------|--------|--|------|----------------------|-----------|------|---------|---------|--------|---------|----------------------------------|
| R-P1-Bq-213 | | Furnishing and Installing Anchor Bars and Metal Guide Frames | | 100 kg | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Labour | | | | | | | | | | | |
| | L-2-29 | Chief of Steel Worker | day | 0.85 | 0 | 0 | 58600 | 0 | 0 | 49,810 | |
| | L-2-6 | Welder | day | 2.97 | 0 | 0 | 39000 | 0 | 0 | 115,830 | |
| | L-2-16 | Steel Worker | day | 2.97 | 0 | 0 | 39000 | 0 | 0 | 115,830 | |
| | L-2-23 | Common Labour | day | 3.61 | 0 | 0 | 35100 | 0 | 0 | 126,711 | |
| Material | | | | | | | | | | | |
| | M-E-7 | Steel Plate SS41 | kg | 70 | 5225 | 0 | 275 | 365,750 | 0 | 19,250 | |
| | M-E-1 | Reinforcing Bar, Round U-30 | kg | 30 | 0 | 2500 | 2500 | 0 | 75,000 | 75,000 | |
| Others | | | | | | | | | | | |
| | | Small Tool | % | 5 | | | | 18,288 | 3,750 | 25,122 | Weld Machine, generator and etc. |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 118,841 | 0 | 29,710 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 91,111 | 0 | 22,778 | |
| | | Miscellaneous | L.S. | | | | | 10 | 50 | 59 | Round Up |
| Total for | | | | 100 kg | | | | 591,000 | 78,800 | 580,100 | |
| Unit Cost for | | | | 1 kg | | | | 5,910 | 788 | 5,801 | |

*1: All production rate are quoted from Indonesian Standard

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|-------------------|---------|---|------|----------------------|-----------|------|---------|---------|--------|---------|----------------------------------|
| R-P1-Bq-214 | | Furnishing and Installing Hand Rail and Ladder (with Anti-corrosion Painting) | | 2 m | | | | | | | |
| R-P1-Bq-378 | | Steel Hand Rail (with Anti-corrosion Painting) | | | | | | | | | |
| R-P2-Bq-151 | | Steel Hand Rails (with Anti-corrosion Painting) | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Labour | | | | | | | | | | | |
| | L-2-29 | Chief of Steel Worker | day | 0.85 | 0 | 0 | 58600 | 0 | 0 | 49,810 | |
| | L-2-16 | Steel Worker | day | 2.97 | 0 | 0 | 39000 | 0 | 0 | 115,830 | including Welder |
| | L-2-23 | Common Labour | day | 3.61 | 0 | 0 | 35100 | 0 | 0 | 126,711 | |
| Material | | | | | | | | | | | |
| | M-E-27 | Galvanized Steel Pipe, Dia. 50mm | m | 4 | 14250 | 0 | 750 | 57,000 | 0 | 3,000 | |
| | M-E-28 | Galvanized Steel Pipe, Dia. 75mm | m | 1.5 | 19000 | 0 | 1000 | 28,500 | 0 | 1,500 | |
| | M-E-1 | Reinforcing Bar, Round U-30 | kg | 15.64 | 0 | 2500 | 2500 | 0 | 39,100 | 39,100 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-2-89 | Polishing and 2times Shiny Painting | m2 | 1.5 | 0 | 3800 | 21600 | 0 | 5700 | 32400 | |
| Others | | | | | | | | | | | |
| | | Small Tool | % | 5 | | | | 4,275 | 2,240 | 18,418 | Weld Machine, generator and etc. |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 62,830 | 0 | 13,708 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 48,170 | 0 | 12,042 | |
| | | Miscellaneous | L.S. | | | | | 25 | 60 | 82 | Round Up |
| Total for | | | | 2 m | | | | 200,800 | 47,100 | 414,600 | |
| Unit Cost for | | | | 1 m | | | | 100,400 | 23,550 | 207,300 | |
| Unit Cost for | | | | 1 kg | | | | 2,019 | 481 | 4,231 | |

*1: All production rate are quoted from Indonesian Standard

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|-------------------|---------|--|------|----------------------|------------|--------|-----------|-------------|--------|-------------|----------|
| R-P1-Bq-218 | | Filling Existing Open Channel | | 10 m3 | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Working Base Cost | | | | | | | | | | | |
| | CW-1-58 | Spreading and Compaction for Earth Filling | m3 | 10 | 2833.80293 | 36.252 | 2632.6181 | 28338.02931 | 362.52 | 26326.18101 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 6,603 | 0 | 1,651 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 5,062 | 0 | 1,266 | |
| | | Miscellaneous | L.S. | | | | | 96 | 37 | 57 | Round Up |
| Total for | | | | 10 m3 | | | | 40,100 | 400 | 29,300 | |
| Unit Cost for | | | | 1 m3 | | | | 4,010 | 40 | 2,930 | |

*1: Transportation of Soil is included in Item Excavation

Table 4.2.5 (32/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | Working Name | Calculation Quantity | Remarks |
|-------------|--|----------------------|---------|
| R-P1-Bq-236 | Furnishing and Installing RC Pipe, Dia.600mm | 10 m | |
| R-P1-Bq-263 | RC Concrete Pipe, Dia.600mm | | |
| R-P1-Bq-373 | Furnishing and Placing Concrete Pipe, Dia.600mm, L=10.3m | | |
| R-P1-Bq-374 | Furnishing and Placing Concrete Pipe, Dia.300mm, L=6.6m | | |

| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
|--------------------------|----------|--|--------|----------|-----------|------|-----------|---------|--------|---------|-------------------------|
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | A-2-1-71 | Truck Crane; 11(10) ton, Oil Pressure | hourly | 3.45 | 99321.89 | 1020 | 85928.774 | 342.661 | 3.519 | 296.454 | |
| Labour | L-2-1 | Foreman | day | 0.4 | 0 | 0 | 48800 | 0 | 0 | 19,520 | |
| | L-2-13 | Rigger | day | 0.4 | 0 | 0 | 39000 | 0 | 0 | 15,600 | |
| | L-2-23 | Common Labour | day | 1 | 0 | 0 | 35100 | 0 | 0 | 35,100 | |
| Material | M-C-41 | Concrete Pile (without Re-bar) Dia.600mm | m | 10 | 0 | 8580 | 20020 | 0 | 85,800 | 200,200 | |
| Others | | Tools | % | 10 | | | | 34,266 | 8,932 | 56,687 | Cutter, Mortar and etc. |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 131,849 | 0 | 32,962 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 101,084 | 0 | 25,271 | |
| | | Miscellaneous | L.S. | | | | | 41 | 49 | 5 | Round Up |
| Total for | 10 m | | | | | | | 609,900 | 98,300 | 681,800 | |
| Unit Cost for | 1 m | | | | | | | 60,990 | 9,830 | 68,180 | |

*1 All composition numbers are quoted from Japanese Standard. (P.228)

*2 Truck Crane : 0.5 day x $\frac{690}{100}$ = 3.45 hours

| ID No. | Working Name | Calculation Quantity | Remarks |
|-------------|---|----------------------|---|
| R-P1-Bq-224 | Concrete Type D including Formwork | 10 m3 | |
| R-P1-Bq-237 | Concrete, Type D including Formwork | | R-P1-Bq-262 Concrete, Type-D including Formwork |
| R-P1-Bq-295 | Concrete Type D including Formwork | | |
| R-P1-Bq-305 | Concrete, Type D including Formwork | | |
| R-P1-Bq-315 | Concrete, Type D including Formwork | | R-P1-Bq-326 Concrete, Type D including Formwork |
| R-P1-Bq-371 | Concrete Type D including Formwork | | R-P1-Bq-341 Concrete, Type D including Formwork |
| R-P2-Bq-65 | Concrete Type D including Formwork for Riverbed Partition | | |
| R-P2-Bq-66 | Concrete Type D including Formwork for Steps in Gate Pier | | |
| R-P2-Bq-84 | Concrete Type D for Concrete Lining on Channel Bed and Leaning Wall | | |
| R-P1-Bq-118 | Covering Concrete, Type D | | |

| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
|--------------------------|----------|---|--------|----------|------------|-------|-----------|-----------|---------|-----------|----------|
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | A-2-1-79 | Truck Mixer; 4.5 m3 | hourly | 3.17 | 77957.8757 | 1560 | 60651.605 | 247.126 | 4,945 | 192,266 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-1-23 | Form Work A | m2 | 17.59085 | 60 | 0 | 44798 | 1,055 | 0 | 788,035 | |
| | CW-2-10 | Breaking-up the Concrete Form Concrete Work for Small | m2 | 17.59085 | 0 | 0 | 3700 | 0 | 0 | 65,086 | |
| | CW-1-21 | Structure : Type-D | m3 | 10 | 120 | 42570 | 193500 | 1,200 | 425,700 | 1,935,000 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 439,250 | 0 | 109,812 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 336,758 | 0 | 84,190 | |
| | | Miscellaneous | L.S. | | | | | 10 | 55 | 12 | Round Up |
| Total for | 10 m3 | | | | | | | 1,025,400 | 430,700 | 3,174,400 | |
| Unit Cost for | 1 m3 | | | | | | | 102,540 | 43,070 | 317,440 | |

*1 : Total Concrete Volume : 594.89 m3

*2 : Total Formwork Area : 1046.462 m2

Average Formwork Area : 17.59085 m2/unit m3

*3 : Dump Truck : 10.7 m3 / 4.5 m3/truck = 2.38 Truck

10 km/hr / 30 km/hr + 60 mins(loss) = 1.33 hours

x 1.33 hours = 3.17 hours

| | | |
|---------------|---------|---------|
| R-P2-Bq-74 | 243.308 | 492.836 |
| R-P2-Bq-75 | 7.788 | 31.84 |
| R-P2-Bq-93 | 12.728 | 8.495 |
| R-P1-Bq-116 | 89.943 | 193.518 |
| R-P1-Bq-219.1 | 2.43 | 3.063 |
| R-P1-Bq-227 | 15.672 | 39.25 |
| R-P1-Bq-270.3 | 30.475 | 38.52 |
| R-P1-Bq-277 | 12.415 | 15 |
| R-P1-Bq-289 | 16.728 | 30.96 |
| R-P1-Bq-301 | 73.847 | 94.2 |
| R-P1-Bq-315 | 89.4 | 97.5 |
| R-P1-Bq-350.1 | 0.156 | 1.28 |

Table 4.2.5 (33/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|--------------------------|---------|--|----------------|----------------------|------------|----------|------------|------------|---------|------------|-------------------|
| R-P1-Bq-250 | | Cofering and Dewatering | | 1 L.S. | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Material | | | | | | | | | | | |
| | M-B-9 | Soil for Backfilling | m ³ | 1132.25 | 0 | 400 | 7600 | 0 | 452,900 | 8,605,100 | for Earth Filling |
| Working Base Cost | | | | | | | | | | | |
| | CW-1-46 | Excavation A | m ³ | 566.125 | 2361 | 39 | 1711 | 1,336,621 | 22,079 | 968,640 | for Earth Filling |
| | CW-1-47 | Excavation B | m ³ | 283.0625 | 2951 | 48 | 2138 | 835,317 | 13,587 | 605,188 | for Earth Filling |
| | CW-1-48 | Excavation C | m ³ | 283.0625 | 3943 | 65 | 2857 | 1,116,115 | 18,399 | 808,710 | for Earth Filling |
| | CW-1-58 | Spreading and Compaction for Earth Filling | m ³ | 2264.5 | 2833.80293 | 36.252 | 2632.6181 | 6,417,147 | 82,093 | 5,961,564 | for Earth Filling |
| | CW-4-8 | Temporary Steel Sheet Pile (Type-C) | nos | | 1420686.26 | 85.90653 | 949534.949 | 0 | 0 | 0 | |
| | CW-4-7 | Sand Bags | nos | | 88.5375 | 758.9625 | 4199.6625 | 0 | 0 | 0 | |
| | CW-4-11 | Temporary Double Steel Sheet Pile | m | | 11624101.3 | 15805.53 | 8175659.57 | 0 | 0 | 0 | |
| | CW-4-12 | Temporary Dewatering by D100mm | m | | 291463.509 | 12974.4 | 212460.623 | 0 | 0 | 0 | |
| Others | | | | | | | | | | | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 3,269,215 | 0 | 817,304 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 2,506,398 | 0 | 626,600 | |
| | | Miscellaneous | L.S. | | | | | 86 | 42 | 96 | |
| | | Total for | 1 L.S. | | | | | 15,480,900 | 589,100 | 18,393,200 | |
| | | Unit Cost for | 1 L.S. | | | | | 15,480,900 | 589,100 | 18,393,200 | |

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|----------------------|--------|---|-------|----------------------|-----------|---------|-----------|-----------|---------|-----------|--------------------------|
| R-P1-Bq-275 | | Furnishing and Installing Steel Flap Gate (H=0.7m x W=1.1m) | | 1 nos | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| | | Furnishing | L.S. | 1 | 4,994,475 | 2,763 | 4,214,261 | 4,994,475 | 2,763 | 4,214,261 | including Transportation |
| | | Installation | L.S. | 1 | 390,000 | 130,000 | 780,000 | 390,000 | 130,000 | 780,000 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 1,261,380 | 0 | 315,345 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 967,058 | 0 | 241,765 | |
| | | Miscellaneous | L.S. | | | | | 87 | 37 | 29 | Round Up |
| | | Total for | 1 nos | | | | | 7,613,000 | 132,800 | 5,551,400 | |
| | | Unit Cost for | 1 nos | | | | | 7,613,000 | 132,800 | 5,551,400 | |

* 1 : The Costs above are estimated through quotation of gate firms.

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|----------------------|--------|---|-------|----------------------|-----------|---------|-----------|-----------|---------|-----------|--------------------------|
| R-P1-Bq-276 | | Furnishing and Installing Steel Flap Gate (H=0.8m x W=1.4m) | | 1 nos | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| | | Furnishing | L.S. | 1 | 6,288,598 | 3,479 | 5,306,222 | 6,288,598 | 3,479 | 5,306,222 | including Transportation |
| | | Installation | L.S. | 1 | 351,000 | 117,000 | 702,000 | 351,000 | 117,000 | 702,000 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 1,532,196 | 0 | 383,049 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 1,174,684 | 0 | 293,671 | |
| | | Miscellaneous | L.S. | | | | | 22 | 21 | 38 | Round Up |
| | | Total for | 1 nos | | | | | 9,346,500 | 120,500 | 6,685,000 | |
| | | Unit Cost for | 1 nos | | | | | 9,346,500 | 120,500 | 6,685,000 | |

* 1 : The Costs above are estimated through quotation of gate firms.

Table 4.2.5 (34/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | Remarks | | | | | |
|---------------------------------|--------|---|------|----------------------|-----------|---------|-----------|-----------|---------|-----------|--------------------------|
| R-P1-Bq-277 | | Furnishing and Installing Steel Flap Gate (H=1.0m x W=1.0m) | | 1 nos | | | | | | | |
| R-P1-Bq-278 | | Furnishing and Installing Steel Flap Gate (H=1.0m x W=1.0m) | | 1 nos | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| | | Furnishing | L.S. | 1 | 5,405,110 | 2,991 | 4,560,749 | 5,405,110 | 2,991 | 4,560,749 | including Transportation |
| | | Installation | L.S. | 1 | 337,500 | 112,500 | 675,000 | 337,500 | 112,500 | 675,000 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 1,331,262 | 0 | 332,816 | |
| Profit and Overhead Cost | | | | | | | | | | | |
| | | Miscellaneous | % | 10 | 0.8 | | 0.2 | 1,020,631 | 0 | 255,159 | |
| | | Miscellaneous | L.S. | | | | | 93 | 9 | 77 | Round Up |
| Total for | | 1 nos | | | | | | 8,094,600 | 115,500 | 5,823,800 | |
| Unit Cost for | | 1 nos | | | | | | 8,094,600 | 115,500 | 5,823,800 | |

* 1 : The Costs above are estimated through quotation of gate firms.

| ID No. | | Working Name | | Calculation Quantity | | Remarks | | | | | |
|---------------------------------|--------|---|------|----------------------|-----------|---------|-----------|-----------|---------|-----------|--------------------------|
| R-P1-Bq-279 | | Furnishing and Installing Steel Flap Gate (H=0.9m x W=1.1m) | | 1 nos | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| | | Furnishing | L.S. | 1 | 5,675,366 | 3,140 | 4,788,786 | 5,675,366 | 3,140 | 4,788,786 | including Transportation |
| | | Installation | L.S. | 1 | 351,000 | 117,000 | 702,000 | 351,000 | 117,000 | 702,000 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 1,396,475 | 0 | 349,119 | |
| Profit and Overhead Cost | | | | | | | | | | | |
| | | Miscellaneous | % | 10 | 0.8 | | 0.2 | 1,070,631 | 0 | 267,658 | |
| | | Miscellaneous | L.S. | | | | | 28 | 60 | 37 | Round Up |
| Total for | | 1 nos | | | | | | 8,493,500 | 120,200 | 6,107,600 | |
| Unit Cost for | | 1 nos | | | | | | 8,493,500 | 120,200 | 6,107,600 | |

* 1 : The Costs above are estimated through quotation of gate firms.

| ID No. | | Working Name | | Calculation Quantity | | Remarks | | | | | |
|---------------------------------|--------|---|------|----------------------|------------|---------|------------|------------|---------|------------|--------------------------|
| R-P1-Bq-280 | | Furnishing and Installing Steel Flap Gate (H=2.2m x W=1.6m) | | 1 nos | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| | | Furnishing | L.S. | 1 | 15,220,828 | 8,422 | 12,843,100 | 15,220,828 | 8,422 | 12,843,100 | including Transportation |
| | | Installation | L.S. | 1 | 950,400 | 316,800 | 1,900,800 | 950,400 | 316,800 | 1,900,800 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 3,748,842 | 0 | 937,211 | |
| Profit and Overhead Cost | | | | | | | | | | | |
| | | Miscellaneous | % | 10 | 0.8 | | 0.2 | 2,874,112 | 0 | 718,528 | |
| | | Miscellaneous | L.S. | | | | | 18 | 78 | 61 | Round Up |
| Total for | | 1 nos | | | | | | 22,794,200 | 325,300 | 16,399,700 | |
| Unit Cost for | | 1 nos | | | | | | 22,794,200 | 325,300 | 16,399,700 | |

* 1 : The Costs above are estimated through quotation of gate firms.

| ID No. | | Working Name | | Calculation Quantity | | Remarks | | | | | |
|---------------------------------|--------|---------------------------------------|------|----------------------|-----------|---------|-----------|-----------|--------|-----------|--------------------------|
| R-P1-Bq-281 | | Furnishing Stop Log (H=2.6m x W=1.2m) | | 1 nos | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| | | Furnishing | L.S. | 1 | 2,206,450 | 1,221 | 1,861,769 | 2,206,450 | 1,221 | 1,861,769 | including Transportation |
| | | Installation | L.S. | 1 | 90,000 | 18,000 | 90,000 | 90,000 | 18,000 | 90,000 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 512,093 | 0 | 128,023 | |
| Profit and Overhead Cost | | | | | | | | | | | |
| | | Miscellaneous | % | 10 | 0.8 | | 0.2 | 392,604 | 0 | 98,151 | |
| | | Miscellaneous | L.S. | | | | | 52 | 79 | 57 | Round Up |
| Total for | | 1 nos | | | | | | 3,201,200 | 19,300 | 2,178,000 | |
| Unit Cost for | | 1 nos | | | | | | 3,201,200 | 19,300 | 2,178,000 | |

* 1 : The Costs above are estimated through quotation of gate firms.

Table 4.2.5 (35/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | | |
|--------------------------|---------|--|----------------|----------------------|------------|----------|-----------|-------------|-----------|-------------|-------------------|-------------|
| R-P1-Bq-284 | | Coffering and Dewatering | | 1 L.S. | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks | |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | | |
| Direct Cost | | | | | | | | | | | | |
| Material | | | | | | | | | | | | |
| | M-B-9 | Soil for Backfilling | m ³ | 639.8 | 0 | 400 | 7600 | 0 | 255,920 | 4,862,480 | for Earth Filling | |
| Working Base Cost | | | | | | | | | | | | |
| | CW-3-9 | Driving In of Steel Sheet Pile (Type-II) | m | 9000 | 9909.06678 | 76.17755 | 8578.6692 | 89,181,601 | 685,598 | 77,208,023 | Additional 6times | |
| | | Pulling Out of Steel Sheet Pile (Type-II) | m | 9000 | 9754 | 67 | 8548 | 87,786,000 | 603,000 | 76,932,000 | Additional 6times | |
| | CW-1-46 | Excavation A | m ³ | 319.9 | 2361 | 39 | 1711 | 755,284 | 12,176 | 547,349 | for Earth Filling | |
| | CW-1-47 | Excavation B | m ³ | 159.95 | 2951 | 48 | 2138 | 472,012 | 7,678 | 341,973 | for Earth Filling | |
| | CW-1-48 | Excavation C | m ³ | 159.95 | 3943 | 65 | 2857 | 630,683 | 10,397 | 456,977 | for Earth Filling | |
| | CW-1-58 | Spreading and Compaction for Earth Filling | m ³ | 1279.6 | 2833.80293 | 36.252 | 2632.6181 | 3,626,134 | 46,388 | 3,368,698 | for Earth Filling | |
| | CW-4-8 | Temporary Steel Sheet Pile (Type-C) | nos | 250 | 1420686.26 | 85.90653 | 949534.95 | 355,171,565 | 21,477 | 237,383,737 | | |
| | CW-4-7 | Sand Bags | nos | 1680 | 88.5375 | 758.9625 | 4199.6625 | 148,743 | 1,275,057 | 7,055,433 | | |
| | CW-4-11 | Temporary Double Steel Sheet Pile | m | | 11624101.3 | 15805.53 | 8175659.6 | 0 | 0 | 0 | | |
| | CW-4-12 | Temporary Dewatering by D100mm | m | | 391463.509 | 12974.4 | 212460.62 | 0 | 0 | 0 | | |
| Others | | | | | | | | | | | | |
| Indirect Cost | | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 113,861,602 | 0 | 28,465,400 | | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 87,293,895 | 0 | 21,823,371 | | |
| | | Miscellaneous | L.S. | | | | | 80 | 10 | 55 | | |
| Total for | | | | | | | | 1 L.S. | | 738,927,600 | 2,918,000 | 458,445,600 |
| Unit Cost for | | | | | | | | 1 L.S. | | 738,927,600 | 2,918,000 | 458,445,600 |

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | | |
|----------------------|--------|---|------|----------------------|-----------|------|---------|--------|--------|---------|----------------------------------|---------|
| R-P1-Bq-378 | | Steel Hand Rail (with Anti-corrosion Painting) | | 2 m | | | | | | | | |
| R-P2-Bq-151 | | Steel Hand Rails (with Anti-corrosion Painting) | | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks | |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | | |
| Direct Cost | | | | | | | | | | | | |
| Labour | | | | | | | | | | | | |
| | L-2-29 | Chief of Steel Worker | day | 0.85 | 0 | 0 | 58600 | 0 | 0 | 49,810 | | |
| | L-2-16 | Steel Worker | day | 2.97 | 0 | 0 | 39000 | 0 | 0 | 115,830 | | |
| | L-2-23 | Common Labour | day | 3.61 | 0 | 0 | 35100 | 0 | 0 | 126,711 | | |
| Material | | | | | | | | | | | | |
| | M-E-27 | Galvanized Steel Pipe, Dia. 50mm | m | 4 | 14250 | 0 | 750 | 57,000 | 0 | 3,000 | | |
| | M-E-28 | Galvanized Steel Pipe, Dia. 75mm | m | 1.5 | 19000 | 0 | 1000 | 28,500 | 0 | 1,500 | | |
| | M-E-1 | Reinforcing Bar, Round U-30 | kg | 15.64 | 0 | 2500 | 2500 | 0 | 39,100 | 39,100 | | |
| Others | | | | | | | | | | | | |
| | | Small Tool | % | 5 | | | | 4,275 | 1,955 | 16,798 | Weld Machine, generator and etc. | |
| Indirect Cost | | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 58,029 | 0 | 14,507 | | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 44,489 | 0 | 11,122 | | |
| | | Miscellaneous | L.S. | | | | | 6 | 45 | 22 | Round Up | |
| Total for | | | | | | | | 2 m | | 192,300 | 41,100 | 378,400 |
| Unit Cost for | | | | | | | | 1 m | | 96,150 | 20,550 | 189,200 |
| Unit Cost for | | | | | | | | 1 kg | | 1,962 | 419 | 3,861 |

*1: All production rate are quoted from Indonesian Standard

Table 4.2.5 (36/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|-------------------|---------|--|----------------|----------------------|------------|------|-----------|---------|--------|---------|----------|
| R-P1-Bq-351 | | Penetration Macadam Pavement 200mm thick | | 10 m ² | | | | | | | |
| R-P1-Bq-356 | | Penetration Macadam Pavement 300mm thick | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Material | | | | | | | | | | | |
| | M-C-6 | Asphalt Prime Coat | lit | 12.6 | 0 | 6300 | 14700 | 0 | 79,380 | 185,220 | |
| | M-B-12 | Crushed Stone for Pavement and Concrete | m ³ | 2.22 | 0 | 3250 | 61750 | 0 | 7,215 | 137,085 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-1-56 | Spreading and Compaction for Gravel Pavement | m ³ | 2 | 5117.16814 | 43.2 | 16431.167 | 10.234 | 86 | 32,862 | |
| | CW-1-56 | Spreading and Compaction for Gravel Pavement | m ³ | 2 | 5117.16814 | 43.2 | 16431.167 | 10.234 | 86 | 32,862 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 59,432 | 0 | 14,858 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 45,564 | 0 | 11,391 | |
| | | Miscellaneous | L.S. | | | | | 35 | 32 | 21 | Round Up |
| Total for | | 10 m ² | | | | | | 125,500 | 86,800 | 414,300 | |
| Unit Cost for | | 1 m ² | | | | | | 12,550 | 8,680 | 41,430 | |

*1 : Spreading and Compaction 10 m² x 0.2 m thick = 2 m³/10m²
 *2 : Crushed Stone : 2 m³/10m² / 0.9 = 2.22 m³/10m²
 *3 : Quantity of Prime Coat is quoted from Japanese Standard (P336)

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|-------------------|---------|---|------|----------------------|-----------|------|---------|---------|-------|-----------|----------|
| R-P1-Bq-359 | | Tree Planting (Angsana, Glodogan, Flamboyant) | | 34 tree | | | | | | | |
| R-P2-Bq-176 | | Tree Planting (Angsana, Glodogan, Flamboyant) | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Working Base Cost | | | | | | | | | | | |
| | CW-4-13 | Angsana Species | tree | 4 | 0 | 150 | 93560 | 0 | 600 | 374,240 | |
| | CW-4-14 | Glodogan Species | tree | 28 | 0 | 150 | 128360 | 0 | 4,200 | 3,599,680 | |
| | CW-4-15 | Flamboyant Species | tree | 2 | 0 | 150 | 228560 | 0 | 300 | 457,120 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 532,337 | 0 | 133,084 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 408,125 | 0 | 102,031 | |
| | | Miscellaneous | L.S. | | | | | 38 | 0 | 45 | Round Up |
| Total for | | 34 tree | | | | | | 940,500 | 5,100 | 4,666,200 | |
| Unit Cost for | | 1 tree | | | | | | 27,662 | 150 | 137,241 | |

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|-------------------|---------|---|------|----------------------|-----------|------|---------|---------|-------|-----------|----------|
| R-P1-Bq-360 | | Relocation of Existing Trees (Rare species such as Trembesi, Flamboyant, Dadap and Pines) | | 10 tree | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Working Base Cost | | | | | | | | | | | |
| | CW-4-16 | Relocating Trees | tree | 10 | 0 | 375 | 239925 | 0 | 3750 | 2399250 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 288,360 | 0 | 72,090 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 221,076 | 0 | 55,269 | |
| | | Miscellaneous | L.S. | | | | | 64 | 50 | 91 | Round Up |
| Total for | | 10 tree | | | | | | 509,500 | 3,800 | 2,526,700 | |
| Unit Cost for | | 1 tree | | | | | | 50,950 | 380 | 252,670 | |

Table 4.2.5 (37/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | Remarks | | | | | | |
|--------------------------|----------|--|--------|----------------------|------------|----------|-----------|------------|---------|-----------|------------------------|--|
| R-P1-Bq-363 | | Coffering and Dewatering | | 1 L.S. | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks | |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | | |
| Direct Cost | | | | | | | | | | | | |
| Equipment | A-2-1-18 | Dumptruck; 10 ton | hourly | 11.3 | 77268.9961 | 3060 | 70744.121 | 873.140 | 34.578 | 799.409 | | |
| Material | M-B-9 | Soil for Backfilling | m3 | 0 | 0 | 400 | 7600 | 0 | 0 | 0 | Using of Existing Soil | |
| Working Base Cost | | | | | | | | | | | | |
| | CW-1-46 | Excavation A | m3 | 65 | 2361 | 39 | 1711 | 153,465 | 2,535 | 111,215 | for Earth Filling | |
| | CW-1-47 | Excavation B | m3 | 32.5 | 2951 | 48 | 2138 | 95,908 | 1,560 | 69,485 | for Earth Filling | |
| | CW-1-48 | Excavation C | m3 | 162.5 | 3943 | 65 | 2857 | 640,738 | 10,563 | 464,263 | for Earth Filling | |
| | CW-1-58 | Spreading and Compaction for Earth Filling | m3 | 130 | 2833.80293 | 36.252 | 2632.6181 | 368,394 | 4,713 | 342,240 | for Earth Filling | |
| | CW-4-8 | Temporary Steel Sheet Pile (Type-C) | nos | | 1420686.26 | 85.90653 | 949531.95 | 0 | 0 | 0 | | |
| | CW-4-7 | Sand Bags | nos | | 88.5375 | 758.9625 | 4199.6625 | 0 | 0 | 0 | | |
| | CW-4-11 | Temporary Double Steel Sheet Pile | m | | 11624101.3 | 15805.53 | 8175659.6 | 0 | 0 | 0 | | |
| | CW-4-12 | Temporary Dewatering by D100mm | m | 20 | 291463.509 | 12974.4 | 212460.62 | 5,829,270 | 259,488 | 4,249,212 | | |
| Others | | | | | | | | | | | | |
| Indirect Cost | | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 1,717,221 | 0 | 429,305 | | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 1,316,536 | 0 | 329,134 | | |
| | | Miscellaneous | L.S. | | | | | 29 | 64 | 37 | | |
| Total for | 1 L.S. | | | | | | | 10,994,700 | 313,500 | 6,794,300 | | |
| Unit Cost for | 1 L.S. | | | | | | | 10,994,700 | 313,500 | 6,794,300 | | |

* 1 : Dump Truck : 10 ton/dump / 1.5 m3/ton = 6.67 m3/dump
 10 kw/hr / 40 kw/hr = 0.58 hours
 130 m3 / 6.67 m3/dump = 19.49 dp/L.S.
 19.49 dp/L.S. x 0.58 hours = 11.3 hours

| ID No. | | Working Name | | Calculation Quantity | | Remarks | | | | | | |
|--------------------------|---------|--|--------|----------------------|------------|---------|-----------|-----------|--------|-----------|----------|--|
| R-P1-Bq-375 | | Gabion Mattress 1-500mm (Galvanized) | | 10 m3 | | | | | | | | |
| R-P1-Bq-270 | | Gabion Mattress 1-500mm (Galvanized) | | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks | |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | | |
| Direct Cost | | | | | | | | | | | | |
| Equipment | A-2-1-7 | Backhoe; 0.6 m3 | hourly | 3 | 125542.908 | 2040 | 90965.076 | 376,629 | 6,120 | 272,895 | | |
| Labour | L-2-27 | Chief of Mason | day | 0.37 | 0 | 0 | 58600 | 0 | 0 | 21,682 | | |
| | L-2-11 | Mason | day | 0.53 | 0 | 0 | 39000 | 0 | 0 | 20,670 | | |
| | L-2-23 | Common Labour | day | 2 | 0 | 0 | 35100 | 0 | 0 | 70,200 | | |
| Material | M-E-68 | Gabion Mattress; 2.7mm, 3.0x1.0x0.5m, Galvanized | pcs | 15 | 327037.5 | 0 | 17212.5 | 4,905,563 | 0 | 258,188 | | |
| | M-B-7 | Boulder | m3 | 10 | 0 | 2500 | 47500 | 0 | 25,000 | 475,000 | | |
| Indirect Cost | | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 771,834 | 0 | 192,958 | | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 591,739 | 0 | 147,935 | | |
| | | Miscellaneous | L.S. | | | | | 36 | 80 | 73 | Round Up | |
| Total for | 10 m3 | | | | | | | 6,645,800 | 31,200 | 1,459,600 | | |
| Unit Cost for | 1 m3 | | | | | | | 664,580 | 3,120 | 145,960 | | |

*1 All composition numbers are quoted from Japanese Standard.

Table 4.2.5 (38/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | | Calculation Quantity | | | Remarks | | | |
|---------------------------|--------|--|------|----------|----------------------|------|-------|---------|--------|---------|----------------------------------|
| R-P1-Bq-377 | | Steel Maintenance Steps (with Anti-corrosion Painting) | | | 100 kg | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Labour | | | | | | | | | | | |
| | L-2-29 | Chief of Steel Worker | day | 0.85 | 0 | 0 | 58600 | 0 | 0 | 49,810 | |
| | L-2-6 | Welder | day | 2.97 | 0 | 0 | 39000 | 0 | 0 | 115,830 | |
| | L-2-16 | Steel Worker | day | 2.97 | 0 | 0 | 39000 | 0 | 0 | 115,830 | |
| | L-2-23 | Common Labour | day | 3.61 | 0 | 0 | 35100 | 0 | 0 | 126,711 | |
| Material | | | | | | | | | | | |
| | M-E-7 | Steel Plate SS41 | kg | 4 | 5225 | 0 | 275 | 20,900 | 0 | 1,100 | |
| | M-E-27 | Galvanized Steel Pipe, Dia. 50mm | m | 0 | 14250 | 0 | 750 | 0 | 0 | 0 | |
| | M-E-28 | Galvanized Steel Pipe, Dia. 75mm | m | 0 | 19000 | 0 | 1000 | 0 | 0 | 0 | |
| | M-E-1 | Reinforcing Bar, Round U-30 | kg | 15.64 | 0 | 2500 | 2500 | 0 | 39,100 | 39,100 | |
| Others | | | | | | | | | | | |
| | | Small Tool | % | 5 | | | | 1,015 | 1,955 | 22,419 | Weld Machine, generator and etc. |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 64,056 | 0 | 16,014 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 49,110 | 0 | 12,277 | |
| | | Miscellaneous | L.S. | | | | | 89 | 45 | 9 | Round Up |
| Total for 100 kg | | | | | | | | 135,200 | 41,100 | 499,100 | |
| Unit Cost for 1 kg | | | | | | | | 1,352 | 411 | 4,991 | |

- *1 : All production rate are quoted from Indonesian Standard
- *2 : Galvanized Steel Pipe Dia50 kg x t kg/m = 0 m
- Galvanized Steel Pipe Dia75 kg x t kg/m = 0 m

| ID No. | | Working Name | | | Calculation Quantity | | | Remarks | | | |
|----------------------------------|---------|---|------|----------|----------------------|------|-------|-----------|---------|-----------|----------------------------------|
| R-P1-Bq-379 | | Steel Ladder (with Anti-corrosion Painting) | | | 2 m | | | | | | |
| R-P2-Bq-172 | | Steel Ladder (with Anti-corrosion Painting) | | | R-P2-Bq-172 | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Labour | | | | | | | | | | | |
| | L-2-29 | Chief of Steel Worker | day | 0.85 | 0 | 0 | 58600 | 0 | 0 | 49,810 | |
| | L-2-16 | Steel Worker | day | 2.97 | 0 | 0 | 39000 | 0 | 0 | 115,830 | |
| | L-2-23 | Common Labour | day | 3.61 | 0 | 0 | 35100 | 0 | 0 | 126,711 | |
| Material | | | | | | | | | | | |
| | M-E-27 | Galvanized Steel Pipe, Dia. 50mm | m | 4 | 14250 | 0 | 750 | 57,000 | 0 | 3,000 | |
| | M-E-28 | Galvanized Steel Pipe, Dia. 75mm | m | 1.5 | 19000 | 0 | 1000 | 28,500 | 0 | 1,500 | |
| | M-E-1 | Reinforcing Bar, Round U-30 | kg | 15.64 | 0 | 2500 | 2500 | 0 | 39,100 | 39,100 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-2-89 | Polishing and 2times Shiny Painting | m2 | 1.5 | 0 | 3800 | 21600 | 0 | 5,700 | 32,400 | |
| Others | | | | | | | | | | | |
| | | Small Tool | % | 5 | | | | 4,275 | 2,240 | 18,418 | Weld Machine, generator and etc. |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 62,830 | 0 | 15,708 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 48,170 | 0 | 12,042 | |
| | | Miscellaneous | L.S. | | | | | 25 | 60 | 82 | Round Up |
| Total for 2 m | | | | | | | | 200,800 | 47,100 | 414,600 | |
| Unit Cost for 1 m | | | | | | | | 100,400 | 23,550 | 207,300 | |
| Unit Cost for 1 kg | | | | | | | | 2,049 | 481 | 4,231 | |
| Unit Cost for 1 L.S. 20 m | | | | | | | | 2,008,000 | 471,000 | 4,146,000 | |

- *1 : All production rate are quoted from Indonesian Standard

Table 4.2.5 (39/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | | | Calculation Quantity | | | Remarks | | |
|--------------------------|---------|---|------|----------|-----------|----------------------|--------|-----------|-----------|-----------|----------|
| R-P1-Bq-380 | | Gauging House (including Reinforced Concrete, Hollow Concrete Block, Plastering, Roofing, Steel Door) | | | | 1 L.S. | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Labour | | | | | | | | | | | |
| | L-2-26 | Chief of Carpenter | day | 0.03 | 0 | 0 | 58600 | 0 | 0 | 1,758 | |
| | L-2-12 | Carpenter | day | 0.3 | 0 | 0 | 39000 | 0 | 0 | 11,700 | |
| Material | | | | | | | | | | | |
| | M-F-34 | Steel Door, 40mm thick, 2.10x 1.70m | pcs | 1 | 2978250 | 0 | 156750 | 2,978,250 | 0 | 156,750 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-2-44 | Plastering 15mm thickness with Cement : 2sand | m2 | 11.56 | 0 | 1200 | 10000 | 0 | 13,872 | 115,600 | |
| | CW-1-37 | Prefabricated Scaffold for Re-Con 1 | m2 | 16.43 | 6600 | 0 | 8678 | 108,438 | 0 | 142,580 | |
| | CW-1-43 | Pipe Support | m3 | 7.2 | 5940 | 0 | 28640 | 42,768 | 0 | 206,208 | |
| | CW-2-36 | Reinforcing-Bar Work | kg | 444 | 0 | 3343 | 10815 | 0 | 1,484,292 | 4,801,860 | |
| | CW-2-24 | Wall Masonry of Concrete Block, Cement : 5sand | m2 | 11.56 | 0 | 5800 | 39600 | 0 | 67,048 | 457,776 | |
| | CW-1-24 | Form Work B | m2 | 23.98 | 10030 | 75 | 52910 | 240,519 | 1,799 | 1,268,782 | |
| | CW-1-20 | Concrete Work for Reinforced Concrete C1 by Pump | m3 | 3.819 | 20270 | 41770 | 183330 | 77,411 | 159,520 | 700,137 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 1,564,448 | 0 | 391,112 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 1,199,410 | 0 | 299,853 | |
| | | Miscellaneous | L.S. | | | | | 55 | 70 | 85 | Round Up |
| Total for | | 1 L.S. | | | | | | 6,211,300 | 1,726,600 | 8,554,200 | |
| Unit Cost for | | 1 L.S. | | | | | | 6,211,300 | 1,726,600 | 8,554,200 | |

| ID No. | | Working Name | | | | Calculation Quantity | | | Remarks | | |
|----------------------|----------|--|--------|----------|------------|----------------------|-----------|-----------|---------|-----------|----------|
| R-P1-Bq-381 | | Installation of Water Level Gage and Related Apparatus and Calibration | | | | 1 L.S. | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | | | | | | | | | | | |
| | A-2-1-54 | Dumptruck; 4 ton | hourly | 4.28 | 30,204 | 1,376 | 28,632 | 129,272 | 5,889 | 132,544 | |
| | A-2-1-48 | Dumptruck; 10 ton | hourly | 4.28 | 77268.9961 | 3060 | 70744.121 | 330,711 | 13,097 | 302,783 | |
| | A-2-1-71 | Truck Crane; 11(10) ton, Oil Pressure | hourly | 2.57 | 99321.89 | 1020 | 85928.774 | 255,257 | 2,621 | 220,837 | |
| Labour | | | | | | | | | | | |
| | L-2-1 | Foreman | day | 1 | 0 | 0 | 48800 | 0 | 0 | 48,800 | |
| | L-2-23 | Common Labour | day | 5 | 0 | 0 | 35100 | 0 | 0 | 175,500 | |
| Others | | | | | | | | | | | |
| | | Small Tools | % | 5 | | | | 35,762 | 1,080 | 43,523 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 202,522 | 0 | 50,630 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 155,266 | 0 | 38,817 | |
| | | Miscellaneous | L.S. | | | | | 10 | 12 | 64 | Round Up |
| Total for | | 1 L.S. | | | | | | 1,108,800 | 22,700 | 1,003,500 | |
| Unit Cost for | | 1 L.S. | | | | | | 1,108,800 | 22,700 | 1,003,500 | |

*1: Dump Truck : 2 km/hr / 2 round x 30 km/hr + 60 mins(loss) = 1.07 hours
 *2: Truck Crane : 60% of Dump Truck 2 10ton x 1.07 hours = 4.28 hours

| ID No. | | Working Name | | | | Calculation Quantity | | | Remarks | | |
|--------------------------|---------|---|------|----------|-----------|----------------------|--------|-------|---------|--------|----------|
| R-P1-Bq-382 | | Setting Bench Mark | | | | 1 L.S. | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Working Base Cost | | | | | | | | | | | |
| | CW-2-38 | Form Work for 1m3 of Concrete | m3 | 0.01 | 0 | 9600 | 821800 | 0 | 96 | 8,218 | |
| | CW-2-35 | Concrete Work with Cement : 3sand : 6gravel | m3 | 0.01 | 0 | 26700 | 408800 | 0 | 267 | 4,088 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 1,520 | 0 | 380 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 1,166 | 0 | 291 | |
| | | Miscellaneous | L.S. | | | | | 14 | 37 | 23 | Round Up |
| Total for | | 1 L.S. | | | | | | 2,700 | 400 | 13,000 | |
| Unit Cost for | | 1 L.S. | | | | | | 2,700 | 400 | 13,000 | |

Table 4.2.5 (40/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|---------------|--------------------------|---------------------------------|------|----------------------|-------------|------|---------|---------------|------|------------|----------|
| R-P1-Bq-383 | | Supplying Maintenance Equipment | | I L.S. | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Material | | | | | | | | | | | |
| | M-L-18 | Backhoe, 0.35m3 | nos. | 1 | 469871052.6 | 0 | 0 | 469,871,053 | 0 | 0 | |
| | M-L-19 | Dump Truck, 8t | nos. | 1 | 422763157.9 | 0 | 0 | 422,763,158 | 0 | 0 | |
| | M-L-20 | Bulldozer, 11t | nos. | 1 | 622065789.5 | 0 | 0 | 622,065,789 | 0 | 0 | |
| | M-L-21 | Patrol Car, 4WD | nos. | 1 | 120789473.7 | 0 | 0 | 120,789,474 | 0 | 0 | |
| | M-L-22 | Outboard Motor Boat | nos. | 1 | 90592105.26 | 0 | 0 | 90,592,105 | 0 | 0 | |
| Others | | | | | | | | | | | |
| Indirect Cost | | | | | | | | | | | |
| | Site Expense | | % | 15 | 0.8 | | 0.2 | 207,129,789 | 0 | 51,782,447 | |
| | Profit and Overhead Cost | | % | 10 | 0.8 | | 0.2 | 158,799,505 | 0 | 39,699,876 | |
| | Miscellaneous | | L.S. | | | | | 26 | 0 | 76 | Round Up |
| Total for | | I L.S. | | | | | | 2,092,010,900 | 0 | 91,482,400 | |
| Unit Cost for | | I L.S. | | | | | | 2,092,010,900 | 0 | 91,482,400 | |

Table 4.2.5 (41/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | Working Name | Calculation | Quantity | Remarks | Unit Cost | | | Cost | | | Remarks |
|----------------------|--------------|--------------------------------|---------------|----------|-----------|-------|---------|-------------------|------------------|-------------------|----------|
| Major Item | ID No. | Description | Unit | Quantity | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | | | | | | | | | | | |
| | A-2-1-69 | Trailer; 20 ton | hourly | 232 | 119,879 | 2,160 | 102,572 | 27,812,025 | 501,120 | 23,796,628 | |
| | A-2-1-48 | Dumptruck; 10 ton | hourly | 296 | 77,269 | 3,060 | 70,744 | 22,871,623 | 905,760 | 20,940,260 | |
| | A-2-1-80 | Truck; 11 ton | hourly | 24 | 96,932 | 1,560 | 95,161 | 2,326,363 | 37,440 | 2,283,867 | |
| | A-2-1-31 | Truck with crane; 4 ton, Crane | hourly | 88 | 48,670 | 780 | 47,768 | 4,282,938 | 68,640 | 4,203,553 | |
| | A-2-1-32 | Truck with crane; 6 ton | hourly | 24 | 62,784 | 912 | 61,243 | 1,506,816 | 21,888 | 1,469,842 | |
| | A-2-2-37 | Pontoon Barge; 100 ton | daily | 0 | 314,821 | 0 | 237,791 | 0 | 0 | 0 | |
| | A-2-2-41 | Drifter Air Type: 150kg class | daily | 0 | 257,007 | 0 | 88,827 | 0 | 0 | 0 | |
| | A-2-1-84 | Tugboat; 15 ton | hourly | 0 | 129,433 | 4,440 | 140,042 | 0 | 0 | 0 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 13,563,451 | 0 | 3,390,863 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 10,398,646 | 0 | 2,599,662 | |
| | | Miscellaneous | L.S. | | | | | 39 | 52 | 26 | Round Up |
| | | Total for | 1 L.S. | | | | | 82,761,900 | 1,534,900 | 58,684,700 | |
| | | Unit Cost for | 1 L.S. | | | | | 82,761,900 | 1,534,900 | 58,684,700 | |

- * 1: All Equipment : Land Transportation : hours land transportation. hours ship transportation
- All Equipment : Ship Transportation : Though it takes longer time than land transportation, it assumes that the cost is same.
- * 2: Number of Mobilized and Demobilized Equipment

| | Mobilization | Demobilization |
|----------------------|--------------|----------------|
| Trailer | 32 | 26 |
| Dump Truck 10t | 35 | 39 |
| Ordinary Truck 10t | 3 | 3 |
| Truck with Crane 4 t | 11 | 11 |
| Truck with Crane 6 t | 3 | 3 |
| Pontoon Barge 100 t | | |
| Soil Carriage 100m3 | | |
| Tag Boat 15 ton | | |

| ID No. | Working Name | Calculation | Quantity | Remarks | Unit Cost | | | Cost | | | Remarks |
|--------------------------|--------------|--|---------------|----------|-----------|----------|----------|-------------------|------------------|--------------------|----------------|
| Major Item | ID No. | Description | Unit | Quantity | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Material | | | | | | | | | | | |
| | M-B-12 | Crushed Stone for Pavement and Concrete | m3 | 415 | 0 | 3250 | 61750 | 0 | 1,348,750 | 25,626,250 | for Excavation |
| | M-B-13 | Solid Soil | m3 | 7915 | 0 | 600 | 11400 | 0 | 4,749,000 | 90,231,000 | for Embankment |
| | M-B-12 | Crushed Stone for Pavement and Concrete | m3 | 415 | 0 | 3250 | 61750 | 0 | 1,348,750 | 25,626,250 | for Embankment |
| Working Base Cost | | | | | | | | | | | |
| | CW-1-46 | Excavation A | m3 | 720 | 2361 | 39 | 1711 | 1,699,920 | 28,080 | 1,231,920 | for Excavation |
| | CW-1-12 | Slope Clearing of Excavation by Machine | m2 | 1750 | 4018 | 66 | 3760 | 7,031,500 | 115,500 | 6,580,000 | for Excavation |
| | CW-4-1 | Temporary Bridge | m2 | 0 | 917231.6 | 19318.14 | 861665.6 | 0 | 0 | 0 | for Embankment |
| | CW-1-56 | Spreading and Compaction for Gravel Pavement | m3 | 375 | 5117.168 | 43.2 | 16431.17 | 1,918,938 | 16,200 | 6,161,688 | for Embankment |
| | CW-1-59 | Spreading and Compaction-D | m3 | 14250 | 1509 | 19 | 1473 | 21,503,250 | 270,750 | 20,990,250 | for Embankment |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 25,977,359 | 0 | 6,494,340 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 19,915,976 | 0 | 4,978,994 | |
| | | Miscellaneous | L.S. | | | | | 57 | 70 | 9 | Round Up |
| | | Total for | 1 L.S. | | | | | 78,047,000 | 7,877,100 | 187,920,700 | |
| | | Unit Cost for | 1 L.S. | | | | | 78,047,000 | 7,877,100 | 187,920,700 | |

- for Embankment**
- * 1: Temporary Road Body Volume (V1) : $0.5 \times (3.0 \text{ m wide} + 14.00 \text{ m wide}) \times 3.0 \text{ m high} = 28.5 \text{ m}^3/\text{m}$ (Purchased Soil Volume = 50% of Total Volume)
 - * 2: Gravel Pavement Volume (V2) : $0.15 \text{ m thick} \times 3.0 \text{ m wide} = 0.75 \text{ m}^3/\text{m}$
 - Purchased Crushed Stone : $0.75 \text{ m}^3/\text{m} / 0.9 \text{ loss} = 0.83 \text{ m}^3/\text{m}$
 - * 3: Temporary Road Length (l1) : m from Construction Planning roundup m
 - * 4: Temporary Bridge Length (l2) : m from Construction Planning roundup m
- for Excavated Road**
- * 5: Excavation Volume (V3) : $1.44 \text{ m}^3/\text{lm}$ from Construction Planning
 - * 6: Gravel Pavement Volume (V4) : $0.83 \text{ m}^3/\text{lm}$
 - * 7: Slope Clearing : $3.5 \text{ m}^2/\text{lm}$
 - * 8: Temporary Road Length (l3) : m from Construction Planning roundup m

Table 4.2.5 (42/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | Remarks | | | | | |
|----------------------|--------|---|----------------|----------------------|-----------|---------|--------|-------------|------------|-------------|--------------------------|
| R-P2-Bq-5 | | Contractor's Site Office and Facilities | | 1 L.S. | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| | | Install of Office and Others | m ² | 535 | 80000 | 80000 | 915000 | 42,800,000 | 42,800,000 | 489,525,000 | including all facilities |
| | | Removal of Office | % | 30 | | | | 12,840,000 | 12,840,000 | 146,837,500 | |
| | | Rental of Land | % | 10 | | | | 5,564,000 | 5,564,000 | 63,638,250 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 98,691,450 | 0 | 24,672,863 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 75,663,445 | 0 | 18,915,861 | |
| | | Miscellaneous | L.S. | | | | | 5 | 0 | 26 | |
| Total for | | 1 L.S. | | | | | | 235,558,900 | 61,204,000 | 743,609,500 | |
| Unit Cost for | | 1 L.S. | | | | | | 235,558,900 | 61,204,000 | 743,609,500 | |

| ID No. | | Working Name | | Calculation Quantity | | Remarks | | | | | |
|----------------------|--------|---------------------------------------|----------------|----------------------|-----------|---------|--------|------------|-----------|------------|--------------------------|
| R-P2-Bq-6 | | Engineer's Site Office and Facilities | | 1 L.S. | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| | | Install of Office | m ² | 44 | 80000 | 80000 | 915000 | 3,520,000 | 3,520,000 | 40,260,000 | including all facilities |
| | | Removal of Office | % | 30 | | | | 1,056,000 | 1,056,000 | 12,078,000 | |
| | | Rental of Land | % | 10 | | | | 457,600 | 457,600 | 5,233,800 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 8,116,680 | 0 | 2,029,170 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 6,222,788 | 0 | 1,555,697 | |
| | | Miscellaneous | L.S. | | | | | 32 | 0 | 33 | |
| Total for | | 1 L.S. | | | | | | 19,373,100 | 5,033,600 | 61,156,700 | |
| Unit Cost for | | 1 L.S. | | | | | | 19,373,100 | 5,033,600 | 61,156,700 | |

| ID No. | | Working Name | | Calculation Quantity | | Remarks | | | | | |
|----------------------|--------|--------------------------|-------|----------------------|-----------|---------|--------|------------|---------|------------|-------------------------------------|
| R-P2-Bq-7 | | Drawings | | 1 L.S. | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Labour | | | | | | | | | | | |
| | L-2-34 | Cad Operator | day | 400 | 0 | 0 | 54700 | 0 | 0 | 21,880,000 | |
| | L-2-35 | Draft Man | day | 400 | 0 | 0 | 390000 | 0 | 0 | 15,600,000 | |
| Material | | | | | | | | | | | |
| | M-L-15 | Drawing Paper (A1) | sheet | 200 | 8000 | 0 | 2000 | 1,600,000 | 0 | 400,000 | |
| | M-L-16 | Blue Copy (A1) | sheet | 200 | 0 | 2500 | 2500 | 0 | 500,000 | 500,000 | |
| Others | | | | | | | | | | | |
| | | Tools | % | 20 | | | | 320,000 | 100,000 | 7,676,000 | Computer, Plotter, Drafter and etc. |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 5,829,120 | 0 | 1,457,280 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 4,468,992 | 0 | 1,117,248 | |
| | | Miscellaneous | L.S. | | | | | 88 | 0 | 72 | Round Up |
| Total for | | 1 L.S. | | | | | | 12,218,200 | 600,000 | 48,630,600 | |
| Unit Cost for | | 1 L.S. | | | | | | 12,218,200 | 600,000 | 48,630,600 | |

| ID No. | | Working Name | | Calculation Quantity | | Remarks | | | | | |
|----------------------|--------|--|---------|----------------------|-----------|---------|---------|---------|------|-----------|----------|
| R-P2-Bq-8 | | Surveying | | 1 L.S. | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| | | Drawing Plan of River Scale 1:500 | ha | 1 | | | 112,000 | 0 | 0 | 112,000 | |
| | | River Cross Section Survey Scale 1:100 | | | | | | | | | |
| | | a. Surveying | section | 5 | | | 232000 | 0 | 0 | 1,160,000 | |
| | | b. Drawing & Processing | section | 5 | | | 62000 | 0 | 0 | 310,000 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 189,840 | 0 | 47,460 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 145,544 | 0 | 36,386 | |
| | | Miscellaneous | L.S. | | | | | 16 | 0 | 54 | Round Up |
| Total for | | 1 L.S. | | | | | | 335,400 | 0 | 1,665,900 | |
| Unit Cost for | | 1 L.S. | | | | | | 335,400 | 0 | 1,665,900 | |

Table 4.2.5 (43/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|--------------------------------------|--------------------------|---|----------------|----------------------|-----------|-------|----------|------------|-----------|-------------|---------|
| R-P2-Bq-14 | | Demolition and Removal of Existing Weir, Intake Structures and Others | | 100 m ³ | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Demolition Equipment | | | | | | | | | | | |
| | A-2-1-7 | Backhoe; 0.6 m ³ | hourly | 8.33 | 125,543 | 2,040 | 90,965 | 1,045,772 | 16,993 | 757,739 | |
| | A-2-2-10 | Concrete Breaker; 20 kg | daily | 1.21 | 9136.077 | 0 | 3181.312 | 11,055 | 0 | 3,849 | |
| | A-2-1-48 | Dumptruck; 10 ton | hourly | 17.13 | 77269 | 3060 | 70744.12 | 1,323,618 | 52,418 | 1,211,847 | |
| | A-2-2-16 | Generator; 125 kVA | daily | 7.24 | 271912.3 | 15120 | 209096 | 1,968,644 | 109,469 | 1,513,855 | |
| | A-2-2-35 | Pick Hammer | daily | 14.49 | 5716.911 | 0 | 2030.087 | 82,854 | 0 | 29,422 | |
| Labour | | | | | | | | | | | |
| | L-2-1 | Foreman | day | 3.62 | 0 | 0 | 48800 | 0 | 0 | 176,812 | |
| | L-2-10 | Drill Worker | day | 14.49 | 0 | 0 | 39000 | 0 | 0 | 565,217 | |
| | L-2-23 | Common Labour | day | 14.49 | 0 | 0 | 35100 | 0 | 0 | 508,696 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-1-54 | Excavation I | m ³ | 100 | 5072 | 83 | 3675 | 507,200 | 8,300 | 367,500 | |
| Restoration Equipment | | | | | | | | | | | |
| | A-2-1-79 | Truck Mixer; 4.5 m ³ | hourly | 3.02 | 77,958 | 1,560 | 60,652 | 235,433 | 4,711 | 183,168 | |
| | A-2-1-7 | Backhoe; 0.6 m ³ | hourly | 8.33 | 125,543 | 2,040 | 90,965 | 1,045,772 | 16,993 | 757,739 | |
| | A-2-2-35 | Pick Hammer | daily | 1.45 | 5716.911 | 0 | 2030.087 | 8,285 | 0 | 2,942 | |
| | A-2-1-48 | Dumptruck; 10 ton | hourly | 17.13 | 77269 | 3060 | 70744.12 | 1,323,618 | 52,418 | 1,211,847 | |
| | A-2-2-17 | Generator; 15 kVA | daily | 3.62 | 82875 | 1800 | 52496.05 | 300,008 | 6,516 | 190,036 | |
| Labour | | | | | | | | | | | |
| | L-2-1 | Foreman | day | 0.36 | 0 | 0 | 48800 | 0 | 0 | 17,681 | |
| | L-2-10 | Drill Worker | day | 1.45 | 0 | 0 | 39000 | 0 | 0 | 56,522 | |
| | L-2-23 | Common Labour | day | 1.45 | 0 | 0 | 35100 | 0 | 0 | 50,870 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-1-21 | Concrete Work for Small Structure : Type-D | m ³ | 100 | 120 | 42570 | 193500 | 12,000 | 4,257,000 | 19,350,000 | |
| | CW-1-54 | Excavation I | m ³ | 100 | 5072 | 83 | 3675 | 507,200 | 8,300 | 367,500 | |
| Indirect Cost | | | | | | | | | | | |
| | Site Expense | % | | 15 | 0.8 | | 0.2 | 4,827,338 | 0 | 1,206,835 | |
| | Profit and Overhead Cost | % | | 10 | 0.8 | | 0.2 | 3,700,959 | 0 | 925,240 | |
| | Miscellaneous | L.S. | | | | | | 44 | 82 | 85 Round Up | |
| Total for 100 m³ | | | | | | | | 16,899,800 | 4,533,200 | 29,455,400 | |
| Unit Cost for 1 m³ | | | | | | | | 168,998 | 45,332 | 294,554 | |

Manpower Composition; Foreman: 1 man/day
 Common Labor: 4 man/day
 Drill Worker: 4 man/day

*1 50m³ x $\frac{T_a}{T \times 60}$ x Composition of Manpower = Foreman 3.62 Drill Worker 14.49 Common 14.49
 *2 100m³ x $\frac{T_b}{60}$ = Dump Truck 17.13 hour
 *3 50m³ x $\frac{T_c}{T \times 60}$ = Generator 3.62 days
 *4 50m³ x $\frac{T_e}{60}$ = Backhoe and Breaker 8.33 hour 1.21 day

*5 Truck Crane Working Time / Piling Working Time = 60%

*6 Average Daily Working Time of Generator, Labor, Breaker $T = \frac{690}{100} = 6.9$ (hour/day)

Working Time by Hand Breaker / m³ (T_a) T_a = 30 minutes/m³

Working Time by Dump Truck / m³ (T_b) $T_b = \frac{5 \text{ km (one way)} \times 2}{20 \text{ minutes / } \frac{40 \text{ km/hour}}{10 \text{ ton truck}}} = 10.28 \text{ minutes/m}^3$

Working Time by Backhoe and Breaker / m³ (T_c) T_c = 10 minutes/m³

Manpower Composition; Foreman: 0.1 man/day
 Common Labor: 0.4 man/day
 Drill Worker: 0.3 man/day

*7 50m³ x $\frac{T_a}{T \times 60}$ x Composition of Manpower = Foreman 0.36 Drill Worker 1.45 Common 1.45
 *9 50m³ x $\frac{T_c}{T \times 60}$ = Generator 3.62 days

*11 Average Daily Working Time of Generator, Labor, Breaker $T = \frac{690}{100} = 6.9$ (hour/day)

Working Time by Backhoe and Pick Hammer / m³ (T_c) T_c = 10 minutes/m³

*12: Truck Mixer: 10.2 m³ / 4.5 m³/truck = 2.27 Truck
 10 km/end / 30 km/hr + 60 mins(loss) = 1.33 hours
 2.27 Truck x 1.33 hours = 3.02 hours

Table 4.2.5 (44/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | Working Name | Calculation Quantity | Remarks | | | | | | | | |
|--------------------------|--|--|---------|----------|-----------|----------|----------|-------------|-----------|-------------|-------------------|
| R-P2-Bq-15 | Temporary Works for Construction of Weir and Intake Structures (Including Coffering, Dewatering, Channel Diversion for Senawang River and Left Bank Irrigation Chanel, Channel Diversion for Drainage on Left Bank, Erath Retaining Wall and Others) | | | | | | | | | | |
| I L.S. | | | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Material | | | | | | | | | | | |
| | M-B-9 | Soil for Backfilling | m3 | 871.25 | 0 | 400 | 7600 | 0 | 348,500 | 6,621,500 | for Earth Filling |
| Working Base Cost | | | | | | | | | | | |
| | CW-3-9 | Driving In of Steel Sheet Pile (Type-II) | m | 375 | 9909.067 | 76.17755 | 8578.669 | 3,715,900 | 28,567 | 3,217,001 | Additional 1 time |
| | | Pulling Out of Steel Sheet Pile (Type-II) | m | 375 | 9754 | 67 | 8548 | 3,657,750 | 25,125 | 3,205,500 | Additional 1 time |
| | CW-1-16 | Excavation A | m3 | 435.625 | 2361 | 39 | 1711 | 1,028,511 | 16,989 | 745,354 | for Earth Filling |
| | CW-1-17 | Excavation B | m3 | 217.8125 | 2951 | 48 | 2138 | 642,765 | 10,455 | 465,683 | for Earth Filling |
| | CW-1-18 | Excavation C | m3 | 217.8125 | 3943 | 65 | 2857 | 858,835 | 14,158 | 622,290 | for Earth Filling |
| | CW-1-58 | Spreading and Compaction for Earth Filling | m3 | 1742.5 | 2833.803 | 36.252 | 2632.618 | 4,937,902 | 63,169 | 4,587,337 | for Earth Filling |
| | CW-4-8 | Temporary Steel Sheet Pile (Type-C) | nos | 198 | 1420686 | 85.90653 | 949534.9 | 381,295,880 | 17,009 | 188,007,920 | |
| | CW-4-7 | Sand Bags | nos | 56 | 88.5375 | 758.9625 | 4199.663 | 4,958 | 42,502 | 235,181 | |
| | CW-4-11 | Temporary Double Steel Sheet Pile | m | | 11624101 | 15805.53 | 8175660 | 0 | 0 | 0 | |
| | CW-4-12 | Temporary Dewatering by D100mm | m | 474 | 291463.5 | 12974.4 | 212460.6 | 138,153,703 | 6,149,866 | 100,706,335 | |
| Others | | | | | | | | | | | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 89,931,197 | 0 | 22,482,799 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 68,947,351 | 0 | 17,236,813 | |
| | | Miscellaneous | L.S. | | | | | 49 | 60 | 86 | |
| | | Total for | I L.S. | | | | | 593,174,700 | 6,716,400 | 348,133,800 | |
| | | Unit Cost for | I L.S. | | | | | 593,174,700 | 6,716,400 | 348,133,800 | |

| ID No. | Working Name | Calculation Quantity | Remarks | | | | | | | | |
|--------------------------|--|--|---------|----------|-----------|----------|----------|---------------|-----------|-------------|-------------------------|
| R-P2-Bq-16 | Coffering and Dewatering for Construction of Revetment in upstream and downstream channels | | | | | | | | | | |
| I L.S. | | | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Material | | | | | | | | | | | |
| | M-B-9 | Soil for Backfilling | m3 | 871.25 | 0 | 400 | 7600 | 0 | 348,500 | 6,621,500 | for Earth Filling |
| Working Base Cost | | | | | | | | | | | |
| | CW-3-9 | Driving In of Steel Sheet Pile (Type-II) | m | 962.5 | 9909.067 | 76.17755 | 8578.669 | 9,537,477 | 73,321 | 8,256,969 | Additional 1 time (25m) |
| | | Pulling Out of Steel Sheet Pile (Type-II) | m | 962.5 | 9754 | 67 | 8548 | 9,388,225 | 64,488 | 8,227,450 | Additional 1 time (25m) |
| | CW-1-16 | Excavation A | m3 | 435.625 | 2361 | 39 | 1711 | 1,028,511 | 16,989 | 745,354 | for Earth Filling |
| | CW-1-17 | Excavation B | m3 | 217.8125 | 2951 | 48 | 2138 | 642,765 | 10,455 | 465,683 | for Earth Filling |
| | CW-1-18 | Excavation C | m3 | 217.8125 | 3943 | 65 | 2857 | 858,835 | 14,158 | 622,290 | for Earth Filling |
| | CW-1-58 | Spreading and Compaction for Earth Filling | m3 | 1742.5 | 2833.803 | 36.252 | 2632.618 | 4,937,902 | 63,169 | 4,587,337 | for Earth Filling |
| | CW-4-8 | Temporary Steel Sheet Pile (Type-C) | nos | | 1420686 | 85.90653 | 949534.9 | 0 | 0 | 0 | |
| | CW-4-7 | Sand Bags | nos | 900 | 88.5375 | 758.9625 | 4199.663 | 79,684 | 683,066 | 3,779,696 | |
| | CW-4-11 | Temporary Double Steel Sheet Pile | m | 97.2 | 11624101 | 15805.53 | 8175660 | 1,129,862,642 | 1,536,298 | 794,674,110 | |
| | CW-4-12 | Temporary Dewatering by D100mm | m | 100 | 291463.5 | 12974.4 | 212460.6 | 29,146,351 | 1,297,440 | 21,246,062 | |
| Others | | | | | | | | | | | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 244,658,007 | 0 | 61,164,502 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 187,571,139 | 0 | 46,892,785 | |
| | | Miscellaneous | L.S. | | | | | 64 | 16 | 61 | |
| | | Total for | I L.S. | | | | | 1,617,711,600 | 4,107,900 | 957,283,800 | |
| | | Unit Cost for | I L.S. | | | | | 1,617,711,600 | 4,107,900 | 957,283,800 | |

Table 4.2.5 (45/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|---------------------------------|----------|---|--------|----------------------|-----------|------|----------|---------|-------|---------|----------------------|
| R-P2-Bq-22 | | Structural Excavation | | 10 m3 | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | | | | | | | | | | | |
| | A-2-1-48 | Dumptruck; 10 ton | hourly | 0.87 | 77269 | 3060 | 70744.12 | 67,224 | 2,662 | 61,547 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-1-5 | Spreading A | m3 | 12 | 2941 | 35 | 2823 | 35,292 | 420 | 33,876 | for Reclamation Site |
| | CW-1-46 | Excavation A | m3 | 4 | 2361 | 39 | 1711 | 9,444 | 156 | 6,844 | |
| | CW-1-47 | Excavation B | m3 | 5 | 2951 | 48 | 2138 | 14,755 | 240 | 10,690 | |
| | CW-1-6 | Marpower Excavation | m3 | 1 | 0 | 0 | 15800 | 0 | 0 | 15,800 | |
| Others | | | | | | | | | | | |
| | | Consideration for using long-nose Backhoe | % | 10 | | | | 12,672 | 348 | 12,876 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | | | | | | | | | |
| | | | % | 15 | 0.8 | | 0.2 | 34,181 | 0 | 8,545 | |
| Profit and Overhead Cost | | | | | | | | | | | |
| | | Miscellaneous | L.S. | 10 | 0.8 | | 0.2 | 26,206 | 0 | 6,551 | |
| | | | | | | | | 26 | 74 | 70 | Round Up |
| Total for | | 10 m3 | | | | | | 199,800 | 3,900 | 156,800 | |
| Unit Cost for | | 1 m3 | | | | | | 19,980 | 390 | 15,680 | |

*1: Soil Volume : 10 m3
 *2: Dump Truck : 10 ton/dump / 1.5 m3/ton = 6.67 m3/dump
 10 km/rnd / 40 km/hr + 20 mnts(loss) = 0.58 hours
 10 m3 / 6.67 m3/dump = 1.5 dp/10m3
 1.5 dp/10m3 x 0.58 hours = 0.87 hours
 *3: Spreading : 10 m3 x 1.2 = 12 m3

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|---------------------------------|----------|--|--------|----------------------|-----------|--------|----------|---------|---------|----------|----------|
| R-P2-Bq-24 | | Earthfill on Riverbed with Selected Soil | | 10 m3 | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | | | | | | | | | | | |
| | A-2-1-48 | Dumptruck; 10 ton | hourly | 0.57 | 77269 | 3060 | 70744.12 | 44,043 | 1,744 | 40,324 | |
| Material | | | | | | | | | | | |
| | M-B-4 | Sand for Filling and Base Course | m3 | 11.11 | 0 | 1350 | 25650 | 0 | 14998.5 | 284971.5 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-1-58 | Spreading and Compaction for Earth Filling | m3 | 10 | 2833.803 | 36.252 | 2632.618 | 28,338 | 363 | 26,326 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | | | | | | | | | |
| | | | % | 15 | 0.8 | | 0.2 | 52,933 | 0 | 13,233 | |
| Profit and Overhead Cost | | | | | | | | | | | |
| | | Miscellaneous | L.S. | 10 | 0.8 | | 0.2 | 40,582 | 0 | 10,145 | |
| | | | | | | | | 4 | 95 | 99 | Round Up |
| Total for | | 10 m3 | | | | | | 165,900 | 17,200 | 375,100 | |
| Unit Cost for | | 1 m3 | | | | | | 16,590 | 1,720 | 37,510 | |

*1: Dump Truck : 10 ton/dump / 1.5 m3/ton = 6.67 m3/dump
 2 km/rnd / 40 km/hr + 20 mnts(loss) = 0.38 hours
 10 m3 / 6.67 m3/dump = 1.5 dp/10m3
 1.5 dp/10m3 x 0.38 hours = 0.57 hours
 *2: Sand : 10 m3 / 0.9 = 11.11

Table 4.2.5 (46/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | Remarks | | | | | |
|-------------------|--------|---|------|----------------------|-----------|----------|-----------|-----------|-----------|---------------------------------|----------|
| R-P2-Bq-36 | | PC Pile for Test Piling, Dia. 600 mm Type-A | | 10 m | | | | | | | |
| R-P2-Bq-47 | | PC Pile for Test Piling, Dia. 600 mm Type-A | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Working Base Cost | | | | | | | | | | | |
| | CW-3-3 | Pile Work of Simongan Weir-A | m | 11 | 254676.92 | 256.9231 | 56438.46 | 2,801,446 | 2,826 | 620,823 | |
| | | Piling Test | m | 10 | | | 30000 | 0 | 300,000 | incl. All tests needed & report | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 447,011 | 0 | 111,753 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 342,709 | 0 | 85,677 | |
| | | Miscellaneous | L.S. | | | | | 34 | 74 | 47 | Round Up |
| Total for | | 10 m | | | | | 3,591,300 | 2,900 | 1,118,300 | | |
| Unit Cost for | | 1 m | | | | | 359,120 | 290 | 111,830 | | |

| ID No. | | Working Name | | Calculation Quantity | | Remarks | | | | | |
|-------------------|--------|--|------|----------------------|-----------|----------|-----------|-----------|---------|---------|----------|
| R-P2-Bq-37 | | Furnishing and Driving PC Piles, Dia. 600mm Type-A | | 10 m | | | | | | | |
| R-P2-Bq-48 | | Furnishing and Driving PC Piles, Dia. 600mm Type-A | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Working Base Cost | | | | | | | | | | | |
| | CW-3-3 | Pile Work of Simongan Weir-A | m | 10 | 254676.92 | 256.9231 | 56438.46 | 2,516,769 | 2,569 | 564,385 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 373,647 | 0 | 93,412 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 286,463 | 0 | 71,616 | |
| | | Miscellaneous | L.S. | | | | | 21 | 31 | 88 | Round Up |
| Total for | | 10 m | | | | | 3,206,900 | 2,600 | 729,500 | | |
| Unit Cost for | | 1 m | | | | | 320,690 | 260 | 72,950 | | |

| ID No. | | Working Name | | Calculation Quantity | | Remarks | | | | | |
|-------------------|--------|---|------|----------------------|-----------|----------|-----------|-----------|---------|---------------------------------|----------|
| R-P2-Bq-38 | | PC Pile for Test Piling, Dia. 450 mm Type-A | | 10 m | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Working Base Cost | | | | | | | | | | | |
| | CW-3-4 | Pile Work of Simongan Weir-B | m | 11 | 186830.77 | 224.6154 | 47460.77 | 2,055,138 | 2,471 | 522,068 | |
| | | Piling Test | m | 10 | | | 30000 | 0 | 300,000 | incl. All tests needed & report | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 345,561 | 0 | 86,390 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 264,930 | 0 | 66,233 | |
| | | Miscellaneous | L.S. | | | | | 70 | 29 | 9 | Round Up |
| Total for | | 10 m | | | | | 2,665,700 | 2,500 | 974,700 | | |
| Unit Cost for | | 1 m | | | | | 266,570 | 250 | 97,470 | | |

| ID No. | | Working Name | | Calculation Quantity | | Remarks | | | | | |
|-------------------|--------|--|------|----------------------|-----------|----------|-----------|-----------|---------|---------|----------|
| R-P2-Bq-39 | | Furnishing and Driving PC Piles, Dia. 450mm Type-A | | 10 m | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Working Base Cost | | | | | | | | | | | |
| | CW-3-4 | Pile Work of Simongan Weir-B | m | 10 | 186830.77 | 224.6154 | 47460.77 | 1,868,308 | 2,246 | 474,608 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 281,419 | 0 | 70,355 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 215,755 | 0 | 53,939 | |
| | | Miscellaneous | L.S. | | | | | 18 | 54 | 99 | Round Up |
| Total for | | 10 m | | | | | 2,365,500 | 2,300 | 599,000 | | |
| Unit Cost for | | 1 m | | | | | 236,550 | 230 | 59,900 | | |

Table 4.2.5 (47/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|-------------------|---------|---|------|----------------------|-----------|----------|----------|-----------|-------|---------|---------------------------------|
| R-P2-Bq-40 | | PC Pile for Test Piling, Dia. 400 mm Type-A | | 10 m | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Working Base Cost | | | | | | | | | | | |
| | CW-3-14 | Pile Work of Sinangan Weir-C | m | 11 | 177272.31 | 220.7692 | 42463.85 | 1,949,995 | 2,428 | 467,102 | |
| | | Piling Test | m | 10 | | | 30000 | 0 | 0 | 300,000 | incl. All tests needed & report |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 326,343 | 0 | 81,586 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 250,196 | 0 | 63,549 | |
| | | Miscellaneous | L.S. | | | | | 65 | 72 | 63 | Round Up |
| Total for | | 10 m | | | | | | 2,526,600 | 2,500 | 911,300 | |
| Unit Cost for | | 1 m | | | | | | 252,660 | 250 | 91,130 | |

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|-------------------|---------|--|------|----------------------|-----------|----------|----------|-----------|-------|---------|----------|
| R-P2-Bq-40 | | PC Pile for Test Piling, Dia. 400 mm Type-A | | 10 m | | | | | | | |
| R-P2-Bq-41 | | Furnishing and Driving PC Piles, Dia. 400mm Type-A | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Working Base Cost | | | | | | | | | | | |
| | CW-3-14 | Pile Work of Sinangan Weir-C | m | 10 | 177272.31 | 220.7692 | 42463.85 | 1,772,723 | 2,208 | 424,638 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 263,948 | 0 | 65,987 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 202,360 | 0 | 50,590 | |
| | | Miscellaneous | L.S. | | | | | 68 | 92 | 84 | Round Up |
| Total for | | 10 m | | | | | | 2,239,100 | 2,300 | 541,300 | |
| Unit Cost for | | 1 m | | | | | | 223,910 | 230 | 54,130 | |

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|-------------------|----------|---|----------------|----------------------|-----------|-------|----------|---------|---------|-----------|-------------------|
| R-P2-Bq-42 | | Concrete Filling in Pile Holes, Concrete Type D | | 10 m ³ | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | | | | | | | | | | | |
| | A-2-1-79 | Truck Mixer, 4.5 m ³ | hourly | 3.02 | 77957.876 | 1560 | 60651.61 | 235,433 | 4,711 | 183,168 | |
| Labour | | | | | | | | | | | |
| | L-2-1 | Foreman | day | 0.96 | 0 | 0 | 48800 | 0 | 0 | 46,848 | |
| | L-2-17 | Concrete Worker | day | 1.92 | 0 | 0 | 39000 | 0 | 0 | 74,880 | |
| | L-2-23 | Common Labour | day | 4.2 | 0 | 0 | 35100 | 0 | 0 | 147,420 | |
| Material | | | | | | | | | | | |
| | M-C-13 | Ready Mixed Concrete; 175kg/cm ² , 40mm (D) | m ³ | 11 | 0 | 39000 | 156000 | 0 | 429,000 | 1,716,000 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-1-45 | Curing Work | m ³ | 10 | 110 | 0 | 350 | 1,100 | 0 | 3,500 | |
| Others | | | | | | | | | | | |
| | | Small Tools | % | 2 | | | | 4,731 | 8,674 | 43,436 | Vibrator and etc. |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 347,868 | 0 | 86,967 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 266,699 | 0 | 66,675 | |
| | | Miscellaneous | L.S. | | | | | 70 | 15 | 6 | Round Up |
| Total for | | 10 m ³ | | | | | | 855,900 | 442,400 | 2,368,900 | |
| Unit Cost for | | 1 m ³ | | | | | | 85,590 | 44,240 | 236,890 | |

*1: Manpower: Foreman 0.8 Concrete Worker 1.6 Common Labor 3.5 from Japanese Standard
 Extra Work 20% 0.96 1.92
 *2: Concrete: 10 m³ x (1 + 0.1) = 11 m³
 *3: Truck Mixer: 10.2 m³ / 4.5 m³/truck = 2.27 Truck
 10 km/rnd / 30 km/hr + 60 mins(loss) = 1.33 hours
 2.27 Truck x 1.33 hours = 3.02 hours

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|-------------------|--------|--|------|----------------------|-----------|----------|----------|-----------|------|---------|----------|
| R-P2-Bq-44 | | Furnishing and Driving Steel Sheet Pile, Type II | | 10 m | | | | | | | |
| R-P2-Bq-51 | | Furnishing and Driving Steel Sheet Pile, Type II | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Material | | | | | | | | | | | |
| | M-E-31 | Steel Sheet Pile (Purchasing) | ton | 0.48 | 5,700,000 | 0 | 300,000 | 2,736,000 | 0 | 144,000 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-3-9 | Driving In of Steel Sheet Pile (Type-II) | m | 10 | 9909.0668 | 76.17755 | 8578.669 | 99,091 | 762 | 85,787 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 367,877 | 0 | 91,969 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 282,039 | 0 | 70,510 | |
| | | Miscellaneous | L.S. | | | | | 94 | 38 | 34 | Round Up |
| Total for | | 10 m | | | | | | 3,485,100 | 800 | 392,300 | |
| Unit Cost for | | 1 m | | | | | | 348,510 | 80 | 39,230 | |

Table 4.2.5 (48/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|-------------------|---------|---|------|----------------------|-----------|------|----------|-----------|-------|---------|---------------------------------|
| R-P2-Bq-49 | | PC Pile for Test Piling, Dia. 350 mm Type-A | | 10 m | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Working Base Cost | | | | | | | | | | | |
| | CW-3-15 | Pile Work of Simongan Weir-D | m | 11 | 146826.92 | 210 | 39214.62 | 1,615,096 | 2,310 | 431,361 | |
| | | Piling Test | m | 10 | | | 30000 | 0 | 0 | 300,000 | incl. All tests needed & report |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 281,852 | 0 | 70,463 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 216,087 | 0 | 54,022 | |
| | | Miscellaneous | L.S. | | | | | 65 | 90 | 55 | Round Up |
| Total for | | 10 m | | | | | | 2,113,100 | 2,400 | 855,900 | |
| Unit Cost for | | 1 m | | | | | | 211,310 | 240 | 85,590 | |

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|-------------------|---------|--|------|----------------------|-----------|------|----------|-----------|-------|---------|----------|
| R-P2-Bq-50 | | Furnishing and Driving PC Piles, Dia. 350mm Type-A | | 10 m | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Working Base Cost | | | | | | | | | | | |
| | CW-3-15 | Pile Work of Simongan Weir-D | m | 10 | 146826.92 | 210 | 39214.62 | 1,468,269 | 2,100 | 392,146 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 223,502 | 0 | 55,875 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 171,351 | 0 | 42,838 | |
| | | Miscellaneous | L.S. | | | | | 78 | 0 | 41 | Round Up |
| Total for | | 10 m | | | | | | 1,863,200 | 2,100 | 490,900 | |
| Unit Cost for | | 1 m | | | | | | 186,320 | 210 | 49,090 | |

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|-------------------|--------|--|------|----------------------|-----------|-------|---------|-----------|-------|-----------|---------------------------------|
| R-P2-Bq-55 | | PC Pile for Test Piling, Dia. 500 mm Type-A | | 10 m | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Working Base Cost | | | | | | | | | | | |
| | CW-3-1 | Pile Work of Maintenance Bridge of Simongan Bridge-A | m | 5.5 | 255812.5 | 552.5 | 96042.5 | 1,406,969 | 3,039 | 538,234 | |
| | CW-3-2 | Pile Work of Maintenance Bridge of Simongan Bridge-B | m | 5.5 | 246376 | 488 | 86168 | 1,355,068 | 2,684 | 473,924 | |
| | | Piling Test | m | 10 | | | 30000 | 0 | 0 | 300,000 | incl. All tests needed & report |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 488,390 | 0 | 122,098 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 374,432 | 0 | 93,608 | |
| | | Miscellaneous | L.S. | | | | | 41 | 77 | 37 | Round Up |
| Total for | | 10 m | | | | | | 3,624,900 | 5,800 | 1,517,900 | |
| Unit Cost for | | 1 m | | | | | | 362,490 | 580 | 151,790 | |

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|-------------------|--------|--|------|----------------------|-----------|-------|---------|-----------|-------|-----------|----------|
| R-P2-Bq-56 | | Furnishing and Driving PC Piles, Dia. 500mm Type-A | | 10 m | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Working Base Cost | | | | | | | | | | | |
| | CW-3-1 | Pile Work of Maintenance Bridge of Simongan Bridge-A | m | 5 | 255812.5 | 552.5 | 96042.5 | 1,279,063 | 2,763 | 480,213 | |
| | CW-3-2 | Pile Work of Maintenance Bridge of Simongan Bridge-B | m | 5 | 246376 | 488 | 86168 | 1,231,880 | 2,440 | 430,840 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 411,264 | 0 | 102,816 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 315,302 | 0 | 78,826 | |
| | | Miscellaneous | L.S. | | | | | 92 | 98 | 6 | Round Up |
| Total for | | 10 m | | | | | | 3,237,600 | 5,300 | 1,092,700 | |
| Unit Cost for | | 1 m | | | | | | 323,760 | 530 | 109,270 | |

Table 4.2.5 (49/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | | Calculation Quantity | | | | | | Remarks |
|--------------------------|----------|--|--------|----------|----------------------|-------|----------|-----------|---------|-----------|----------|
| R-P2-Bq-61 | | Concrete Type B including Formwork for Gate Floor Slab, Pier Footing and Apron | | | 10 m3 | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | | | | | | | | | | | |
| | A-2-1-79 | Truck Mixer; 4.5 m3 | hourly | 3.02 | 77957.88 | 1560 | 60651.61 | 235,433 | 4,711 | 183,168 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-1-23 | Form Work A | m2 | 6.35128 | 60 | 0 | 44798 | 381 | 0 | 284,525 | |
| | CW-2-40 | Breaking-up the Concrete Form | m2 | 6.35128 | 0 | 0 | 3700 | 0 | 0 | 23,500 | |
| | CW-1-62 | Reinforced Concrete Work Type B by Pump | m3 | 10 | 20270 | 43850 | 191650 | 202,700 | 438,500 | 1,916,500 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 394,730 | 0 | 98,683 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 302,626 | 0 | 75,657 | |
| | | Miscellaneous | L.S. | | | | | 30 | 89 | 69 | Round Up |
| Total for | | 10 m3 | | | | | | 1,135,900 | 443,300 | 2,582,100 | |
| Unit Cost for | | 1 m3 | | | | | | 113,590 | 44,330 | 258,210 | |

*1: Total Concrete Volume: 5981.186 m3
 *2: Total Formwork Area: 3798.819 m2
 Average Formwork Area: 6.35128 m2/unit m3
 *3: Truck Mixer: 10.2 m3 / 4.5 m3/truck = 2.27 Truck
 10 km/rnd / 30 km/hr + 60 mins(loss) = 1.33 hours
 2.27 Truck x 1.33 hours = 3.02 hours
 Con Fm
 R-P2-Bq-70 5981.186 3798.819

| ID No. | | Working Name | | | Calculation Quantity | | | | | | Remarks |
|--------------------------|----------|---|--------|----------|----------------------|-------|----------|-----------|---------|-----------|----------|
| R-P2-Bq-63 | | Concrete Type B including Scaffolding and Formwork for Gate Piers, Operation Decks and Approach Walls | | | 10 m3 | | | | | | |
| R-P2-Bq-78 | | Concrete Type B including Scaffolding and Form | | | | | | | | | |
| R-P2-Bq-98 | | Concrete Type B including Scaffolding and Form for Abutments | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | | | | | | | | | | | |
| | A-2-1-79 | Truck Mixer; 4.5 m3 | hourly | 3.02 | 77957.88 | 1560 | 60651.61 | 235,433 | 4,711 | 183,168 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-1-24 | Form Work B | m2 | 14.20497 | 10030 | 75 | 53910 | 142,476 | 1,065 | 751,585 | |
| | CW-2-40 | Breaking-up the Concrete Form | m2 | 14.20497 | 0 | 0 | 3700 | 0 | 0 | 52,558 | |
| | CW-1-42 | Tublar Scaffolding for Re-Con IV | m2 | 14.12726 | 24970 | 70 | 23610 | 352,758 | 989 | 333,545 | |
| | CW-1-44 | Frame Support Reinforced Concrete Work | m3 | 6.607478 | 11370 | 50 | 22310 | 75,127 | 330 | 147,413 | |
| | CW-1-62 | Type B by Pump | m3 | 10 | 20270 | 43850 | 191650 | 202,700 | 438,500 | 1,916,500 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 580,663 | 0 | 145,166 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 445,175 | 0 | 111,294 | |
| | | Miscellaneous | L.S. | | | | | 69 | 4 | 72 | Round Up |
| Total for | | 10 m3 | | | | | | 2,031,400 | 445,600 | 3,641,300 | |
| Unit Cost for | | 1 m3 | | | | | | 203,140 | 44,560 | 364,130 | |

*1: Total Concrete Volume: 4353.885 m3
 *2: Total Scaffolding Area: 6150.847 m2
 Average Scaffolding Area: 14.12726 m2/unit m3
 Total Formwork Area: 6184.682 m2
 Average Formwork Area: 14.20497 m2/unit m3
 *3: Truck Mixer: 10.2 m3 / 4.5 m3/truck = 2.27 Truck
 10 km/rnd / 30 km/hr + 60 mins(loss) = 1.33 hours
 2.27 Truck x 1.33 hours = 3.02 hours
 ID Con Fm Sea Sup
 R-P2-Bq-72 3131.823 4232.313 4524.276 2539.178
 R-P2-Bq-87 1100.462 1721.969 1486.571 337.642
 R-P2-Bq-109 121.6 230.4 140 0

Table 4.2.5 (50/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|-------------------|----------|---|--------|----------------------|-----------|-------|----------|-----------|---------|-----------|-------------------|
| R-P2-Bq-67 | | Concrete Type B including Formwork for Pile Head Treatment Work | | 10 m3 | | | | | | | |
| R-P2-Bq-80 | | Concrete Type B including Formwork for Pile Head Treatment Work | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | A-2-1-79 | Truck Mixer; 4.5 m3 | hourly | 3.02 | 77957.88 | 1560 | 60651.61 | 235,433 | 4,711 | 183,168 | |
| Labour | | | | | | | | | | | |
| | L-2-1 | Foreman | day | 0.96 | 0 | 0 | 48800 | 0 | 0 | 46,848 | |
| | L-2-16 | Steel Worker | day | 5 | 0 | 0 | 39000 | 0 | 0 | 195,000 | |
| | L-2-17 | Concrete Worker | day | 1.92 | 0 | 0 | 39000 | 0 | 0 | 74,880 | |
| | L-2-23 | Common Labour | day | 4.2 | 0 | 0 | 35100 | 0 | 0 | 147,420 | |
| Material | | | | | | | | | | | |
| | M-E-4 | Structural Steel(Purchasing), SS41 | kg | 30 | 5225 | 0 | 275 | 156,750 | 0 | 8,250 | |
| | M-C-10 | Ready Mixed Concrete; 250kg/cm2, 25mm (B) | m3 | 11 | 0 | 42000 | 168000 | 0 | 462,000 | 1,848,000 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-1-45 | Curing Work | m3 | 10 | 110 | 0 | 350 | 1,100 | 0 | 3,500 | |
| Others | | | | | | | | | | | |
| | | Small Tools | % | 2 | | | | 7,866 | 9,334 | 50,141 | Vibrator and etc. |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 412,128 | 0 | 103,032 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 315,965 | 0 | 78,991 | |
| | | Miscellaneous | L.S. | | | | | 59 | 55 | 70 | Round Up |
| Total for | | 10 m3 | | | | | | 1,129,300 | 476,100 | 2,739,300 | |
| Unit Cost for | | 1 m3 | | | | | | 112,930 | 47,610 | 273,930 | |

*1: Manpower: Foreman 0.8 Concrete Worker 1.6 Common Labor 3.5 from Japanese Standard
 Extra Work 20% 0.96 1.92 4.2
 *2: Concrete: 10 m3 x (1 + 0.1) = 11 m3
 *3: Truck Mixer: 10.2 m3 / 4.5 m3/truck = 2.27 Truck
 10 km/rnd / 30 km/hr = 1.33 hours
 2.27 Truck x 1.33 hours = 3.02 hours

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|-------------------|----------|---|--------|----------------------|-----------|-------|----------|-----------|---------|-----------|----------|
| R-P2-Bq-102 | | Concrete Type B including Form for Retaining Wall | | 10 m3 | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | A-2-1-79 | Truck Mixer; 4.5 m3 | hourly | 3.02 | 77957.88 | 1560 | 60651.61 | 235,433 | 4,711 | 183,168 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-1-23 | Form Work A | m2 | 32,23192 | 60 | 0 | 44798 | 1,934 | 0 | 1,443,926 | |
| | CW-2-40 | Breaking-up the Concrete Form | m2 | 32,23192 | 0 | 0 | 3700 | 0 | 0 | 119,258 | |
| | CW-1-62 | Reinforced Concrete Work Type B by Pump | m3 | 10 | 20270 | 43850 | 191650 | 202,700 | 438,500 | 1,916,500 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 545,536 | 0 | 136,384 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 418,244 | 0 | 104,561 | |
| | | Miscellaneous | L.S. | | | | | 54 | 89 | 4 | Round Up |
| Total for | | 10 m3 | | | | | | 1,401,900 | 443,300 | 3,903,800 | |
| Unit Cost for | | 1 m3 | | | | | | 140,390 | 44,330 | 390,380 | |

*1: Total Concrete Volume: 58.21 m3
 *2: Total Formwork Area: 187,622 m2
 Average Formwork Area: 32,23192 m2/unit m3
 *3: Truck Mixer: 10.2 m3 / 4.5 m3/truck = 2.27 Truck
 10 km/rnd / 30 km/hr = 1.33 hours
 2.27 Truck x 1.33 hours = 3.02 hours
 Con Fm
 R-P2-Bq-113 58.21 187,622

Table 4.2.5 (51/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | Working Name | Calculation Quantity | Remarks | | | | | | | | |
|--------------------------|--|---|---------|----------|-----------|---------|----------|-----------|-----------|-----------|----------|
| R-P1-Bq-149 | Precast Concrete Block (2.0/piece), Concrete Type-D | 10 m3 | | | | | | | | | |
| R-P2-Bq-71 | Precast Concrete Blocks and their Installation (Cross-shape Block with Anchor Bars, 2/piece) | 10 m3 | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | A-2-1-79 | Truck Mixer; 4.5 m3 | hourly | 3.02 | 77957.88 | 1560 | 60651.61 | 235,433 | 4,711 | 183,168 | |
| | A-2-1-71 | Truck Crane; 11(10) ton, Oil Pressure | hourly | 9.09 | 99321.89 | 1020 | 85928.77 | 902,836 | 9,272 | 781,093 | |
| Labour | L-2-28 | Chief of Concrete Worker | day | 1.25 | 0 | 0 | 58600 | 0 | 0 | 73,250 | |
| | L-2-6 | Welder | day | 0.061908 | 0 | 0 | 39000 | 0 | 0 | 2,414 | |
| | L-2-17 | Concrete Worker | day | 5 | 0 | 0 | 39000 | 0 | 0 | 195,000 | |
| | L-2-23 | Common Labour | day | 5 | 0 | 0 | 35100 | 0 | 0 | 175,500 | |
| Material | M-E-7 | Steel Plate SS41 | kg | 1.031804 | 5225 | 0 | 275 | 5,391 | 0 | 284 | for Form |
| | M-C-13 | Ready Mixed Concrete; 175kg/cm2, 40mm (D) | m3 | 10.2 | 0 | 39000 | 156000 | 0 | 397,800 | 1,591,200 | |
| Working Base Cost | CW-1-31 | Reinforcing Bar Setup 2 | 1 | 0.241172 | 0 | 2808810 | 2992590 | 0 | 677,407 | 721,230 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 714,779 | 0 | 178,695 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 547,997 | 0 | 136,999 | |
| | | Miscellaneous | L.S. | | | | | 64 | 10 | 67 | Round Up |
| Total for | | 10 m3 | | | | | | 2,406,500 | 1,089,200 | 4,039,400 | |
| Unit Cost for | | 1 m3 | | | | | | 240,650 | 108,920 | 403,940 | |
| Unit Cost for | | 1 nos | | | | | | 209,366 | 94,760 | 351,428 | |

- *1: Concrete: 10 m3 x (1 + 2%) = 10.2
- *2: Manpower; Chief of Concrete Worker: 1 man/day / 8 m3/day x 10 m3 = 1.25
- Concrete Worker: 4 man/day / 8 m3/day x 10 m3 = 5
- Common Labor: 4 man/day / 8 m3/day x 10 m3 = 5
- Concrete Worker: 1 manpower = 2 m3/day
- *3: Steel Plate for Form: 4.088 m2/pc / 0.87 m3/pc x 3 mm thick x 7.85 v/m3 = 1217.24 kg/total
- 1000 kg/ton x 10 piece x 1.1 = 1100 kg/total
- 1217.24 kg/total / 1179.72 m3/total = 1.031804 m2/m3
- *4: Truck Mixer: 10.2 m3 / 4.5 m3/truck = 2.27 Truck
- 10 km/hr / 30 km/hr + 60 mins(lost) = 1.33 hours
- 2.27 Truck x 1.33 hours = 3.02 hours/10m3
- *5: Equipment: Truck Crane: 0.1 hr/pc x 2 / 0.22 m3/pc x 10 m3 = 9.09 hour/10m3
- *6: Concrete Volume / Piece: 0.87 m3/piece
- *7: Reinforcing Bar / Piece: 20.982 kg/piece

| ID No. | Working Name | Calculation Quantity | Remarks | | | | | | | | |
|--------------------------|------------------------|----------------------|---------|----------|-----------|------|-------|-----------|------|---------|-------------------------|
| R-P2-Bq-73 | Water Stop, 300mm wide | 100 m | | | | | | | | | |
| R-P2-Bq-86 | Water Stop, 300mm wide | 100 m | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Labour | L-2-1 | Foreman | day | 0.25 | 0 | 0 | 48800 | 0 | 0 | 12,200 | |
| | L-2-6 | Welder | day | 0.25 | 0 | 0 | 39000 | 0 | 0 | 9,750 | |
| | L-2-23 | Common Labour | day | 1 | 0 | 0 | 35100 | 0 | 0 | 35,100 | |
| Material | M-G-15 | Waterstop; B=300mm | m | 105.26 | 76000 | 0 | 4000 | 7,999,760 | 0 | 421,040 | |
| Others | | Small Tools | % | 1 | | | | 79,998 | 0 | 4,781 | Welder Machine and etc. |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 1,027,515 | 0 | 256,879 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 787,762 | 0 | 196,940 | |
| | | Miscellaneous | L.S. | | | | | 65 | 0 | 10 | Round Up |
| Total for | | 100 m | | | | | | 9,895,100 | 0 | 936,700 | |
| Unit Cost for | | 1 m | | | | | | 98,951 | 0 | 9,367 | |

- *1: Manpower; Foreman: 1 man/day / 400 m/day x 100 m = 0.25
- Common Labor: 4 man/day / 400 m/day x 100 m = 1
- Welder: 1 man/day / 400 m/day x 100 m = 0.25
- Common Labor: 1 manpower = 100 m/day
- *2: Water Stop: 100 m / 0.95 = 105.26

Table 4.2.5 (52/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | Working Name | | Calculation Quantity | | | | | | Remarks | | |
|---|---|-----------------------------|----------------------|----------|-----------|------|-------|--------|---------|---------|---------------------|
| R-P2-Bq-74 | Dowel Bar, Dia. 19mm 1.0m long (Round Bar and PVC Pipe) | | 10 kg | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Labour | | | | | | | | | | | |
| | L-2-29 | Chief of Steel Worker | day | 0.02 | 0 | 0 | 58600 | 0 | 0 | 0 | 1,172 |
| | L-2-16 | Steel Worker | day | 0.09 | 0 | 0 | 39000 | 0 | 0 | 0 | 3,510 |
| Material | | | | | | | | | | | |
| | M-E-1 | Reinforcing Bar, Round U-30 | kg | 10 | 0 | 2500 | 2500 | 0 | 25,000 | 25,000 | |
| | M-G-3 | PVC Pipe, Dia. 25.4mm(1") | bar | 4.48 | 0 | 6000 | 14000 | 0 | 26,880 | 62,720 | |
| Others | | | | | | | | | | | |
| | | Small Tools | % | 10 | | | | 0 | 5,188 | 9,240 | Steel Wire and etc. |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 19,045 | 0 | 4,761 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 14,601 | 0 | 3,650 | |
| | | Miscellaneous | L.S. | | | | | 53 | 33 | 46 | Round Up |
| Total for 10 kg | | | | | | | | 33,700 | 57,100 | 110,100 | |
| Unit Cost for 1 kg | | | | | | | | 3,370 | 5,710 | 11,010 | |
| Unit Cost for 1 piece | | | | | | | | 752 | 1,275 | 3,458 | |
| *1: Dowel Bar $\frac{10 \text{ kg}}{4.48 \text{ pcs}} \times 2.33 \text{ kg/piece} = 4.48 \text{ pieces/10kg}$ *2: PVC Pipe $\frac{10 \text{ kg}}{4.48 \text{ pcs}} \times 1 \text{ bar} = 4.48 \text{ bar}$ *3: Labor Chief Worker $\frac{1 \text{ man}}{200 \text{ pcs/day}} \times 4.48 \text{ pieces/10kg} = 0.02$ Worker $\frac{1 \text{ man}}{200 \text{ pcs/day}} \times 4.48 \text{ pieces/10kg} = 0.09$ 1 Steel Worker Capacity: 50 pcs/day | | | | | | | | | | | |

| ID No. | Working Name | | Calculation Quantity | | | | | | Remarks | | |
|---------------------------|----------------------------|--------------------------|----------------------|----------|-----------|---------|---------|-----------|-----------|-----------|----------|
| R-P2-Bq-83 | Anchor Bars for Item E.2.6 | | 1000 kg | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Working Base Cost | | | | | | | | | | | |
| | CW-1-31 | Reinforcing Bar Setup 2 | 1 | 1 | 0 | 2808810 | 2992590 | 0 | 2,808,810 | 2,992,590 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 696,168 | 0 | 174,042 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 533,729 | 0 | 133,432 | |
| | | Miscellaneous | L.S. | | | | | 3 | 90 | 36 | Round Up |
| Total for 1000 kg | | | | | | | | 1,229,900 | 2,808,900 | 3,300,100 | |
| Unit Cost for 1 kg | | | | | | | | 1,230 | 2,809 | 3,300 | |

| ID No. | Working Name | | Calculation Quantity | | | | | | Remarks | | |
|----------------------------|---|-----------------------------------|----------------------|----------|-----------|----------|----------|------------|-----------|------------|---|
| R-P2-Bq-88 | Precast Prestressed Concrete Beam including Reinforcing Bars, Tension Reinforcing and Erection (Concrete Type A2, PC Cable) | | 1 nos. | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Material | | | | | | | | | | | |
| | | Precast Prestressed Concrete Beam | piece | 1 | 3613909 | 3915068 | 22586933 | 3,613,909 | 3,915,068 | 22,586,933 | including PC cable, PC cable tensioning, formwork and Curing work |
| Working Base Cost | | | | | | | | | | | |
| | | Erection | piece | 1 | 3296124 | 659224.7 | 2037604 | 3,296,124 | 659,225 | 2,037,604 | |
| Others | | | | | | | | | | | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 1,333,064 | 0 | 1,083,266 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 3,322,015 | 0 | 830,504 | |
| | | Miscellaneous | L.S. | | | | | 88 | 7 | 93 | Round Up |
| Total for 1 nos | | | | | | | | 14,565,200 | 4,574,300 | 26,538,400 | |
| Unit Cost for 1 nos | | | | | | | | 14,565,200 | 4,574,300 | 26,538,400 | |

Table 4.2.5 (53/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | | Calculation Quantity | | | Remarks | | | |
|--|--------|---|-------|----------|----------------------|----------|----------|---------|--------|---------|---|
| R-P2-Bq-89 | | Precast Prestressed Concrete Diaphragm including Reinforcing Bars, Tensioning and Erection (Concrete Type A2, PC Cable) | | | 1 nos | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Material | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Precast Prestressed Concrete Diaphragm | | | piece | 1 | 47671.56 | 51644.19 | 297947.3 | 47,672 | 51,644 | 297,947 | including PC cable, PC cable tensioning, formwork and Curing work |
| Working Base Cost | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Erection | | | piece | 1 | 25730.47 | 5146.093 | 15906.11 | 25,730 | 5,146 | 15,906 | |
| Others | | | | | | | | | | | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 53,285 | 0 | 13,321 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 40,852 | 0 | 10,213 | |
| | | Miscellaneous | L.S. | | | | | 60 | 10 | 12 | Round Up |
| Total for | | 1 nos | | | | | | 167,600 | 56,800 | 337,400 | |
| Unit Cost for | | 1 nos | | | | | | 167,600 | 56,800 | 337,400 | |

| ID No. | | Working Name | | | Calculation Quantity | | | Remarks | | | |
|--------------------------|--------|--|--------|----------|----------------------|-------|----------|-----------|---------|-----------|----------|
| R-P2-Bq-90 | | Concrete Type B including Scaffolding and Form for Slab and Beam for RC Girder | | | 10 m3 | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | | | | | | | | | | | |
| A-2-1-79 | | Truck Mixer; 4.5 m3 | hourly | 3.02 | 77957.88 | 1560 | 60651.61 | 235,433 | 4,711 | 183,168 | |
| Working Base Cost | | | | | | | | | | | |
| CW-1-24 | | Form Work B | m2 | 52.28527 | 10030 | 75 | 52910 | 524,421 | 3,921 | 2,766,414 | |
| CW-2-40 | | Breaking up the Concrete Form | m2 | 52.28527 | 0 | 0 | 3700 | 0 | 0 | 193,456 | |
| CW-1-42 | | Tubular Scaffold for Re-Con IV | m2 | 70.26946 | 24970 | 70 | 23610 | 1,754,629 | 4,919 | 1,659,062 | |
| CW-1-44 | | Frame Support | m3 | 2.763729 | 11370 | 50 | 22310 | 31,424 | 138 | 61,659 | |
| | | Reinforced Concrete Work | | | | | | | | | |
| CW-1-62 | | Type B by Pump | m3 | 10 | 20270 | 43850 | 191650 | 202,700 | 438,500 | 1,916,500 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 1,197,726 | 0 | 299,432 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 918,257 | 0 | 229,564 | |
| | | Miscellaneous | L.S. | | | | | 10 | 10 | 46 | Round Up |
| Total for | | 10 m3 | | | | | | 4,864,600 | 452,200 | 7,309,300 | |
| Unit Cost for | | 1 m3 | | | | | | 486,460 | 45,220 | 730,930 | |

*1: Total Concrete Volume : 180.915 m3
 Total Scaffolding Area : 1271.28 m2
 Average Scaffolding Area : 70.26946 m2/unit m3
 Total Formwork Area : 945.919 m2
 Average Formwork Area : 52.28527 m2/unit m3

*2: Total Supporting Volume : 50 m3
 Average Supporting Volume : 2.763728823 m3/unit m3

*3: Truck Mixer : 10.2 m3 / 4.5 m3/truck = 2.27 Truck
 10 km/rod / 30 km/hr + 60 min(loss) = 1.33 hours
 x 2.27 Truck = 3.02 hours

| | | | | |
|---------------|--------|---------|--------|-----|
| ID | Con | Fm | Sea | Sup |
| R-P2-Bq-101 | 24.093 | 149 | 110.64 | 25 |
| R-P2-Bq-101.1 | 44.243 | 215.973 | 350 | 0 |
| | 44.243 | 215.973 | 350 | 0 |
| | 44.243 | 215.973 | 350 | 0 |

| ID No. | | Working Name | | | Calculation Quantity | | | Remarks | | | |
|--------------------------|--------|--------------------------------------|--------|----------|----------------------|--------|----------|---------|---------|-----------|----------|
| R-P2-Bq-92 | | Elastomeric Bearing Pad (350x280x73) | | | 1 nos. | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | | | | | | | | | | | |
| A-2-1-73 | | Truck Crane; 22 ton, Oil Pressure | hourly | 1 | 154912.5 | 1032 | 131787.6 | 154,913 | 1,032 | 131,788 | |
| Labour | | | | | | | | | | | |
| L-2-32 | | Chief of Bridge | day | 0.4 | 0 | 0 | 68300 | 0 | 0 | 27,320 | |
| L-2-33 | | Bridge Worker | day | 1.8 | 0 | 0 | 58600 | 0 | 0 | 105,480 | |
| L-2-18 | | Form Worker | day | 0.4 | 0 | 0 | 39000 | 0 | 0 | 15,600 | |
| L-2-23 | | Common Labour | day | 1.1 | 0 | 0 | 35100 | 0 | 0 | 38,610 | |
| Material | | | | | | | | | | | |
| M-C-45 | | Non Shrinkage Mortar | m3 | 0.05 | 0 | 18260 | 73040 | 0 | 913 | 3,652 | |
| M-G-16 | | Elastomeric Bearing, 350x280x73mm | pcs | 1 | 0 | 600000 | 600000 | 0 | 600,000 | 600,000 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 201,517 | 0 | 50,379 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 154,496 | 0 | 38,621 | |
| | | Miscellaneous | L.S. | | | | | 74 | 55 | 47 | Round Up |
| Total for | | 1 nos. | | | | | | 511,000 | 602,000 | 1,011,500 | |
| Unit Cost for | | 1 nos. | | | | | | 511,000 | 602,000 | 1,011,500 | |

*1: All Labor Rates are quoted from Japanese Standard. (P1652)

Table 4.2.5 (54/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|--------------------------|----------|--|----------------|----------------------|-----------|--------|----------|---------|---------|---------|----------|
| R-P2-Bq-93 | | Elastomeric Bearing Pad (310x210x24) | | 1 nos. | | | | | | | |
| R-P2-Bq-105 | | Elastomeric Bearing Pad (310x210x24) | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | A-2-1-73 | Truck Crane; 22 ton, Oil Pressure | hourly | 1 | 154912.5 | 1032 | 131787.6 | 154,913 | 1,032 | 131,788 | |
| Labour | L-2-32 | Chief of Bridge | day | 0.4 | 0 | 0 | 68300 | 0 | 0 | 27,320 | |
| | L-2-33 | Bridge Worker | day | 1.8 | 0 | 0 | 58600 | 0 | 0 | 105,480 | |
| | L-2-18 | Form Worker | day | 0.4 | 0 | 0 | 39000 | 0 | 0 | 15,600 | |
| | L-2-23 | Common Labour | day | 1.1 | 0 | 0 | 35100 | 0 | 0 | 38,610 | |
| Material | M-C-45 | Non Shrinkage Mortar Elastomeric Bearing, 312x212x24mm | m ³ | 0.05 | 0 | 18260 | 73040 | 0 | 913 | 3,652 | |
| | M-G-17 | | pcs | 1 | 0 | 150000 | 150000 | 0 | 150,000 | 150,000 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 93,517 | 0 | 23,379 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 71,696 | 0 | 17,924 | |
| | | Miscellaneous | L.S. | | | | | | 55 | 47 | Round Up |
| Total for | 1 nos. | | | | | | | 320,200 | 152,000 | 513,800 | |
| Unit Cost for | 1 nos. | | | | | | | 320,200 | 152,000 | 513,800 | |

* 1: All Labor Rates are quoted from Japanese Standard. (P1652)

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|--------------------------|---------|-----------------------------|------|----------------------|-----------|--------|---------|-----------|-----------|-----------|----------|
| R-P2-Bq-94 | | Rubber Sheet (200x200x30) | | 10 nos. | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Labour | L-2-32 | Chief of Bridge | day | 0.25 | 0 | 0 | 68300 | 0 | 0 | 17,075 | |
| | L-2-33 | Bridge Worker | day | 2.5 | 0 | 0 | 58600 | 0 | 0 | 146,500 | |
| | L-2-23 | Common Labour | day | 2.5 | 0 | 0 | 35100 | 0 | 0 | 87,750 | |
| Material | M-G-18 | Rubber Sheet, 400x100x 30mm | pcs | 10 | 0 | 220000 | 220000 | 0 | 2,200,000 | 2,200,000 | |
| Others | | Small Tools & Materials | % | 5 | | | | 0 | 110,000 | 122,566 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 586,067 | 0 | 146,517 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 449,318 | 0 | 112,329 | |
| | | Miscellaneous | L.S. | | | | | 15 | 0 | 63 | Round Up |
| Total for | 10 nos. | | | | | | | 1,035,400 | 2,310,000 | 2,832,800 | |
| Unit Cost for | 1 nos. | | | | | | | 103,540 | 231,000 | 283,280 | |

* 1: Labor Rate
 Chief 0.1 person / 4 piece/day = 0.025
 Bridge 1 person / 4 piece/day = 0.25
 Common 1 person / 4 piece/day = 0.25

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|--------------------------|--------|-------------------------------|------|----------------------|-----------|---------|---------|---------|---------|---------|----------|
| R-P2-Bq-95 | | Drain Pipe, PVC Pipe, Dia.100 | | 10 m | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Labour | L-2-1 | Foreman | day | 0.05 | 0 | 0 | 48800 | 0 | 0 | 2,440 | |
| | L-2-15 | Plumber | day | 0.5 | 0 | 0 | 39000 | 0 | 0 | 19,500 | |
| | L-2-23 | Common Labour | day | 0.5 | 0 | 0 | 35100 | 0 | 0 | 17,550 | |
| Material | M-G-9 | PVC Pipe, Dia. 150mm | m | 11.11 | 0 | 14107.5 | 32917.5 | 0 | 156,734 | 365,713 | |
| Others | | Small Tools and Materials | % | 10 | | | | 0 | 15,673 | 40,520 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 74,176 | 0 | 18,544 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 56,868 | 0 | 14,217 | |
| | | Miscellaneous | L.S. | | | | | 56 | 92 | 15 | Round Up |
| Total for | 10 m | | | | | | | 131,100 | 172,500 | 478,500 | |
| Unit Cost for | 1 m | | | | | | | 13,110 | 17,250 | 47,850 | |

* 1: Labor Rate
 Chief 0.1 person / 20 m/day = 0.005
 Plumber 1 person / 20 m/day = 0.05
 Common 1 person / 20 m/day = 0.05
 * 2: PVC Pipe 10 m / 0.9 loss = 11.11

Table 4.2.5 (55/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | | Calculation Quantity | | | | | | Remarks |
|--------------------------|----------|--|----------------|----------|----------------------|-------|----------|-----------|---------|-----------|----------|
| R-P2-Bq-100 | | Concrete Type B including Scaffolding and Form for Concrete Beam | | | 10 m ³ | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | A-2-1-79 | Truck Mixer, 4.5 m ³ | hourly | 3.02 | 71957.88 | 1560 | 60651.61 | 235,433 | 4,711 | 183,168 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-1-24 | Form Work B | m ² | 63.72856 | 10030 | 75 | 52910 | 639,197 | 4,780 | 3,371,878 | |
| | CW-2-40 | Breaking-up the Concrete Form | m ² | 63.72856 | 0 | 0 | 3700 | 0 | 0 | 235,796 | |
| | CW-1-42 | Tubular Scaffold for Re-Con IV | m ² | 21.42916 | 24970 | 70 | 23610 | 535,086 | 1,500 | 505,942 | |
| | CW-1-44 | Frame Support | m ³ | 3.455656 | 11370 | 50 | 22310 | 39,291 | 173 | 77,096 | |
| | CW-1-62 | Reinforced Concrete Work Type B by Pump | m ³ | 10 | 20270 | 43850 | 191650 | 202,700 | 438,500 | 1,916,500 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 1,007,010 | 0 | 251,753 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 772,041 | 0 | 193,010 | |
| | | Miscellaneous | L.S. | | | | | 42 | 36 | 57 | Round Up |
| Total for | | 10 m ³ | | | | | | 3,430,800 | 449,700 | 6,735,200 | |
| Unit Cost for | | 1 m ³ | | | | | | 343,080 | 44,970 | 673,520 | |

*1: Total Concrete Volume: 73.358 m³
 *2: Total Scaffolding Area: 157.2 m²
 Average Scaffolding Area: 21.42916 m²/unit m³
 Total Formwork Area: 467.5 m²
 Average Formwork Area: 63.72856 m²/unit m³
 *3: Truck Mixer: 10.2 m³ / 4.5 m³/truck = 2.27 Truck
 10 km³/m³ / 30 km³/hr + 60 nuts(loss) = 1.33 hours
 2.27 Truck x 1.33 hours = 3.02 hours

| | | | | |
|-------------|--------|-------|------|-------|
| ID | Con | Form | Sea | Sup |
| R-P2-Bq-111 | 46.25 | 292.5 | 102 | 15 |
| | 27.108 | 175 | 55.2 | 10.35 |

| ID No. | | Working Name | | | Calculation Quantity | | | | | | Remarks |
|--------------------------|--------|--------------------------------|------|----------|----------------------|------|-------|--------|--------|---------|----------|
| R-P2-Bq-106 | | Drain Pipe, PVC Pipe, Dia. 100 | | | 10 m | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Labour | L-2-1 | Foreman | day | 0.05 | 0 | 0 | 48800 | 0 | 0 | 2,440 | |
| | L-2-15 | Plumber | day | 0.5 | 0 | 0 | 39000 | 0 | 0 | 19,500 | |
| | L-2-23 | Common Labour | day | 0.5 | 0 | 0 | 35100 | 0 | 0 | 17,550 | |
| Material | M-G-7 | PVC Pipe, Dia. 100mm | m | 11.11 | 0 | 3465 | 8085 | 0 | 38,496 | 89,824 | |
| Others | | Small Tools and Materials | % | 10 | | | | 0 | 3,850 | 12,931 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 22,151 | 0 | 5,538 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 16,982 | 0 | 4,246 | |
| | | Miscellaneous | L.S. | | | | | 67 | 54 | 71 | Round Up |
| Total for | | 10 m | | | | | | 39,200 | 42,400 | 152,100 | |
| Unit Cost for | | 1 m | | | | | | 3,920 | 4,240 | 15,210 | |

*1: Labor Rate
 Chief 0.1 person / 20 m/day = 0.005
 Plumber 1 person / 20 m/day = 0.05
 Common 1 person / 20 m/day = 0.05
 *2: PVC Pipe 10 m / 0.9 loss = 11.11

Table 4.2.5 (56/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|--------------------------|---------|---|----------------|----------------------|-----------|------|----------|-----------|--------|-----------|----------|
| R-P2-Bq-128 | | Gabion Mattress, 3.0m x 1.5m x 0.5m (Galvanized and PVC Coated) | | 10 m ³ | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | A-2-1-7 | Backhoe; 0.6 m ³ | hourly | 2.7 | 125542.9 | 2040 | 90965.08 | 338,966 | 5,508 | 245,606 | |
| Labour | | | | | | | | | | | |
| | L-2-27 | Chief of Mason | day | 0.45 | 0 | 0 | 58600 | 0 | 0 | 26,370 | |
| | L-2-11 | Mason | day | 0.48 | 0 | 0 | 39000 | 0 | 0 | 18,720 | |
| | L-2-23 | Common Labour | day | 1.7 | 0 | 0 | 35100 | 0 | 0 | 59,670 | |
| Material | | | | | | | | | | | |
| | M-E-69 | Gabion Mattress; 2.7mm, 3.0x1.0x0.5m, Galvanized and PVC Coated | pcs | 4.44 | 457852.5 | 0 | 24097.5 | 2,032,865 | 0 | 106,993 | |
| | M-B-7 | Boulder | m ³ | 10 | 0 | 2500 | 47500 | 0 | 25,000 | 475,000 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 400,161 | 0 | 100,041 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 306,792 | 0 | 76,698 | |
| Miscellaneous | | | L.S. | | | | | 13 | 92 | 2 | Round Up |
| Total for | | 10 m ³ | | | | | | 3,078,800 | 30,600 | 1,109,100 | |
| Unit Cost for | | 1 m ³ | | | | | | 307,880 | 3,060 | 110,910 | |

*1 All composition numbers are quoted from Japanese Standard.

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|--------------------------|---------|---|----------------|----------------------|-----------|------|----------|-----------|--------|-----------|----------|
| R-P2-Bq-129 | | Gabion Mattress, 2.0m x 1.0m x 0.3m (Galvanized and PVC Coated) | | 10 m ³ | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | A-2-1-7 | Backhoe; 0.6 m ³ | hourly | 2.8 | 125542.9 | 2040 | 90965.08 | 351,520 | 5,712 | 254,702 | |
| Labour | | | | | | | | | | | |
| | L-2-27 | Chief of Mason | day | 0.39 | 0 | 0 | 58600 | 0 | 0 | 22,854 | |
| | L-2-11 | Mason | day | 0.53 | 0 | 0 | 39000 | 0 | 0 | 20,670 | |
| | L-2-23 | Common Labour | day | 2.06 | 0 | 0 | 35100 | 0 | 0 | 72,306 | |
| Material | | | | | | | | | | | |
| | M-E-71 | Gabion Mattress; 2.7mm, 2.0x1.0x0.3m, Galvanized and PVC Coated | pcs | 17 | 196222.5 | 0 | 10327.5 | 3,335,783 | 0 | 175,568 | |
| | M-B-7 | Boulder | m ³ | 10 | 0 | 2500 | 47500 | 0 | 25,000 | 475,000 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 568,694 | 0 | 142,173 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 435,999 | 0 | 109,000 | |
| Miscellaneous | | | L.S. | | | | | 5 | 88 | 27 | Round Up |
| Total for | | 10 m ³ | | | | | | 4,692,000 | 30,800 | 1,272,300 | |
| Unit Cost for | | 1 m ³ | | | | | | 469,200 | 3,080 | 127,230 | |

*1 All composition numbers are quoted from Japanese Standard.

Table 4.2.5 (57/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | | | | Calculation Quantity | | | Remarks |
|--------------------------|---------------|---|-----------------|---------------------------------|-----------------------------|-----------------|----------------------|-------------|---------------|----------------------------|
| R-P2-Bq-136 | | Furnishing and Installing Shell Type Steel Roller Gate, H=3.7m x L=18.5m x 3 gates (Flood Discharge Gate) | | | | | 1 L.S. | | | |
| Major Item | Description | Quantity | | | | | Cost | | | Remarks |
| | | Nos | Steel kg/nos | Painting m ² /nos | Acid m ² /nos | Other kg/nos | PF/C | IF/C | LC | |
| Direct Cost | | | | | | | | | | |
| Furnishing | Gate Leaf | 3 | 51093 | 772 | 0.4 | 488 | 3,976,968,833 | 1,320,847 | 625,604,348 | incl. Local Transportation |
| Installation | Equipment | 1 L.S. | | | | | 801,195,661 | 21,743,679 | 337,342,235 | |
| | Material | 1 L.S. | | | | | 160,239,132 | 86,974,714 | 202,405,341 | |
| | Labor | 1 L.S. | | | | | 106,826,088 | 0 | 134,936,894 | |
| | Others | 1 L.S. | | | | | | | | |
| Indirect Cost | | % | 15 | 0.8 | | 0.2 | 774,666,933 | 0 | 193,666,733 | |
| Site Expense | | % | 10 | 0.8 | | 0.2 | 593,911,315 | 0 | 148,477,829 | |
| Profit and Overhead Cost | Miscellaneous | L.S. | | | | | 37 | 60 | 19 | Round Up |
| Total for | 1 L.S. | | | | | | 6,413,808,000 | 110,039,300 | 1,642,433,400 | |
| Unit Cost for | 1 L.S. | | | | | | 6,413,808,000 | 110,039,300 | 1,642,433,400 | |

| ID No. | | Working Name | | | | | Calculation Quantity | | | Remarks |
|--------------------------|---------------|--|------------------|----------------------------------|------------------------------|------------------|----------------------|------------|---------------|----------|
| R-P2-Bq-137 | | Furnishing and Installing Hoist, and Operating and Electrical Equipment for Flood Discharge Gate (3 gates) | | | | | 1 L.S. | | | |
| Major Item | Description | Quantity | | | | | Cost | | | Remarks |
| | | Unit | Steel kg/unit | Painting m ² /unit | Acid m ² /unit | Other kg/unit | PF/C | IF/C | LC | |
| Direct Cost | | | | | | | | | | |
| Furnishing | Hoist | 3 gates | 18,480.0 | 169.4 | 20.0 | 1,535.0 | | | | |
| | Control Panel | 3 faces | 4,141.0 | | | | | | | |
| | Others | | 310 | | | | | | | |
| | Subtotal | L.S. | 1 | | | | 7,593,868,002 | 381,752 | 554,308,412 | |
| Installation | Equipment | Unit | Quantity | | | | | | | |
| | Material | L.S. | 1 | | | | 240,062,736 | 11,795,213 | 184,139,349 | |
| | Labor | L.S. | 1 | | | | 48,012,547 | 47,180,851 | 110,483,609 | |
| | Others | L.S. | 1 | | | | 32,008,365 | 0 | 73,655,739 | |
| Indirect Cost | | % | 15 | 0.8 | | 0.2 | 1,067,531,589 | 0 | 266,882,897 | |
| Site Expense | | % | 10 | 0.8 | | 0.2 | 818,440,885 | 0 | 204,610,221 | |
| Profit and Overhead Cost | Miscellaneous | L.S. | | | | | 76 | 84 | 72 | Round Up |
| Total for | 1 L.S. | | | | | | 9,799,924,200 | 59,357,900 | 1,394,380,300 | |
| Unit Cost for | 1 L.S. | | | | | | 9,799,924,200 | 59,357,900 | 1,394,380,300 | |

| ID No. | | Working Name | | | | | Calculation Quantity | | | Remarks |
|--------------------------|---------------|---|-----------------|---------------------------------|-----------------------------|-----------------|----------------------|------------|-------------|----------------------------|
| R-P2-Bq-138 | | Furnishing and Installing Girder Type Steel Roller Gate, H=4.35m x L=5.5m x 2 gates (Sediment Flush Gate) | | | | | 1 L.S. | | | |
| Major Item | Description | Quantity | | | | | Cost | | | Remarks |
| | | Nos | Steel kg/nos | Painting m ² /nos | Acid m ² /nos | Other kg/nos | PF/C | IF/C | LC | |
| Direct Cost | | | | | | | | | | |
| Furnishing | Gate Leaf | 2 | 9899 | 149 | 0.3 | 152 | 381,265,372 | 68,879 | 331,368,430 | incl. Local Transportation |
| Installation | Equipment | 1 L.S. | | | | | 171,700,445 | 3,984,487 | 19,988,378 | |
| | Material | 1 L.S. | | | | | 34,340,089 | 15,537,948 | 11,993,027 | |
| | Labor | 1 L.S. | | | | | 22,893,393 | 0 | 7,995,351 | |
| | Others | 1 L.S. | | | | | | | | |
| Indirect Cost | | % | 15 | 0.8 | | 0.2 | 120,124,296 | 0 | 30,031,074 | |
| Site Expense | | % | 10 | 0.8 | | 0.2 | 92,095,291 | 0 | 23,073,823 | |
| Profit and Overhead Cost | Miscellaneous | L.S. | | | | | 12 | 86 | 15 | Round Up |
| Total for | 1 L.S. | | | | | | 822,418,900 | 19,491,400 | 424,400,100 | |
| Unit Cost for | 1 L.S. | | | | | | 822,418,900 | 19,491,400 | 424,400,100 | |

Table 4.2.5 (58/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | Working Name | Calculation Quantity | | | | | I L.S. | | | Remarks |
|--------------------------|---------------|----------------------|----------|------------------------------|----------------------|---------|---------------|------------|-------------|----------|
| Major Item | Description | Unit | Steel | Painting | Acid | Other | PF/C | IF/C | LC | Remarks |
| | | | kg/unit | m ² /unit | m ² /unit | kg/unit | | | | |
| Direct Cost | | | | | | | | | | |
| Furnishing | Hoist | 2 gates | 9,102.0 | 83.0 | 4.1 | 659.0 | | | | |
| | Control Panel | 2 faces | 1,781.0 | kg (Machine Weight) | | | | | | |
| | Others | | 210 | Independent type for outdoor | | | | | | |
| | Subtotal | L.S. | 1 | | | | 1,370,958,055 | 166,186 | 177,088,617 | |
| Installation | | Unit | Quantity | | | | | | | |
| | Equipment | L.S. | 1 | | | | 193,280,048 | 6,340,622 | 50,144,011 | |
| | Material | L.S. | 1 | | | | 38,656,010 | 25,362,486 | 30,086,406 | |
| | Labor | L.S. | 1 | | | | 25,770,673 | 0 | 20,057,604 | |
| Indirect Cost | | | | | | | | | | |
| Site Expense | | % | 15 | 0.8 | | 0.2 | 232,549,286 | 0 | 58,137,322 | |
| Profit and Overhead Cost | | % | 10 | 0.8 | | 0.2 | 178,287,286 | 0 | 44,571,947 | |
| | Miscellaneous | L.S. | | | | | 41 | 7 | 94 | Round Up |
| Total for | I L.S. | | | | | | 2,039,501,900 | 31,869,300 | 380,086,000 | |
| Unit Cost for | I L.S. | | | | | | 2,039,501,900 | 31,869,300 | 380,086,000 | |

| ID No. | Working Name | Calculation Quantity | | | | | I L.S. | | | Remarks |
|--------------------------|---------------|----------------------|----------|---------------------|---------------------|--------|-------------|-----------|-------------|----------------------------|
| Major Item | Description | Nos | Steel | Painting | Acid | Other | PF/C | IF/C | LC | Remarks |
| | | | kg/nos | m ² /nos | m ² /nos | kg/nos | | | | |
| Direct Cost | | | | | | | | | | |
| Furnishing | Gate Leaf | 4 | 1096 | 25 | 2.0 | 30 | 167,682,600 | 50,537 | 65,643,969 | incl. Local Transportation |
| Installation | | Unit | Quantity | | | | | | | |
| | Equipment | 1 L.S. | | | | | 67,669,620 | 1,554,338 | 18,399,095 | |
| | Material | 1 L.S. | | | | | 13,533,924 | 6,217,352 | 11,039,457 | |
| | Labor | 1 L.S. | | | | | 9,022,616 | 0 | 7,359,638 | |
| | Others | 1 L.S. | | | | | | | | |
| Indirect Cost | | | | | | | | | | |
| Site Expense | | % | 15 | 0.8 | | 0.2 | 44,180,778 | 0 | 11,045,194 | |
| Profit and Overhead Cost | | % | 10 | 0.8 | | 0.2 | 33,871,930 | 0 | 8,467,982 | |
| | Miscellaneous | L.S. | | | | | 32 | 72 | 64 | Round Up |
| Total for | I L.S. | | | | | | 335,961,500 | 7,822,300 | 121,955,400 | |
| Unit Cost for | I L.S. | | | | | | 335,961,500 | 7,822,300 | 121,955,400 | |

| ID No. | Working Name | Calculation Quantity | | | | | I L.S. | | | Remarks |
|--------------------------|---------------|----------------------|----------|------------------------------|----------------------|---------|-------------|-----------|-------------|----------|
| Major Item | Description | Unit | Steel | Painting | Acid | Other | PF/C | IF/C | LC | Remarks |
| | | | kg/unit | m ² /unit | m ² /unit | kg/unit | | | | |
| Direct Cost | | | | | | | | | | |
| Furnishing | Hoist | 4 gates | 271.0 | 0.2 | 1.5 | 29.0 | | | | |
| | Control Panel | 4 faces | 760.0 | kg (Machine Weight) | | | | | | |
| | Others | | 210 | Independent type for outdoor | | | | | | |
| | Subtotal | L.S. | 1 | | | | 734,105,597 | 8,746 | 61,274,621 | |
| Installation | | Unit | Quantity | | | | | | | |
| | Equipment | L.S. | 1 | | | | 40,049,819 | 899,074 | 9,177,282 | |
| | Material | L.S. | 1 | | | | 8,009,964 | 3,596,295 | 5,506,369 | |
| | Labor | L.S. | 1 | | | | 5,339,976 | 0 | 3,670,913 | |
| Indirect Cost | | | | | | | | | | |
| Site Expense | | % | 15 | 0.8 | | 0.2 | 104,596,639 | 0 | 26,149,160 | |
| Profit and Overhead Cost | | % | 10 | 0.8 | | 0.2 | 80,190,756 | 0 | 20,047,689 | |
| | Miscellaneous | L.S. | | | | | 51 | 86 | 66 | Round Up |
| Total for | I L.S. | | | | | | 972,292,800 | 4,504,200 | 125,326,100 | |
| Unit Cost for | I L.S. | | | | | | 972,292,800 | 4,504,200 | 125,326,100 | |

Table 4.2.5 (59/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. Working Name | | Calculation Quantity | | | | | Remarks | | | |
|--|---------------|----------------------|-----------------|--------------------|----------------|-----------------|-------------|-----------|------------|----------------------------|
| R-P2-Bq-142 Furnishing and Installing Steel Slide Gate, H=2.0m x W=2.0m x 2 gates (Left Intake Gate) | | 1 L.S. | | | | | | | | |
| Major Item | Description | Quantity | | | | | Cost | | | Remarks |
| | | Nos | Steel kg/nos | Painting m2/nos | Acid m2/nos | Other kg/nos | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | |
| Furnishing | Gate Leaf | 2 | 898 | 22 | 1.2 | 28 | 65,116,567 | 23,629 | 25,739,891 | incl. Local Transportation |
| Installation | Equipment | 1 L.S. | | | | | 33,050,504 | 734,825 | 5,765,341 | |
| | Material | 1 L.S. | | | | | 6,610,101 | 2,939,300 | 3,459,204 | |
| | Labor | 1 L.S. | | | | | 4,406,734 | 0 | 2,306,136 | |
| | Others | 1 L.S. | | | | | | | | |
| Indirect Cost | | | | | | | | | | |
| Site Expense | % | | 15 | 0.8 | | 0.2 | 18,018,268 | 0 | 4,304,567 | |
| Profit and Overhead Cost | % | | 10 | 0.8 | | 0.2 | 13,814,005 | 0 | 3,453,501 | |
| | Miscellaneous | L.S. | | | | | 21 | 43 | | 59 Round Up |
| Total for | 1 L.S. | | | | | | 141,016,200 | 3,697,800 | 45,228,700 | |
| Unit Cost for | 1 L.S. | | | | | | 141,016,200 | 3,697,800 | 45,228,700 | |

| ID No. Working Name | | Calculation Quantity | | | | | Remarks | | | |
|--|---------------|----------------------|------------------|---------------------|-----------------|------------------|-------------|-----------|------------|------------------------------|
| R-P2-Bq-143 Furnishing and Installing Hoist, and Operating and Electrical Equipment for Left Intake Gate (2 gates) | | 1 L.S. | | | | | | | | |
| Major Item | Description | Quantity | | | | | Cost | | | Remarks |
| | | Unit | Steel kg/unit | Painting m2/unit | Acid m2/unit | Other kg/unit | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | |
| Furnishing | Hoist | 2 gates | 261.0 | 169.4 | 20.0 | 1,535.0 | | | | |
| | Control Panel | 2 faces | 760.0 | | | | | | | kg (Machine Weight) |
| | Others | | 210 | | | | | | | Independent type for outdoor |
| | Subtotal | L.S. | 1 | | | | 361,446,861 | 4,998 | 28,839,641 | |
| Installation | Equipment | L.S. | 1 | | | | 20,868,332 | 440,096 | 3,903,837 | |
| | Material | L.S. | 1 | | | | 4,173,666 | 1,760,383 | 2,342,302 | |
| | Labor | L.S. | 1 | | | | 2,782,444 | 0 | 1,561,535 | |
| Indirect Cost | | | | | | | | | | |
| Site Expense | % | | 15 | 0.8 | | 0.2 | 51,374,892 | 0 | 12,843,723 | |
| Profit and Overhead Cost | % | | 10 | 0.8 | | 0.2 | 39,387,417 | 0 | 9,846,854 | |
| | Miscellaneous | L.S. | | | | | 88 | 23 | | 7 Round Up |
| Total for | 1 L.S. | | | | | | 480,033,390 | 2,205,500 | 59,337,900 | |
| Unit Cost for | 1 L.S. | | | | | | 480,033,390 | 2,205,500 | 59,337,900 | |

| ID No. Working Name | | Calculation Quantity | | | | | Remarks | | | |
|---|---------------|----------------------|-----------------|--------------------|----------------|-----------------|-------------|------------|-------------|----------------------------|
| R-P2-Bq-144 Furnishing Steel Temporary Gate (including Gate Panels and Posts) | | 1 L.S. | | | | | | | | |
| Major Item | Description | Quantity | | | | | Cost | | | Remarks |
| | | Nos | Steel kg/nos | Painting m2/nos | Acid m2/nos | Other kg/nos | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | |
| Furnishing | Gate Leaf 1 | 4 | 4692 | 75.8 | 1.3 | 32 | 205,426,983 | 25,587 | 139,560,945 | incl. Local Transportation |
| | Gate Leaf 2 | 2 | 4511 | 73 | 1.3 | 31 | 197,502,370 | 24,600 | 134,177,200 | incl. Local Transportation |
| Installation | Equipment | 1 L.S. | | | | | 184,363,870 | 4,147,193 | 55,433,591 | |
| | Material | 1 L.S. | | | | | 36,872,774 | 16,588,773 | 33,360,155 | |
| | Labor | 1 L.S. | | | | | 24,581,849 | 0 | 22,173,437 | |
| | Others | 1 L.S. | | | | | | | | |
| Indirect Cost | | | | | | | | | | |
| Site Expense | % | | 15 | 0.8 | | 0.2 | 126,496,719 | 0 | 31,624,180 | |
| Profit and Overhead Cost | % | | 10 | 0.8 | | 0.2 | 96,980,818 | 0 | 24,245,205 | |
| | Miscellaneous | L.S. | | | | | 16 | 46 | | 88 Round Up |
| Total for | 1 L.S. | | | | | | 872,225,400 | 20,786,200 | 440,474,800 | |
| Unit Cost for | 1 L.S. | | | | | | 872,225,400 | 20,786,200 | 440,474,800 | |

| ID No. Working Name | | Calculation Quantity | | | | | Remarks | | | |
|--|---------------|----------------------|-----------------|--------------------|----------------|-----------------|----------------|------------|-------------|----------------------------|
| R-P2-Bq-145 Furnishing and Installing Steel Guide Frame for Flood Discharge Gate | | 1 L.S. | | | | | | | | |
| Major Item | Description | Quantity | | | | | Cost | | | Remarks |
| | | Nos | Steel kg/nos | Painting m2/nos | Acid m2/nos | Other kg/nos | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | |
| Furnishing | Guide Frame | 3 | 10724 | 29 | 72.0 | 61 | 10,093,474,502 | 348,222 | 142,273,083 | incl. Local Transportation |
| Installation | Equipment | 1 L.S. | | | | | 171,342,677 | 4,631,422 | 72,858,594 | |
| | Material | 1 L.S. | | | | | 34,268,535 | 18,525,690 | 43,715,157 | |
| | Labor | 1 L.S. | | | | | 22,845,690 | 0 | 29,143,438 | |
| | Others | 1 L.S. | | | | | | | | |
| Indirect Cost | | | | | | | | | | |
| Site Expense | % | | 15 | 0.8 | | 0.2 | 1,276,011,241 | 0 | 319,002,810 | |
| Profit and Overhead Cost | % | | 10 | 0.8 | | 0.2 | 978,275,285 | 0 | 244,568,821 | |
| | Miscellaneous | L.S. | | | | | 70 | 66 | | 97 Round Up |
| Total for | 1 L.S. | | | | | | 12,576,218,000 | 23,505,400 | 851,562,000 | |
| Unit Cost for | 1 L.S. | | | | | | 12,576,218,000 | 23,505,400 | 851,562,000 | |

Table 4.2.5 (60/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | | | | | Remarks | |
|--------------------------|---------------|---|-----------------|----------------------|----------------|-----------------|-------------|------------|-------------|----------------------------|--|
| R-P2-Bq-146 | | Furnishing and Installing Steel Guide Frame for Sediment Flush Gate | | 1 L.S. | | | | | | | |
| Major Item | Description | Quantity | | | | | Cost | | | Remarks | |
| | | Nos | Steel kg/nos | Painting m2/nos | Acid m2/nos | Other kg/nos | PF/C | IF/C | L/C | | |
| Direct Cost | | | | | | | | | | | |
| Furnishing | Guide Frame | 2 | 6659 | 35 | 47.4 | 182 | 199,471,674 | 45,600 | 198,895,955 | Incl. Local Transportation | |
| Installation | | | | | | | | | | | |
| | Equipment | 1 | L.S. | | | | 121,615,958 | 2,748,205 | 27,290,268 | | |
| | Material | 1 | L.S. | | | | 24,323,192 | 10,992,819 | 16,374,161 | | |
| | Labor | 1 | L.S. | | | | 16,215,461 | 0 | 10,916,107 | | |
| | Others | 1 | L.S. | | | | | | | | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | % | 15 | 0.8 | | 0.2 | 75,466,728 | 0 | 18,866,682 | | |
| Profit and Overhead Cost | | % | 10 | 0.8 | | 0.2 | 57,857,825 | 0 | 14,464,456 | | |
| | Miscellaneous | L.S. | | | | | 63 | 77 | 71 | Round Up | |
| Total for | 1 L.S. | | | | | | 494,950,900 | 13,786,700 | 286,807,700 | | |
| Unit Cost for | 1 L.S. | | | | | | 494,950,900 | 13,786,700 | 286,807,700 | | |

| ID No. | | Working Name | | Calculation Quantity | | | | | | Remarks | |
|--------------------------|---------------|---|-----------------|----------------------|----------------|-----------------|-------------|-----------|------------|----------------------------|--|
| R-P2-Bq-147 | | Furnishing and Installing Steel Guide Frame for Right Intake Gate | | 1 L.S. | | | | | | | |
| Major Item | Description | Quantity | | | | | Cost | | | Remarks | |
| | | Nos | Steel kg/nos | Painting m2/nos | Acid m2/nos | Other kg/nos | PF/C | IF/C | L/C | | |
| Direct Cost | | | | | | | | | | | |
| Furnishing | Guide Frame | 4 | 902 | 2 | 18.1 | 12 | 148,920,139 | 36,724 | 51,290,336 | Incl. Local Transportation | |
| Installation | | | | | | | | | | | |
| | Equipment | 1 | L.S. | | | | 49,540,418 | 1,137,645 | 11,853,091 | | |
| | Material | 1 | L.S. | | | | 9,908,084 | 4,550,578 | 7,111,854 | | |
| | Labor | 1 | L.S. | | | | 6,605,389 | 0 | 4,741,236 | | |
| | Others | 1 | L.S. | | | | | | | | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | % | 15 | 0.8 | | 0.2 | 35,483,459 | 0 | 8,870,865 | | |
| Profit and Overhead Cost | | % | 10 | 0.8 | | 0.2 | 27,203,985 | 0 | 6,800,996 | | |
| | Miscellaneous | L.S. | | | | | 26 | 54 | 21 | Round Up | |
| Total for | 1 L.S. | | | | | | 277,661,500 | 5,725,000 | 90,663,400 | | |
| Unit Cost for | 1 L.S. | | | | | | 277,661,500 | 5,725,000 | 90,663,400 | | |

| ID No. | | Working Name | | Calculation Quantity | | | | | | Remarks | |
|--------------------------|---------------|--|-----------------|----------------------|----------------|-----------------|-------------|-----------|------------|----------------------------|--|
| R-P2-Bq-148 | | Furnishing and Installing Steel Guide Frame for Left Intake Gate | | 1 L.S. | | | | | | | |
| Major Item | Description | Quantity | | | | | Cost | | | Remarks | |
| | | Nos | Steel kg/nos | Painting m2/nos | Acid m2/nos | Other kg/nos | PF/C | IF/C | L/C | | |
| Direct Cost | | | | | | | | | | | |
| Furnishing | Guide Frame | 2 | 896 | 0 | 18.1 | 12 | 76,239,076 | 16,882 | 21,397,592 | Incl. Local Transportation | |
| Installation | | | | | | | | | | | |
| | Equipment | 1 | L.S. | | | | 25,610,326 | 561,788 | 5,717,885 | | |
| | Material | 1 | L.S. | | | | 5,122,065 | 2,247,151 | 3,430,731 | | |
| | Labor | 1 | L.S. | | | | 3,414,710 | 0 | 2,287,154 | | |
| | Others | 1 | L.S. | | | | | | | | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | % | 15 | 0.8 | | 0.2 | 17,525,443 | 0 | 4,381,361 | | |
| Profit and Overhead Cost | | % | 10 | 0.8 | | 0.2 | 13,436,173 | 0 | 3,359,043 | | |
| | Miscellaneous | L.S. | | | | | 7 | 78 | 34 | Round Up | |
| Total for | 1 L.S. | | | | | | 141,347,800 | 2,825,900 | 40,573,800 | | |
| Unit Cost for | 1 L.S. | | | | | | 141,347,800 | 2,825,900 | 40,573,800 | | |

| ID No. | | Working Name | | Calculation Quantity | | | | | | Remarks | |
|--------------------------|---------------|--|-----------------|----------------------|----------------|-----------------|-------------|-----------|-------------|----------------------------|--|
| R-P2-Bq-149 | | Furnishing and Installing Steel Guide Frame for Temporary Gate (in the Gate Piers, Floor Slabs and Bridge Super-structure) | | 85.572 ton | | | | | | | |
| Major Item | Description | Quantity | | | | | Cost | | | Remarks | |
| | | Nos | Steel kg/nos | Painting m2/nos | Acid m2/nos | Other kg/nos | PF/C | IF/C | L/C | | |
| Direct Cost | | | | | | | | | | | |
| Furnishing | Guide Frame 1 | 3 | 16780 | 160.1 | 70.9 | 53 | 173,218,057 | 27,308 | 181,783,462 | Incl. Local Transportation | |
| | Guide Frame 2 | 2 | 2377 | 0 | 31.4 | 2 | 24,537,504 | 3,868 | 25,750,852 | Incl. Local Transportation | |
| Installation | | | | | | | | | | | |
| | Equipment | 1 | L.S. | | | | 25,719,194 | 602,732 | 15,940,587 | | |
| | Material | 1 | L.S. | | | | 5,143,839 | 2,410,928 | 9,564,352 | | |
| | Labor | 1 | L.S. | | | | 3,429,226 | 0 | 6,376,235 | | |
| | Others | 1 | L.S. | | | | | | | | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | % | 15 | 0.8 | | 0.2 | 56,940,977 | 0 | 14,235,244 | | |
| Profit and Overhead Cost | | % | 10 | 0.8 | | 0.2 | 43,634,749 | 0 | 10,913,687 | | |
| | Miscellaneous | L.S. | | | | | 53 | 63 | 81 | Round Up | |
| Total for | 85.572 ton | | | | | | 332,643,600 | 3,044,900 | 264,564,500 | | |
| Unit Cost for | 1 ton | | | | | | 3,887,293 | 35,583 | 3,091,718 | | |

Table 4.2.5 (61/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | | | | | | Remarks |
|--------------------------|---------|--|------|----------------------|-----------|------|-------|---------|--------|---------|----------------------------------|
| R-P2-Bq-152 | | Steel Spiral Stairs (with Anti-corrosion Painting) | | 100 kg | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Labour | | | | | | | | | | | |
| | L-2-29 | Chief of Steel Worker | day | 0.85 | 0 | 0 | 58600 | 0 | 0 | 49,810 | |
| | L-2-16 | Welder | day | 2.97 | 0 | 0 | 39000 | 0 | 0 | 115,830 | |
| | L-2-16 | Steel Worker | day | 2.97 | 0 | 0 | 39000 | 0 | 0 | 115,830 | |
| | L-2-23 | Common Labour | day | 3.61 | 0 | 0 | 35100 | 0 | 0 | 126,711 | |
| Material | | | | | | | | | | | |
| | M-E-7 | Steel Plate SS41 | kg | 10 | 5225 | 0 | 275 | 52,250 | 0 | 2,750 | |
| | M-E-27 | Galvanized Steel Pipe, Dia. 50mm | m | 12 | 14250 | 0 | 750 | 171,000 | 0 | 9,000 | |
| | M-E-28 | Galvanized Steel Pipe, Dia. 75mm | m | 2 | 19000 | 0 | 1000 | 38,000 | 0 | 2,000 | |
| | M-E-1 | Reinforcing Bar, Round U-30 | kg | 15.64 | 0 | 2500 | 2500 | 0 | 39,100 | 39,100 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-2-89 | Polishing and 2times Shiny Painting | m2 | 3 | 0 | 3800 | 21600 | 0 | 11400 | 64800 | |
| Others | | | | | | | | | | | |
| | | Small Tool | % | 5 | | | | 13,063 | 2,525 | 26,292 | Weld Machine, generator and etc. |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 105,535 | 0 | 26,384 | |
| Profit and Overhead Cost | | | | | | | | | | | |
| | | Miscellaneous | L.S. | | | | | 42 | 75 | 66 | Round Up |
| Total for | | | | 100 kg | | | | 460,800 | 53,107 | 598,800 | |
| Unit Cost for | | | | 1 kg | | | | 4,608 | 531 | 5,988 | |

- *1 : All production rate are quoted from Indonesian Standard
- *2 : Galvanized Steel Pipe Dia50 kg x 1 kg/m = 0 m
- Galvanized Steel Pipe Dia75 kg x 1 kg/m = 0 m

| ID No. | | Working Name | | Calculation Quantity | | | | | | | Remarks |
|--------------------------|---------|--|------|----------------------|-----------|------|-------|---------|--------|---------|----------------------------------|
| R-P2-Bq-153 | | Steel Fence (with Anti-corrosion Painting) | | 2 m | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Labour | | | | | | | | | | | |
| | L-2-29 | Chief of Steel Worker | day | 0.85 | 0 | 0 | 58600 | 0 | 0 | 49,810 | |
| | L-2-16 | Steel Worker | day | 2.97 | 0 | 0 | 39000 | 0 | 0 | 115,830 | |
| | L-2-23 | Common Labour | day | 3.61 | 0 | 0 | 35100 | 0 | 0 | 126,711 | |
| Material | | | | | | | | | | | |
| | M-E-27 | Galvanized Steel Pipe, Dia. 50mm | m | 4 | 14250 | 0 | 750 | 57,000 | 0 | 3,000 | |
| | M-E-28 | Galvanized Steel Pipe, Dia. 75mm | m | 1.5 | 19000 | 0 | 1000 | 28,500 | 0 | 1,500 | |
| | M-E-1 | Reinforcing Bar, Round U-30 | kg | 15.64 | 0 | 2500 | 2500 | 0 | 39,100 | 39,100 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-2-89 | Polishing and 2times Shiny Painting | m2 | 1.5 | 0 | 3800 | 21600 | 0 | 5700 | 32400 | |
| Others | | | | | | | | | | | |
| | | Small Tool | % | 5 | | | | 4,275 | 2,240 | 18,418 | Weld Machine, generator and etc. |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 62,930 | 0 | 15,708 | |
| Profit and Overhead Cost | | | | | | | | | | | |
| | | Miscellaneous | L.S. | | | | | 25 | 60 | 82 | Round Up |
| Total for | | | | 2 m | | | | 200,800 | 47,100 | 414,600 | |
| Unit Cost for | | | | 1 m | | | | 100,400 | 23,550 | 207,300 | |
| Unit Cost for | | | | 1 kg | | | | 2,049 | 481 | 4,231 | |

- *1 : All production rate are quoted from Indonesian Standard

| ID No. | | Working Name | | Calculation Quantity | | | | | | | Remarks |
|--------------------------|---------|--|------|----------------------|-----------|-------|-------|---------|---------|-----------|----------------------------------|
| R-P2-Bq-155 | | Furnishing and Installing Metal Hand Rails in Maintenance and Approach Bridges | | 6 m | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Labour | | | | | | | | | | | |
| | L-2-29 | Chief of Steel Worker | day | 3.03 | 0 | 0 | 58600 | 0 | 0 | 177,558 | |
| | L-2-16 | Steel Worker | day | 10.45 | 0 | 0 | 39000 | 0 | 0 | 407,550 | include Welder |
| | L-2-23 | Common Labour | day | 12.72 | 0 | 0 | 35100 | 0 | 0 | 446,472 | |
| Material | | | | | | | | | | | |
| | M-E-28 | Galvanized Steel Pipe, Dia. 75mm | m | 12 | 19000 | 0 | 1000 | 228,000 | 0 | 12,000 | |
| | M-E-7 | Steel Plate SS41 | kg | 5.89 | 5225 | 0 | 275 | 30,775 | 0 | 1,620 | |
| | M-E-33 | Anchor, Steel Bar (Dia.32&22) incl. PVC Pipe | nos. | 12 | 0 | 23100 | 9900 | 0 | 277,200 | 118,800 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-2-89 | Polishing and 2times Shiny Painting | m2 | 4.5 | 0 | 3800 | 21600 | 0 | 17100 | 97200 | |
| Others | | | | | | | | | | | |
| | | Small Tool | % | 5 | | | | 12,939 | 14,715 | 63,060 | Weld Machine, generator and etc. |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 228,599 | 0 | 57,150 | |
| Profit and Overhead Cost | | | | | | | | | | | |
| | | Miscellaneous | L.S. | | | | | 28 | 85 | 76 | Round Up |
| Total for | | | | 6 m | | | | 675,600 | 309,100 | 1,425,300 | |
| Unit Cost for | | | | 1 m | | | | 112,600 | 51,517 | 237,550 | |
| Unit Cost for | | | | 1 kg | | | | 2,298 | 1,051 | 4,848 | |

- *1 : All production rate are quoted from Indonesian Standard

Table 4.2.5 (62/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | | | | | | Remarks |
|----------------------|--------|---|------|----------------------|-----------|-------|--------|--------|-------|--------|----------|
| R-P2-Bq-156 | | Expansion Joint, Steel Profile (75mm x 6mm) | | 7 m | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Labour | | | | | | | | | | | |
| | L-2-16 | Steel Worker | day | 0.7 | 0 | 0 | 39000 | 0 | 0 | 27,300 | |
| | L-2-23 | Common Labour | day | 0.7 | 0 | 0 | 35100 | 0 | 0 | 24,570 | |
| Material | | | | | | | | | | | |
| | M-E-36 | Bolt and Nut Expansion Joint, Steel Profile | kg | 0.3429 | 0 | 12375 | 28875 | 0 | 4,243 | 9,900 | |
| | M-E-32 | L-75x6mm | m | 7 | 7367.25 | 0 | 387.75 | 51,571 | 0 | 2,714 | |
| | M-C-62 | Asphalt Jute Cord | kg | 0.2596 | 0 | 180 | 420 | 0 | 47 | 109 | |
| Others | | | | | | | | | | | |
| | | Small Tools | % | 5 | | | | 2,579 | 214 | 3,230 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 15,177 | 0 | 3,794 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 11,636 | 0 | 2,909 | |
| | | Miscellaneous | L.S. | | | | | 38 | 96 | 74 | Round Up |
| Total for | | 7 m | | | | | | 81,000 | 4,600 | 71,600 | |
| Unit Cost for | | 1 m | | | | | | 11,571 | 657 | 10,637 | |

Price Analysis of Expansion Joint of 7 m

| | | | |
|---------------------------------------|-----------|----------------|----------------------|
| Material : | | Unit weight | |
| Steel Plate width 75 mm, thick = 6 mm | 7 m | m ³ | Kg/m ³ Kg |
| Screw for Steel | 14 pieces | 0.00315 | 7856.748 24.7488 |
| Asphaltic Jute Cord | 14 pieces | 4.36E-05 | 7856.748 0.3429 |
| Labour : | | | |
| Drilling & installing work | Quantity | | |
| steel worker | 0.05 | 14 | 0.7 |
| common labour | 0.05 | 14 | 0.7 |

| ID No. | | Working Name | | Calculation Quantity | | | | | | | Remarks |
|--------------------------|---------|-------------------------------------|----------------|----------------------|-----------|-------|--------|-----------|---------|------------|----------|
| R-P2-Bq-157 | | Car Barrier | | 10 unit | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Labour | | | | | | | | | | | |
| | L-2-29 | Chief of Steel Worker | day | 31.43 | 0 | 0 | 58600 | 0 | 0 | 1,841,798 | |
| | L-2-16 | Steel Worker | day | 96.3 | 0 | 0 | 39000 | 0 | 0 | 3,753,700 | |
| | L-2-23 | Common Labour | day | 96.3 | 0 | 0 | 35100 | 0 | 0 | 3,380,130 | |
| Material | | | | | | | | | | | |
| | M-E-29 | Galvanized Steel Pipe, Dia. 100mm | m | 141 | 23750 | 0 | 1250 | 3,348,750 | 0 | 176,250 | |
| | M-E-36 | Bolt and Nut | kg | 15.32 | 0 | 12375 | 28875 | 0 | 189,585 | 442,365 | |
| | M-E-7 | Steel Plate SS41 | kg | 363.4 | 5225 | 0 | 275 | 1,898,765 | 0 | 99,935 | |
| | M-E-1 | Reinforcing Bar, Round U-30 | kg | 29.33 | 0 | 2500 | 2500 | 0 | 73,325 | 73,325 | |
| Working Base Cost | | | | | | | | | | | |
| | CW-2-89 | Polishing and 2times Shiny Painting | m ² | 5 | 0 | 3800 | 21600 | 0 | 19,000 | 108,000 | |
| | CW-1-63 | Light Concrete (Concrete 1:3:5) | m ³ | 2.2 | 0 | 26756 | 408184 | 0 | 58,863 | 898,005 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 1,263,656 | 0 | 490,914 | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 1,505,469 | 0 | 376,367 | |
| | | Miscellaneous | L.S. | | | | | 60 | 27 | 11 | Round Up |
| Total for | | 10 unit | | | | | | 8,716,700 | 340,800 | 11,642,800 | |
| Unit Cost for | | 1 unit | | | | | | 871,670 | 34,080 | 1,164,280 | |

Price Analysis of Car Stop 1 unit

| | | | |
|------------------------------|-------------------------|----------------|------------------------|
| Material : | | Unit weight | |
| 1 Portal | unit | m ³ | unit Kg |
| Galvanized pipe Dia. 4" | 6.5 m | 7.768 | Kg/m |
| 2 Hinge | | | |
| SOP Dia. 25 mm, L = 190 mm | 0.19 m | 7.768 | Kg/m |
| Bolt Dia. 22 mm | 0.485 m | | |
| Nut, Dia. 22 mm | 2 pieces | | |
| Elbow Steel L. 40.40.4 | 0.35 m | 0.000112 | 7850 Kg/m ³ |
| 3 Pendulum | | | |
| Elbow Steel L. 40.40.4 | 11.48 m | 0.003674 | 7850 Kg/m ³ |
| Clamp | 3 pieces | | |
| 4 Pole 2 pieces | | | |
| Galvanized pipe Dia. 4" | 7.6 m | | 59.0368 |
| Elbow Steel L. 40.40.4 | 1.4 m | 0.000448 | 3.5168 |
| Anchor Dia. 12 mm | 1.2 m | | 1.0656 |
| Concrete 1:3:5 | 0.22 m ³ | | |
| 5 Fix (Right Side) | | | |
| SOP Dia. 25 mm, L = 190 mm | 0.19 m | | 1.47592 |
| Reinforcing Steel Dia. 25 mm | 0.485 m | | 1.86725 |
| Steel Plate | 1.12E-05 m ³ | | 0.08792 |
| Elbow Steel L. 40.40.4 | 0.485 m | 0.000153 | 0.09121832 |
| Nut, Dia. 22 mm | 2 pieces | | 0.04342 |
| Labour : | | | |
| Cutting & welding | | | |
| For steel of 174 kg | | | |
| steel worker | 6 | 9.4300204 | |
| Chief of steel worker | 2 | 3.1433401 | |
| common labour | 6 | 9.4300204 | |
| Drilling work 1 hole | | | |
| volume | | | |
| steel worker | 0.05 | 4 | 0.2 |
| common labour | 0.05 | 4 | 0.2 |
| Installing & placing | | | |
| For steel of 174 kg | | | |
| steel worker | 0.5 | 0 | |
| common labour | 2 | 0 | |
| Total | | | 150,333,658.3 |
| Add 15% | | | 172,883,707.1 |
| | | | 1.571670064 |

Table 4.2.5 (63/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | | 1000 ltr | | | Remarks | |
|--------------------------|----------|-------------------------|------|----------------------|-----------|------|-----------------------|-----------|-----------|------------|----------|
| R-P2-Bq-160 | | Bituminous Prime Coat | | R-P2-Bq-201 | | | Bituminous Prime Coat | | | | |
| R-P2-Bq-166 | | Bituminous Prime Coat | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | A-2-2-64 | Asphalt Sprayer 3000ltr | Day | 0.01 | 32294.71 | 0 | 11398.13 | 323 | 0 | 114 | |
| Labour | L-2-1 | Foreman | Day | 0.001 | 0 | 0 | 48800 | 0 | 0 | 49 | |
| | L-2-22 | Asphalt Walker | Day | 0.01 | 0 | 0 | 35100 | 0 | 0 | 351 | |
| Material | M-C-5 | Asphalt Prime Coat | lit | 1100 | 0 | 5300 | 14700 | 0 | 6,930,000 | 16,170,000 | |
| Others | | Small Tools | % | 5 | | | | 16 | 346,500 | 808,526 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 2,910,705 | 0 | 727,676 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 2,331,541 | 0 | 557,855 | |
| | | Miscellaneous | L.S. | | | | | 15 | 0 | 99 | Round Up |
| Total for | 1000 ltr | | | | | | | 5,143,600 | 7,276,500 | 18,264,700 | |
| Unit Cost for | 1 ltr | | | | | | | 5,143 | 7,277 | 18,265 | |

* 1: All Rates are quoted from Japanese Standard.

Table 4.2.5 (64/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|---------------------------------|----------|---|--------|---|-----------|-------|----------|-----------|---------|------------|---------|
| R-P2-Bq-165 | | Asphalt Treatment Base (A.T.B.) on the Bridge | | R-P2-Rq-201 Asphalt Treatment Base (A.T.B.) | | | 10 m3 | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | F/C | I/C | L/C | F/C | I/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | | | | | | | | | | | |
| | A-2-1-96 | Wheel Loader, 1.2 m3 | hourly | 0.48 | 72,404 | 1,116 | 58,629 | 34,754 | 536 | 28,142 | |
| | A-2-2-62 | Asphalt Plant 30ton/hr, 110kw | hourly | 0.92 | 584193.1 | 0 | 399238.4 | 537,458 | 0 | 367,298 | |
| | A-2-2-16 | Generator, 125 KVA | daily | 0.13 | 271912.2 | 15120 | 209096 | 35,349 | 1,966 | 27,182 | |
| | A-2-1-55 | Dumptruck, 8 ton | hourly | 3.4 | 58770.27 | 2300 | 53720.55 | 141,049 | 5,280 | 128,929 | |
| | A-2-2-63 | Asphalt Finisher 3.4m | hourly | 0.69 | 179054.4 | 0 | 150540.1 | 117,338 | 0 | 103,873 | |
| | A-2-1-68 | Tire Roller, 8-20 ton | hourly | 0.21 | 81684.18 | 864 | 82431.15 | 17,152 | 181 | 17,315 | |
| Labour | | | | | | | | | | | |
| | L-2-1 | Foreman | day | 0.13 | 0 | 0 | 48800 | 0 | 0 | 6,344 | |
| | L-2-2 | Asphalt Worker | day | 0.92 | 0 | 0 | 35100 | 0 | 0 | 32,292 | |
| Material | | | | | | | | | | | |
| | M-B-2 | Coarse Aggregate | m3 | 7.027777 | 0 | 2600 | 49400 | 0 | 18,272 | 347,172 | |
| | M-B-1 | Fine Aggregate (washed sand) | m3 | 5.341111 | 0 | 2100 | 39900 | 0 | 11,216 | 213,110 | |
| | | Filler Fraction | kg | 1391.5 | 0 | 0 | 136.35 | 0 | 0 | 189,731 | |
| | M-C-4 | Asphalt | kg | 1569.75 | 0 | 450 | 1050 | 0 | 706,348 | 1,648,238 | |
| Others | | | | | | | | | | | |
| | | Small Tools | % | 5 | | | | 44,155 | 37,192 | 155,481 | |
| Indirect Cost | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 596,807 | 0 | 149,202 | |
| Profit and Overhead Cost | | | | | | | | | | | |
| | | Miscellaneous | L.S. | 10 | 0.8 | | 0.2 | 557,552 | 0 | 114,388 | |
| | | | | | | | | 86 | 69 | 3 Round Up | |
| Total for | | | | | | | | 1,981,700 | 781,100 | 3,528,700 | |
| Unit Cost for | | | | | | | | 198,170 | 78,110 | 352,870 | |
| Unit Cost for | | | | | | | | 9,909 | 3,906 | 17,644 | |
| Unit Cost for | | | | | | | | 86,416 | 34,062 | 153,876 | |

Analysis of surface base course (ATB) 1.5% 50 mm thick

| No | Working Name | Code | Coefficient | Unit | Remark | No | Working Name | Code | Coefficient | Unit |
|-----|--|------|-------------|----------------|----------|-----|--|------|-------------|---------------------|
| I. | | | | | | 2.4 | Dump Truck | E09 | | |
| 1 | Using equipment | | | | | | Bucket capacity | V | | 8 ton |
| 2 | Work location is on the road length | | | | | | Efficiency factor | Fa | 0.83 | |
| 3 | Existing condition of the road are medium | | | | | | Average loading speed | v1 | | 30 Km/hour |
| 4 | Average distance from base camp to the field | L | | 3 Km | | | Average empty speed | v2 | | 40 Km/hour |
| 5 | Thickness of surface base course (ATB) | t | | 0.05 m | | | AMP capacity/batch | Q2b | | 0.5 ton |
| 6 | Effective hour/day | Tk | | 7 Hour | | | Time to prepare 1 AC batch | Tb | | 1 minute |
| 7 | Loss factor of the material | | | | | | Cycle time : | | | |
| | -Aggregate | Fh1 | | 1.1 | | | Loading time = (V/Q2b)*Tb | T1 | | 16 minute |
| | -Asphalt | Fh2 | | 1.05 | | | Transportation time = (L/v1)*60 minute | T2 | | 6 minute |
| 8 | Composition of the material | | | | | | Waiting/dumping/turning time | T3 | | 15 minute |
| | -Fine aggregate 26 - 49.5 % | FA | | 0.38 | | | Turning back time = (L/v2)*60 minute | T4 | | 4.5 minute |
| | -Coarse aggregate 40 - 60 % | CA | | 0.5 | | | | T5 | | 41.5 minute |
| | -Filler fraction 4.5 - 7.5 % | FF | | 0.055 | | | Production capacity (m3/hour) | Q4 | | 4.173913043 m3 |
| | Asphalt minimum 6.7 % | As | | 0.065 | | | = (V*Fa*60)/(D1*T5) | | | |
| 9 | Unit weight of material | | | | | | Equipment coefficient/m2 = 1/Q4 | E09 | | 0.239583333 hour |
| | -ATB | D1 | | 2.3 ton/m3 | | 2.5 | Asphalt Finisher | E02 | | |
| | -Coarse aggregate & fine aggregate | D2 | | 1.8 ton/m3 | | | Production capacity | V | | 40 ton/hour |
| | -Filler fraction | D3 | | 2 ton/m3 | | | Efficiency factor | Fa | | 0.83 |
| | -Asphalt | D4 | | 1.03 ton/m3 | | | Production capacity/hour = (V*Fa)/(D1) | Q5 | | 14.43478261 m3 |
| II. | Material, equipment, and labour | | | | | | Equipment coefficient/m2 = 1/Q5 | E02 | | 0.69377108 hour |
| 1 | Material | | | | | 2.6 | Tandem Roller | E17 | | |
| | Coarse aggregate = (CA*(D1*1 m3)*Fh1)/D2 | M03 | | 0.702777 m3 | 1.265 | | Average speed | v | | 3.5 km/hour |
| | Fine aggregate = (FA*(D1*1 m3)*Fh1)/D2 | M04 | | 0.534111 m3 | 0.9614 | | Effective width of compaction | b | | 1.8 m |
| | Filler fraction = (FF*(D1*1 m3)*Fh1) | M05 | | 139.15 kg | 0.13915 | | Number of track | n | | 6 track |
| | Asphalt = (AS*(D1*1 m3)*Fh2) | M10 | | 156.975 kg | 0.156975 | | Efficiency factor | Fa | | 0.83 |
| | | | | | 2.522525 | | Production capacity (m2/hour) | Q6 | | 43.575 m2 |
| | | | | | | | = (1000*b*n*Fa)/n | | | |
| 2 | Equipment | | | | | | Equipment coefficient/m3 = 1/Q6 | E19 | | 0.022848939 hour |
| 2.1 | Wheel Loader | E15 | | | | 2.7 | Pneumatic Tire Roller | E18 | | |
| | Bucket capacity | V | | 1.2 m3 | | | Average speed | v | | 5 km/hour |
| | Bucket factor | Fb | | 0.9 | | | Effective width of compaction | b | | 1.8 m |
| | Efficiency factor | Fa | | 0.83 | | | Number of track | n | | 8 track |
| | Cycle time | | | | | | Efficiency factor | Fa | | 0.83 |
| | -Loading | T1 | | 1.5 minute | | | Production capacity (m2/hour) | Q7 | | 46.6875 m2 |
| | -Others | T2 | | 0.5 minute | | | = (1000*b*n*Fa)/(n*t) | | | |
| | | Ts1 | | 2 minute | | | Equipment coefficient/m3 = 1/Q3 | E14 | | 0.02149009 hour |
| | Production capacity (m2/hour) | Q1 | | 21.045913 m2 | | 2.8 | Light tools | | | |
| | = (D2*V*Fb*Fa*60)/(D1*Ts1) | | | | | | Pole | | | |
| | Equipment coefficient/m2 = 1/Q1 | E15 | | 0.0176152 hour | | | Carriage | | | |
| 2.2 | Asphalt Mixer Plant | E01 | | | | | Shovel | | | |
| | Production capacity | V | | 30 ton/hour | | | Earth fork | | | |
| | Efficiency factor | Fa | | 0.83 | | | Control stick for pavement thickness | | | |
| | Production capacity/hour = V*Fa/(D1) | Q2 | | 10.826087 m3 | | 2.9 | Man Power/ labor | | | |
| | Equipment coefficient/m2 = 1/Q2 | E01 | | 0.0923695 hour | | | The significant production of AMP | Q1 | | 10.82608696 m2/hour |
| 2.3 | Generator Set | E12 | | | | | AC production/day = Tk*Q2 | Qt | | 75.7826037 m2 |
| | Production capacity = AMP | Q3 | | 10.826087 m3 | | | Man power | | | |
| | Equipment coefficient/m2 = 1/Q2 | E01 | | 0.0923695 hour | 0.646586 | | -Common Labor | P | | 7 |
| | | | | | | | -Foreman | M | | 1 |
| | | | | | | | Man Power Coefficient | | | |
| | | | | | | | -Common Labor | L01 | | 0.646586345 |
| | | | | | | | -Foreman | L03 | | 0.092369478 hour |
| | | | | | | | Remark | | | 0.738955823 |

Table 4.2.5 (65/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | Working Name | Calculation Quantity | 10 m ² | | | Remarks | | | | |
|---|----------------------------------|----------------------|-------------------|----------|-----------|----------|---------|--------|---------|----------|
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | Cost | PF/C | IF/C | L/C | Remarks |
| Direct Cost | | | | | | | | | | |
| Equipment | | | | | | | | | | |
| A-2-1-96 | Wheel Loader, 1.2 m ³ | hourly | 0.02 | 72,404 | 1,116 | 58,629 | 1,448 | 22 | 1,173 | |
| A-2-2-62 | Asphalt Plant 30ton/hr, 110kw | hourly | 0.05 | 584193.1 | 0 | 399236.4 | 29,210 | 0 | 19,962 | |
| A-2-2-16 | Generator, 125 kVA | daily | 0.01 | 271912.2 | 15120 | 209096 | 2,719 | 151 | 2,091 | |
| A-2-1-55 | Dumptruck, 8 ton | hourly | 0.15 | 58770.27 | 2200 | 53720.55 | 8,816 | 330 | 8,058 | |
| A-2-3-63 | Asphalt Finisher 2.4m | hourly | 0.03 | 170054.4 | 0 | 150540.1 | 5,102 | 0 | 4,516 | |
| A-2-1-68 | Tire Roller, 8-20 ton | hourly | 0.02 | 81684.16 | 864 | 82451.15 | 1,634 | 17 | 1,649 | |
| Labour | | | | | | | | | | |
| L-2-1 | Foreman | day | 0.01 | 0 | 0 | 48800 | 0 | 0 | 488 | |
| L-2-22 | Asphalt Walker | day | 0.06 | 0 | 0 | 35100 | 0 | 0 | 2,106 | |
| Material | | | | | | | | | | |
| M-B-2 | Coarse Aggregate | m ³ | 0.4204063 | 0 | 2600 | 49400 | 0 | 1,095 | 20,768 | |
| M-B-1 | Fine Aggregate (washed sand) | m ³ | 0.185625 | 0 | 2100 | 39900 | 0 | 390 | 7,406 | |
| | Filler Fraction | kg | 60.01875 | 0 | 0 | 136.35 | 0 | 0 | 8,184 | |
| M-C-4 | Asphalt | kg | 82.6875 | 0 | 450 | 1050 | 0 | 37,209 | 86,822 | |
| Others | | | | | | | | | | |
| | Small Tools | % | 5 | | | | 2,446 | 1,961 | 8,161 | |
| Indirect Cost | | | | | | | | | | |
| | Site Expense | % | 15 | 0.8 | | 0.2 | 31,672 | 0 | 7,918 | |
| | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 24,282 | 0 | 6,070 | |
| | Miscellaneous | L.S. | | | | | 72 | 26 | 28 | Round Up |
| Total for 10 m² | | | | | | | 107,400 | 41,200 | 185,400 | |
| Unit Cost for 1 m² | | | | | | | 10,740 | 4,120 | 18,540 | |
| Unit Cost for 1 ton (1.23ton including 10% loss) | | | | | | | 95,771 | 36,739 | 165,336 | |

Analysis of surface course (AC) 1 M², 50 mm thick

| No | Working Name | Code | Coefficient | Unit | Remark | No | Working Name | Code | Coefficient | Unit |
|-----|---|------|-------------|-------------------------|----------------|-----|---|-------------------------|--------------|----------------------|
| I. | | | | | | 2.4 | Dump Truck | E09 | | |
| 1 | Using equipment | | | | | | Bucket capacity | V | 4 | m ³ |
| 2 | Work location is on the road length | | | | | | Efficiency factor | Fa | 0.83 | |
| 3 | Existing condition of the road are medium | | | | | | Average loading speed | v1 | 30 | Km/hour |
| 4 | Average distance from base camp to the field | L | | 1 Km | | | Average empty speed | v2 | 40 | Km/hour |
| 5 | Thickness of surface course (AC) | t | | 0.05 m | | | AMP capacity/Batch | Q2b | 0.5 | ton |
| 6 | Effective Hour / day | Tk | | 7 Hour | | | Time to prepare 1 AC batch | Tb | 1 | minute |
| 7 | Loss factor of the material | | | | | | Cycle time : | | | |
| | -Aggregate | Fh1 | | 1.1 | | | Loading time = (V/Q2b)*Tb | T1 | 8 | minute |
| | -Asphalt | Fh2 | | 1.05 | | | Transportation time = (L/v1)*60 minute | T2 | 2 | minute |
| 8 | Composition of the material | | | | | | Waiting/dumping/turning time | T3 | 15 | minute |
| | -Fine aggregate 30-50 % | FA | | 0.27 | | | Turning back time = (1/v2)*60 minute | T4 | 1.5 | minute |
| | -Coarse aggregate 39-59 % | CA | | 0.6115 | | | | T4 | 26.5 | minute |
| | -Filler fraction 4.5-7.5 % | FF | | 0.0485 | | | Production capacity (m ³ /hour) | Q4 | 66.81761006 | m ² |
| | -Asphalt minimum 6.7 % | As | | 0.07 | | | = (V*Fa*60)/(D1*T1*2) | | | |
| 9 | Unit Weight of Material | | | | | | Equipment coefficient/m ² = 1/Q4 | E09 | 0.014966114 | hour |
| | -AC | D1 | | 2.25 ton/m ³ | | | | | | |
| | -Coarse aggregate & Fine aggregate | D2 | | 1.8 ton/m ³ | | | 2.5 | Asphalt Finisher | E02 | |
| | -Filler fraction | D3 | | 2 ton/m ³ | | | Production capacity | V | 40 | ton/hour |
| | -Asphalt | D4 | | 1.03 ton/m ³ | | | Efficiency factor | Fa | 0.83 | |
| | | | | | | | Production capacity/hour = (V*Fa)/(D1*2) | Q5 | 295.1111111 | m ² |
| | | | | | | | Equipment coefficient/m ² = 1/Q5 | E02 | 0.003388554 | hour |
| II. | Material, equipment, and labour | | | | | 2.6 | Tandem Roller | E17 | | |
| 1 | Material | | | | ton | | Average speed | v | 2.5 | km/hour |
| | Coarse aggregate = (CA*(D1*2 m ³)*Fh1)/D2 | M03 | | 0.0420406 | 0.075673 | | Effective width of compaction | b | 1.8 | m |
| | Fine aggregate = (FA*(D1*2 m ³)*Fh1)/D2 | M04 | | 0.0185625 | 0.033413 | | Number of track | n | 4 | track |
| | Filler fraction = (FF*(D1*2 m ³)*Fh1) | M05 | | 6.001875 | 0.006002 | | Efficiency factor | Fa | 0.83 | |
| | Asphalt = (AS*(D1*2 m ³)*Fh2) | M10 | | 8.26875 | 0.008269 | | Production capacity (m ³ /hour) | Q6 | 933.75 | m ² |
| | | | | | 0.123356 | | = (1000*v*b*n*Fa)/(n ²) | | | |
| | | | | | | | Equipment coefficient/m ² = 1/Q6 | E19 | 0.00107095 | hour |
| 2 | Equipment | | | | | 2.7 | Pneumatic Tire Roller | E18 | | |
| 2.1 | Wheel Loader | E15 | | | | | Average speed | v | 2.5 | km/hour |
| | Bucket capacity | V | | 1.2 m ³ | | | Effective width of compaction | b | 1.8 | m |
| | Bucket factor | Fb | | 0.9 | | | Number of track | n | 8 | track |
| | Efficiency factor | Fa | | 0.83 | | | Efficiency factor | Fa | 0.83 | |
| | Cycle time | | | | | | Production capacity (m ³ /hour) | Q7 | 653.625 | m ² |
| | - Loading | T1 | | 1.5 minute | | | = (1000*v*b*n*Fa)/(n ²) | | | |
| | - Others | T2 | | 0.5 minute | | | Equipment coefficient/m ² = 1/Q3 | E14 | 0.001529929 | hour |
| | | Ts1 | | 2 minute | | | | | | |
| | Production capacity (m ² /hour) | Q1 | | 430.272 | | | 2.8 | Light Tools | | |
| | = (D2*V*Fb*Fa*60)/(D1*2*T1) | | | | | | Pole | | | |
| | Equipment coefficient/m ² = 1/Q1 | E15 | | 0.0023241 | hour | | Carriage | | | |
| 2.2 | Asphalt Mixing Plant | E01 | | | | | Shovel | | | |
| | Production capacity | V | | 30 ton/hour | | | Earth fork | | | |
| | Efficiency factor | Fa | | 0.83 | | | Control stick for pavement thickness | | | |
| | Production capacity/hour = V*Fa/(D1*2) | Q2 | | 221.33333 | m ² | | 2.9 | Man Power/labour | | |
| | Equipment coefficient/m ² = 1/Q2 | E01 | | 0.0045181 | hour | | The Significant Production of AMP | Q1 | 221.3333333 | m ² /hour |
| 2.3 | Generator Set | E12 | | | | | AC production/day = Tk*Q2 | Q2 | 1549.3333333 | m ² |
| | Production capacity = AMP | Q3 | | 221.33333 | m ² | | Man Power | | | |
| | Equipment coefficient/m ² = 1/Q2 | E01 | | 0.0045181 | hour | | -Common Labor | P | 10 | |
| | | | | | | | -Foreman | M | 1 | |
| | | | | | | | Man Power Coefficient | | | |
| | | | | | | | -Common Labor | L01 | 0.045180723 | |
| | | | | | | | -Foreman | L03 | 0.004518072 | hour |
| | | | | | | | Remark | | | |

Table 4.2.5 (67/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | Remarks | |
|---------------------------|-----------|--|--------|----------------------|-----------|---------|----------|
| R-P2-Bq-164 | | Base Course (Class A) | | 10 m3 | | | |
| R-P2-Bq-203 | | Base Course (Class A) | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | Cost | Remarks |
| | | | | | PF/C | IF/C | L/C |
| Direct Cost | | | | | | | |
| Equipment | | | | | | | |
| | A-2-1-96 | Wheel Loader, 1.3 m3 | hourly | 0.78 | 72,404 | 1,116 | 58,629 |
| | A-2-1-148 | Dumptruck, 10 ton | hourly | 0.54 | 77,269 | 3060 | 70744.12 |
| | A-2-1-108 | Motorgrader, 2.8 m | hourly | 0.14 | 104320.2 | 0 | 97031.6 |
| | A-2-1-88 | Vibrating Roller, 0.8-1.1 ton (Hand Guide) | hourly | 0.12 | 17057.23 | 144 | 14790.36 |
| | A-2-1-68 | Tire Roller, 9-20 ton | hourly | 0.04 | 81684.16 | 864 | 82451.15 |
| | A-2-1-104 | Water Tanker, 4000 liter | hourly | 0.03 | 46827.59 | 1076 | 35137.54 |
| Labour | | | | | | | |
| | L-2-1 | Foreman | day | 0.11 | 0 | 0 | 48800 |
| | L-2-23 | Common Labour | day | 0.78 | 0 | 0 | 35100 |
| Material | | | | | | | |
| | M-B-12 | Crushed Stone for Pavement and Concrete | m3 | 12 | 0 | 3250 | 61750 |
| Others | | | | | | | |
| | | Small Tools | % | 5 | | | 5,976 |
| Indirect Cost | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 |
| | | Miscellaneous | L.S. | | | | 25 |
| Total for 10 m3 | | | | | | | |
| | | | | | | 356,700 | 43,700 |
| Unit Cost for 1 m3 | | | | | | | |
| | | | | | | 35,670 | 4,370 |

Analysis of base course aggregate class A 1 S11, 150 mm thick

| No | Working Name | Code | Coefficient | Unit | Remark | No | Working Name | Code | Coefficient | Unit |
|----|--|------|-------------|----------------|--------|-----|--|------|-------------|---------------------|
| L | 1 Using Equipment | | | | | 2.3 | Motor Grader | E13 | | |
| | 2 Work location is on the road length | | | | | | Panjang harparan | lh | | 50 m |
| | 3 Existing condition of the road are medium | | | | | | Effective width of blade | b | | 2 m |
| | 4 Average distance from base camp to the field | L | | 3 Km | | | Efficiency factor | Fa | | 0.83 |
| | 5 Thickness of base course | t | | 0.15 m | | | Average speed | v | | 4 km/hour |
| | 6 Loose factor of the material | Fk | | 1.2 | | | Number of lintasan | n | | 6 lintasan 3pp |
| | 7 Effective Hour / day | Tk | | 7 Hour | | | Cycle time : | | | |
| | 8 Composition of the material | | | | | | perataan satu lintasan = $lh/(1000v)*60$ | T1 | | 0.75 minute |
| | - Fine aggregate | Ak | | 0.64 | | | others | T2 | | 1 minute |
| | - Coarse aggregate | Ah | | 0.36 | | | | Ta3 | | 1.75 minute |
| | | | | | | | Production capacity (m3/hour) | Q3 | | 71.14285714 m3 |
| | | | | | | | $-(lh*b*v*Fa*60)/(n*Tk3)$ | | | |
| | | | | | | | Equipment coefficient/m3 - 1/Q1 | E13 | | 0.014056225 hour |
| IL | Material, Equipment and Labor | | | | | 2.4 | Vibratory Roller | E19 | | |
| | 1 Material | | | | | | Average speed | v | | 3 km/hour |
| | - Fine aggregate - $(Ak*1 m3 * Fk)$ | M03 | | 0.768 m3 | | | Effective width of compaction | b | | 1.8 m |
| | - Coarse aggregate - $(Ah*1 m3 * Fk)$ | M04 | | 0.432 m3 | | | Number of track | n | | 8 lintasan |
| | | | | 1.2 m3 | | | Efficiency factor | Fa | | 0.83 |
| | 2 Equipment | | | | | | Production capacity (m3/hour) | Q4 | | 84.0375 m3 |
| | 2.1 Wheel Loader | E15 | | | | | $-(1000*v*b*n*Fa*n)$ | E19 | | 0.01189942 hour |
| | Bucket capacity | V | | 1.2 m3 | | | Equipment coefficient/m3 - 1/Q4 | | | |
| | Bucket factor | Fb | | 0.9 | | | | E18 | | |
| | Efficiency factor | Fa | | 0.83 | | | 2.5 Pneumatic Tire Roller | | | |
| | Cycle time | | | | | | Average speed | v | | 5 km/hour |
| | - mixing | T1 | | 2.5 minute | | | Effective width of compaction | b | | 1.8 m |
| | - Loading | T2 | | 1 minute | | | Number of track | n | | 4 lintasan |
| | | Ta1 | | 3.5 minute | | | Efficiency factor | Fa | | 0.83 |
| | Production capacity (m3/hour) | Q1 | | 12.805714 | | | | | | |
| | $-(V*Fb*Fa*60)/(Fk*Tk1)$ | | | | | | Production capacity (m3/hour) | Q5 | | 280.125 m3 |
| | Equipment coefficient/m3 - 1/Q1 | E15 | | 0.0780901 hour | | | $-(1000*v*b*n*Fa/n)$ | E18 | | 0.003569835 hour |
| | 2.2 Dump Truck | | | | | | Equipment coefficient/m3 - 1/Q5 | | | |
| | Bucket capacity | V | | 6 m3 | | | 2.6 Water Tank Truck | E23 | | |
| | Efficiency factor | Fa | | 0.83 | | | Water Tank Volume | V | | 4 m3 |
| | Average loading speed | v1 | | 30 Km/hour | | | Water need/m3 of aggregate | We | | 0.07 m3 |
| | Average empty speed | v2 | | 40 Km/hour | | | Water tank filling/hour | n | | 1 times |
| | Efficiency factor | Fa | | 0.83 | | | Efficiency factor | Fa | | 0.83 |
| | Cycle time : | | | | | | Production capacity (m3/hour) | Q6 | | 47.42857143 m3 |
| | - Loading time = $(L/v1)*60$ minute | T1 | | 6 minute | | | $-(V*n*Fa)/We$ | | | |
| | - Empty time = $(L/v2)*60$ minute | T2 | | 4.5 minute | | | Equipment coefficient/m3 - 1/Q6 | E23 | | 0.021084337 hour |
| | Others | T3 | | 3 minute | | | | | | |
| | | Ta2 | | 13.5 minute | | | 2.7 Light tools | | | |
| | Production capacity (m3/hour) | Q2 | | 18.444444 | | | Carriage = 3 pieces | | | |
| | $-(V*Fa*60)/(Fk*Tk2)$ | | | | | | Shovel = 3 pieces | | | |
| | Equipment coefficient/m3 - 1/Q2 | E15 | | 0.0542169 | | | Earth fork = 2 pieces | | | |
| | | | | | | | 2.8 Man Power/ labour | | | |
| | | | | | | | The significant production of wheel loader | Q1 | | 12.80571429 m3/hour |
| | | | | | | | Aggregat production/day = $Tk*Q1$ | Qh | | 89.64 m3 |
| | | | | | | | Man power | | | |
| | | | | | | | - common labour | P | | 7 |
| | | | | | | | - foreman | M | | 1 |
| | | | | | | | Koefisien tenaga/m3 = | | | |
| | | | | | | | - common labour = $(Pk*P)/Qh$ | L01 | | 0.546630968 hour |
| | | | | | | | - foreman = $(Tk*M)/Qh$ | L03 | | 0.078090138 hour |

Table 4.2.5 (68/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | Working Name | Calculation Quantity | Remarks | | | | | | |
|--------------------------|--|----------------------|---------|-----------|-------------------------------------|-------------|---------|------------|---|
| R-P2-Bq-170 | Furnishing and Installing Water Level Gage (Pressure Gauge Type) consisting of Pole Type Protective Pipe, sensor, cable and Converter) | 1 Set | | | | | | | |
| Major Item | Description | Nos | Item | Quantity | PF/C | IF/C | L/C | Remarks | |
| Direct Cost | | | | | | | | | |
| Furnishing | Water Level Gauge | 1 | gauge | cable-70m | support pipe dia165 L=6.5m 104kg | 199,648,003 | 1,249 | 974,047 | incl. Local Transportation cable 70m and support pipe |
| Installation | Equipment | 1 | L.S. | | | 1,229,035 | 34,846 | 1,818,654 | |
| | Material | 1 | L.S. | | | 245,807 | 139,385 | 1,091,192 | |
| | Labor | 1 | L.S. | | | 163,871 | 0 | 727,462 | |
| | Others | 1 | L.S. | | | | | | |
| Indirect Cost | | | | | | | | | |
| Site Expense | % | | 15 | 0.8 | 0.2 | 24,728,826 | 0 | 6,182,207 | |
| Profit and Overhead Cost | % | | 10 | 0.8 | 0.2 | 18,958,767 | 0 | 4,739,692 | |
| | Miscellaneous | L.S. | | | | 91 | 20 | 47 | Round Up |
| Total for | 1 Set | | | | | 244,974,400 | 175,500 | 15,533,300 | |
| Unit Cost for | 1 Set | | | | | 244,974,400 | 175,500 | 15,533,300 | |

| ID No. | Working Name | Calculation Quantity | Remarks | | | | | | |
|--------------------------|---|----------------------|---------|----------|-----------|------------|------------|----------------------------|----------|
| R-P2-Bq-171 | Furnishing and Installing Water Level Gauging Staff | 1 Set | | | | | | | |
| Major Item | Description | Nos | Weight | Quantity | PF/C | IF/C | L/C | Remarks | |
| Direct Cost | | | kg/nos | | | | | | |
| Furnishing | Water Level Gauging Staff | 1 | 50 | | 4,778,946 | 250 | 30,179,176 | incl. Local Transportation | |
| Installation | Equipment | 1 | L.S. | | 411,048 | 46,951 | 2,169,880 | | |
| | Material | 1 | L.S. | | 82,210 | 137,806 | 1,301,928 | | |
| | Labor | 1 | L.S. | | 54,806 | 0 | 867,952 | | |
| | Others | 1 | L.S. | | | | | | |
| Indirect Cost | | | | | | | | | |
| Site Expense | % | | 15 | 0.8 | 0.2 | 4,809,714 | 0 | 1,202,429 | |
| Profit and Overhead Cost | % | | 10 | 0.8 | 0.2 | 3,687,448 | 0 | 921,862 | |
| | Miscellaneous | L.S. | | | | 28 | 93 | 74 | Round Up |
| Total for | 1 Set | | | | | 13,824,200 | 235,100 | 36,643,300 | |
| Unit Cost for | 1 Set | | | | | 13,824,200 | 235,100 | 36,643,300 | |

| ID No. | Working Name | Calculation Quantity | Remarks | | | | | | | | | |
|--------------------------|-------------------|---------------------------|---------|----------|-----------|------|------|---------|------|------|---------|----------|
| R-P2-Bq-173 | Information Board | 1 L.S. | | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | PF/C | IF/C | L/C | PF/C | IF/C | L/C | Remarks |
| Direct Cost | | | | | | | | | | | | |
| Labour | L-2-1 | Foreman | day | 1 | | 0 | 0 | 48800 | 0 | 0 | 48,800 | |
| | L-2-23 | Common Labour | day | 2 | | 0 | 0 | 35100 | 0 | 0 | 70,200 | |
| Material | | Information Board | nos | 1 | | 0 | 0 | 500000 | 0 | 0 | 500,000 | |
| Others | | Small Tools and Equipment | % | 5 | | | | | 0 | 0 | 30,950 | |
| Indirect Cost | | | | | | | | | | | | |
| Site Expense | % | | | 15 | 0.8 | | | 77,994 | 0 | | 19,499 | |
| Profit and Overhead Cost | % | | | 10 | 0.8 | | | 59,795 | 0 | | 14,949 | |
| | Miscellaneous | L.S. | | | | | | 11 | 0 | | 3 | Round Up |
| Total for | 1 L.S. | | | | | | | 137,800 | 0 | | 684,400 | |
| Unit Cost for | 1 L.S. | | | | | | | 137,800 | 0 | | 684,400 | |

Table 4.2.5 (69/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | Working Name | | Calculation Quantity | | | | | | | Remarks | | |
|---------------|--------------------------------|---------------------------|----------------------|----------|-----------|-------|--------|--------|--------|---------|----------------------|---------|
| R-P2-Bq-174 | Name Plate for Weir and Bridge | | I L.S. | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks | |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | | |
| Direct Cost | | | | | | | | | | | | |
| Labour | | | | | | | | | | | | |
| | L-2-1 | Foreman | day | 0.5 | 0 | 0 | 48800 | 0 | 0 | 24,400 | | |
| | L-2-23 | Common Labour | day | 1 | 0 | 0 | 35100 | 0 | 0 | 35,100 | | |
| Material | | | | | | | | | | | | |
| | M-K-14 | Name Plate (marble) | m ² | 1 | 0 | 44000 | 396000 | 0 | 44,000 | 396,000 | 1m x 0.5m x 2 pieces | |
| Others | | | | | | | | | | | | |
| | | Small Tools and Equipment | % | 5 | | | | 0 | 2,200 | 22,775 | | |
| Indirect Cost | | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 62,937 | 0 | 15,734 | | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 48,252 | 0 | 12,063 | | |
| | | Miscellaneous | I.S. | | | | | 11 | 0 | 28 | Round Up | |
| Total for | | | | | | | | I L.S. | | 111,200 | 46,200 | 506,100 |
| Unit Cost for | | | | | | | | I L.S. | | 111,200 | 46,200 | 506,100 |

| ID No. | Working Name | | Calculation Quantity | | | | | | | Remarks | | |
|-------------------|-------------------------------------|--|----------------------|----------|-----------|-------|--------|-----------|---------|-----------|----------------------------------|------------|
| R-P2-Bq-175 | Storage Facility for Temporary Gate | | I L.S. | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks | |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | | |
| Direct Cost | | | | | | | | | | | | |
| Labour | | | | | | | | | | | | |
| | L-2-1 | Foreman | day | 1 | 0 | 0 | 48800 | 0 | 0 | 48,800 | | |
| | L-2-16 | Steel Worker | day | 1 | 0 | 0 | 39000 | 0 | 0 | 39,000 | | |
| | L-2-23 | Common Labour | day | 2 | 0 | 0 | 35100 | 0 | 0 | 70,200 | | |
| Material | | | | | | | | | | | | |
| | M-E-4 | Structural Steel(Purchasing), SS41 | kg | 200 | 5225 | 0 | 275 | 1,045,000 | 0 | 55,000 | | |
| Working Base Cost | | | | | | | | | | | | |
| | CW-2-33 | Concrete Work with 1cement : 2sand : 4gravel | m ³ | 20 | 0 | 36000 | 466600 | 0 | 720,000 | 9,332,000 | | |
| Others | | | | | | | | | | | | |
| | | Small Tool | % | 5 | | | | 52,250 | 36,000 | 472,250 | Weld Machine, generator and etc. | |
| Indirect Cost | | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 1,425,060 | 0 | 356,265 | | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 1,092,546 | 0 | 273,137 | | |
| | | Miscellaneous | I.S. | | | | | 44 | 0 | 49 | Round Up | |
| Total for | | | | | | | | I L.S. | | 3,614,900 | 756,000 | 10,651,700 |
| Unit Cost for | | | | | | | | I L.S. | | 3,614,900 | 756,000 | 10,651,700 |

*1: All production rate are quoted from Indonesian Standard

| ID No. | Working Name | | Calculation Quantity | | | | | | | Remarks | | |
|---------------|---|--------------------------|----------------------|----------|-----------|------|---------|-----------|------|------------|----------|-----------|
| R-P2-Bq-177 | Furnishing and Installing Rain Gage Equipment, Tipping Bucket Type (consisting of Rainfall collector, Tipping Bucket, A/D Converter, Concrete Base, Cables and Automatic Rainfall Recorder) | | I L.S. | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks | |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | | |
| Direct Cost | | | | | | | | | | | | |
| Furnishing | | | | | | | | | | | | |
| | | Rain Gage | unit | 1 | 6,311,250 | 0 | 332,171 | 6,311,250 | 0 | 332,171 | | |
| | | Calculator | unit | 1 | 6,885,000 | 0 | 362,368 | 6,885,000 | 0 | 362,368 | | |
| | | Cable (30m) | m | 30 | 0 | 0 | 30,000 | 0 | 0 | 1,300,000 | | |
| Installing | | | | | | | | | | | | |
| | | | % | 20 | | | | | | 3,078,158 | | |
| Indirect Cost | | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 2,216,274 | 0 | 554,068 | | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 1,699,143 | 0 | 424,786 | | |
| | | Miscellaneous | I.S. | | | | | 33 | 0 | 48 | Round Up | |
| Total for | | | | | | | | I L.S. | | 17,111,700 | 0 | 6,251,600 |
| Unit Cost for | | | | | | | | I L.S. | | 17,111,700 | 0 | 6,251,600 |

| ID No. | Working Name | | Calculation Quantity | | | | | | | Remarks | | |
|-------------------|---------------------------------|--|----------------------|----------|-----------|-------|---------|-----------|--------|------------|----------|-----------|
| R-P2-Bq-178 | Furnishing and Installing Siren | | I L.S. | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks | |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | | |
| Direct Cost | | | | | | | | | | | | |
| Furnishing | | | | | | | | | | | | |
| | | Siren Rotary Type | I.S. | 1 | 9,753,750 | 0 | 513,355 | 9,753,750 | 0 | 513,355 | | |
| | | Control Panel | I.S. | 1 | 5,737,500 | 0 | 301,974 | 5,737,500 | 0 | 301,974 | | |
| | | Cable | m | 13 | 0 | 0 | 50,000 | 0 | 0 | 650,000 | | |
| Material | | | | | | | | | | | | |
| | M-E-9 | H-beam (Purchasing), SS41 | kg | 120 | 5225 | 0 | 275 | 627,000 | 0 | 33,000 | L=4.8m | |
| Working Base Cost | | | | | | | | | | | | |
| | CW-I-21 | Concrete Work for Small Structure : Type-D | m ³ | 0.36 | 120 | 42570 | 193500 | 43 | 15,325 | 69,660 | | |
| | CW-I-15 | Gravel Bedding | m ³ | 0.07 | 0 | 1360 | 31260 | 0 | 95 | 2,188 | | |
| Others | | | | | | | | | | | | |
| | | Installing | % | 20 | | | | | | 3,540,778 | | |
| Indirect Cost | | | | | | | | | | | | |
| | | Site Expense | % | 15 | 0.8 | | 0.2 | 2,519,360 | 0 | 637,340 | | |
| | | Profit and Overhead Cost | % | 10 | 0.8 | | 0.2 | 1,954,510 | 0 | 488,627 | | |
| | | Miscellaneous | I.S. | | | | | 37 | 80 | 77 | Round Up | |
| Total for | | | | | | | | I L.S. | | 20,622,200 | 15,500 | 6,237,000 |
| Unit Cost for | | | | | | | | I L.S. | | 20,622,200 | 15,500 | 6,237,000 |

Table 4.2.5 (70/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | |
|--------------------------|----------------------|---|-----------------|------------------------------|-----|-------------|-----------|------------|----------------------------|
| R-P2-Bq-181 | | Furnishing and Installing Remote Control Panel for Gate Operation at Operation/Maintenance Office | | 1 Set | | | | | |
| Major Item | Description | Quantity | | | | Cost | | | Remarks |
| | | Nos | Steel kg/nos | Type | | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | |
| Furnishing | Remote Control Panel | 1 Face | 400 | Independent Type for Outdoor | | 487,130,941 | 23,717 | 25,839,438 | incl. Local Transportation |
| Installation | Equipment | | L.S. | | | 12,646,043 | 377,442 | 5,287,687 | |
| | Material | | L.S. | | | 2,529,209 | 1,509,766 | 3,172,612 | |
| | Labor | | L.S. | | | 1,686,139 | 0 | 2,115,075 | |
| | Others | | L.S. | | | | | | |
| Indirect Cost | | | | | | | | | |
| Site Expense | | 7 | 15 | 0.8 | 0.2 | 65,078,168 | 0 | 16,269,542 | |
| Profit and Overhead Cost | | 7 | 10 | 0.8 | 0.2 | 49,893,262 | 0 | 12,473,316 | |
| | Miscellaneous | | L.S. | | | | 37 | 76 | 30 Round Up |
| Total for | 1 Set | | | | | 618,963,800 | 1,911,000 | 65,157,700 | |
| Unit Cost for | 1 Set | | | | | 618,963,800 | 1,911,000 | 65,157,700 | |

| ID No. | | Working Name | | Calculation Quantity | | | Remarks | | | | |
|--------------------------|-----------------------------|--|--------|----------------------|-------|--------|-------------|-------------|-------------|----------|---------|
| R-P2-Bq-182 | | Cable Laying between Operation/Maintenance Office and Each Control House | | 1 L.S. | | | | | | | |
| Major Item | Item | Description | Unit1 | Quantity1 | Unit2 | Unit Q | Quantity2 | Cost | | | Remarks |
| | | | | | | | | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Furnishing | Cable | | | | | | | | | | |
| | | CV 3-3 5mm2 | m | 80 | kg | 0.2 | 16 | | | | |
| | | CV 3-5 5mm2 | m | 30 | kg | 0.28 | 8.4 | | | | |
| | | CV 3-8mm2 | m | 1210 | kg | 0.37 | 447.7 | | | | |
| | | CV 3-14mm2 | m | 420 | kg | 0.56 | 235.2 | | | | |
| | | CVV 2-2mm2 | m | 360 | kg | 0.13 | 46.8 | | | | |
| | | CVV 3-3 5mm2 | m | 1630 | kg | 0.23 | 374.9 | | | | |
| | | CVV 30-2mm2 | m | 1630 | kg | 1.02 | 1662.6 | | | | |
| | | CVVS 3-2mm2 | m | 110 | kg | 0.15 | 16.5 | | | | |
| | | CVVS 3-2mm2 | m | 1630 | kg | 0.23 | 374.9 | | | | |
| | | IV 3 5mm2 | m | 80 | kg | 0.05 | 4 | | | | |
| | | IV 5 5mm2 | m | 30 | kg | 0.07 | 2.1 | | | | |
| | | IV 8mm2 | m | 1210 | kg | 0.11 | 133.1 | | | | |
| | | IV 14mm2 | m | 420 | kg | 0.17 | 71.4 | | | | |
| | End Sealing Material | | | | | | | | | | |
| | | Crimp type terminal and etc. | places | 1 | kg | 87.7 | 87.7 | | | | |
| | | Crimp type terminal and etc. | places | 8 | kg | 2.3 | 18.4 | | | | |
| | | Crimp type terminal and etc. | places | 3 | kg | 2.4 | 7.2 | | | | |
| | Thick Steel Conduit Tube | | | | | | | | | | |
| | | G 36 | nos | 77 | kg | 8.89 | 684.53 | | | | |
| | | G 28 | nos | 77 | kg | 6.95 | 535.15 | | | | |
| | | G 104 | nos | 8 | kg | 34.7 | | | | | |
| | | G 54 | nos | 8 | kg | 14.3 | | | | | |
| | Metal Flexible Conduit Tube | | | | | | | | | | |
| | | PV 38 | m | 39 | kg | 1.12 | 43.68 | | | | |
| | | PV 30 | m | 50 | kg | 0.87 | 43.5 | | | | |
| | | PV 101 | m | 10 | kg | 4.64 | 46.4 | | | | |
| | | PV 63 | m | 10 | kg | 2.38 | 23.8 | | | | |
| | Cable Pipe Accessories | | | | | | | | | | |
| | | Coupling, Normal Bend and etc | places | 1 | kg | 92.4 | 92.4 | | | | |
| | | Coupling, Normal Bend and etc | places | 1 | kg | 148.1 | 148.1 | | | | |
| | | Coupling, Normal Bend and etc | places | 6 | kg | 10.05 | 60.3 | | | | |
| | | Coupling, Normal Bend and etc | places | 2 | kg | 12.05 | 24.1 | | | | |
| | | Coupling, Normal Bend and etc | places | 3 | kg | 15.05 | 45.15 | | | | |
| | Cable Pipe Support | | | | | | | | | | |
| | | World duct, Saddle and etc. | places | 1 | kg | 140 | 140 | | | | |
| | | World duct, Saddle and etc. | places | 1 | kg | 300 | 300 | | | | |
| | | World duct, Saddle and etc. | places | 6 | kg | 4 | 24 | | | | |
| | | World duct, Saddle and etc. | places | 2 | kg | 5 | 10 | | | | |
| | | World duct, Saddle and etc. | places | 3 | kg | 7 | 21 | | | | |
| | Pull Box | | | | | | | | | | |
| | | SUS 500x500x500 | piece | 8 | kg | 20 | 160 | | | | |
| | | SUS 200x200x200 | piece | 28 | kg | 2.6 | 72.8 | | | | |
| | Handhole | | | | | | | | | | |
| | | 1000x1000x1000 | piece | 7 | kg | 1645 | 11515 | | | | |
| | Fcp Pipe | | | | | | | | | | |
| | | FEP 150 | m | 400 | kg | 2 | 800 | | | | |
| | | FEP 150 | m | 400 | kg | 1.1 | 440 | | | | |
| | Sub Total | | L.S. | 1 | | | 268,515,000 | 0 | 22,979,379 | | |
| Installation | | | | | | | | | | | |
| | Equipment | | L.S. | 1 | | | 92,111,796 | 48,919,737 | 83,590,632 | | |
| | Material | | L.S. | 1 | | | 18,422,359 | 195,678,947 | 50,154,379 | | |
| | Labor | | L.S. | 1 | | | 12,281,573 | 0 | 33,436,253 | | |
| | Other | | L.S. | 1 | | | | | | | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | 7 | 15 | 0.8 | 0.2 | 99,130,807 | 0 | 24,782,702 | | |
| Profit and Overhead Cost | | | 7 | 10 | 0.8 | 0.2 | 76,000,285 | 0 | 19,000,071 | | |
| | Miscellaneous | | L.S. | | | | 81 | 16 | 83 | Round Up | |
| Total for | 1 L.S. | | | | | | 566,461,900 | 244,598,700 | 233,943,500 | | |
| Unit Cost for | 1 L.S. | | | | | | 566,461,900 | 244,598,700 | 233,943,500 | | |

Table 4.2.5 (71/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | Working Name | Calculation Quantity | | | | Remarks | | |
|--------------------------|--|----------------------|--------|---------------------------------|-------------|-----------|------------|----------------------------|
| R-P2-Bq-183 | Furnishing and Installing Emergency Generator System (Diesel Engine Generator Set 250kVA with Radiator cooling system, Silencer, Exhaust system and Fuel System) | 10 Set | | | | | | |
| Major Item | Description | Nos | Steel | Type | PF/C | IF/C | L/C | Remarks |
| | | | kg/nos | | | | | |
| Direct Cost | | | | | | | | |
| Furnishing | Generator 250kVA | 1 set | 4700 | low noise radiator cubicle type | 531,216,121 | 13,464 | 51,607,435 | Incl. Local Transportation |
| Installation | Equipment | 1 L.S. | | | 12,504,517 | 291,305 | 4,650,369 | |
| | Material | 1 L.S. | | | 2,500,903 | 1,165,232 | 2,790,221 | |
| | Labor | 1 L.S. | | | 1,667,269 | 0 | 1,860,147 | |
| | Others | 1 L.S. | | | | | | |
| Indirect Cost | | | | | | | | |
| Site Expense | % | 15 | 0.8 | | 73,232,037 | 0 | 18,308,009 | |
| Profit and Overhead Cost | % | 10 | 0.8 | | 56,144,562 | 0 | 14,036,140 | |
| | Miscellaneous | L.S. | | | 92 | 9 | 78 | Round Up |
| Total for | 10 Set | | | | 677,265,500 | 1,470,000 | 93,252,400 | |
| Unit Cost for | 1 Set | | | | 67,726,550 | 147,000 | 9,325,240 | |

| ID No. | Working Name | Calculation Quantity | | | | Remarks | | |
|--------------------------|---|----------------------|--------|------|------------|---------|------------|----------------------------|
| R-P2-Bq-184 | Furnishing and Installing Air Ventilation | 1 L.S. | | | | | | |
| Major Item | Description | Nos | Steel | Type | PF/C | IF/C | L/C | Remarks |
| | | | kg/nos | | | | | |
| Direct Cost | | | | | | | | |
| Furnishing | Exhaust System & Air Ventilation | 1 set | | | 40,614,656 | 1,499 | 9,982,284 | Incl. Local Transportation |
| Installation | Equipment | 1 L.S. | | | 3,678,132 | 83,259 | 1,658,065 | |
| | Material | 1 L.S. | | | 735,626 | 333,038 | 994,839 | |
| | Labor | 1 L.S. | | | 490,418 | 0 | 663,226 | |
| | Others | 1 L.S. | | | | | | |
| Indirect Cost | | | | | | | | |
| Site Expense | % | 15 | 0.8 | | 7,108,205 | 0 | 1,777,051 | |
| Profit and Overhead Cost | % | 10 | 0.8 | | 5,449,624 | 0 | 1,362,406 | |
| | Miscellaneous | L.S. | | | 38 | 4 | 28 | Round Up |
| Total for | 1 L.S. | | | | 58,076,700 | 417,800 | 16,437,900 | |
| Unit Cost for | 1 L.S. | | | | 58,076,700 | 417,800 | 16,437,900 | |

| ID No. | Working Name | Calculation Quantity | | | | Remarks | | |
|--------------------------|---|----------------------|--------|------------------------------|-------------|-----------|------------|----------------------------|
| R-P2-Bq-185 | Furnishing and Installing Switching Panel | 10 Set | | | | | | |
| Major Item | Description | Nos | Steel | Type | PF/C | IF/C | L/C | Remarks |
| | | | kg/nos | | | | | |
| Direct Cost | | | | | | | | |
| Furnishing | Power Switching Panel Distributor | 1 set | 250 | Independent Type for Outdoor | 104,709,386 | 0 | 20,815,774 | Incl. Local Transportation |
| | | 1 set | 200 | Independent Type for Outdoor | 83,767,509 | 0 | 16,652,619 | Incl. Local Transportation |
| Installation | Equipment | 1 L.S. | | | 10,358,754 | 326,132 | 3,277,776 | |
| | Material | 1 L.S. | | | 2,071,751 | 1,304,526 | 1,966,666 | |
| | Labor | 1 L.S. | | | 1,381,167 | 0 | 1,311,111 | |
| | Others | 1 L.S. | | | | | | |
| Indirect Cost | | | | | | | | |
| Site Expense | % | 15 | 0.8 | | 29,753,181 | 0 | 7,438,295 | |
| Profit and Overhead Cost | % | 10 | 0.8 | | 22,810,772 | 0 | 5,702,693 | |
| | Miscellaneous | L.S. | | | 80 | 42 | 60 | Round Up |
| Total for | 10 Set | | | | 254,852,600 | 1,630,700 | 57,165,000 | |
| Unit Cost for | 1 Set | | | | 25,485,260 | 163,070 | 5,716,500 | |

Table 4.2.5 (72/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | | | | | Remarks | |
|--------------------------|----------|--|----------------|----------------------|-----------|-------|-----------|-----------|---------|------------|----------|
| R-P2-Bq-186 | | Furnishing and Installing Lighting Equipment for Weir and Maintenance Bridge (consisting of Mercury Vapor Lamp 400W) | | 1 L.S. | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | A-2-1-54 | Dumptruck, 4 ton | hourly | 2 | 30203.66 | 1376 | 28631.774 | 60,407 | 2,752 | 57,264 | |
| Labour | L-2-1 | Foreman | day | 2 | 0 | 0 | 48800 | 0 | 0 | 97,600 | |
| | L-2-29 | Chief of Steel Worker | day | 6 | 0 | 0 | 58600 | 0 | 0 | 351,600 | |
| | L-2-23 | Common Labour | day | 10 | 0 | 0 | 35100 | 0 | 0 | 351,000 | |
| Material | | Lighting Pole | nos | 6 | 0 | 0 | 1,500,000 | 0 | 0 | 9,000,000 | |
| | | Road Lighting Lamp | nos | 6 | 0 | 0 | 250,000 | 0 | 0 | 1,500,000 | |
| | | Stabilizer | nos | 6 | 0 | 0 | 600,000 | 0 | 0 | 3,600,000 | |
| | | Cable | m | 600 | 0 | 0 | 20,000 | 0 | 0 | 12,000,000 | |
| Working Base Cost | CW-1-63 | Light Concrete (Concrete 1:3:5) | m ³ | 15.04 | 0 | 26756 | 40818.1 | 0 | 402,410 | 6,139,087 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 1,027,454 | 0 | 1,006,864 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 3,087,715 | 0 | 771,929 | |
| | | Miscellaneous | L.S. | | | | | 23 | 38 | 57 | Round Up |
| Total for | 1 L.S. | | | | | | | 7,175,600 | 405,200 | 34,875,400 | |
| Unit Cost for | 1 L.S. | | | | | | | 7,175,600 | 405,200 | 34,875,400 | |

* 1 : All quantities and rates are quoted from Indonesian Standard.

| ID No. | | Working Name | | Calculation Quantity | | | | | | Remarks | |
|--------------------------|--------|--|------|----------------------|-----------|------|-----------|-----------|------|------------|----------|
| R-P2-Bq-187 | | Furnishing and Installing Lighting Protection for Control Houses, 4 sets | | 1 L.S. | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Furnishing | | Pin | unit | 4 | 0 | 0 | 500,000 | 0 | 0 | 2,000,000 | |
| | | Supporting Pipe | unit | 4 | 0 | 0 | 1,000,000 | 0 | 0 | 4,000,000 | |
| | | Supporting Steel | unit | 4 | 0 | 0 | 500,000 | 0 | 0 | 2,000,000 | |
| | | Terminal | unit | 4 | 0 | 0 | 500,000 | 0 | 0 | 2,000,000 | |
| | | Grounding Cable | m | 80 | 0 | 0 | 20,000 | 0 | 0 | 1,600,000 | |
| Others | | Installing | % | 20 | | | | | | 2,824,000 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | % | 15 | 0.8 | | 0.2 | 1,730,880 | 0 | 432,720 | |
| Profit and Overhead Cost | | | % | 10 | 0.8 | | 0.2 | 1,327,008 | 0 | 331,752 | |
| | | Miscellaneous | L.S. | | | | | 12 | 0 | 28 | Round Up |
| Total for | 1 L.S. | | | | | | | 3,057,900 | 0 | 15,188,500 | |
| Unit Cost for | 1 L.S. | | | | | | | 3,057,900 | 0 | 15,188,500 | |

Table 4.2.5 (73/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | | Working Name | | Calculation Quantity | | | | | | | Remarks |
|---------------------------------|----------|---|--------|----------------------|-----------|-------|----------|-----------|--------|-----------|----------|
| R-P2-Bq-205 | | Demolition and Removal of Existing Storage Houses | | 1 L.S. | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| Equipment | | | | | | | | | | | |
| | A-2-1-48 | Dumptruck; 10 ton | hourly | 5.8 | 77,269 | 3,060 | 70,714 | 448,160 | 17,748 | 410,316 | |
| | A-2-1-7 | Backhoe; 0.6 m3 | hourly | 14 | 125542.9 | 2040 | 90965.08 | 1,757,601 | 28,560 | 1,273,511 | |
| | A-2-2-10 | Concrete Breaker; 20 kg | daily | 2 | 9136.077 | 0 | 3181.312 | 18,272 | 0 | 6,363 | |
| | A-2-2-16 | Generator; 125 kVA | daily | 2 | 271912.2 | 15120 | 209096 | 543,824 | 30,240 | 418,192 | |
| | A-2-2-35 | Pick Hammer | daily | 2 | 5716.911 | 0 | 2030.087 | 11,434 | 0 | 4,069 | |
| Labour | | | | | | | | | | | |
| | L-2-1 | Foreman | day | 1 | 0 | 0 | 48800 | 0 | 0 | 48,800 | |
| | L-2-10 | Drill Worker | day | 2 | 0 | 0 | 39000 | 0 | 0 | 78,000 | |
| | L-2-23 | Common Labour | day | 3 | 0 | 0 | 35100 | 0 | 0 | 105,300 | |
| Others | | | | | | | | | | | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | | | | | | | | | |
| | | % | | 15 | 0.8 | | 0.2 | 624,046 | 0 | 156,011 | |
| Profit and Overhead Cost | | | | | | | | | | | |
| | | % | | 10 | 0.8 | | 0.2 | 478,435 | 0 | 119,609 | |
| | | Miscellaneous | L.S. | | | | | 28 | 52 | 38 | Round Up |
| Total for | | 1 L.S. | | | | | | 3,881,800 | 76,600 | 2,620,200 | |
| Unit Cost for | | 1 L.S. | | | | | | 3,881,800 | 76,600 | 2,620,200 | |

* 1 : It takes 3 days.
 * 2 : Dump Truck : 10 km/hr / 10 round x 40 km/hr + 20 mts(loss) = 0.58 hours
 0.58 hours x 5.8 hours = 5.8 hours

| ID No. | | Working Name | | Calculation Quantity | | | | | | | Remarks |
|---------------------------------|--------|--|------|----------------------|-----------|------|-----|-------------|------------|-------------|----------|
| R-P2-Bq-207 | | Operation/Management Office (including excavation, filling, grading, foundation, reinforced concrete, roofing, concrete block, brick, plastering, door&Windows, glazing, miscellaneous metal, interior finishing, tile, sanitary, electrical and painting works) | | 1 L.S. | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| | | Operation/Management Office | | 1 | L.S. | | | 46,907,375 | 20,515,150 | 273,716,237 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | | | | | | | | | |
| | | % | | 15 | 0.8 | | 0.2 | 40,936,651 | 0 | 10,234,163 | |
| Profit and Overhead Cost | | | | | | | | | | | |
| | | % | | 10 | 0.8 | | 0.2 | 31,381,766 | 0 | 7,846,192 | |
| | | Miscellaneous | L.S. | | | | | 8 | 50 | 8 | Round Up |
| Total for | | 1 L.S. | | | | | | 119,228,800 | 20,515,200 | 291,796,600 | |
| Unit Cost for | | 1 L.S. | | | | | | 119,228,800 | 20,515,200 | 291,796,600 | |

| ID No. | | Working Name | | Calculation Quantity | | | | | | | Remarks |
|---------------------------------|--------|--|------|----------------------|-----------|------|-----|------------|------------|-------------|----------|
| R-P2-Bq-208 | | Storage House-1 (including excavation, filling, grading, foundation, reinforced concrete, roofing, concrete block, brick, plastering, door&Windows, glazing, miscellaneous metal, interior finishing, tile, sanitary, electrical and painting works) | | 1 L.S. | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| | | Storage House-1 | | 1 | L.S. | | | 3,912 | 11,863,879 | 102,051,220 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | | | | | | | | | |
| | | % | | 15 | 0.8 | | 0.2 | 13,670,281 | 0 | 3,417,570 | |
| Profit and Overhead Cost | | | | | | | | | | | |
| | | % | | 10 | 0.8 | | 0.2 | 10,480,549 | 0 | 2,620,137 | |
| | | Miscellaneous | L.S. | | | | | 58 | 21 | 73 | Round Up |
| Total for | | 1 L.S. | | | | | | 24,154,800 | 11,863,900 | 108,089,000 | |
| Unit Cost for | | 1 L.S. | | | | | | 24,154,800 | 11,863,900 | 108,089,000 | |

| ID No. | | Working Name | | Calculation Quantity | | | | | | | Remarks |
|---------------------------------|--------|--|------|----------------------|-----------|------|-----|------------|------------|-------------|----------|
| R-P2-Bq-209 | | Storage House-2 (including excavation, filling, grading, foundation, reinforced concrete, roofing, concrete block, brick, plastering, door&Windows, glazing, miscellaneous metal, interior finishing, tile, sanitary, electrical and painting works) | | 1 L.S. | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| | | | | | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| Direct Cost | | | | | | | | | | | |
| | | Storage House-2 | | 1 | L.S. | | | 12,328 | 28,842,659 | 263,562,789 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | | | | | | | | | | | |
| | | % | | 15 | 0.8 | | 0.2 | 35,090,133 | 0 | 8,772,533 | |
| Profit and Overhead Cost | | | | | | | | | | | |
| | | % | | 10 | 0.8 | | 0.2 | 26,902,435 | 0 | 6,725,609 | |
| | | Miscellaneous | L.S. | | | | | 4 | 41 | 69 | Round Up |
| Total for | | 1 L.S. | | | | | | 62,004,900 | 28,842,700 | 279,061,000 | |
| Unit Cost for | | 1 L.S. | | | | | | 62,004,900 | 28,842,700 | 279,061,000 | |

Table 4.2.5 (74/119) CALCULATION SHEET FOR UNIT COST OF EACH PAYMENT ITEM OF THREE PACKAGES

| ID No. | Working Name | Calculation Quantity | Remarks | | | | | | | | |
|--------------------------|--|----------------------|---------|----------|-----------|------|-----|------------|-----------|------------|----------|
| R-P2-Bq-210 | Electrical Building (including excavation, demolition existing wall, filling, grading, foundation, reinforced concrete, roofing, concrete block, brick, plastering, door&Windows, glazing, miscellaneous metal, interior finishing, tile, sanitary, electrical and painting works) | 1 L.S. | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| Direct Cost | | Electrical Building | | 1 L.S. | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| | | | | | | | | 19,506,406 | 6,464,643 | 85,092,490 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | % | | | 15 | 0.8 | | 0.2 | 13,327,625 | 0 | 3,331,906 | |
| Profit and Overhead Cost | % | | | 10 | 0.8 | | 0.2 | 10,217,846 | 0 | 2,554,461 | |
| | | Miscellaneous | L.S. | | | | | 23 | 57 | 42 | Round Up |
| Total for | 1 L.S. | | | | | | | 43,051,900 | 6,464,700 | 90,978,900 | |
| Unit Cost for | 1 L.S. | | | | | | | 43,051,900 | 6,464,700 | 90,978,900 | |

| ID No. | Working Name | Calculation Quantity | Remarks | | | | | | | | |
|--------------------------|--|----------------------|---------|----------|-----------|------|-----|------------|-----------|------------|----------|
| R-P2-Bq-211 | Guard House (including excavation, filling, grading, foundation, reinforced concrete, roofing, concrete block, brick, plastering, door&Windows, glazing, miscellaneous metal, interior finishing, tile, sanitary, electrical and painting works) | 1 L.S. | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| Direct Cost | | Guard House | | 1 L.S. | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| | | | | | | | | 4,732,170 | 4,776,356 | 47,218,333 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | % | | | 15 | 0.8 | | 0.2 | 6,807,223 | 0 | 1,701,806 | |
| Profit and Overhead Cost | % | | | 10 | 0.8 | | 0.2 | 5,218,871 | 0 | 1,304,718 | |
| | | Miscellaneous | L.S. | | | | | 36 | 44 | 43 | Round Up |
| Total for | 1 L.S. | | | | | | | 16,758,300 | 4,776,400 | 50,224,900 | |
| Unit Cost for | 1 L.S. | | | | | | | 16,758,300 | 4,776,400 | 50,224,900 | |

| ID No. | Working Name | Calculation Quantity | Remarks | | | | | | | | |
|--------------------------|---|----------------------|---------|----------|-----------|------|-----|------------|------------|-------------|----------|
| R-P2-Bq-212 | External Works (including excavation, filling, grading, foundation, reinforced concrete, roofing, concrete block, brick, plastering, door&Windows, glazing, miscellaneous metal, interior finishing, tile, sanitary, electrical and painting works) | 1 L.S. | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| Direct Cost | | External Works | | 1 L.S. | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| | | | | | | | | 11,562,740 | 12,532,414 | 202,716,513 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | % | | | 15 | 0.8 | | 0.2 | 27,217,400 | 0 | 6,804,350 | |
| Profit and Overhead Cost | % | | | 10 | 0.8 | | 0.2 | 20,866,673 | 0 | 5,216,668 | |
| | | Miscellaneous | L.S. | | | | | 87 | 86 | 68 | Round Up |
| Total for | 1 L.S. | | | | | | | 59,646,900 | 12,532,500 | 214,737,600 | |
| Unit Cost for | 1 L.S. | | | | | | | 59,646,900 | 12,532,500 | 214,737,600 | |

| ID No. | Working Name | Calculation Quantity | Remarks | | | | | | | | |
|--------------------------|--|----------------------|---------|----------|-----------|------|-----|-------------|------------|-------------|----------|
| R-P2-Bq-213 | Gate Control House (4 houses including excavation, filling, grading, foundation, reinforced concrete, roofing, concrete block, brick, plastering, door&Windows, glazing, miscellaneous metal, interior finishing, tile, sanitary, electrical and painting works) | 1 L.S. | | | | | | | | | |
| Major Item | ID No. | Description | Unit | Quantity | Unit Cost | | | Cost | | | Remarks |
| Direct Cost | | Gate Control Houses | | 1 L.S. | PF/C | IF/C | L/C | PF/C | IF/C | L/C | |
| | | | | | | | | 85,060,580 | 33,803,040 | 256,359,038 | |
| Indirect Cost | | | | | | | | | | | |
| Site Expense | % | | | 15 | 0.8 | | 0.2 | 45,026,719 | 0 | 11,256,680 | |
| Profit and Overhead Cost | % | | | 10 | 0.8 | | 0.2 | 34,520,484 | 0 | 8,630,121 | |
| | | Miscellaneous | L.S. | | | | | 17 | 61 | 62 | Round Up |
| Total for | 1 L.S. | | | | | | | 164,607,800 | 33,803,100 | 276,245,900 | |
| Unit Cost for | 1 L.S. | | | | | | | 164,607,800 | 33,803,100 | 276,245,900 | |