

BAB 7

BILL OF QUANTITY (BOQ) DAN RENCANA ANGGARAN BIAYA (RAB)

7.1. Bill of Quantity (BOQ)

Perhitungan *Bill of Quantity* ini digunakan dalam menentukan kuantitas perencanaan kebutuhan apa saja dalam pembangunan Instalasi Pengolahan Air Minum (IPAM), mulai dari kebutuhan persiapan, pengerjaan *site*, dan semua fasilitas pendukung yang dibutuhkan, berikut BOQ Perencanaan Instalasi Pengolahan Air Minum (IPAM).

Tabel 7.1. BOQ Pembetonan

| BOQ PEMBETONAN | | | | | | | | | | |
|------------------------------------------------|-----------|------------|--------------|--------------------------|--------------------|-----------|------------|--------------|--------------------------|---------------------------------|
| Perencanaan | | | | | Setelah pembetonan | | | | | Volume Beton |
| Panjang (m) | Lebar (m) | Tinggi (m) | Diameter (m) | Volume (m ³) | Panjang (m) | Lebar (m) | Tinggi (m) | Diameter (m) | Volume (m ³) | V ₂ - V ₁ |
| Saluran Pembawa dan Screen | | | | | | | | | | |
| 6.00 | - | - | 0.26 | 1.56 | 6.30 | - | - | 0.56 | 3.53 | 1.97 |
| 8.00 | - | - | 0.29 | 2.32 | 8.30 | - | - | 0.59 | 4.90 | 2.58 |
| Sumur Pengumpul | | | | | | | | | | |
| 1.60 | 1.60 | 5.16 | - | 13.21 | 2.00 | 2.00 | 5.16 | - | 20.64 | 7.43 |
| Total Pembetonan Intake & Sumur Pengumpul | | | | | | | | | | 11.98 |
| AERASI | | | | | | | | | | |
| 5.74 | 2.87 | 3.00 | - | 98.84 | 6.14 | 3.27 | 3.20 | - | 128.50 | 29.66 |
| 5.74 | 2.87 | 3.00 | - | | 6.14 | 3.27 | 3.20 | - | | |
| Total Pembetonan Aerasi | | | | | | | | | | 29.66 |
| Flokulasi | | | | | | | | | | |
| 5.20 | 2.60 | 2.30 | - | 62.19 | 5.60 | 3.00 | 2.50 | - | 84.00 | 21.81 |
| SEDIMENTASI Zona Inlet | | | | | | | | | | |
| 1.00 | 0.16 | 0.40 | - | 0.06 | 1.20 | 0.36 | 0.50 | - | 0.21 | 0.15 |
| SEDIMENTASI Zona Settling | | | | | | | | | | |
| 11.40 | 5.70 | 3.50 | - | 227.43 | 11.60 | 6.10 | 3.70 | - | 261.81 | 34.38 |
| SEDIMENTASI Zona Sludge | | | | | | | | | | |
| 5.70 | 5.70 | 4.00 | - | 129.96 | 6.1 | 6.1 | 4.20 | - | 156.28 | 26.32 |
| 5.70 | 5.70 | 4.00 | - | 129.96 | 6.1 | 6.1 | 4.20 | - | 156.28 | 26.32 |
| SEDIMENTASI Zona Outlet | | | | | | | | | | |
| 1.90 | 5.70 | 3.50 | - | 37.91 | 2.30 | 6.10 | 3.70 | - | 51.91 | 14.01 |
| Total Pembetonan SEDIMENTASI | | | | | | | | | | 101.18 |
| FILTRASI | | | | | | | | | | |
| 6.00 | 3.00 | 3.70 | - | 66.60 | 6.40 | 3.40 | 3.90 | - | 84.86 | 18.26 |
| RESERVOAR | | | | | | | | | | |
| 9.40 | 4.70 | 3.60 | - | 159.05 | 9.80 | 5.10 | 3.80 | - | 189.92 | 30.88 |
| Total Pembetonan RESERVOAR | | | | | | | | | | 30.88 |
| Sludge Drying Bed (SDB) | | | | | | | | | | |
| 102.00 | 51.00 | 3.60 | - | 18727.20 | 102.40 | 51.40 | 3.80 | - | 20000.77 | 1273.57 |
| Total Pembetonan Sludge Drying Bed (SDB) 4 Bed | | | | | | | | | | 1273.57 |
| TOTAL BOQ PEMBETONAN | | | | | | | | | | 1433.29 |

Tabel 7.2. BOQ Galian

| BOQ GALIAN | | | | |
|-----------------------------------------|-----------|------------|--------------|-------------|
| Panjang (m) | Lebar (m) | Tinggi (m) | Diameter (m) | Volume (m3) |
| Saluran Pembawa dan Screen | | | | |
| 6.30 | - | - | 0.56 | 3.53 |
| 8.30 | - | - | 0.59 | 4.90 |
| Total Galian Saluran Pembawa dan Screen | | | | 8.43 |
| Sumur Pengumpul | | | | |
| 2.00 | 2.00 | 5.16 | - | 20.64 |
| AERASI | | | | |
| 6.14 | 3.27 | 3.20 | - | 64.25 |
| 6.14 | 3.27 | 3.20 | - | 64.25 |
| Total Galian Aerasi | | | | 128.50 |
| Flokulasi | | | | |
| 5.60 | 3.00 | 2.50 | - | 42.00 |
| SEDIMENTASI ZONA INLET | | | | |
| 1.20 | 0.36 | 0.50 | - | 0.21 |
| SEDIMENTASI Zona Settling | | | | |
| 11.60 | 6.10 | 3.70 | - | 261.81 |
| SEDIMENTASI Zona Sludge | | | | |
| 6.10 | 6.10 | 4.20 | - | 116.27 |
| 6.10 | 6.10 | | - | |
| SEDIMENTASI Zona Outlet | | | | |
| 2.30 | 6.10 | 3.70 | - | 51.91 |
| Total Galian SEDIMENTASI | | | | 430.20 |
| FILTRASI | | | | |
| 6.40 | 3.40 | 3.90 | - | 84.86 |
| RESERVOAR | | | | |
| 9.80 | 5.10 | 3.80 | - | 189.92 |
| Sludge Drying Bed 3 unit | | | | |
| 102.40 | 51.40 | 3.80 | - | 20000.77 |
| TOTAL BOQ GALIAN | | | | 20863.32 |

7.2. Rencana Anggaran Biaya (RAB)

Rencana Anggaran Biaya merupakan suatu perkiraan kebutuhan biaya yang diperlukan dalam melaksanakan suatu kegiatan pelaksanaan pekerjaan. Rencana Anggaran Biaya (RAB) disusun berdasarkan harga satuan pekerjaan dan volume pekerjaan yang dilaksanakan sesuai dengan bentuk dan ukuran yang telah direncanakan. Rencana Anggaran Biaya pada pembangunan Perencanaan Instalasi Pengolahan Air Minum (IPAM) sebagai berikut.

Tabel 7.3. RAB Aksesoris Bangunan

| RAB Aksesoris Bangunan | | | | | | | |
|-----------------------------------------------------|---------|--------|--------|--------|---------------|------------------|----------------------|
| Uraian | Ukuran | Satuan | Jumlah | Satuan | Harga Satuan | Estimasi Harga | Harga Total Sub Unit |
| Saluran Pembawa dan Screen | | | | | | | |
| Kisi | - | - | 11 | buah | Rp100,000 | Rp1,100,000.00 | Rp29,534,908.00 |
| Pipa Cast Iron | 12 | inch | 2 | buah | Rp7,108,727 | Rp14,217,454.00 | |
| Pipa Cast Iron | 12 | inch | 2 | buah | Rp7,108,727 | Rp14,217,454.00 | |
| Sumur Pengumpul | | | | | | | |
| Pipa Cast Iron | 8 | inch | 3 | Buah | Rp3,793,758 | Rp11,381,274.00 | Rp447,889,001.00 |
| Pipa Cast Iron | 12 | inch | 1 | Buah | Rp7,108,727 | Rp7,108,727.00 | |
| Gate valve Cast iron | 8 | inch | 1 | Buah | Rp2,750,000 | Rp2,750,000.00 | |
| Gate valve Cast iron | 12 | inch | 1 | Buah | Rp4,500,000 | Rp4,500,000.00 | |
| Pompa Sub mersible Grundfos SP 160-1_RP6 | | | 2 | Buah | Rp203,020,000 | Rp406,040,000.00 | |
| Elbow 90° | 100 | mm | 1 | Buah | Rp43,000 | Rp43,000.00 | |
| Check valve | 200 | mm | 1 | Buah | Rp645,000 | Rp645,000.00 | |
| Foot Valve | 200 | mm | 1 | Buah | Rp645,000 | Rp645,000.00 | |
| Increaser | 100x200 | mm | 1 | Buah | Rp76,000 | Rp76,000.00 | |
| Check valve | 8 | inch | 1 | Buah | Rp700,000 | Rp700,000.00 | |
| Strainer | - | - | 1 | Buah | Rp10,000,000 | Rp10,000,000.00 | |
| Tangga Kontrol | - | - | 1 | Buah | Rp4,000,000 | Rp4,000,000.00 | |
| AERASI | | | | | | | |
| Pompa NBG 200-150-315.2 | - | - | 2 | buah | Rp450,000,000 | Rp900,000,000.00 | Rp978,827,426.00 |
| Pipa Cast Iron | 6 | inch | 6 | buah | Rp2,519,662 | Rp15,117,972.00 | |
| Pipa Cast Iron | 12 | inch | 2 | buah | Rp7,108,727 | Rp14,217,454.00 | |
| Gate valve Cast iron | 6 | inch | 6 | buah | Rp2,750,000 | Rp16,500,000.00 | |
| Elbow 90 | 100 | mm | 4 | buah | Rp43,000 | Rp172,000.00 | |
| Plate Disc Diffuser (Coarse bubble diffuser AFC-75) | 15 | cm | 28 | Buah | Rp115,000 | Rp3,220,000.00 | |
| Blower FIMA Explosion proof blowers F4-2 | - | - | 4 | Buah | Rp7,400,000 | Rp29,600,000.00 | |
| Koagulasi | | | | | | | |
| Pipa PVC VP (4 m) | 12 | inch | 1 | buah | Rp4,789,100 | Rp4,789,100.00 | Rp63,590,028.00 |
| Penyangga Tangki | 200x200 | cm | 2 | buah | Rp2,500,000 | Rp5,000,000.00 | |

| RAB Aksesoris Bangunan | | | | | | | |
|-----------------------------------------------------------------------|-------------------|--------|--------|--------|--------------|------------------|----------------------|
| Uraian | Ukuran | Satuan | Jumlah | Satuan | Harga Satuan | Estimasi Harga | Harga Total Sub Unit |
| Tangki Koagulasi Fiberglass 1 (khusus kimia) | Ø 150, tinggi 210 | cm | 1 | buah | Rp3,507,000 | Rp3,507,000.00 | |
| Tangki pembubuh Fiberglass 2 (khusus kimia) | Ø 90, tinggi 130 | cm | 1 | buah | Rp2,800,500 | Rp2,800,500.00 | |
| Motor Pengaduk Tangki Koagulasi | - | - | 1 | buah | Rp10,000,000 | Rp10,000,000.00 | |
| Motor pengaduk tangki pembubuh | - | - | 1 | buah | Rp6,500,000 | Rp6,500,000.00 | |
| Impeller flat paddle, 2 blades (single paddle untuk tangki koagulasi) | Ø600 | mm | 1 | buah | Rp2,550,000 | Rp2,550,000.00 | |
| Impeller flat paddle, 2 blades (single paddle untuk tangki koagulan) | Ø400 | mm | 1 | buah | Rp1,750,000 | Rp1,750,000.00 | |
| Dosing Pump Milton Roy GB401 | - | - | 2 | buah | Rp7,850,000 | Rp15,700,000.00 | |
| PIPA cast iron | 16 | inch | 1 | buah | Rp10,993,428 | Rp10,993,428.00 | |
| Flokulasi | | | | | | | |
| Pipa PVC VP (4 m) | 10 | Inch | 1 | buah | Rp3,376,100 | Rp3,376,100.00 | Rp251,209,340.00 |
| Tee | 10 | inch | 1 | buah | Rp1,750,000 | Rp1,750,000.00 | |
| Baffle | - | - | 49 | buah | Rp4,994,760 | Rp244,743,240.00 | |
| Elbow 90° | 10 | inch | 2 | buah | Rp670,000 | Rp1,340,000.00 | |
| Sedimentasi | | | | | | | |
| Perforated Baffel | 590x350x5 | cm | 1 | buah | Rp12,750,000 | Rp12,750,000.00 | Rp179,574,754.00 |
| Tee | - | - | 2 | buah | Rp878,900 | Rp1,757,800.00 | |
| Gutter 40x20x285 | - | - | 2 | buah | Rp3,675,000 | Rp7,350,000.00 | |
| Plate settler | - | - | 56 | buah | Rp1,250,000 | Rp70,000,000.00 | |
| Pipa PVC VP (4 m) | 12 | inch | 3 | buah | Rp4,789,100 | Rp14,367,300.00 | |
| Pipa PVC VP (4 m) | 10 | inch | 2 | buah | Rp3,376,100 | Rp6,752,200.00 | |
| Pipa cast iron (Penguras Lumpur) | 12 | inch | 2 | buah | Rp7,108,727 | Rp14,217,454.00 | |
| Pompa NBG 200-150-250 | - | - | 2 | buah | Rp25,000,000 | Rp50,000,000.00 | |
| Weir & Vnotch 45° | - | - | 28 | buah | Rp85,000 | Rp2,380,000.00 | |
| Filtrasi | | | | | | | |
| Pipa Cast Iron (Drain Backwash | 18 | inch | 1 | buah | Rp13,897,369 | Rp13,897,369.00 | Rp69,261,499.00 |
| Tee | 10 | inch | 2 | buah | Rp878,900 | Rp1,757,800.00 | |

| RAB Aksesoris Bangunan | | | | | | | |
|------------------------------------------|-----------------|--------|--------|--------|--------------|-----------------|---------------------------|
| Uraian | Ukuran | Satuan | Jumlah | Satuan | Harga Satuan | Estimasi Harga | Harga Total Sub Unit |
| Gate Valve Inlet | 12 | Inch | 2 | buah | Rp7,275,000 | Rp14,550,000.00 | |
| Gate Valve Inlet Manifold | 10 | Inch | 2 | buah | | | |
| Antrasit | 1.3 | m3 | 2 | buah | Rp290,000 | Rp580,000.00 | |
| Pasir | 0.19 | m3 | 2 | buah | Rp350,000 | Rp700,000.00 | |
| Garnet | 0.78 | m3 | 2 | buah | Rp475,000 | Rp950,000.00 | |
| Pintu air | 80x30 | cm | 2 | buah | Rp150,000 | Rp300,000.00 | |
| Pipa cast iron (Lateral) | 3 | inch | 10 | buah | Rp973,681 | Rp9,736,810.00 | |
| Pipa cast iron (manifold) | 10 | inch | 2 | buah | Rp5,377,240 | Rp10,754,480.00 | |
| Orifice | - | - | 146 | buah | Rp50,000 | Rp7,300,000.00 | |
| Elbow 90° cast iron | 10 | inch | 2 | buah | Rp567,520 | Rp1,135,040.00 | |
| Orifice | - | - | 152 | buah | Rp50,000 | Rp7,600,000.00 | |
| Desinfeksi & Reservoar | | | | | | | |
| Pipa PVC VP (4 m) | 0.5 | inch | 1 | buah | Rp57,000 | Rp57,000.00 | Rp38,876,856.00 |
| Pipa cast iron | 16 | inch | 2 | buah | Rp10,993,428 | Rp21,986,856.00 | |
| Pompa Dosing DMX 410 B-SS/V/SS-X-E1AA | - | - | 2 | buah | Rp1,200,000 | Rp2,400,000.00 | |
| Elbow 90° | 0.5 | Inch | 1 | buah | Rp5,000 | Rp5,000.00 | |
| Tangki Fiberglass (Khusus Kimia) | Ø50, tinggi 120 | cm | 1 | buah | Rp2,600,000 | Rp2,600,000.00 | |
| Motor Pengaduk Konmixchina KJB-L-3000 | - | - | 1 | buah | Rp11,800,000 | Rp11,800,000.00 | |
| Check valve | 0.5 | inch | 1 | buah | Rp28,000 | Rp28,000.00 | |
| Sludge Drying Bed | | | | | | | |
| Tee | - | - | 3 | buah | Rp5,500 | Rp16,500.00 | Rp66,019,734.00 |
| Pipa Cast Iron (Underdrain) | 4 | inch | 3 | buah | Rp1,432,801 | Rp4,298,403.00 | |
| Pipa Cast Iron (Inlet) | 12 | inch | 3 | buah | Rp7,108,727 | Rp21,326,181.00 | |
| Elbow 90° | 12 | - | 3 | buah | Rp1,570,000 | Rp4,710,000.00 | |
| Schurco Slurry Pump S Series tipe 1,5S25 | - | - | 2 | buah | Rp15,000,000 | Rp30,000,000.00 | |
| Pasir | - | - | 15.3 | m3 | Rp221,200 | Rp3,384,360.00 | |
| Kerikil | - | - | 15.3 | m3 | Rp149,300 | Rp2,284,290.00 | |
| Total RAB Aksesoris Bangunan IPAM | | | | | | | Rp1,568,756,190.00 |

7.3. Analisis harga satuan berdasarkan Harga Satuan Pokok Kegiatan (HSPK) Kota Surabaya 2018

Tabel 7.4. Analisis Harga Satuan Berdasarkan HSPK Kota Surabaya
RAB TENAGA KERJA (SDM DAN NON-SDM) & BAHAN

| Uraian | Harga Satuan | Satuan | Jumlah | Estimasi Harga | Periode Kerja (Hari) | Harga Total |
|-------------------------------------------------|--------------|-------------|--------|----------------|----------------------|-------------------------|
| Tenaga Kerja SDM & NON-SDM | | | | | | |
| Tim Humas dan Administrasi | Rp500,000 | OH | 10 | Rp5,000,000 | 3 | Rp15,000,000 |
| Kontruktor | Rp1,000,000 | OH | 5 | Rp5,000,000 | 10 | Rp50,000,000 |
| Mandor Penggalian | Rp180,000 | OH | 4 | Rp720,000 | 5 | Rp3,600,000 |
| Pembantu Tukang galian | Rp155,000 | OH | 15 | Rp2,325,000 | 10 | Rp23,250,000 |
| Mandor Pembetonan K-275 | Rp180,000 | OH | 4 | Rp720,000 | 5 | Rp3,600,000 |
| Tukang Pembetonan K-275 | Rp165,000 | OH | 10 | Rp1,650,000 | 15 | Rp24,750,000 |
| Pembantu Tukang K-275 | Rp155,000 | OH | 5 | Rp775,000 | 15 | Rp11,625,000 |
| Mandor Perpipaian | Rp180,000 | OH | 4 | Rp720,000 | 3 | Rp2,160,000 |
| Tukang Perpipaian | Rp165,000 | OH | 8 | Rp1,320,000 | 5 | Rp6,600,000 |
| Pembantu Perpipaian | Rp155,000 | OH | 2 | Rp310,000 | 5 | Rp1,550,000 |
| Mandor kelistrikan | Rp180,000 | OH | 2 | Rp360,000 | 3 | Rp1,080,000 |
| Tukang Kelistrikan | Rp165,000 | OH | 5 | Rp825,000 | 5 | Rp4,125,000 |
| Pembantu Tukang Kelistrikan | Rp155,000 | OH | 2 | Rp310,000 | 5 | Rp1,550,000 |
| Dump Truck 4 x 2 | Rp1,680,000 | Hari | 5 | Rp8,400,000 | 3 | Rp25,200,000 |
| Excavator | Rp3,679,992 | Hari | 3 | Rp11,039,976 | 2 | Rp22,079,952 |
| Total RAB Tenaga Kerja (SDM dan Non-SDM) | | | | | | Rp196,169,952 |
| Uraian | Koefisien | Jumlah Unit | Total | Satuan | Harga Satuan (Rp) | Total Harga Satuan (Rp) |
| Bahan | | | | | | |
| Semen PC 40 kg | 8.4 | 1 | 8.4 | zak | Rp 63,000 | Rp 529,200 |
| Pasir Cor | 0.54 | 1 | 0.54 | m3 | Rp 265,300 | Rp 143,262 |
| Batu Pecah Mesin 1/2 cm | 0.81 | 1 | 0.81 | m3 | Rp 243,300 | Rp 197,073 |
| Besi Beton Polos | 210 | 1 | 210 | kg | Rp 13,500 | Rp 2,835,000 |
| Paku Usuk | 3 | 1 | 3 | kg | Rp 14,800 | Rp 44,400 |

| | | | | | | |
|-------------------------------------------------|-------|---|-------|--------|--------------|----------------------|
| Plywood Uk. 122x244x9 mm | 2.5 | 1 | 2.5 | Lembar | Rp 105,000 | Rp 262,500 |
| Kawat Beton | 3 | 1 | 3 | kg | Rp 25,900 | Rp 77,700 |
| Kayu Meranti Bekisting | 0.25 | 1 | 0.25 | m3 | Rp 3,622,500 | Rp 905,625 |
| Kayu meranti balok 4/6, 5/7 | 0.105 | 1 | 0.105 | m3 | Rp 4,968,000 | Rp 521,640 |
| Minyak Bekisting | 1.2 | 1 | 1.2 | Liter | Rp 30,100 | Rp 36,120 |
| Total RAB Tenaga Kerja (SDM dan Non-SDM) | | | | | | Rp5,552,520 |
| Total RAB Tenaga Kerja + Bahan | | | | | | Rp201,722,472 |
| Overhead + Profit (15%) | | | | | | Rp30,258,371 |
| Harga Satuan Pekerjaan per m3 | | | | | | Rp226,428,323 |

Tabel 7.5. RAB Pra-Konstruksi

| RAB PRA KONTRUSKSI | | | | |
|-----------------------------------|--------|--------|--------------|----------------------|
| Uraian | Jumlah | Satuan | Harga Satuan | Estimasi Harga |
| Pembersihan Lahan | 6000 | m2 | Rp100,000 | Rp600,000,000 |
| Papan Nama | 1 | unit | Rp350,000 | Rp350,000 |
| Administrasi dan Dokumentasi | 1 | paket | Rp5,000,000 | Rp5,000,000 |
| Paket K3 | 1 | paket | Rp6,883,000 | Rp6,883,000 |
| Total RAB Pra Kontruksi | | | | Rp612,233,000 |
| Overhead + Profit (15%) | | | | Rp91,834,950 |
| Total Biaya Pra Konstruksi | | | | Rp704,067,950 |

Tabel 7.6. RAB Pembetonan

| RAB PEMBETONAN | | | | |
|----------------------------------|---------|--------|--------------|---------------------------|
| Uraian | Jumlah | Satuan | Harga Satuan | Estimasi Harga |
| Saluran Pembawa dan Screen | 4.55 | m3 | Rp4,994,760 | Rp22,701,184.20 |
| Sumur Pengumpul | 7.43 | m3 | Rp4,994,760 | Rp37,113,064.70 |
| Aerasi | 29.66 | m4 | Rp4,994,760 | Rp148,120,207.17 |
| Filtrasi | 21.81 | m4 | Rp4,994,760 | Rp108,925,726.08 |
| Sedimentasi | 101.18 | m3 | Rp4,994,760 | Rp505,386,798.98 |
| Filtrasi | 18.26 | m3 | Rp4,994,760 | Rp91,224,296.64 |
| Reservoar | 11.98 | m3 | Rp4,994,760 | Rp59,814,248.90 |
| Sludge Drying Bed | 1273.57 | m3 | Rp4,994,760 | Rp6,361,166,503.68 |
| Total RAB Pembetonan IPAM | | | | Rp7,334,452,030.36 |

Tabel 7.7. RAB Penggalian

| RAB GALIAN | | | | |
|---------------------------------------|----------|--------|--------------|---------------------------|
| Uraian | Jumlah | Satuan | Harga Satuan | Estimasi Harga |
| Galian Saluran pembawa dan Bar Screen | 8.43 | m3 | Rp160,760 | Rp1,354,403.00 |
| Galian Sumur Pengumpul | 20.64 | m4 | Rp160,760 | Rp3,318,086.40 |
| Galian Aerasi | 128.50 | m3 | Rp160,760 | Rp20,657,325.62 |
| Galian Filtrasi | 42.00 | m3 | Rp160,760 | Rp6,751,920.00 |
| Galian Sedimentasi | 430.20 | m3 | Rp160,760 | Rp69,159,367.38 |
| Galian Filtrasi | 84.86 | m3 | Rp160,760 | Rp13,642,736.64 |
| Galian Reservoir | 189.92 | m3 | Rp160,760 | Rp30,532,182.24 |
| Galian Sludge Drying Bed | 20000.77 | m3 | Rp160,760 | Rp3,215,323,463.68 |
| Buangan Tanah Galian | 20905.32 | m3 | Rp29,915 | Rp625,382,692.79 |
| Total RAB Galian IPAL | | | | Rp3,360,739,484.95 |

Tabel 7.8. Total RAB IPAM

| TOTAL RAB IPAM | |
|------------------------------------------|----------------------------|
| Uraian | Harga Sub RAB |
| Total RAB Aksesoris Bangunan IPAM | Rp1,568,756,190.00 |
| Total RAB Pembetonan IPAM | Rp7,334,452,030.36 |
| Total RAB Galian | Rp3,360,739,484.95 |
| Total Pra-Kontruksi | Rp704,067,950 |
| Total RAB Tenaga Kerja (SDM dan Non-SDM) | Rp226,428,323 |
| TOTAL | Rp13,194,443,978.12 |