




| | | | |
|---|--------------------|--|-----------|
|  BIRO ENGINEERING | DATA TEKNIS PROYEK | | Nomor : |
| | | | Halaman : |
| | APARTMENT EMPIRE | | Tanggal : |


| | | |
|---------------------|---|--|
| NAMA PROYEK | : | PODOMORO CITY DELI MEDAN |
| PEMILIK | : | PT SINAR MENARA DELI (AGUNG PODOMORO LAND) |
| JENIS PROYEK | : | APARTMENT, OFFICE, HOTEL, MALL & PARKING AREA (SUPER BLOK) |
| LOKASI | : | JALAN PUTRI HIJAU, MEDAN, SUMATERA UTARA |
| PERIODE PELAKSANAAN | : | 2013 s/d 2021 |


| 4 | ELEKTRIKAL | | | | |
|-----|---------------------------------|---|-----------|--------|---------------------------|
| 4,1 | DATA DAYA UTAMA | | KAPASITAS | SATUAN | KETERANGAN |
| | Besaran Daya Total | : | 1600 | KVA | Trafo 2000 KVA = 1 Unit |
| | Listrik Total untuk Penerangan | : | 157 | KVA | Renc Sambg PLN = 5440 KVA |
| | Listrik Total untuk Stop Kontak | | 1551 | KVA | |
| | Listrik Total untuk Daya : | | | | |
| | - VAC | : | 110 | KVA | |
| | - Lift | : | 134 | KVA | |
| | - Pompa-pompa | : | 469 | KVA | |
| | - FAN (PAF & SEF) | : | 75 | KVA | |
| | Total | : | 2496 | KVA | |
| 5 | Kapasitas Total Trafo | : | 3600,0 | KVA | 1x2000 KVA & 1x1600 KVA |
| 6 | Daya PLN Tersambung | : | | | |

| DATA KEBUTUHAN DAYA | | | | | | | |
|---------------------|-------------------------------------|------|------------------|--------|--------------------|---------------|------------|
| 4,2 | Lighting / Penerangan & Stop kontak | MERK | TYPE | JUMLAH | JUMLAH DAYA (Watt) | SATUAN (Watt) | KETERANGAN |
| I | Lt Basement (Parkir & Lobby lift) | | | | | | |
| 1 | Tower Empire | : | | | | | |
| | Down Light 1 x13 W | : | | 13 | 13 | 169,0 | |
| | TL TKO 1 x 36 W | : | | 57 | 36 | 2052,0 | |
| | TL TKO 1 x 18 W | : | | 4 | 18 | 72,0 | |
| | | : | Total Penerangan | | | 2293,0 | |
| | Stk dinding 200 W / titik | : | Boss | 9 | 200 | 1800,0 | |
| | | : | | | | | |
| 2 | Tower Victory | : | | | | | |
| | TL TKO 1 x 36 W | : | | 67 | 36 | 2412,0 | |
| | Stk dinding 200 W / titik | : | Boss | 11 | 200 | 2200,0 | |
| | | : | | | | | |
| II | Lt LG (Parkir & Lobby lift) | : | | | | | |
| 1 | Tower Empire | : | | | | | |
| | Down Light 1 x13 W | : | | 13 | 13 | 169,0 | |
| | TL TKO 1 x 36 W | : | | 58 | 36 | 2088,0 | |
| | TL TKO 1 x 18 W | : | | 4 | 18 | 72,0 | |
| | | : | | | | 2329,0 | |
| | Stk dinding 200 W / titik | : | Boss | 11 | 200 | 2200,0 | |


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|---|---------------------------------|--------------------|------|----|-----|--------|-----------|
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| BIRO ENGINEERING | | APARTMENT EMPIRE | | | | | Tanggal : |
| | | : | | | | | |
| 2 | Tower Victory | : | | | | | |
| | TL TKO 1 x 36 W | : | | 66 | 36 | 2376,0 | |
| | Stk dinding 200 W / titik | : | Boss | 14 | 200 | 2800,0 | |
| | | : | | | | | |
| III | Lt LGMP2 (Parkir & Loby lift) | : | | | | | |
| 1 | Tower Empire | : | | | | | |
| | Down Light 1 x13 W | : | | 13 | 13 | 169,0 | |
| | TL TKO 1 x 36 W | : | | 47 | 36 | 1692,0 | |
| | TL TKO 2 x 36 W | : | | 11 | 72 | 792,0 | |
| | TL TKO 1 x 18 W | : | | 4 | 18 | 72,0 | |
| | | : | | | | 2725,0 | |
| | Stk dinding 200 W / titik | : | Boss | 18 | 200 | 3600,0 | |
| | | : | | | | | |
| 2 | Tower Victory | : | | | | | |
| | TL TKO 1 x 36 W | : | | 37 | 36 | 1332,0 | |
| | Stk dinding 200 W / titik | : | Boss | 3 | 200 | 600,0 | |
| | | : | | | | | |
| IV | Lt LGMP1 (Parkir & Loby lift) | : | | | | | |
| 1 | Tower Empire | : | | | | | |
| | Down Light 1 x13 W | : | | 13 | 13 | 169,0 | |
| | TL TKO 1 x 36 W | : | | 35 | 36 | 1260,0 | |
| | TL TKO 1 x 18 W | : | | 4 | 18 | 72,0 | |
| | | : | | | | 1501,0 | |
| | Stk dinding 200 W / titik | : | Boss | 18 | 200 | 3600,0 | |
| | | : | | | | | |
| 2 | Tower Victory | : | | | | | |
| | TL TKO 1 x 36 W | : | | 36 | 36 | 1296,0 | |
| | Stk dinding 200 W / titik | : | Boss | 3 | 200 | 600,0 | |
| | | : | | | | | |
| V | Ground Floor loby area | : | | | | | |
| | Down Light Led 8 W | : | | 26 | 9 | 234,0 | |
| | Linear Led 10 w / m | : | | 64 | 10 | 640,0 | |
| | | : | | | | 874,0 | |
| | STK | : | | 15 | 200 | 3000,0 | |
| | | : | | | | | |
| | Canopy Empire & Victory | : | | | | | |
| | Down Light Led 10 W | : | | 7 | 10 | 70,0 | |
| | Down Surface Led 15 W | : | | 10 | 15 | 150,0 | |
| | Linear Led 15 w / m | : | | 48 | 15 | 720,0 | |
| | | : | | | | 940,0 | |
| | Drop off area | : | | | | | |
| | Down Surface Led 28 W | : | | 40 | 28 | 1120,0 | |


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| | | | | | | | | Tanggal : |
| | Down Surface Led 23 W | : | | 32 | 23 | 736,0 | | |
| | Down Surface Led 15 W | : | | 16 | 15 | 240,0 | | |
| | Down Surface Led 9 W | : | | 30 | 9 | 270,0 | | |
| | Linear Led 10 w / m | : | | 285 | 10 | 2850,0 | | |
| | | : | | | | 5216,0 | | |
| VI | Lanscape area | : | | | | | | |
| | Sp - Spike 9W | : | | 45 | 9 | 405,0 | | |
| | ST- 1L | : | | 28 | 5 | 140,0 | | |
| | SL - PB 10 W/m | : | | 97 | 10 | 970,0 | | |
| | LL-WS 18 W / m | : | | 28 | 18 | 504,0 | | |
| | | : | | | | 2019,0 | | |
| | | : | | | | | | |
| VII | Lt 2 s/d 33 (Lobby & Coridor Typikal) | : | | | | | | |
| | Total = 31 Lantai | : | | | | | | |
| | Down Light PLC 1 x13 W (15 ttk / Lantai) | : | | 465 | 13 | 6045,0 | | |
| | TKO TL 1 x 18 W (4 ttk / lantai) | : | | 124 | 18 | 2232,0 | | |
| | | : | | | | 8277,0 | | |
| | Stk Dinding (4 titik / lantai) | : | | 124 | 200 | 24800,0 | | |
| | Stk CCTV (4 titik / lantai) | : | | 124 | 70 | 8680,0 | | |
| | | : | | | | | | |
| VIII | Unit Apartemen | : | | | | | | |
| 1 | Unit 1,BR = 122 unit | : | | | | | | |
| | Down Light 13 W (5 titik / unit) | : | | 610 | 13 | 7930,0 | | |
| | Down Light 9 W (2 titik / unit) | : | | 244 | 9 | 2196,0 | | |
| | | : | | | | 10126,0 | | |
| | Stk TV 70 W (2 titik / unit) | : | | 244 | 70 | 17080,0 | | |
| | Stk Kulkas 100 W (1 titik / unit) | : | | 122 | 100 | 12200,0 | | |
| | Stk Microwave 300 W (1 titik / unit) | : | | 122 | 300 | 36600,0 | | |
| | Stk Water heater 300 W (1 ttk / unit) | : | | 122 | 300 | 36600,0 | | |
| | Stk Dinding 200 W (5 titik / unit) | : | | 124 | 200 | 24800,0 | | |
| | | : | | | | | | |
| | AC 1 PK (750 W) - 1 Bh / unit | : | | 122 | 750 | 91500,0 | | |
| | | : | | | | | | |
| 3 | Unit 2,BR = 126 unit | : | | | | | | |
| | Down Light 13 W (8 titik / unit) | : | | 1008 | 13 | 13104,0 | | |
| | Down Light 9 W (5 titik / unit) | : | | 630 | 9 | 5670,0 | | |
| | | : | | | | 18774,0 | | |
| | Stk TV 70 W (2 titik / unit) | : | | 252 | 70 | 17640,0 | | |
| | Stk Kulkas 100 W (1 titik / unit) | : | | 126 | 100 | 12600,0 | | |
| | Stk Microwave 300 W (1 titik / unit) | : | | 126 | 300 | 37800,0 | | |
| | Stk Water heater 300 W (2 ttk / unit) | : | | 252 | 300 | 75600,0 | | |
| | Stk Dinding 200 W (7 titik / unit) | : | | 882 | 200 | 176400,0 | | |
| | | : | | | | | | |
| | AC 1 PK (750 W) - 2 Bh / unit | : | | 22 | 750 | 16500,0 | | |

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|---|---|--------------------|--|------|------|----------|-----------|
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| | | | | | | | Tanggal : |
| | AC 1/2 PK (375 W) - 1 Bh / unit | : | | 126 | 375 | 47250,0 | |
| | | : | | | | | |
| 6 | Unit 3,BR.= 267 unit | : | | | | | |
| | Down Light 13 W (12 titik / unit) | : | | 3204 | 13 | 41652,0 | |
| | Down Light 9 W (5 titik / unit) | : | | 2403 | 9 | 21627,0 | |
| | | : | | | | 63279,0 | |
| | Stk TV 70 W (2 titik / unit) | : | | 534 | 70 | 37380,0 | |
| | Stk Kulkas 100 W (1 titik / unit) | : | | 267 | 100 | 26700,0 | |
| | Stk Microwave 300 W (1 titik / unit) | : | | 267 | 300 | 80100,0 | |
| | Stk Water heater 300 W (2 titik / unit) | : | | 534 | 300 | 160200,0 | |
| | Stk Dinding 200 W (8 titik / unit) | : | | 2136 | 200 | 427200,0 | |
| | | : | | | | | |
| | AC 1 PK (750 W) - 2 Bh / unit | : | | 534 | 750 | 400500,0 | |
| | AC 1/2 PK (375 W) - 2 Bh / unit | : | | 534 | 375 | 200250,0 | |
| | | : | | | | | |
| 7 | Penthouse 2.PH | : | | | | | |
| | Down Light 13 W (11 titik / unit) | : | | 11 | 13 | 143,0 | |
| | Down Light 9 W (5 titik / unit) | : | | 5 | 9 | 45,0 | |
| | | : | | | | 188,0 | |
| | Stk TV 70 W (3 titik / unit) | : | | 3 | 70 | 210,0 | |
| | Stk Kulkas 100 W (1 titik / unit) | : | | 1 | 100 | 100,0 | |
| | Stk Microwave 300 W (1 titik / unit) | : | | 1 | 300 | 300,0 | |
| | Stk Water heater 300 W (2 titik / unit) | : | | 2 | 300 | 600,0 | |
| | Stk Dinding 200 W (7 titik / unit) | : | | 7 | 200 | 1400,0 | |
| | | : | | | | | |
| | AC 1 PK (2620 W) - 1 Bh / unit | : | | 1 | 2620 | 2620,0 | |
| | AC 1/2 PK (1440 W) - 1 Bh / unit | : | | 1 | 1440 | 1440,0 | |
| | | : | | | | | |
| 8 | Penthouse 3.PH.A | : | | | | | |
| | Down Light 13 W (18 titik / unit) | : | | 18 | 13 | 234,0 | |
| | Down Light 9 W (9 titik / unit) | : | | 9 | 9 | 81,0 | |
| | | : | | | | 315,0 | |
| | Stk TV 70 W (2 titik / unit) | : | | 2 | 70 | 140,0 | |
| | Stk Kulkas 100 W (1 titik / unit) | : | | 1 | 100 | 100,0 | |
| | Stk Microwave 300 W (1 titik / unit) | : | | 1 | 300 | 300,0 | |
| | Stk Water heater 300 W (2 titik / unit) | : | | 2 | 300 | 600,0 | |
| | Stk Dinding 200 W (8 titik / unit) | : | | 8 | 200 | 1600,0 | |
| | | : | | | | | |
| | AC 1 PK (3320 W) - 1 Bh / unit | : | | 1 | 3320 | 3320,0 | |
| | AC 1/2 PK (2180 W) - 1 Bh / unit | : | | 1 | 2180 | 2180,0 | |
| | | : | | | | | |
| 9 | Penthouse 3.PH.B | : | | | | | |
| | Down Light 13 W (14 titik / unit) | : | | 14 | 13 | 182,0 | |
| | Down Light 9 W (7 titik / unit) | : | | 7 | 9 | 63,0 | |
| | | : | | | | 245,0 | |
| | Stk TV 70 W (2 titik / unit) | : | | 2 | 70 | 140,0 | |
| | Stk Kulkas 100 W (1 titik / unit) | : | | 1 | 100 | 100,0 | |
| | Stk Microwave 300 W (1 titik / unit) | : | | 1 | 300 | 300,0 | |
| | Stk Water heater 300 W (3 titik / unit) | : | | 3 | 300 | 900,0 | |
| | Stk Dinding 200 W (8 titik / unit) | : | | 8 | 200 | 1600,0 | |
| | | : | | | | | |
| | AC 1 PK (3320 W) - 1 Bh / unit | : | | 1 | 3320 | 3320,0 | |
| | AC 1/2 PK (2180 W) - 1 Bh / unit | : | | 1 | 2180 | 2180,0 | |


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|---|----------------|--------------------|-----------|--------------|---|------|---------|-----------|
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| | | | | | | | | Tanggal : |
| | | | | | | | | |
| Equipment Utama | | | | | | | | |
| 1 | Trafo Empire | : | Trafindo | Trafo minyak | 1 | 2000 | KVA | |
| 2 | Panel TM (2 | : | Schneider | Indoor | | | Kubikal | |
| 3 | PUTR, CAP Bank | : | Hasna | Indoor | | | Kubikal | |
| 4 | Kabel Feeder | : | NA2XY | Kabelindo | | | | |
| | | | | | | | | |
| | | | | | | | | |

| 5 | SOUND SYSTEM, TELEPON, FA, CCTV, BAS | | | | | KETERANGAN | |
|-----|--------------------------------------|---|------|------|--------|------------|--------|
| | Equipment Utama | | MERK | TYPE | JUMLAH | | SATUAN |
| 5.1 | SOUND SYSTEM | | | | | | |
| 1 | Power Amplifier | : | | | 8 | UNIT | |
| | MixerAmplifieer | : | | | 4 | UNIT | |
| | Zone Selector | : | | | 1 | UNIT | |
| | Audio Player | : | | | 1 | UNIT | |
| | | : | | | | | |
| 1 | Parkir Basement Empire | : | | | | | |
| | Ceiling speaker | : | | | 8 | Titik | |
| | Wall Speaker | : | | | 2 | Titik | |
| | Horn Speaker | : | | | 14 | Titik | |
| | | : | | | | | |
| 2 | Parkir Basement Victory | : | | | | | |
| | Ceiling speaker | : | | | 4 | Titik | |
| | Horn Speaker | : | | | 5 | Titik | |
| | | : | | | | | |
| 3 | Parkir LG Empire | : | | | | | |
| | Ceiling speaker | : | | | 14 | Titik | |
| | Wall Speaker | : | | | 3 | Titik | |
| | Horn Speaker | : | | | 9 | Titik | |
| | | : | | | | | |
| 4 | Parkir LG Victory | : | | | | | |
| | Ceiling speaker | : | | | 5 | Titik | |
| | Horn Speaker | : | | | 3 | Titik | |
| | | : | | | | | |
| 5 | Parkir LGMP2 Empire | : | | | | | |
| | Ceiling speaker | : | | | 11 | Titik | |
| | Wall Speaker | : | | | 5 | Titik | |
| | Horn Speaker | : | | | 8 | Titik | |
| | | : | | | | | |
| 6 | Parkir LGMP2 Victory | : | | | | | |
| | Horn Speaker | : | | | 2 | Titik | |
| | | : | | | | | |
| 7 | Parkir LGMP1 Empire | : | | | | | |
| | Ceiling speaker | : | | | 14 | Titik | |
| | Wall Speaker | : | | | 2 | Titik | |
| | Horn Speaker | : | | | 7 | Titik | |
| | | : | | | | | |
| 8 | Parkir LGMP1 Victory | : | | | | | |
| | Horn Speaker | : | | | 2 | Titik | |
| | | : | | | | | |
| 9 | Ground Floor - LX | : | | | | | |
| | Ceiling speaker | : | | | 9 | Titik | |
| | | : | | | | | |


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|---|--------------------------------------|--------------------|--------------|-------------|-----|-------|-----------|
|  | | DATA TEKNIS PROYEK | | | | | Nomor : |
| BIRO ENGINEERING | | APARTMENT EMPIRE | | | | | Halaman : |
| | | | | | | | Tanggal : |
| II | Lantai 2 s/d 33 - Area Corridor | : | | | | | |
| | Total = 32 lantai | : | | | | | |
| | Ceiling speaker (9 titik/ lantai) | : | | | 288 | Titik | |
| | | : | | | | | |
| | | : | | | | | |
| 5,2 | FIRE ALARM | | | | | | |
| 1 | Master Control Fire Alarm | : | Context Plus | IFP Loop | 1 | Unit | |
| 2 | Anunciator Panel | : | Context Plus | IFP Compact | 1 | Unit | |
| | | : | | | | | |
| II | Instalasi FireAlarm | : | | | | | |
| 1 | Lantai Basement | : | | | | | |
| | Smoke Detector | : | Context Plus | D-213 | 36 | Titik | |
| | ROR Detector | : | Context Plus | D-103 | 117 | Titik | |
| | | : | | | | | |
| 2 | Lantai Lower Ground | : | | | | | |
| | Smoke Detector | : | Context Plus | D-213 | 36 | Titik | |
| | ROR Detector | : | Context Plus | D-103 | 117 | Titik | |
| | | : | | | | | |
| 3 | Lantai Mezanine | : | | | | | |
| | Smoke Detector | : | Context Plus | D-213 | 42 | Titik | |
| | ROR Detector | : | Context Plus | D-103 | 48 | Titik | |
| | | : | | | | | |
| 4 | Lantai Ground | : | | | | | |
| | Smoke Detector | : | Context Plus | D-213 | 54 | Titik | |
| | | : | | | | | |
| 5 | Lantai 2 s/d 30 area loby & Corridor | : | | | | | |
| | @ 29 Lt/Tower x 2 Tower = 58 Lantai | : | | | | | |
| | Smoke Detector (6 titik / lantai) | : | Context Plus | D-213 | 348 | Titik | |
| | | : | | | | | |
| 6 | Unit Apartemen | : | | | | | |
| 6,1 | Unit 2BR (2BR.A) = 113 unit | : | | | | | |
| | Smoke Detector (1 titik / lantai) | : | Context Plus | D-213 | 113 | Titik | |
| | Fixed heat Detector (1 titik/unit) | : | Context Plus | D-103 | 113 | Titik | |
| | ROR Detector (3 titik / unit) | : | Context Plus | D-103 | 339 | Titik | |
| | | : | | | | | |
| 6,2 | Unit 2BR (2BR.B) = 58 unit | : | | | | | |
| | Smoke Detector (1 titik / lantai) | : | Context Plus | D-213 | 58 | Titik | |
| | Fixed heat Detector (1 titik/unit) | : | Context Plus | D-103 | 58 | Titik | |
| | ROR Detector (3 titik / unit) | : | Context Plus | D-103 | 174 | Titik | |
| | | : | | | | | |
| 6,3 | Unit 3BR (3BR.A) = 226 unit | : | | | | | |
| | Smoke Detector (2 titik / lantai) | : | Context Plus | D-213 | 452 | Titik | |
| | Fixed heat Detector (1 titik/unit) | : | Context Plus | D-103 | 226 | Titik | |
| | ROR Detector (4 titik / unit) | : | Context Plus | D-103 | 904 | Titik | |
| | | : | | | | | |
| 6,4 | Unit 3BR (3BR.B) = 116 unit | : | | | | | |
| | Smoke Detector (2 titik / lantai) | : | Context Plus | D-213 | 232 | Titik | |
| | Fixed heat Detector (1 titik/unit) | : | Context Plus | D-103 | 116 | Titik | |
| | ROR Detector (5 titik / unit) | : | Context Plus | D-103 | 580 | Titik | |
| | Total titik sprinkler untuk 3BR | : | 8 | | | | |

| | | | | | | | |
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| | | | | | | | Tanggal : |
| 5.3 | CCTV | | | | | | |
| 1 | Peralatan Utama | : | | | | | |
| 1 | Digital Vidio Recorder (DVR) | : | | 12 | Unit | | |
| 2 | Led Monitor CCTV 32 Inch | : | | 24 | Unit | | |
| 3 | Personil Computer | : | | 1 | Unit | | |
| | | : | | | | | |
| 1 | Parkir Basement | : | | | | | |
| | CCTV Lobby lift & Parkir | : | | 10 | Titik | | |
| | | : | | | | | |
| 2 | Parkir LG | : | | | | | |
| | CCTV Lobby lift & Parkir | : | | 9 | Titik | | |
| | | : | | | | | |
| 3 | Parkir LGM.P2 | : | | | | | |
| | CCTV Lobby lift & Parkir | : | | 10 | Titik | | |
| | | : | | | | | |
| 4 | Parkir LGMP.1 | : | | | | | |
| | CCTV Lobby lift & Parkir | : | | 13 | Titik | | |
| | | : | | | | | |
| 5 | Ground Floor | : | | | | | |
| | CCTV Lobby lift & Canopy | : | | 5 | Titik | | |
| | CCTV Entrance | : | | 1 | Titik | | |
| | CCTV Car Lift | : | | 5 | Titik | | |
| | | : | | | | | |
| 6 | Lantai 2 s/d 33 (Arae Lobby & Corridor) | : | | | | | |
| | Total = 32 lantai | : | | | | | |
| | CCTV Lobby lift (2 titik / lantai) | : | | 64 | Titik | | |
| | CCTV Corridor (2 titik / lantai) | : | | 64 | Titik | | |
| | | : | | | | | |


| 6 | PLUMBING | | | | | | | | | | |
|-----------------|----------------------------|-------------|------|----------------------|------------------------|-----------|--------|--------|--------|------------|---------------------|
| EQUIPMENT UTAMA | | | MERK | TYPE | JUMLAH | KAPASITAS | SATUAN | DAYA | SATUAN | KETERANGAN | |
| | Kapasitas Ground Reservoir | | : | CONCRETE WATER PROOF | CONCRETE WATER PROOF | 1 | 985 | M3 | N/A | M3 | 1 GWT untuk 2 tower |
| | Kapasitas Reservoir Atas | TOWER 1 | : | - | FRP Panel | 1 | 30 | M3 | N/A | M3 | EMPIRE |
| | | TOWER 2 | : | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| | | TOWER 3 | : | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| | | TOWER 4 | : | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| | | TOWER 5 | : | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| | Kapasitas RWT | | | CONCRETE WATER PROOF | CONCRETE WATER PROOF | 1 | 96 | M3 | N/A | M3 | RAW WATER |
| | Kapasitas CWT | | | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| | Kapasitas WTP | | : | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| | Pompa WTP | | | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| | Pompa Air Bersih | | : | - | Vertical multi stage | 2 | 15 | m3/jam | 13,5 | KW | |
| | Pompa Sumpit | | : | - | Submersible | 6 | 50 | LPM | 2,2 | KW | |
| | Pompa Grease Trap | | : | - | - | - | - | - | - | - | |
| | PIPA | AB | : | - | PPR PN 10, PN 20 | | | N/A | N/A | N/A | |
| | | AK | : | - | PVC AW Class 10 kg/cm2 | | | | | | |
| | | ABK | : | - | PVC AW Class 10 kg/cm2 | | | | | | |
| | | ABD | : | - | PVC AW Class 10 kg/cm2 | | | | | | |
| | | AH | : | - | PVC AW Class 10 kg/cm2 | | | | | | |
| | | RISER AB | : | - | PPR | | | | | | |
| | | R. POMPA AB | : | - | Galvenized | | | | | | |


| | | | | | | | | | | |
|---|-------------|---|--------------------|--------------------------------|-----|-----|-----------|-----|-----|--------------------------------------|
|  | | | DATA TEKNIS PROYEK | | | | | | | Nomor : |
| BIRO ENGINEERING | | | APARTMENT EMPIRE | | | | | | | Halaman : |
| | | | | | | | | | | Tanggal : |
| VALVE | R. POMPA AB | | - | Gate valve | | | | | | |
| | PRV | | - | Membrane (pilot operated) | | | | | | |
| | | | | | | | | | | |
| PRV | | | - | Membrane (pilot Operated) | | | | | | |
| STP | 1 | : | - | Extended Aeration + MBR System | 1 | 217 | m3 / Hari | | | Untuk kapasitas STP EMPIRE & VICTORY |
| | 2 | : | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| | 3 | : | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| | | | UKURAN | | | | | | | |
| Ukuran Grease Trap | | | : | N/A | N/A | N/A | N/A | N/A | N/A | |
| Ukuran Sumpit | | | : | 1600 mm x 600 mm x 1000 mm | 2 | N/A | N/A | N/A | N/A | |
| | | | : | 1000mm x 1000mm x 1000mm | 4 | N/A | N/A | N/A | N/A | |

| 6 FIRE FIGHTING | | | | | | | | | | |
|------------------------|------------------------|---|---------------------------------------|-----------------------|--------|-----------------|-----------|-------|------------|--|
| EQUIPMENT UTAMA | | | MERK | TYPE | JUMLAH | KAPASITAS (GPM) | DAYA (KW) | M3/H | KETERANGAN | |
| Pompa Fire Fighting I | JOCKEY | : | - | Vertical multistage | 1 | 10 | 3,5 | | | |
| | ELECTRIC | : | - | Horizontal split case | 1 | 1.000 | 282 | 230 | | |
| | DIESEL | : | - | Horizontal split case | 1 | 1.000 | 378 HP | | | |
| Pompa Fire Fighting II | JOCKEY | : | N/A | N/A | N/A | N/A | N/A | | | |
| | ELECTRIC | : | N/A | N/A | N/A | N/A | N/A | | | |
| | DIESEL | : | N/A | N/A | N/A | N/A | N/A | | | |
| Kapasitas Fire Tank | I | | CONCRETE WATER PROOF | CONCRETE WATER PROOF | 1 | 227 | M3 | | | |
| | II | | N/A | N/A | N/A | N/A | N/A | | | |
| | | | N/A | N/A | N/A | N/A | K FACTOR | WARNA | | |
| Springkler | TOWER EMPIRE | : | | | | | | | | |
| | UNIT 1 BR A1 | | - | Pendent | 4 | N/A | 5,6 | Merah | | |
| | UNIT 1 BR A2 | | - | Pendent | 4 | N/A | 5,6 | Merah | | |
| | UNIT 1 BR BA | | - | Pendent | 5 | N/A | 5,6 | Merah | | |
| | UNIT 1 BR BB | | - | Pendent | 5 | N/A | 5,6 | Merah | | |
| | UNIT 2 BR | | - | Pendent | 8 | N/A | 5,6 | Merah | | |
| | UNIT 3 BR A | | - | Pendent | 11 | N/A | 5,6 | Merah | | |
| | UNIT 2 PH (PENTHOUSE) | | - | Pendent | 8 | N/A | 5,6 | Merah | | |
| | UNIT 3 PH (PENTHOUSE) | | - | Pendent | 13 | N/A | 5,6 | Merah | | |
| | Unit 3BR | | Total Jumlah titik sprinkelr unit 3BR | | | Titik | | | | |
| | Koridor Unit | | - | Pendent | 11 | N/A | 5,6 | Merah | | |
| | LANTAI DASAR | | | | | | | | | |
| | Lobby Empire | | - | Ceiling concealed | 9 | N/A | 5,6 | Merah | | |
| | Koridor Lobby | | - | Pendent | 6 | N/A | 5,6 | Merah | | |
| | Total Sprinkler Publik | | | | | | | | | |
| | PARKIRAN | : | - | Upright | | N/A | 5,6 | Merah | | |

| | | | | | | | | | |
|---|---------------------|--------------------|----------------------|------|-----------|-----------------|-----------|--|-----------|
|  | | DATA TEKNIS PROYEK | | | | | | | Nomor : |
| BIRO ENGINEERING | | APARTMENT EMPIRE | | | | | | | Halaman : |
| | | | | | | | | | Tanggal : |
| BOX HIDRANT | | - | IHB & OHB | - | N/A | N/A | Merah | | |
| HYDRANT PILLAR | | - | Short Two Way | 1 | N/A | N/A | Merah | | |
| SEAMESE | | - | Short Two Way | 1 | N/A | N/A | Merah | | |
| PIPA | FF RISER | - | Sch. 40 | | | | | | |
| | FF SETELAH PRV | - | Medium | | | | | | |
| VALVE | R. POMPA | - | Gate Valve | | | | | | |
| | INSTALASI | - | Gate Valve | | | | | | |
| MCV | | - | Class 20K HZ, 16K LZ | | | | | | |
| BCV | | - | Class 16k | | | | | | |
| PRV | | - | Diaprahma | | | | | | |
| | | | MERK | TYPE | JUMLAH | KAPASITAS (CMH) | DAYA (KW) | | |
| Fan | Southern & Northern | : | | | | | | | |
| | PRESSURIZED | - | AXIAL ADJ. PITCH | 2 | 27000 CFM | 15 | | | |
| | SMOKE EXTRACT | - | AXIAL ADJ. PITCH | 2 | 32000 CFM | 15 | | | |
| | EXHAUST GARBAGE | - | AXIAL ADJ. PITCH | 1 | 4800 CFM | 1,1 | | | |

| 7 | VENTILATION & AIR CONDITION | | MERK | TYPE | JUMLAH | KAPASITAS (Jumlah 1 Unit/ 1 Area) | SATUAN | DAYA | SATUAN | KETERANGAN | | |
|---------|-----------------------------|---|------|------------|--------|-----------------------------------|--------|------|--------|------------|--|--|
| | Chiller | : | N/A | N/A | N/A | N/A | N/A | N/A | KW | | | |
| | Kapasitas Pompa Chiller | : | N/A | N/A | N/A | N/A | N/A | N/A | KW | | | |
| | AHU/ FCU | : | N/A | N/A | N/A | N/A | N/A | N/A | KW | | | |
| | Cooling Tower | : | N/A | N/A | N/A | N/A | N/A | N/A | KW | | | |
| | AC Unit Total | | | | | | | | | | | |
| AC Unit | Tower Empire | | | | | | | | | | | |
| | UNIT 1 BR A1 | | | | | | | | | | | |
| | Living room | - | | Split Wall | 1 | 9.000 | BTU/H | 0,84 | KW | | | |
| | Bedroom | - | | Split Wall | 1 | 9.000 | BTU/H | 0,84 | KW | | | |
| | UNIT 1 BR A2 | | | | | | | | | | | |
| | Living room | - | | Split Wall | 1 | 9.000 | BTU/H | 0,84 | KW | | | |
| | Bedroom | - | | Split Wall | 1 | 9.000 | BTU/H | 0,84 | KW | | | |
| | 1 BR-BA | | | | | | | | | | | |
| | Living room | - | | Split Wall | 1 | 9.000 | BTU/H | 0,84 | KW | | | |
| | Bedroom | - | | Split Wall | 1 | 9.000 | BTU/H | 0,84 | KW | | | |
| | 1 BR-BB | | | | | | | | | | | |
| | Living room | - | | Split Wall | 1 | 9.000 | BTU/H | 0,84 | KW | | | |
| | Bedroom | - | | Split Wall | 1 | 9.000 | BTU/H | 0,84 | KW | | | |
| | 2 BR-BB | | | | | | | | | | | |
| | Living room | - | | Split Wall | 1 | 9.000 | BTU/H | 0,84 | KW | | | |
| | Bedroom 1 | - | | Split Wall | 1 | 9.000 | BTU/H | 0,84 | KW | | | |
| | Bedroom 2 | - | | Split Wall | 1 | 4.500 | BTU/H | 0,68 | KW | | | |
| | 3 BR-BA | | | | | | | | | | | |
| | Living room | - | | Split Wall | 1 | 9.000 | BTU/H | 0,84 | KW | | | |
| | Bedroom 1 | - | | Split Wall | 1 | 9.000 | BTU/H | 0,84 | KW | | | |
| | Bedroom 2 | - | | Split Wall | 1 | 4.500 | BTU/H | 0,68 | KW | | | |
| | Bedroom 3 | - | | Split Wall | 1 | 4.500 | BTU/H | 0,68 | KW | | | |

| | | | | | | | | | | |
|---|---------------------------|------------------------|--------------------|---------------------|--------------------|---------------|--------|---------|--------------------|-----------|
|  | | | DATA TEKNIS PROYEK | | | | | | | Nomor : |
| | | | | | | | | | | Halaman : |
| BIRO ENGINEERING | | | APARTMENT EMPIRE | | | | | | | Tanggal : |
| | | PENTHOUSE | | | | | | | | |
| | | TIPE 2 PH | | | | | | | | |
| | | Living room | - | Multi Split Wall | 1 | 13.500 | BTU/H | 2,6 | KW | |
| | | Bedroom | - | Multi Split Wall | 1 | 9.000 | BTU/H | | | |
| | | Living room | - | Multi Split Wall | 1 | 7.000 | BTU/H | 1,4 | KW | |
| | | Bedroom | - | Multi Split Wall | 1 | 9.000 | BTU/H | | | |
| | | TIPE 3 PH | | | | | | | | |
| | | Living room | - | Multi Split Wall | 1 | 18.000 | BTU/H | 1 | KW | |
| | | Bedroom | - | Multi Split Wall | 1 | 7.000 | BTU/H | 0,68 | KW | |
| | | Bedroom | - | Multi Split Wall | 1 | 9.000 | BTU/H | 1,4 | KW | |
| | | Bedroom | - | Multi Split Wall | 1 | 7.000 | BTU/H | | | |
| | | Total kapasitas AC 3BR | | | | | | | | |
| AC Public Total | Lift Lobby Empire | - | VRV | INDOOR | KAP INDOOR / UNIT | | | | | |
| | | | | 32 | 25000 | BTUH | 140 | WATT | | |
| | | | | OUTDOOR | KAP OUTDOOR / UNIT | | | | | |
| | Lantai Dasar | - | Split Duct | 4 | 200000 | BTUH | 18,2 | KW | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | Lift Lobby Empire | | | | | | | | | |
| | Public Empire | | | | | | | | | |
| REFRIGERANT | AC lobby Lift BS - LGMP1 | - | Ceiling Cassette | 4 | 40.000 | BTU/H | 4,2 | KW | | |
| | Total kapasitas AC publik | | | | | | | | | |
| Fan | IAF PARKIR | : | - | Centrifugal | 8 | 18000 & 36000 | CFM | F.conv | CMH | |
| | | | | | 7 | 18.000 | 126000 | 0,588 | 74088 | |
| | | | | | 1 | 36.000 | 36000 | 0,588 | 21168 | |
| | | | | | | | Total | | 95256 | |
| | EAF PARKIR | : | - | AXIAL & Centrifugal | 4 | 36000 & 54000 | CFM | - | KW | |
| | | | | | 1 | 54.000 | 54000 | 0,588 | 31752 | |
| | | | | | 3 | 36.000 | 108000 | 0,588 | 63504 | |
| | | | | | | | Total | | 95256 | |
| | JET FAN | - | BOOSTER | 12 | 2.600 | 31200 | 0,588 | 18345,6 | LEVEL BASEMENT | |
| | | | | 8 | 2.600 | 20800 | 0,588 | 12230,4 | LEVEL LOWER GROUND | |
| | | | | 9 | 2.600 | 23400 | 0,588 | 13759,2 | LEVEL LGMP2 | |
| | | | | 9 | 2.600 | 23400 | 0,588 | 13759,2 | LEVEL LGMP1 | |
| | Toilet Unit 3BR | | | | 1 | 100 | 100 | 0,588 | 58,8 | |
| | | | | | | | | | | |
| PIPA | CHWS | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| | CHWR | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| | REFRIGERANT | - | INTEGRATED | | | | | | | |

| | | | | | | | | | | | |
|---|-----------------------|---------|--------------------|------------|--------------------------|--------|-----------------|--------------------|------------------------------|---|-------------------|
|  | | | DATA TEKNIS PROYEK | | | | | | | Nomor : | |
| BIRO ENGINEERING | | | APARTMENT EMPIRE | | | | | | | Halaman : | |
| | | | | | | | | | | Tanggal : | |
| | | | | | | | | | | | |
| 8 | ELEVATOR & ESCALATOR | | | MERK | TYPE | JUMLAH | KAPASITAS (KG) | KAPASITAS (PERSON) | KECEPATAN (MPM) | DAYA (KW) | KETERANGAN |
| | Low Zone Elevator | | : | | | | | | | | |
| | High Zone Elevator | TOWER 1 | : | mitsubishi | LIFT PENUMPANG | 4 | 1.350 | 20 | 150 | 20 KVA/UNIT | LIFT TOWER EMPIRE |
| | | TOWER 2 | : | - | - | - | - | - | - | - | |
| | | TOWER 3 | : | - | - | - | - | - | - | - | |
| | Service Lift | TOWER 1 | : | mitsubishi | LIFT SERVICE (LIFT FIRE) | 1 | 1.275 | 17 | 120 | 15 kVA/Unit | LIFT TOWER EMPIRE |
| | | TOWER 2 | : | - | - | - | - | - | - | - | |
| | | TOWER 3 | : | - | - | - | - | - | - | - | |
| | Escalator | | : | - | - | - | - | - | - | - | |
| | Kemiringan Escalator | | : | - | - | - | - | - | - | - | |
| | Ketinggian Escalator | | : | - | - | - | - | - | - | - | |
| | Travelator | | : | - | - | - | - | - | - | - | |
| | Kemiringan Travelator | | : | - | - | - | - | - | - | - | |
| | Ketinggian Travelator | | : | - | - | - | - | - | - | - | |
| | | | | | | | | | | | |
| 9 GEN SET | | | | MERK | TYPE | JUMLAH | KAPASITAS (KVA) | Total (KVA) | | | |
| | Gen Set | | : | mitsubishi | - | 2 | 1450 | 2900 | Untuk tower Empire & Victory | Bila lebih dari 1 type rinci masing-masing type dan jumlahnya | |
| | | | | | | | | | | | |