BAHAGIAN L
SENARAI KUANTITI

SISTEM AMARAN BANJIR MAJLIS BANDARAYA ISKANDAR PUTERI (MBIP) BAGI TEMPOH 24 BULAN

RINGKASAN SENARAI KUANTITI

BIL.	BAHAGIAN	MUKA SURAT	JUMLAH (RM)
1	**KERJA AWALAN**	L/2	
2	**KERJA-KERJA MEMBEKAL, MEMASANG DAN MENGUJI JALAN SISTEM PEMANTAUAN ARAS AIR**	L/3	
3	**KERJA-KERJA MEMBEKAL, MEMASANG DAN MENGUJIJALAN DAN MENTAULIAH DASHBOARD PORTAL, APLIKASI MUDAH ALIH, PERKAKASAN SISTEM DIGITAL DAN SISTEM RANGKAIAN KOMUNIKASI**	L/20	
4	**PERKHIDMATAN PENYELENGGARAAN 24 BULAN DAN PROGRAM LATIHAN KESEDARAN MASYARAKAT BERKENAAN SISTEM PEMANTAUAN AIR MBIP**	L/23	
5	**PERUNTUKAN SEMENTARA**	L/25	
JUMLAH KESELURUHAN			

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
A	KERJA AWALAN				
A.1	BON PELAKSANAAN • JAMINAN BANK ; ATAU • JAMINAN INSURANS	-	-		
A.2	POLISI INSURANS KERJA DAN TANGGUNGAN AWAM • POLISI INSURANS KERJA & TANGGUNGAN AWAM • POLISI PAMPASAN KERJA	-	-		
A.3	INSURANS ALAT-ALAT PERANTI DAN PERKAKASAN DI TAPAK	-	-		
A.4	JUMLAH WANG PENYEDIAAN LAPORAN KEMAJUAN KERJA BESERTA SALINAN "SOFT COPY" DALAM BENTUK CD/DISKET TERMASUK GAMBAR-GAMBAR KEMAJUAN KERJA (BEWARNA): SEBELUM, SEMASA & SELEPAS BESERTA TARIKH MENGIKUT PERINGKAT KERJA DI SETIAP LOKASI SEPANJANG TEMPOH KONTRAK	1	-		
A.5	JUMLAH WANG PENYEDIAAN BAGI PPE; SAFETY VEST, HELMET, BOOTS & TOOLS	-	-		
A.6	KERJA UKUR (OLEH JURU UKUR BERTAULIAH) DI KAWASAN KERJA TERMASUK : • KERATAN MERANGKUMI "LIMIT OF CONTRACT" DENGAN TAMBAHAN UKURAN 5M KIRI DAN KANAN (LIMIT OF CONTRACT) • MENGOFSET SEMUA OBJEK YANG BERADA PADA 6.1 (DI ATAS) • MENGAMBIL ARAS LARAS PERMUKAAN TANAH/JALAN/PARIT/RUPABENTUK SEDIAADA • MENYEDIAKAN 2 SET PELAN UKUR (HARD COPY & SOFT COPY) SEBELUM PEMBINAAN TERMASUK MERANDAKAN JAJARAN PARIT/JALAN/PARKIR CADANGAN (SEBAGAIMANA ARAHAN PEGAWAI PENGUASA @ WAKILNYA) • MENYEDIAKAN 2 SET PELAN UKUR (HARD COPY & SOFT COPY) SELEPAS PEMBINAAN (PELAN AS-BUILT) TERMASUK MEMBUAT KIRAAN KUANTITI KERJA DITAPAK UNTUK ITEM-ITEM YANG DIARAHKAN OLEH PEGAWAI PENGUASA @ WAKILNYA	-	-		
A.7	PENGURUSAN TRAFIK (TRAFFIC MANAGEMENT PLAN) • JUMLAH WANG PENYEDIAAN BAGI PERALATAN PENGURUSAN TRAFIK • KERJA PENGESAHAN LALUAN TRAFIK OLEH (TMP YANG BERDAFTAR	-	-		
JUMLAH KESELURUHAN (BIL A)					

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
B	KERJA-KERJA MEMBEKAL, MEMASANG DAN MENGUJI JALAN SISTEM PEMANTAUAN ARAS AIR				
B.1	JALAN ZAPIN 3 (WATER LEVEL, RAIN, CCTV 360°) KERJA-KERJA TERMASUK DENGAN MEMBEKAL, MEMASANG, MENGUJI JALAN DAN MENTAULIAH ;				
B.1.1	PERANTI SENSOR PARAS AIR SPESIFIKASI : • JENIS SENSOR : SENSOR ARAS AIR INDUSTRI JENIS RADAR / ULTRASONIK / ATAU SETARA • JULAT UKURAN : 0 - 10 METER (BOLEH DISESUAIKAN MENGIKUT KEADAAN TAPAK) • KETEPATAN UKURAN : +1 MM ATAU LEBIH BAIK • JULAT BEKALAN KUASA : 12 - 24V DC • ANTARA MUKA KOMUNIKASI : 4 - 20 MA / RS485 / MODBUS RTU • BAHAN SARUNG (HOUSING) : PP / ALOI ALUMINIUM / KELULI TAHAN KARAT • SUHU OPERASI : -20 HINGGA +60 • TAHAP PERLINDUNGAN : IP68 PENGAWAL (CONTROLLER) : - JENIS KOMUNIKASI : WIFI / 4G / LORA / NB-IOT (BERGANTUNG KEPADA KESESUAIAN TAPAK)	-	1		
B.1.2	PERANTI SENSOR TABURAN HUJAN SPESIFIKASI :- • JENIS SENSOR : SENSOR HUJAN JENIS RADAR / TIPPING BUCKET RAIN GAUGE / SENSOR HUJAN OPTIKAL / ATAU SETARA- • JULAT UKURAN : 0 - 200 MM/H- • KETEPATAN UKURAN : +10%- • JULAT SAIZ TITISAN HUJAN : 0.5 - 5.0 MM- • RESOLUSI UKURAN HUJAN : 0.1 MM- • KEKERAPAN SAMPEL : 1 SAAT (1 HZ)- • ANTARA MUKA KOMUNIKASI (INTERFACE) : RS485, RS232, ATAU SDI-12 (PILIH SALAH SATU)- • PROTOKOL KOMUNIKASI : MODBUS, NMEA-0183, ATAU ASCII- • BEKALAN KUASA : 7 - 30V DC- • TAHAP PERLINDUNGAN : IP65 PENGAWAL (CONTROLLER) : • JENIS KOMUNIKASI : WIFI / 4G / LORA / NB-IOT (BERGANTUNG KEPADA KESESUAIAN TAPAK DAN CAPAIAN RANGKAIAN)	-	1		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
B.1.3	SISTEM TELEVISYEN LITAR TERTUTUP (CCTV) PINTAR - 360 DARJAH + 1TB MICRO SD • CAMERA IMAGE SENSOR [BULLET CHANNEL] 1/2.5" PROGRESSIVE SCAN CMOS, [PTZ CHANNEL] 1/1.2" PROGRESSIVE SCAN CMOS MIN. ILLUMINATION [BULLET CHANNEL] • COLOR : 0.0005 LUX @ (F1.0, AGC ON), B/W: 0.0001 LUX @ (F1.0, AGC ON), 0 LUX WITH LIGHT, [PTZ CHANNEL] -COLOR : 0.0005 LUX @ (F1.6, AGC ON), B/W: 0.0001 LUX @ (F1.6, AGC ON), 0 LUX WITH IR • SHUTTER SPEED : 1 S TO 1/30000 S - SLOW SHUTTER : YES DAY & NIGHT : [PANORAMIC CHANNEL] COLOR, [PTZ CHANNEL] IR CUT FILTER ZOOM[PTZ CHANNEL] : 48 X OPTICAL, 16X DIGITAL MAX. RESOLUTION : [PANORAMIC CHANNEL] 3680 X 1656, [PTZ CHANNEL] 3840 X 2160 • PTZ - MOVEMENT RANGE : (PAN) 360 ENDLESS - MOVEMENT RANGE (TILT) : [PANORAMIC CHANNEL] 12 TO 24 [PTZ CHANNEL] -20 TO 90 - PAN SPEED : [PTZ CHANNEL] PAN SPEED: CONFIGURABLE FROM 0.1 TO 160 PRESET SPEED: 240/S - TILT SPEED : [PTZ CHANNEL] TILT SPEED: CONFIGURABLE FROM 0.1 TO 120/S, PRESET SPEED 200/S [PANORAMIC CHANNEL] TILT SPEED CONFIGURABLE - PROPORTIONAL PAN [PANORAMIC CHANNEL] NO, [PTZ CHANNEL] YES • PRESETS : 300 - PATROL SCAN : 8 PATROLS, UP TO 32 PRESETS FOR EACH PATROL - PATTERN SCAN : 4 PATTERN SCANS, RECORD TIME OVER 10 MINUTES FOR EACH SCAN - POWER-OFF MEMORY : YES - PARK ACTION : PRESET,PATTERN SCAN,PATROL SCAN,AUTO SCAN,TILT SCAN,RANDOM SCAN,FRAME SCAN,PANORAMA SCAN - 3D POSITIONING : YES - PTZ STATUS DISPLAY : YES - PRESET FREEZING : YES • SCHEDULED TASK : PRESET,PATTERN SCAN,PATROL SCAN,AUTO SCAN,TILT SCAN,RANDOM SCAN,FRAME SCAN,PANORAMA SCAN,DOME REBOOT,DOME ADJUST,AUX OUTPUT • DEEP LEARNING FUNCTION - FACE CAPTURE : DETECTS UP TO 30 FACES SIMULTANEOUSLY, UPLOADS FACE WITH BACKGROUND AND CLOSED-UP FACE PICTURES - FACE COMPARISON : UP TO 10 FACE LIBRARIES. 30000 FACES FOR EACH LIBRARY. 150000 FACES IN TOTAL, RECOGNIZES FACE IDENTITY VIA FACE MODELING, GRADING AND COMPARING TO THOSE IN FACE LIBRARY, SUPPORTS FACE LIBRARY ENCRYPTION • ROAD TRAFFIC AND VEHICLE DETECTION - SMART FUNCTION : SUPPORT LICENSE PLATE RECOGNITION OF VEHICLES AND MOTORCYCLES (ONLY IN CHECKPOINT SCENARIO) SUPPORT VEHICLE ATTRIBUTE DETECTION, INCLUDING VEHICLE TYPE, COLOR, BRAND, DRIVING DIRECTION, ETC. SUPPORT VEHICLE AND NON-VEHICLE COUNTING BLOCKLIST AND ALLOWLIST: UP TO 10,000 RECORDS - LPR COUNTRIES/REGIONS : 4 AREAS (EUROPE, MIDDLE EAST, ASIA-PACIFIC, AFRICA) AND MORE THAN 124 COUNTRIES/REGIONS - ACCURACY (UNDER RECOMMENDED INSTALLATION AND LIGHTING CONDITIONS) : LICENSE PLATE RECOGNITION RATE 98%, CAPTURE RATE 99%, DRIVING DIRECTION ACCURACY RATE 98% - VEHICLE CAPTURE SPEED : FRONT INSTALLATION IN CHECKPOINT SCENARIO: UP TO 120 KM/H - SIDE INSTALLATION : UP TO 80 KM/H - CAPTURE MODE : LICENSE PLATE AND VEHICLE MODE, VEHICLE PRIORITY MODE • MULTI-TARGET-TYPE DETECTION SUPPORTS SIMULTANEOUS DETECTION AND CAPTURE OF HUMAN BODY, FACE AND VEHICLE, GETS 7 FACE FEATURES, 14 HUMAN BODY FEATURES AND 8 VEHICLE FEATURES PERIMETER PROTECTION LINE CROSSING DETECTION, REGION ENTRANCE DETECTION, INTRUSION DETECTION, REGION EXITING DETECTION	-	1		
B.1.4	PAPAN TANDA SPESIFIKASI : • SAIZ : 900MM (T) X 400MM (L) KETEBALAN: MIN 3MM - PELEKAT: VINLY REFLEKTIF • PEMASANGAN : DINDING PAGAR ANTI-CLIMB	-	2		
B.1.5	TIANG BESI HOLLOW BERGALVANIZE DAN BERLENGAN SPESIFIKASI : • SAIZ TIANG HOLLOW : 80MM X 80MM • TEBAL : 1MM • TINGGI : 5M • SAIZ LENGAN HOLLOW : 50MM X 50MM • PANJANG : 4000MM • TEBAL : 1MM	-	1		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
B.1.6	TIANG BESI BERTULANG SPESIFIKASI : • SAIZ : 150MM TEBAL BESERTA 2 LAPIS BRC A6 DAN LAPISAN HARDCORE 100MM SERTA KERJA BERKAITAN	-	36		
B.1.7	PAGAR BERGALVANIZE SPESIFIKASI : • MATERIAL: GALVENIZE DAN BERKUNCI :1800MM (LEBAR) X 1600MM (TINGGI) BERSERTA PAGAR DAWAI DURI • PINTU : 1 UNIT	-	1		
B.1.8	SET SISTEM SOLAR DAN BATERI SPESIFIKASI: • BATERI : RECHARGABLE SEALED LEAD ACID (SLA),12V 40AH • SOLAR : MONOCRYSTALLINE PANEL,100WATT • SOLAR CONTROLLER : MPPT,10A	-	1		
B.1.9	SISTEM RAK, SOKONGAN DAN AKSESORI KALIS AIR • SAIZ: 600MM(P) X 500MM(T) X 300MM (L), IP66	-	1		
B.2	KAMPUNG BATU 8 1/2 (JALAN KILANG NENAS)(WATER LEVEL, RAIN, CCTV 360°) KERJA-KERJA TERMASUK DENGAN MEMBEKAL, MEMASANG, MENGUJI JALAN DAN MENTAULIAH ;				
B.2.1	PERANTI SENSOR PARAS AIR SPESIFIKASI: • JENIS SENSOR : SENSOR ARAS AIR INDUSTRI JENIS RADAR / ULTRASONIK / ATAU SETARA- • JULAT UKURAN : 0 - 10 METER (BOLEH DISESUAIKAN MENGIKUT KEADAAN TAPAK)- • KETEPATAN UKURAN : +1 MM ATAU LEBIH BAIK- • JULAT BEKALAN KUASA : 12 - 24V DC- • ANTARA MUKA KOMUNIKASI: 4 - 20 MA / RS485 / MODBUS RTU- • BAHAN SARUNG (HOUSING) : PP / ALOI ALUMINIUM / KELULI TAHAN KARAT • SUHU OPERASI : -20C HINGGA +60C • TAHAP PERLINDUNGAN : IP68 PENGAWAL (CONTROLLER) : - JENIS KOMUNIKASI : WIFI / 4G / LORA / NB-IOT (BERGANTUNG KEPADA KESESUAIAN TAPAK)	-	1		
B.2.2	PERANTI SENSOR TABURAN HUJAN SPESIFIKASI : • JENIS SENSOR : SENSOR HUJAN JENIS RADAR / TIPPING BUCKET RAIN GAUGE / SENSOR HUJAN OPTIKAL / ATAU SETARA- • JULAT UKURAN : 0 - 200 MM/H- • KETEPATAN UKURAN : +10%- • JULAT SAIZ TITISAN HUJAN : 0.5 - 5.0 MM- • RESOLUSI UKURAN HUJAN : 0.1 MM- • KEKERAPAN SAMPEL : 1 SAAT (1 HZ) • ANTARA MUKA KOMUNIKASI (INTERFACE) : RS485, RS232, ATAU SDI-12 (PILIH SALAH SATU) • PROTOKOL KOMUNIKASI : MODBUS, NMEA-0183, ATAU ASCII- • BEKALAN KUASA : 7 - 30V DC- • TAHAP PERLINDUNGAN : IP65 PENGAWAL (CONTROLLER) : - JENIS KOMUNIKASI : WIFI / 4G / LORA / NB-IOT (BERGANTUNG KEPADA KESESUAIAN TAPAK DAN CAPAIAN RANGKAIAN)	-	1		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
B.2.3	SISTEM TELEVISYEN LITAR TERTUTUP (CCTV) PINTAR - 360 DARJAH + 1TB MICRO SD • CAMERA IMAGE SENSOR : [BULLET CHANNEL] 1/2.5" PROGRESSIVE SCAN CMOS, [PTZ CHANNEL] 1/1.2" PROGRESSIVE SCAN CMOS - MIN. ILLUMINATION : [BULLET CHANNEL] COLOR: 0.0005 LUX @ (F1.0, AGC ON), B/W: 0.0001 LUX @ (F1.0, AGC ON), 0 LUX WITH LIGHT, [PTZ CHANNEL] COLOR: 0.0005 LUX @ (F1.6, AGC ON), B/W: 0.0001 LUX @ (F1.6, AGC ON), 0 LUX WITH IR - SHUTTER SPEED : 1 S TO 1/30000 S - SLOW SHUTTER : YES - DAY & NIGHT : [PANORAMIC CHANNEL] COLOR, [PTZ CHANNEL] IR CUT FILTER - ZOOM : [PTZ CHANNEL] 48 OPTICAL, 16 DIGITAL - MAX. RESOLUTION : [PANORAMIC CHANNEL] 3680 X 1656, [PTZ CHANNEL] 3840 X 2160 • PTZ - MOVEMENT RANGE : (PAN) 360 ENDLESS - MOVEMENT RANGE : (TILT) [PANORAMIC CHANNEL] 12C TO 24C [PTZ CHANNEL] -20C TO 90C - PAN SPEED : [PTZ CHANNEL] PAN SPEED: CONFIGURABLE FROM 0.1C TO 160/S, PRESET SPEED: 24C/S - TILT SPEED : [PTZ CHANNEL] TILT SPEED: CONFIGURABLE FROM 0.1C TO 120C/S, PRESET SPEED 200C/S, [PANORAMIC CHANNEL] TILT SPEED CONFIGURABLE - PROPORTIONAL PAN : [PANORAMIC CHANNEL] NO, [PTZ CHANNEL] YES - PRESETS : 300 - PATROL SCAN : 8 PATROLS, UP TO 32 PRESETS FOR EACH PATROL - PATTERN SCAN : 4 PATTERN SCANS, RECORD TIME OVER 10 MINUTES FOR EACH SCAN - POWER-OFF MEMORY : YES - PARK ACTION : PRESET,PATTERN SCAN,PATROL SCAN,AUTO SCAN,TILT SCAN,RANDOM SCAN,FRAME SCAN,PANORAMA SCAN - 3D POSITIONING : YES - PTZ STATUS DISPLAY : YES - PRESET FREEZING : YES - SCHEDULED TASK : PRESET,PATTERN SCAN,PATROL SCAN,AUTO SCAN,TILT SCAN,RANDOM SCAN,FRAME SCAN,PANORAMA SCAN,DOME REBOOT,DOME ADJUST,AUX OUTPUT • DEEP LEARNING FUNCTION - FACE CAPTURE : DETECTS UP TO 30 FACES SIMULTANEOUSLY, UPLOADS FACE WITH BACKGROUND AND CLOSED-UP FACE PICTURES - FACE COMPARISON : UP TO 10 FACE LIBRARIES. 30000 FACES FOR EACH LIBRARY. 150000 FACES IN TOTAL, RECOGNIZES FACE IDENTITY VIA FACE MODELING, GRADING AND COMPARING TO THOSE IN FACE LIBRARY, SUPPORTS FACE LIBRARY ENCRYPTION • ROAD TRAFFIC AND VEHICLE DETECTION - SMART FUNCTION : SUPPORT LICENSE PLATE RECOGNITION OF VEHICLES AND MOTORCYCLES (ONLY IN CHECKPOINT SCENARIO) SUPPORT VEHICLE ATTRIBUTE DETECTION, INCLUDING VEHICLE TYPE, COLOR, BRAND, DRIVING DIRECTION, ETC. SUPPORT VEHICLE AND NON-VEHICLE COUNTING BLOCKLIST AND ALLOWLIST: UP TO 10,000 RECORDS - LPR COUNTRIES/REGIONS : 4 AREAS (EUROPE, MIDDLE EAST, ASIA-PACIFIC, AFRICA) AND MORE THAN 124 COUNTRIES/REGIONS ACCURACY (UNDER RECOMMENDED INSTALLATION AND LIGHTING CONDITIONS) : • LICENSE PLATE RECOGNITION RATE 98%, CAPTURE RATE 99%, DRIVING DIRECTION ACCURACY RATE 98% - VEHICLE CAPTURE SPEED : FRONT INSTALLATION IN CHECKPOINT SCENARIO: UP TO 120 KM/H - SIDE INSTALLATION : UP TO 80 KM/H - CAPTURE MODE : LICENSE PLATE AND VEHICLE MODE, VEHICLE PRIORITY MODE • MULTI-TARGET-TYPE DETECTION -SUPPORTS SIMULTANEOUS DETECTION AND CAPTURE OF HUMAN BODY, FACE AND VEHICLE, GETS 7 FACE FEATURES, 14 HUMAN BODY FEATURES AND 8 VEHICLE FEATURES - PERIMETER PROTECTION : LINE CROSSING DETECTION, REGION ENTRANCE DETECTION, INTRUSION DETECTION, REGION EXITING DETECTION	-	1		
B.2.4	PAPAN TANDA SPESIFIKASI : • SAIZ : 900MM (T) X 400MM (L) KETEBALAN: MIN 3MM - PELEKAT: VINLY REFLEKTIF • PEMASANGAN : DINDING PAGAR ANTI-CLIMB	-	2		
B.2.5	TIANG BESI HOLLOW BERGALVANIZE DAN BERLENGAN SPESIFIKASI: • SAIZ TIANG HOLLOW : 80MM X 80MM • TEBAL : 1MM • TINGGI : 5M • SAIZ LENGAN HOLLOW : 50MM X 50MM • PANJANG : 4000MM • TEBAL : 1MM	-	1		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
B.2.6	LANTAI KONKRIT BERTULANG SPESIFIKASI : • SAIZ : 150MM TEBAL BESERTA 2 LAPIS BRC A6 DAN LAPISAN HARDCORE 100MM SERTA KERJA BERKAITAN	-	200		
B.2.7	PAGAR BERGALVANIZE SPESFIKASI: • MATERIAL: GALVENIZE DAN BERKUNCI :1800MM (LEBAR) X 1600MM (TINGGI) BERSERTA PAGAR DAWAI DURI • PINTU: 1 UNIT	-	1		
B.2.8	SET SISTEM SOLAR DAN BATERI SPESIFIKASI : • BATERI : RECHARGABLE SEALED LEAD ACID (SLA),12V 40AH • SOLAR : MONOCRYSTALLINE PANEL,100WATT • SOLAR CONTROLLER : MPPT,10A	-	1		
B.2.9	SISTEM RAK, SOKONGAN DAN AKSESORI KALIS AIR • SAIZ: 600MM(P) X 500MM(T) X 300MM (L), IP66	-	1		
B.3	TAMAN DAMAI JAYA (JALAN MAKMUR 12)(WATER LEVEL, RAIN, CCTV 360°) KERJA-KERJA TERMASUK DENGAN MEMBEKAL, MEMASANG, MENGUJI JALAN DAN MENTAULIAH ;				
B.3.1	PERANTI SENSOR PARAS AIR SPESIFIKASI : • JENIS SENSOR : SENSOR ARAS AIR INDUSTRI JENIS RADAR / ULTRASONIK / ATAU SETARA • JULAT UKURAN : 0 - 10 METER (BOLEH DISESUAIKAN MENGIKUT KEADAAN TAPAK) • KETEPATAN UKURAN : +1 MM ATAU LEBIH BAIK • JULAT BEKALAN KUASA : 12 - 24V DC • ANTARA MUKA KOMUNIKASI : 4 - 20 MA / RS485 / MODBUS RTU • BAHAN SARUNG (HOUSING) : PP / ALOI ALUMINIUM / KELULI TAHAN KARAT • SUHU OPERASI : -20C HINGGA +60C • TAHAP PERLINDUNGAN : IP68 PENGAWAL (CONTROLLER) : • JENIS KOMUNIKASI : WIFI / 4G / LORA / NB-IOT (BERGANTUNG KEPADA KESESUAIAN TAPAK)	-	1		
B.3.2	PERANTI SENSOR TABURAN HUJAN SPESIFIKASI : • JENIS SENSOR : SENSOR HUJAN JENIS RADAR / TIPPING BUCKET RAIN GAUGE / SENSOR HUJAN OPTIKAL / ATAU SETARA • JULAT UKURAN : 0 - 200 MM/H • KETEPATAN UKURAN : 10% • JULAT SAIZ TITISAN HUJAN : 0.5 - 5.0 MM • RESOLUSI UKURAN HUJAN : 0.1 MM • KEKERAPAN SAMPEL : 1 SAAT (1 HZ) • ANTARA MUKA KOMUNIKASI (INTERFACE) : RS485, RS232, ATAU SDI-12 (PILIH SALAH SATU) • PROTOKOL KOMUNIKASI : MODBUS, NMEA-0183, ATAU ASCII • BEKALAN KUASA : 7 - 30V DC • TAHAP PERLINDUNGAN : IP65 PENGAWAL (CONTROLLER) : • JENIS KOMUNIKASI : WIFI / 4G / LORA / NB-IOT (BERGANTUNG KEPADA KESESUAIAN TAPAK DAN CAPAIAN RANGKAIAN)	-	1		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
B.3.3	SISTEM TELEVISYEN LITAR TERTUTUP (CCTV) PINTAR - 360 DARJAH + 1TB MICRO SD • CAMERA IMAGE SENSOR : [BULLET CHANNEL] 1/2.5" PROGRESSIVE SCAN CMOS, [PTZ CHANNEL] 1/1.2" PROGRESSIVE SCAN CMOS MIN. ILLUMINATION : [BULLET CHANNEL] COLOR: 0.0005 LUX @ (F1.0, AGC ON), B/W: 0.0001 LUX @ (F1.0, AGC ON), 0 LUX WITH LIGHT, [PTZ CHANNEL] COLOR : 0.0005 LUX @ (F1.6, AGC ON), B/W: 0.0001 LUX @ (F1.6, AGC ON), 0 LUX WITH IR - SHUTTER SPEED : 1S TO 1/30000S - SLOW SHUTTER : YES - DAY & NIGHT : [PANORAMIC CHANNEL] COLOR, [PTZ CHANNEL] IR CUT FILTER - ZOOM[PTZ CHANNEL] 48 X OPTICAL, 16 X DIGITAL - MAX. RESOLUTION : [PANORAMIC CHANNEL] 3680 X 1656, [PTZ CHANNEL] 3840 X 2160 • PTZ - MOVEMENT RANGE (PAN) : 360 ENDLESS - MOVEMENT RANGE (TILT) : [PANORAMIC CHANNEL] 12 TO 24, [PTZ CHANNEL] -20 TO 90 - PAN SPEED [PTZ CHANNEL] PAN SPEED : CONFIGURABLE FROM 0.1 TO 160/S, PRESET SPEED: 240/S - TILT SPEED [PTZ CHANNEL] TILT SPEED : CONFIGURABLE FROM 0.1 TO 120/S, PRESET SPEED 200/S, [PANORAMIC CHANNEL] TILT SPEED CONFIGURABLE - PROPORTIONAL PAN [PANORAMIC CHANNEL] NO, [PTZ CHANNEL] YES - PRESETS : 300 - PATROL SCAN : 8 PATROLS, UP TO 32 PRESETS FOR EACH PATROL - PATTERN SCAN : 4 PATTERN SCANS, RECORD TIME OVER 10 MINUTES FOR EACH SCAN - POWER-OFF MEMORY : YES • PARK ACTION : PRESET,PATTERN SCAN,PATROL SCAN,AUTO SCAN,TILT SCAN,RANDOM SCAN,FRAME SCAN,PANORAMA SCAN - 3D POSITIONING : YES - PTZ STATUS DISPLAY : YES - PRESET FREEZING : YES - SCHEDULED TASK : PRESET,PATTERN SCAN,PATROL SCAN,AUTO SCAN,TILT SCAN,RANDOM SCAN,FRAME SCAN,PANORAMA SCAN,DOME REBOOT,DOME ADJUST,AUX OUTPUT • DEEP LEARNING FUNCTION - FACE CAPTURE : DETECTS UP TO 30 FACES SIMULTANEOUSLY, UPLOADS FACE WITH BACKGROUND AND CLOSED-UP FACE PICTURES FACE COMPARISON : UP TO 10 FACE LIBRARIES. 30000 FACES FOR EACH LIBRARY. 150000 FACES IN TOTAL, RECOGNIZES FACE IDENTITY VIA FACE MODELING, GRADING AND COMPARING TO THOSE IN FACE LIBRARY, SUPPORTS FACE LIBRARY ENCRYPTION • ROAD TRAFFIC AND VEHICLE DETECTION - SMART FUNCTION : SUPPORT LICENSE PLATE RECOGNITION OF VEHICLES AND MOTORCYCLES (ONLY IN CHECKPOINT SCENARIO) SUPPORT VEHICLE ATTRIBUTE DETECTION, INCLUDING VEHICLE TYPE, COLOR, BRAND, DRIVING DIRECTION, ETC. SUPPORT VEHICLE AND NON-VEHICLE COUNTING - BLOCKLIST AND ALLOWLIST : UP TO 10,000 RECORDS - LPR COUNTRIES/REGIONS : 4 AREAS (EUROPE, MIDDLE EAST, ASIA-PACIFIC, AFRICA) AND MORE THAN 124 COUNTRIES/REGIONS - ACCURACY (UNDER RECOMMENDED INSTALLATION AND LIGHTING CONDITIONS): LICENSE PLATE RECOGNITION RATE 98%, CAPTURE RATE 99%, - DRIVING DIRECTION ACCURACY RATE 98% - VEHICLE CAPTURE SPEED: FRONT INSTALLATION IN CHECKPOINT SCENARIO: UP TO 120 KM/H - SIDE INSTALLATION: UP TO 80 KM/H - CAPTURE MODE : LICENSE PLATE AND VEHICLE MODE, VEHICLE PRIORITY MODE • MULTI-TARGET-TYPE DETECTION : SUPPORTS SIMULTANEOUS DETECTION AND CAPTURE OF HUMAN BODY, FACE AND VEHICLE, GETS 7 FACE FEATURES, 14 HUMAN BODY FEATURES AND 8 VEHICLE FEATURES - PERIMETER PROTECTION : LINE CROSSING DETECTION, REGION ENTRANCE DETECTION, INTRUSION DETECTION, REGION EXITING DETECTION	-	1		
B.3.4	PAPAN TANDA SPESIFIKASI : • SAIZ : 900MM (T) X 400MM (L) KETEBALAN: MIN 3MM - • PELEKAT : VINLY REFLEKTIF • PEMASANGAN : DINDING PAGAR ANTI-CLIMB	-	2		
B.3.5	TIANG BESI HOLLOW BERGALVANIZE DAN BERLENGAN SPESIFIKASI : • SAIZ TIANG HOLLOW: 80MM X 80MM • TEBAL: 1MM • TINGGI: 5M • SAIZ LENGAN HOLLOW: PANJANG: 4000MM • 50MM X 50MM • TEBAL: 1MM	-	1		
B.3.6	LANTAI KONKRIT BERTULANG SPESIFIKASI: • SAIZ: 150MM TEBAL BESERTA 2 LAPIS BRC A6 DAN LAPISAN HARDCORE 100MM SERTA KERJA BERKAITAN	-	36		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
B.3.7	PAGAR BERGALVANIZE SPEFIKASI: • MATERIAL: GALVENIZE DAN BERKUNCI :1800MM (LEBAR) X 1600MM (TINGGI) BERSERTA PAGAR DAWAI DURI • PINTU: 1 UNIT	-	1		
B.3.8	SET SISTEM SOLAR DAN BATERI SPESIFIKASI : • BATERI : RECHARGABLE SEALED LEAD ACID (SLA),12V 40AH • SOLAR: MONOCRYSTALLINE PANEL,50WATT • SOLAR CONTROLLER : MPPT,10A	-	1		
B.3.9	SISTEM RAK, SOKONGAN DAN AKSESORI KALIS AIR • SAIZ : 600MM(P) X 500MM(T) X 300MM (L), IP66	-	2		
B.4	KAMPUNG TUAH JAYA (WATER LEVEL, RAIN, CCTV 360°, SIREN) KERJA-KERJA TERMASUK DENGAN MEMBEKAL, MEMASANG, MENGUJI JALAN DAN MENTAULIAH ;				
B.4.1	PERANTI SENSOR PARAS AIR SPESIFIKASI : • JENIS SENSOR : SENSOR ARAS AIR INDUSTRI JENIS RADAR / ULTRASONIK / ATAU SETARA- • JULAT UKURAN : 0 - 10 METER (BOLEH DISESUAIKAN MENGIKUT KEADAAN TAPAK)- • KETEPATAN UKURAN : +1 MM ATAU LEBIH BAIK- • JULAT BEKALAN KUASA : 12 - 24V DC- • ANTARA MUKA KOMUNIKASI : 4 - 20 MA / RS485 / MODBUS RTU- • BAHAN SARUNG (HOUSING) : PP / ALOI ALUMINIUM / KELULI TAHAN KARAT- • SUHU OPERASI : -20C HINGGA +60C- • TAHAP PERLINDUNGAN : IP68 PENGAWAL (CONTROLLER) : • JENIS KOMUNIKASI : WIFI / 4G / LORA / NB-IOT (BERGANTUNG KEPADA KESESUAIAN TAPAK)	-	1		
B.4.2	PERANTI SENSOR TABURAN HUJAN SPESIFIKASI : • JENIS SENSOR : SENSOR HUJAN JENIS RADAR / TIPPING BUCKET RAIN GAUGE / SENSOR HUJAN OPTIKAL / ATAU SETARA- • JULAT UKURAN : 0 - 200 MM/H- • KETEPATAN UKURAN : +10%- • JULAT SAIZ TITISAN HUJAN : 0.5 - 5.0 MM- • RESOLUSI UKURAN HUJAN : 0.1 MM- • KEKERAPAN SAMPEL : 1 SAAT (1 HZ)- • ANTARA MUKA KOMUNIKASI (INTERFACE) : RS485, RS232, ATAU SDI-12 (PILIH SALAH SATU)- • PROTOKOL KOMUNIKASI : MODBUS, NMEA-0183, ATAU ASCII- • BEKALAN KUASA : 7 - 30V DC- • TAHAP PERLINDUNGAN : IP65 PENGAWAL (CONTROLLER) : • JENIS KOMUNIKASI : WIFI / 4G / LORA / NB-IOT (BERGANTUNG KEPADA KESESUAIAN TAPAK DAN CAPAIAN RANGKAIAN)	-	1		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
B.4.3	SISTEM TELEVISYEN LITAR TERTUTUP (CCTV) PINTAR - 360 DARJAH + 1TB MICRO SD • CAMERA IMAGE SENSOR : [BULLET CHANNEL] 1/2.5" PROGRESSIVE SCAN CMOS, [PTZ CHANNEL] 1/1.2" PROGRESSIVE SCAN CMOS MIN. ILLUMINATION : [BULLET CHANNEL] COLOR: 0.0005 LUX @ (F1.0, AGC ON), B/W: 0.0001 LUX @ (F1.0, AGC ON), 0 LUX WITH LIGHT, [PTZ CHANNEL] COLOR : 0.0005 LUX @ (F1.6, AGC ON), B/W: 0.0001 LUX @ (F1.6, AGC ON), 0 LUX WITH IR - SHUTTER SPEED : 1S TO 1/30000S - SLOW SHUTTER : YES - DAY & NIGHT : [PANORAMIC CHANNEL] COLOR, [PTZ CHANNEL] IR CUT FILTER - ZOOM[PTZ CHANNEL] 48 X OPTICAL, 16 X DIGITAL - MAX. RESOLUTION : [PANORAMIC CHANNEL] 3680 X 1656, [PTZ CHANNEL] 3840 X 2160 • PTZ - MOVEMENT RANGE (PAN) : 360 ENDLESS - MOVEMENT RANGE (TILT) : [PANORAMIC CHANNEL] 12 TO 24, [PTZ CHANNEL] -20 TO 90 - PAN SPEED [PTZ CHANNEL] PAN SPEED : CONFIGURABLE FROM 0.1 TO 160/S, PRESET SPEED: 240/S - TILT SPEED [PTZ CHANNEL] TILT SPEED : CONFIGURABLE FROM 0.1 TO 120/S, PRESET SPEED 200/S, [PANORAMIC CHANNEL] TILT SPEED CONFIGURABLE - PROPORTIONAL PAN [PANORAMIC CHANNEL] NO, [PTZ CHANNEL] YES - PRESETS : 300 - PATROL SCAN : 8 PATROLS, UP TO 32 PRESETS FOR EACH PATROL - PATTERN SCAN : 4 PATTERN SCANS, RECORD TIME OVER 10 MINUTES FOR EACH SCAN - POWER-OFF MEMORY : YES • PARK ACTION : PRESET,PATTERN SCAN,PATROL SCAN,AUTO SCAN,TILT SCAN,RANDOM SCAN,FRAME SCAN,PANORAMA SCAN - 3D POSITIONING : YES - PTZ STATUS DISPLAY : YES - PRESET FREEZING : YES - SCHEDULED TASK : PRESET,PATTERN SCAN,PATROL SCAN,AUTO SCAN,TILT SCAN,RANDOM SCAN,FRAME SCAN,PANORAMA SCAN,DOME REBOOT,DOME ADJUST,AUX OUTPUT • DEEP LEARNING FUNCTION - FACE CAPTURE : DETECTS UP TO 30 FACES SIMULTANEOUSLY, UPLOADS FACE WITH BACKGROUND AND CLOSED-UP FACE PICTURES FACE COMPARISON : UP TO 10 FACE LIBRARIES. 30000 FACES FOR EACH LIBRARY. 150000 FACES IN TOTAL, RECOGNIZES FACE IDENTITY VIA FACE MODELING, GRADING AND COMPARING TO THOSE IN FACE LIBRARY, SUPPORTS FACE LIBRARY ENCRYPTION • ROAD TRAFFIC AND VEHICLE DETECTION - SMART FUNCTION : SUPPORT LICENSE PLATE RECOGNITION OF VEHICLES AND MOTORCYCLES (ONLY IN CHECKPOINT SCENARIO) SUPPORT VEHICLE ATTRIBUTE DETECTION, INCLUDING VEHICLE TYPE, COLOR, BRAND, DRIVING DIRECTION, ETC. SUPPORT VEHICLE AND NON-VEHICLE COUNTING - BLOCKLIST AND ALLOWLIST : UP TO 10,000 RECORDS - LPR COUNTRIES/REGIONS : 4 AREAS (EUROPE, MIDDLE EAST, ASIA-PACIFIC, AFRICA) AND MORE THAN 124 COUNTRIES/REGIONS - ACCURACY (UNDER RECOMMENDED INSTALLATION AND LIGHTING CONDITIONS): LICENSE PLATE RECOGNITION RATE 98%, CAPTURE RATE 99%, - DRIVING DIRECTION ACCURACY RATE 98% - VEHICLE CAPTURE SPEED: FRONT INSTALLATION IN CHECKPOINT SCENARIO: UP TO 120 KM/H - SIDE INSTALLATION: UP TO 80 KM/H - CAPTURE MODE : LICENSE PLATE AND VEHICLE MODE, VEHICLE PRIORITY MODE • MULTI-TARGET-TYPE DETECTION : SUPPORTS SIMULTANEOUS DETECTION AND CAPTURE OF HUMAN BODY, FACE AND VEHICLE, GETS 7 FACE FEATURES, 14 HUMAN BODY FEATURES AND 8 VEHICLE FEATURES - PERIMETER PROTECTION : LINE CROSSING DETECTION, REGION ENTRANCE DETECTION, INTRUSION DETECTION, REGION EXITING DETECTION	-	1		
B.4.4	PAPAN TANDA SPESIFIKASI : • SAIZ : 900MM (T) X 400MM (L) KETEBALAN: MIN 3MM - • PELEKAT : VINLY REFLEKTIF • PEMASANGAN : DINDING PAGAR ANTI-CLIMB	-	2		
B.4.5	TIANG BESI HOLLOW BERGALVANIZE DAN BERLENGAN SPESIFIKASI : • SAIZ TIANG HOLLOW : 80MM X 80MM • TEBAL : 1MM • TINGGI : 5M • SAIZ LENGAN HOLLOW : 50MM X 50MM • PANJANG : 4000MM • TEBAL : 1MM	-	1		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
B.4.6	LANTAI KONKRIT BERTULANG SPESIFIKASI : • SAIZ : 150MM TEBAL BESERTA 2 LAPIS BRC A6 DAN LAPISAN HARDCORE 100MM SERTA KERJA BERKAITAN	-	36		
B.4.7	PAGAR BERGALVANIZE SPESIFIKASI : • MATERIAL : GALVENIZE DAN BERKUNCI :1800MM (LEBAR) X 1600MM (TINGGI) BERSERTA PAGAR DAWAI DURI • PINTU : 1 UNIT	-	1		
B.4.8	SET SISTEM SOLAR DAN BATERI SPESIFIKASI : • BATERI : RECHARGABLE SEALED LEAD ACID (SLA),12V-24V 40AH • SOLAR : MONOCRYSTALLINE PANEL,100WATT • SOLAR CONTROLLER : MPPT,10A	-	2		
B.4.9	SISTEM RAK, SOKONGAN DAN AKSESORI KALIS AIR • SAIZ: 600MM(P) X 500MM(T) X 300MM (L), IP66	-	2		
B.4.10	SISTEM SIREN SPESIFIKASI: • JENIS : SIREN AMARAN LUAR BANGUNAN 360 • KONFIGURASI : 1 SET = 4 UNIT SIREN (4 UNIT = 1 SET) • JENIS KAWALAN : KAWALAN HIDUP/MATI (ON/OFF) DARI JAUH MELALUI PAPAN PEMUKA WEB SERTA PENGAKTIFAN AUTOMATIK BERDASARKAN NILAI BACAAN SENSOR (SENSOR HUJAN DAN SENSOR PARAS AIR) • BAHAN : (PERUMAH DAN RUANG GEGARAN) DIPERBUAT DARIPADA ABS (ACRYLONITRILE BUTADIENE STYRENE) BERKETAHANAN TINGGI TERHADAP HENTAKAN • SUHU OPERASI : -25C HINGGA +50C(PERSEKITARAN LUAR) • TAHAP PERLINDUNGAN : IP65 • PEMATUHAN PIAWAIAN : MEMATUHI ARAHAN ROHS (RESTRICTION OF HAZARDOUS SUBSTANCES) • BEKALAN KUASA : DC 12V - 24V • PENGGUNAAN ARUS MAKSIMUM : 2.63 A (MAKSIMUM) • TAHAP BUNYI : SEHINGGA 123 DB @ 1 METER (DENGAN CORAK BUNYI TERBINA DALAM YANG BOLEH DIPILIH) • FUNGSI UTAMA : AKTIF SECARA MANUAL MELALUI PAPAN PEMUKA DAN AUTOMATIK MELALUI INTEGRASI IOT (RULE CHAIN) DENGAN SENSOR HUJAN DAN SENSOR ARAS AIR. BOLEH DIKAWAL DARI JAUH MENGGUNAKAN APLIKASI WEB DAN MUDAH ALIH. • JENIS PEMASANGAN : DIPASANG PADA TIANG (POLE-MOUNTED) DENGAN LIPUTAN BUNYI 360 PENGAWAL (CONTROLLER) : • JENIS KOMUNIKASI : WIFI / 4G / LORA / NB-IOT (BERGANTUNG KEPADA KESESUAIAN DAN CAPAIAN RANGKAIAN DI TAPAK)	-	1		
B.5	SILC (JALAN SILC 2/3)(WATER QUALITY, CCTV 360°) KERJA-KERJA TERMASUK DENGAN MEMBEKAL, MEMASANG, MENGUJI JALAN DAN MENTAULIAH ;				

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
B.5.1	PERANTI SENSOR KUALITI AIR SPESIFIKASI : • JENIS SENSOR : SENSOR KUALITI AIR PELBAGAI PARAMETER (MEMATUHI INDEKS KUALITI AIR - WQI MALAYSIA, JABATAN ALAM SEKITAR) • PEMATUHAN PIAWAIAN : SENSOR MESTILAH MAMPU MENGUKUR ENAM (6) PARAMETER UTAMA SEPERTI YANG DITETAPKAN OLEH JABATAN ALAM SEKITAR (DOE) MALAYSIA BAGI PENGIRAAN INDEKS KUALITI AIR (WQI) • PARAMETER (6 WQI UTAMA) : 1. DISSOLVED OXYGEN (DO) - OKSIGEN TERLARUT 2. PH - TAHAP KEASIDAN/KEALKALIAN 3. BIOLOGICAL OXYGEN DEMAND (BOD) - PERMINTAAN OKSIGEN BIOLOGI 4. CHEMICAL OXYGEN DEMAND (COD) - PERMINTAAN OKSIGEN KIMIA 5. AMMONIACAL NITROGEN (NH-N) -NITROGEN AMMONIA 6. TOTAL SUSPENDED SOLIDS (TSS) - JUMLAH PEPEJAL TERSUSPENSI • PARAMETER TAMBAHAN : SUHU • CONTROLLER: MIQ/TC 2020 3G-CR3 • MULTI-PARAMETER MEASURING CONVERTER, FOR CONNECTING UP TO 20 IQ SENSORS. -WTW 109170 SENSOLYT 700 IQ (PH) ROBUST DIGITAL PH/ORP SENSOR FOR PH/ORP ELECTRODES SENSOLYT SEA/DWA/ECA/PTA FOR USE WITH THE IQ SENSOR NET. MEASURING METHOD: POTENTIOMETRIC ; MEASURING RANGE:0 - 14PH -WTW 600012 VISOLID 700 IQ (FREE-CAL) DIGITAL SUSPENDED SOLIDS SENSOR FOR WATER/WASTEWATER/SLUDGE (ULTRASONIC CLEANING) FOR USE WITH THE IQ SENSOR NET SYSTEM -WTW 201650 FDO 700 IQ DIGITAL CALIBRATION FREE OPTICAL D.O. SENSOR (UNIVERSAL USE). OPTIMIZED FOR MONITORING/CONTROLLING THE O2 INPUT IN WASTEWATER TREATMENT PLANTS, FOR USE WITH IQ SENSOR NET. -WTW 201654 SC-FDO 700 (DISSOLVED OXYGEN) UNIVERSAL SENSOR CAP FOR 700 IQ -WTW VARION PLUS A COMP SET NH4/COMPROBUST DIGITAL AMMONIUM SENSOR FOR ION-SELECTIVE ELECTRODES (IN-SITU MEASURING), FOR USE WITH THE IQ SENSOR NET SYSTEM, DELIVERED WITH VARION REF, VARION PLUS NH4 AND VARION PLUS K ELECTRODES. WITH BUILT-IN LIGHTNING PROTECTION, PRE-AMPLIFIER AND TEMPERATURE SENSOR. -WTW 481048 CARBOVIS 701 IQ: OPTICAL COD/TOC/DOC/BOD OR SAC SENSOR (60 MM) WITH SPECTRAL PROCESSING OF THE UV-VIS RANGE, FOR MEASUREMENT IN THE INLET/EFFLUENT/BNR PART OF MUNICIPAL WASTEWATER TREATEMENT PLANS WITH INTEGRATED ULTRASONIC CLEANING. -WTW 480042 SACIQ-7,0: SENSOR ADAPTER CABLE FOR ALL IQ SENSORS, WITH IP 68 WATERPROOF CONNECTION TO THE IQ SENSOR NET SYSTEM. CABLE LENGTH 7M -BUFFER SOLUTIONS • KETEPATAN UKURAN : +0.1 MG/L (DO), +0.2 PH, +5% DARIPADA BACAAN (PARAMETER LAIN) ISYARAT KELUARAN (OUTPUT SIGNAL) : RS485 / MODBUS RTU / 4 - 20 MA • BEKALAN KUASA : DC 12V - 24V • BAHAN PROBE : KELULI TAHAN KARAT (STAINLESS STEEL) / PVC TAHAN KAKISAN • TAHAP PERLINDUNGAN : IP68 (BOLEH DIRENDAM SEPENUHNYA DI DALAM AIR) • JENIS PEMASANGAN : DIRENDAM (SUBMERSIBLE) ATAU DIPASANG SECARA TETAP DI PLATFORM PEMANTAUAN • PENENTUKURAN (CALIBRATION) : DITALA DI KILANG (FACTORY CALIBRATED) DENGAN PILIHAN PENENTUKURAN SEMULA DI LAPANGAN (FIELD RE-CALIBRATION) PENGAWAL (CONTROLLER) : • JENIS KOMUNIKASI : WIFI / 4G / LORA / NB-IOT (BERGANTUNG KEPADA KESESUAIAN DAN CAPAIAN RANGKAIAN DI LOKASI PEMASANGAN)	-	1		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
B.5.2	SISTEM TELEVISYEN LITAR TERTUTUP (CCTV) PINTAR - 360 DARJAH + 1TB MICRO SD • CAMERA IMAGE SENSOR : [BULLET CHANNEL] 1/2.5" PROGRESSIVE SCAN CMOS, [PTZ CHANNEL] 1/1.2" PROGRESSIVE SCAN CMOS MIN. ILLUMINATION : [BULLET CHANNEL] COLOR: 0.0005 LUX @ (F1.0, AGC ON), B/W: 0.0001 LUX @ (F1.0, AGC ON), 0 LUX WITH LIGHT, [PTZ CHANNEL] COLOR : 0.0005 LUX @ (F1.6, AGC ON), B/W: 0.0001 LUX @ (F1.6, AGC ON), 0 LUX WITH IR - SHUTTER SPEED : 1S TO 1/30000S - SLOW SHUTTER : YES - DAY & NIGHT : [PANORAMIC CHANNEL] COLOR, [PTZ CHANNEL] IR CUT FILTER - ZOOM[PTZ CHANNEL] 48 X OPTICAL, 16 X DIGITAL - MAX. RESOLUTION : [PANORAMIC CHANNEL] 3680 X 1656, [PTZ CHANNEL] 3840 X 2160 • PTZ - MOVEMENT RANGE (PAN) : 360 ENDLESS - MOVEMENT RANGE (TILT) : [PANORAMIC CHANNEL] 12 TO 24, [PTZ CHANNEL] -20 TO 90 - PAN SPEED [PTZ CHANNEL] PAN SPEED : CONFIGURABLE FROM 0.1 TO 160/S, PRESET SPEED: 240/S - TILT SPEED [PTZ CHANNEL] TILT SPEED : CONFIGURABLE FROM 0.1 TO 120/S, PRESET SPEED 200/S, [PANORAMIC CHANNEL] TILT SPEED CONFIGURABLE - PROPORTIONAL PAN [PANORAMIC CHANNEL] NO, [PTZ CHANNEL] YES - PRESETS : 300 - PATROL SCAN : 8 PATROLS, UP TO 32 PRESETS FOR EACH PATROL - PATTERN SCAN : 4 PATTERN SCANS, RECORD TIME OVER 10 MINUTES FOR EACH SCAN - POWER-OFF MEMORY : YES • PARK ACTION : PRESET,PATTERN SCAN,PATROL SCAN,AUTO SCAN,TILT SCAN,RANDOM SCAN,FRAME SCAN,PANORAMA SCAN - 3D POSITIONING : YES - PTZ STATUS DISPLAY : YES - PRESET FREEZING : YES - SCHEDULED TASK : PRESET,PATTERN SCAN,PATROL SCAN,AUTO SCAN,TILT SCAN,RANDOM SCAN,FRAME SCAN,PANORAMA SCAN,DOME REBOOT,DOME ADJUST,AUX OUTPUT • DEEP LEARNING FUNCTION - FACE CAPTURE : DETECTS UP TO 30 FACES SIMULTANEOUSLY, UPLOADS FACE WITH BACKGROUND AND CLOSED-UP FACE PICTURES FACE COMPARISON : UP TO 10 FACE LIBRARIES. 30000 FACES FOR EACH LIBRARY. 150000 FACES IN TOTAL, RECOGNIZES FACE IDENTITY VIA FACE MODELING, GRADING AND COMPARING TO THOSE IN FACE LIBRARY, SUPPORTS FACE LIBRARY ENCRYPTION • ROAD TRAFFIC AND VEHICLE DETECTION - SMART FUNCTION : SUPPORT LICENSE PLATE RECOGNITION OF VEHICLES AND MOTORCYCLES (ONLY IN CHECKPOINT SCENARIO) SUPPORT VEHICLE ATTRIBUTE DETECTION, INCLUDING VEHICLE TYPE, COLOR, BRAND, DRIVING DIRECTION, ETC. SUPPORT VEHICLE AND NON-VEHICLE COUNTING - BLOCKLIST AND ALLOWLIST : UP TO 10,000 RECORDS - LPR COUNTRIES/REGIONS : 4 AREAS (EUROPE, MIDDLE EAST, ASIA-PACIFIC, AFRICA) AND MORE THAN 124 COUNTRIES/REGIONS - ACCURACY (UNDER RECOMMENDED INSTALLATION AND LIGHTING CONDITIONS): LICENSE PLATE RECOGNITION RATE 98%, CAPTURE RATE 99%, - DRIVING DIRECTION ACCURACY RATE 98% - VEHICLE CAPTURE SPEED: FRONT INSTALLATION IN CHECKPOINT SCENARIO: UP TO 120 KM/H - SIDE INSTALLATION: UP TO 80 KM/H - CAPTURE MODE : LICENSE PLATE AND VEHICLE MODE, VEHICLE PRIORITY MODE • MULTI-TARGET-TYPE DETECTION : SUPPORTS SIMULTANEOUS DETECTION AND CAPTURE OF HUMAN BODY, FACE AND VEHICLE, GETS 7 FACE FEATURES, 14 HUMAN BODY FEATURES AND 8 VEHICLE FEATURES - PERIMETER PROTECTION : LINE CROSSING DETECTION, REGION ENTRANCE DETECTION, INTRUSION DETECTION, REGION EXITING DETECTION	-	1		
B.5.3	PAPAN TANDA SPESIFIKASI : • SAIZ : 900MM (T) X 400MM (L) KETEBALAN: MIN 3MM - • PELEKAT: VINLY REFLEKTIF • PEMASANGAN: DINDING PAGAR ANTI-CLIMB	-	2		
B.5.4	TIANG BESI HOLLOW BERGALVANIZE DAN BERLENGAN BERSERTA PERANGKAP SAMPAH SPESIFIKASI : • SAIZ TIANG HOLLOW : 80MM X 80MM • TEBAL : 1MM • TINGGI : 10M • SAIZ LENGAN HOLLOW : 50MM X 50MM • PANJANG : 4000MM • TEBAL : 1MM	-	1		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
B.5.5	LANTAI KONKRIT BERTULANG SPESIFIKASI: • SAIZ: 150MM TEBAL BESERTA 2 LAPIS BRC A6 DAN LAPISAN HARDCORE 100MM SERTA KERJA BERKAITAN	-	36		
B.5.6	PAGAR BERGALVANIZE SPESIFIKASI : • MATERIAL : GALVENIZE DAN BERKUNCI :1800MM (LEBAR) X 1600MM (TINGGI) BERSERTA PAGAR DAWAI DURI • PINTU : 1 UNIT	-	1		
B.5.7	SET SISTEM SOLAR DAN BATERI SPESIFIKASI: • BATERI: RECHARGABLE SEALED LEAD ACID (SLA),12V 100AH (4) • SOLAR: MONOCRYSTALLINE PANEL,600WATT • SOLAR CONTROLLER: MPPT,30A	-	1		
B.5.8	SISTEM RAK, SOKONGAN DAN AKSESORI KALIS AIR • SAIZ : 800MM(P) X 800MM(T) X 250MM (L), IP66	-	1		
B.6	NUSAJAYA INDUSTRIAL PARK 2 (JALAN BAYU 3/14)(AIR QUALITY) KERJA-KERJA TERMASUK DENGAN MEMBEKAL, MEMASANG, MENGUJI JALAN DAN MENTAULIAH ;				
B.6.1	PERANTI SENSOR KUALITI UDARA (PEMANTAUAN BAU) SPECIFICATION : • JENIS SENSOR : SENSOR KUALITI UDARA PELBAGAI GAS (IOT BERSEPADU) UNTUK PEMANTAUAN BAU • FUNGSI UTAMA : MENGESAN DAN MENGUKUR KEPEKATAN GAS YANG MENYEBABKAN BAU BUSUK (MALODOROUS COMPOUNDS) DI KAWASAN SEKITAR INDUSTRI, TAPAK PELUPUSAN SAMPAH, ATAU LOJI KUMBAHAN • GAS / PARAMETER SASARAN: 1. HIDROGEN SULFIDA 2. AMMONIA 3. SEBATIAN ORGANIK MERUAP (VOC VOLATILE ORGANIC COMPOUNDS) -JUMLAH KESELURUHAN ATAU JENIS TERTENTU 4. METANA JULAT UKURAN : 1. HIDROGEN SULFIDA : RANGE : 0~100PPM, ACCURACY : +3%, RESOLUTION : 0.1PPM 2. AMMONIA : RANGE: 0~100PPM, ACCURACY : +3%, RESOLUTION : 0.1PPM 3. VOLATILE ORGANIC COMPOUNDS (VOC) : RANGE: 0~1000PPM, ACCURACY : +3%, RESOLUTION : 1PPM 4. METHANE : RANGE: 0~10000PPM, ACCURACY: +3%, RESOLUTION : 1PPM • KETEPATAN / RESOLUSI UKURAN : +2% SKALA PENUH (FS) ATAU LEBIH BAIK / RESOLUSI 0.1 PPM • PRINSIP PENGESANAN : ELEKTROKIMIA DAN PID (PHOTO-IONIZATION DETECTOR) UNTUK VOC • MASA TINDAK BALAS (T90) : <30 SAAT • ISYARAT KELUARAN (OUTPUT SIGNAL) : RS485 / MODBUS RTU / 4 - 20 MA • BEKALAN KUASA : 12 -24V DC • BAHAN PERUMAH (HOUSING) : ALOI ALUMINIUM / ABS TAHAN UV • PENARAFAN PERUMAH (ENCLOSURE RATING) : IP65 ATAU LEBIH BAIK (SESUAI UNTUK PENGGUNAAN LUAR BANGUNAN) • SUHU OPERASI : -20C HINGGA +55C PENGAWAL (CONTROLLER) : • JENIS KOMUNIKASI : WIFI / 4G / LORA / NB-IOT (BERGANTUNG KEPADA KESESUAIAN TAPAK DAN CAPAIAN RANGKAIAN)	-	1		
B.6.2	PAPAN TANDA SPESIFIKASI : • SAIZ : 900MM (T) X 400MM (L) KETEBALAN: MIN 3MM • PELEKAT : VINLY REFLEKTIF • PEMASANGAN : DINDING PAGAR ANTI-CLIMB	-	2		
B.6.3	TIANG BESI HOLLOW BERGALVANIZE DAN BERLENGAN SPESIFIKASI : • SAIZ TIANG HOLLOW : 80MM X 80MM • TEBAL : 1MM • TINGGI: 5M • SAIZ LENGAN HOLLOW : 50MM X 50MM • PANJANG: 4000MM • TEBAL: 1MM	-	1		
B.6.4	LANTAI KONKRIT BERTULANG SPESIFIKASI : • SAIZ : 150MM TEBAL BESERTA 2 LAPIS BRC A6 DAN LAPISAN HARDCORE 100MM SERTA KERJA BERKAITAN	-	36		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
B.6.5	PAGAR BERGALVANIZE SPESIFIKASI : • MATERIAL : GALVENIZE DAN BERKUNCI : 1800MM (LEBAR) X 1600MM (TINGGI) BERSERTA PAGAR DAWAI DURI • PINTU : 1 UNIT	-	1		
B.6.6	SET SISTEM SOLAR DAN BATERI SPESIFIKASI : • BATERI : RECHARGABLE SEALED LEAD ACID (SLA),12V 40A • SOLAR : MONOCRYSTALLINE PANEL,100WATT • SOLAR CONTROLLER: MPPT,10A	-	1		
B.6.7	SISTEM RAK, SOKONGAN DAN AKSESORI KALIS AIR • SAIZ : 600MM(P) X 500MM(T) X 300MM (L), IP66	-	1		
B.7	KAMPUNG BARU MUAFAKAT (WATER LEVEL, RAIN, CCTV 360°, SIREN) KERJA-KERJA TERMASUK DENGAN MEMBEKAL, MEMASANG, MENGUJIJALAN DAN MENTAULIAH ;				
B.7.1	PERANTI SENSOR PARAS AIR SPESIFIKASI : • JENIS SENSOR : SENSOR ARAS AIR INDUSTRI JENIS RADAR / ULTRASONIK / ATAU SETARA • JULAT UKURAN : 0 -10 METER (BOLEH DISESUAIKAN MENGIKUT KEADAAN TAPAK) • KETEPATAN UKURAN : +1 MM ATAU LEBIH BAIK • JULAT BEKALAN KUASA : 12 - 24V DC • ANTARA MUKA KOMUNIKASI : 4 - 20 MA / RS485 / MODBUS RTU • BAHAN SARUNG (HOUSING) : PP / ALOI ALUMINIUM / KELULI TAHAN KARAT • SUHU OPERASI : -20C HINGGA +60C • TAHAP PERLINDUNGAN : IP68 PENGAWAL (CONTROLLER) : • JENIS KOMUNIKASI : WIFI / 4G / LORA / NB-IOT (BERGANTUNG KEPADA KESESUAIAN TAPAK)	-	1		
B.7.2	PERANTI SENSOR TABURAN HUJAN SPESIFIKASI : • JENIS SENSOR : SENSOR HUJAN JENIS RADAR / TIPPING BUCKET RAIN GAUGE / SENSOR HUJAN OPTIKAL / ATAU SETARA • JULAT UKURAN : 0 - 200 MM/H • KETEPATAN UKURAN : +10% • JULAT SAIZ TITISAN HUJAN : 0.5 - 5.0 MM • RESOLUSI UKURAN HUJAN : 0.1 MM • KEKERAPAN SAMPEL : 1 SAAT (1 HZ) • ANTARA MUKA KOMUNIKASI (INTERFACE) : RS485, RS232, ATAU SDI-12 (PILIH SALAH SATU) • PROTOKOL KOMUNIKASI : MODBUS, NMEA-0183, ATAU ASCII • BEKALAN KUASA : 7 - 30V DC • TAHAP PERLINDUNGAN : IP65 PENGAWAL (CONTROLLER) : • JENIS KOMUNIKASI : WIFI / 4G / LORA / NB-IOT (BERGANTUNG KEPADA KESESUAIAN TAPAK DAN CAPAIAN RANGKAIAN)	-	1		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
B.7.3	SISTEM TELEVISYEN LITAR TERTUTUP (CCTV) PINTAR - 360 DARJAH + 1TB MICRO SD • CAMERA IMAGE SENSOR : [BULLET CHANNEL] 1/2.5" PROGRESSIVE SCAN CMOS, [PTZ CHANNEL] 1/1.2" PROGRESSIVE SCAN CMOS MIN. ILLUMINATION : [BULLET CHANNEL] COLOR: 0.0005 LUX @ (F1.0, AGC ON), B/W: 0.0001 LUX @ (F1.0, AGC ON), 0 LUX WITH LIGHT, [PTZ CHANNEL] COLOR : 0.0005 LUX @ (F1.6, AGC ON), B/W: 0.0001 LUX @ (F1.6, AGC ON), 0 LUX WITH IR - SHUTTER SPEED : 1S TO 1/30000S - SLOW SHUTTER : YES - DAY & NIGHT : [PANORAMIC CHANNEL] COLOR, [PTZ CHANNEL] IR CUT FILTER - ZOOM[PTZ CHANNEL] 48 X OPTICAL, 16 X DIGITAL - MAX. RESOLUTION : [PANORAMIC CHANNEL] 3680 X 1656, [PTZ CHANNEL] 3840 X 2160 • PTZ - MOVEMENT RANGE (PAN) : 360 ENDLESS - MOVEMENT RANGE (TILT) : [PANORAMIC CHANNEL] 12 TO 24, [PTZ CHANNEL] -20 TO 90 - PAN SPEED [PTZ CHANNEL] PAN SPEED : CONFIGURABLE FROM 0.1 TO 160/S, PRESET SPEED: 240/S - TILT SPEED [PTZ CHANNEL] TILT SPEED : CONFIGURABLE FROM 0.1 TO 120/S, PRESET SPEED 200/S, [PANORAMIC CHANNEL] TILT SPEED CONFIGURABLE - PROPORTIONAL PAN [PANORAMIC CHANNEL] NO, [PTZ CHANNEL] YES - PRESETS : 300 - PATROL SCAN : 8 PATROLS, UP TO 32 PRESETS FOR EACH PATROL - PATTERN SCAN : 4 PATTERN SCANS, RECORD TIME OVER 10 MINUTES FOR EACH SCAN - POWER-OFF MEMORY : YES • PARK ACTION : PRESET,PATTERN SCAN,PATROL SCAN,AUTO SCAN,TILT SCAN,RANDOM SCAN,FRAME SCAN,PANORAMA SCAN - 3D POSITIONING : YES - PTZ STATUS DISPLAY : YES - PRESET FREEZING : YES - SCHEDULED TASK : PRESET,PATTERN SCAN,PATROL SCAN,AUTO SCAN,TILT SCAN,RANDOM SCAN,FRAME SCAN,PANORAMA SCAN,DOME REBOOT,DOME ADJUST,AUX OUTPUT • DEEP LEARNING FUNCTION - FACE CAPTURE : DETECTS UP TO 30 FACES SIMULTANEOUSLY, UPLOADS FACE WITH BACKGROUND AND CLOSED-UP FACE PICTURES FACE COMPARISON : UP TO 10 FACE LIBRARIES. 30000 FACES FOR EACH LIBRARY. 150000 FACES IN TOTAL, RECOGNIZES FACE IDENTITY VIA FACE MODELING, GRADING AND COMPARING TO THOSE IN FACE LIBRARY, SUPPORTS FACE LIBRARY ENCRYPTION • ROAD TRAFFIC AND VEHICLE DETECTION - SMART FUNCTION : SUPPORT LICENSE PLATE RECOGNITION OF VEHICLES AND MOTORCYCLES (ONLY IN CHECKPOINT SCENARIO) SUPPORT VEHICLE ATTRIBUTE DETECTION, INCLUDING VEHICLE TYPE, COLOR, BRAND, DRIVING DIRECTION, ETC. SUPPORT VEHICLE AND NON-VEHICLE COUNTING - BLOCKLIST AND ALLOWLIST : UP TO 10,000 RECORDS - LPR COUNTRIES/REGIONS : 4 AREAS (EUROPE, MIDDLE EAST, ASIA-PACIFIC, AFRICA) AND MORE THAN 124 COUNTRIES/REGIONS - ACCURACY (UNDER RECOMMENDED INSTALLATION AND LIGHTING CONDITIONS): LICENSE PLATE RECOGNITION RATE 98%, CAPTURE RATE 99%, - DRIVING DIRECTION ACCURACY RATE 98% - VEHICLE CAPTURE SPEED: FRONT INSTALLATION IN CHECKPOINT SCENARIO: UP TO 120 KM/H - SIDE INSTALLATION: UP TO 80 KM/H - CAPTURE MODE : LICENSE PLATE AND VEHICLE MODE, VEHICLE PRIORITY MODE • MULTI-TARGET-TYPE DETECTION : SUPPORTS SIMULTANEOUS DETECTION AND CAPTURE OF HUMAN BODY, FACE AND VEHICLE, GETS 7 FACE FEATURES, 14 HUMAN BODY FEATURES AND 8 VEHICLE FEATURES - PERIMETER PROTECTION : LINE CROSSING DETECTION, REGION ENTRANCE DETECTION, INTRUSION DETECTION, REGION EXITING DETECTION	-	1		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
B.7.4	SISTEM SIREN SPESIFIKASI: • JENIS : SIREN AMARAN LUAR BANGUNAN 360 (KAWALAN IOT) • KONFIGURASI : 1 SET = 4 UNIT SIREN (4 UNIT = 1 SET) • JENIS KAWALAN : KAWALAN HIDUP/MATI (ON/OFF) DARI JAUH MELALUI PAPAN PEMUKA WEB SERTA PENGAKTIFAN AUTOMATIK BERDASARKAN NILAI BACAAN SENSOR (SENSOR HUJAN DAN SENSOR PARAS AIR) • BAHAN : (PERUMAH DAN RUANG GEGARAN) DIPERBUAT DARIPADA ABS (ACRYLONITRILE BUTADIENE STYRENE) BERKETAHANAN TINGGI TERHADAP HENTAKAN • SUHU OPERASI : -25C HINGGA +50C(PERSEKITARAN LUAR) • TAHAP PERLINDUNGAN : IP65 • PEMATUHAN PIAWAIAN : MEMATUHI ARAHAN ROHS (RESTRICTION OF HAZARDOUS SUBSTANCES) • BEKALAN KUASA : DC 12V - 24V • PENGGUNAAN ARUS MAKSIMUM : 2.63 A (MAKSIMUM) • TAHAP BUNYI : SEHINGGA 123 DB @ 1 METER (DENGAN CORAK BUNYI TERBINA DALAM YANG BOLEH DIPILIH) • FUNGSI UTAMA : AKTIF SECARA MANUAL MELALUI PAPAN PEMUKA DAN AUTOMATIK MELALUI INTEGRASI IOT (RULE CHAIN) DENGAN SENSOR HUJAN DAN SENSOR ARAS AIR. BOLEH DIKAWAL DARI JAUH MENGGUNAKAN APLIKASI WEB DAN MUDAH ALIH. • JENIS PEMASANGAN : DIPASANG PADA TIANG (POLE-MOUNTED) DENGAN LIPUTAN BUNYI 360 PENGAWAL (CONTROLLER) : • JENIS KOMUNIKASI : WIFI / 4G / LORA / NB-IOT (BERGANTUNG KEPADA KESESUAIAN DAN CAPAIAN RANGKAIAN DI TAPAK)	-	1		
B.7.5	PAPAN TANDA SPESIFIKASI : • SAIZ : 900MM (T) X 400MM (L) KETEBALAN: MIN 3MM - PELEKAT: VINLY REFLEKTIF • PEMASANGAN : DINDING PAGAR ANTI-CLIMB	-	2		
B.7.6	TIANG BESI HOLLOW BERGALVANIZE DAN BERLENGAN SPESIFIKASI : • SAIZ TIANG HOLLOW : 80MM X 80MM • TEBAL : 1MM • TINGGI : 5M • SAIZ LENGAN HOLLOW : 50MM X 50MM • PANJANG : 4000MM • TEBAL : 1MM	-	1		
B.7.7	LANTAI KONKRIT BERTULANG SPESIFIKASI : • SAIZ: 150MM TEBAL BESERTA 2 LAPIS BRC A6 DAN LAPISAN HARDCORE 100MM SERTA KERJA BERKAITAN	-	36		
B.7.8	PAGAR BERGALVANIZE SPESIFIKASI : • MATERIAL : GALVENIZE DAN BERKUNCI :1800MM (LEBAR) X 1600MM (TINGGI) BERSERTA PAGAR DAWAI DURI • PINTU: 1 UNIT	-	1		
B.7.9	SET SISTEM SOLAR DAN BATERI SPESIFIKASI : • BATERI : RECHARGABLE SEALED LEAD ACID (SLA),12V-24V 40AH • SOLAR PANEL : MONOCRYSTALLINE PANEL,100WATT • SOLAR CONTROLLER : MPPT,10A	-	2		
B.7.10	SISTEM RAK, SOKONGAN DAN AKSESORI KALIS AIR • SAIZ : 600MM(P) X 500MM(T) X 300MM (L), IP66	-	2		
B.8	PERSIARAN LAYAR PERAK(WATER LEVEL, RAIN, CCTV 360°) KERJA-KERJA TERMASUK DENGAN MEMBEKAL, MEMASANG, MENGUJIJALAN DAN MENTAULIAH;				
B.8.1	PERANTI SENSOR PARAS AIR SPESIFIKASI : • JENIS SENSOR : SENSOR ARAS AIR INDUSTRI JENIS RADAR / ULTRASONIK / ATAU SETARA • JULAT UKURAN : 0 - 10 METER (BOLEH DISESUAIKAN MENGIKUT KEADAAN TAPAK) • KETEPATAN UKURAN : +1 MM ATAU LEBIH BAIK • JULAT BEKALAN KUASA : 12 - 24V DC • ANTARA MUKA KOMUNIKASI : 4 - 20 MA / RS485 / MODBUS RTU • BAHAN SARUNG (HOUSING) : PP / ALOI ALUMINIUM / KELULI TAHAN KARAT • SUHU OPERASI : -20C HINGGA +60C • TAHAP PERLINDUNGAN : IP68 PENGAWAL (CONTROLLER) : • JENIS KOMUNIKASI : WIFI / 4G / LORA / NB-IOT (BERGANTUNG KEPADA KESESUAIAN TAPAK)	-	1		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
B.8.2	PERANTI SENSOR TABURAN HUJAN SPESIFIKASI : • JENIS SENSOR : SENSOR HUJAN JENIS RADAR / TIPPING BUCKET RAIN GAUGE / SENSOR HUJAN OPTIKAL / ATAU SETARA • JULAT UKURAN : 0 - 200 MM/H • KETEPATAN UKURAN : +10% • JULAT SAIZ TITISAN HUJAN : 0.5 - 5.0 MM • RESOLUSI UKURAN HUJAN : 0.1 MM • KEKERAPAN SAMPEL : 1 SAAT (1 HZ) • ANTARA MUKA KOMUNIKASI (INTERFACE) : RS485, RS232, ATAU SDI-12 (PILIH SALAH SATU) • PROTOKOL KOMUNIKASI : MODBUS, NMEA-0183, ATAU ASCII • BEKALAN KUASA : 7 - 30V DC • TAHAP PERLINDUNGAN : IP65 PENGAWAL (CONTROLLER) : • JENIS KOMUNIKASI : WIFI / 4G / LORA / NB-IOT (BERGANTUNG KEPADA KESESUAIAN TAPAK DAN CAPAIAN RANGKAIAN)	-	1		
B.8.3	SISTEM TELEVISYEN LITAR TERTUTUP (CCTV) PINTAR - 360 DARJAH + 1TB MICRO SD • CAMERA IMAGE SENSOR : [BULLET CHANNEL] 1/2.5" PROGRESSIVE SCAN CMOS, [PTZ CHANNEL] 1/1.2" PROGRESSIVE SCAN CMOS MIN. ILLUMINATION : [BULLET CHANNEL] COLOR: 0.0005 LUX @ (F1.0, AGC ON), B/W: 0.0001 LUX @ (F1.0, AGC ON), 0 LUX WITH LIGHT, [PTZ CHANNEL] COLOR : 0.0005 LUX @ (F1.6, AGC ON), B/W: 0.0001 LUX @ (F1.6, AGC ON), 0 LUX WITH IR - SHUTTER SPEED : 1S TO 1/30000S - SLOW SHUTTER : YES - DAY & NIGHT : [PANORAMIC CHANNEL] COLOR, [PTZ CHANNEL] IR CUT FILTER - ZOOM[PTZ CHANNEL] 48 X OPTICAL, 16 X DIGITAL - MAX. RESOLUTION : [PANORAMIC CHANNEL] 3680 X 1656, [PTZ CHANNEL] 3840 X 2160 • PTZ - MOVEMENT RANGE (PAN) : 360 ENDLESS - MOVEMENT RANGE (TILT) : [PANORAMIC CHANNEL] 12 TO 24, [PTZ CHANNEL] -20 TO 90 - PAN SPEED [PTZ CHANNEL] PAN SPEED : CONFIGURABLE FROM 0.1 TO 160/S, PRESET SPEED: 240/S - TILT SPEED [PTZ CHANNEL] TILT SPEED : CONFIGURABLE FROM 0.1 TO 120/S, PRESET SPEED 200/S, [PANORAMIC CHANNEL] TILT SPEED CONFIGURABLE - PROPORTIONAL PAN [PANORAMIC CHANNEL] NO, [PTZ CHANNEL] YES - PRESETS : 300 - PATROL SCAN : 8 PATROLS, UP TO 32 PRESETS FOR EACH PATROL - PATTERN SCAN : 4 PATTERN SCANS, RECORD TIME OVER 10 MINUTES FOR EACH SCAN - POWER-OFF MEMORY : YES • PARK ACTION : PRESET,PATTERN SCAN,PATROL SCAN,AUTO SCAN,TILT SCAN,RANDOM SCAN,FRAME SCAN,PANORAMA SCAN - 3D POSITIONING : YES - PTZ STATUS DISPLAY : YES - PRESET FREEZING : YES - SCHEDULED TASK : PRESET,PATTERN SCAN,PATROL SCAN,AUTO SCAN,TILT SCAN,RANDOM SCAN,FRAME SCAN,PANORAMA SCAN,DOME REBOOT,DOME ADJUST,AUX OUTPUT • DEEP LEARNING FUNCTION - FACE CAPTURE : DETECTS UP TO 30 FACES SIMULTANEOUSLY, UPLOADS FACE WITH BACKGROUND AND CLOSED-UP FACE PICTURES FACE COMPARISON : UP TO 10 FACE LIBRARIES. 30000 FACES FOR EACH LIBRARY. 150000 FACES IN TOTAL, RECOGNIZES FACE IDENTITY VIA FACE MODELING, GRADING AND COMPARING TO THOSE IN FACE LIBRARY, SUPPORTS FACE LIBRARY ENCRYPTION • ROAD TRAFFIC AND VEHICLE DETECTION - SMART FUNCTION : SUPPORT LICENSE PLATE RECOGNITION OF VEHICLES AND MOTORCYCLES (ONLY IN CHECKPOINT SCENARIO) SUPPORT VEHICLE ATTRIBUTE DETECTION, INCLUDING VEHICLE TYPE, COLOR, BRAND, DRIVING DIRECTION, ETC. SUPPORT VEHICLE AND NON-VEHICLE COUNTING - BLOCKLIST AND ALLOWLIST : UP TO 10,000 RECORDS - LPR COUNTRIES/REGIONS : 4 AREAS (EUROPE, MIDDLE EAST, ASIA-PACIFIC, AFRICA) AND MORE THAN 124 COUNTRIES/REGIONS - ACCURACY (UNDER RECOMMENDED INSTALLATION AND LIGHTING CONDITIONS): LICENSE PLATE RECOGNITION RATE 98%, CAPTURE RATE 99%, - DRIVING DIRECTION ACCURACY RATE 98% - VEHICLE CAPTURE SPEED: FRONT INSTALLATION IN CHECKPOINT SCENARIO: UP TO 120 KM/H - SIDE INSTALLATION: UP TO 80 KM/H - CAPTURE MODE : LICENSE PLATE AND VEHICLE MODE, VEHICLE PRIORITY MODE • MULTI-TARGET-TYPE DETECTION : SUPPORTS SIMULTANEOUS DETECTION AND CAPTURE OF HUMAN BODY, FACE AND VEHICLE, GETS 7 FACE FEATURES, 14 HUMAN BODY FEATURES AND 8 VEHICLE FEATURES - PERIMETER PROTECTION : LINE CROSSING DETECTION, REGION ENTRANCE DETECTION, INTRUSION DETECTION, REGION EXITING DETECTION	-	1		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
B.8.4	PAPAN TANDA SPESIFIKASI : • SAIZ: 900MM (T) X 400MM (L) KETEBALAN: MIN 3MM - PELEKAT: VINYL REFLEKTIF • PEMASANGAN: DINDING PAGAR ANTI-CLIMB	-	2		
B.8.5	TIANG BESI HOLLOW BERGALVANIZE DAN BERLENGAN SPESIFIKASI : • SAIZ TIANG HOLLOW : 80MM X 80MM • TEBAL : 1MM • TINGGI : 5M • SAIZ LENGAN HOLLOW : 50MM X 50MM • PANJANG : 4000MM • TEBAL : 1MM	-	1		
B.8.6	LANTAI KONKRIT BERTULANG SPESIFIKASI : • SAIZ : 150MM TEBAL BESERTA 2 LAPIS BRC A6 DAN LAPISAN HARDCORE 100MM SERTA KERJA BERKAITAN	-	36		
B.8.7	PAGAR BERGALVANIZE SPESIFIKASI : • MATERIAL : GALVENIZE DAN BERKUNCI :1800MM (LEBAR) X 1600MM (TINGGI) BERSERTA PAGAR DAWAI DURI • PINTU : 1 UNIT	-	1		
B.8.8	SET SISTEM SOLAR DAN BATERI SPESIFIKASI : • BATERI : RECHARGABLE SEALED LEAD ACID (SLA),12V 40AH • SOLAR PANEL : MONOCRYSTALLINE PANEL,100WATT • SOLAR CONTROLLER: MPPT,10A	-	1		
B.8.9	SISTEM RAK, SOKONGAN DAN AKSESORI KALIS AIR • SAIZ : 600MM(P) X 500MM(T) X 300MM (L), IP66	-	1		
JUMLAH KESELURUHAN (BIL B)					

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
C	KERJA-KERJA MEMBEKAL, MEMASANG DAN MENGUJIJALAN DAN MENTAULIAH DASHBOARD PORTAL, APLIKASI MUDAH ALIH, PERKAKASAN SISTEM DIGITAL DAN SISTEM RANGKAIAN KOMUNIKASI				
C.1	DASHBOARD & APLIKASI MUDAH ALIH				
C.1.1	IOT PLATFORM • LANGGANAN IOT PLATFORM (CLOUD-BASED) SELAMA DUA PULUH EMPAT (24) BULAN DENGAN KEUPAYAAN BERINTEGRASI DENGAN PERANTI WATER LEVEL, WATER QUALITY, AIR QUALITY, RAIN GAUGE DAN SIREN • SEMUA PERANTI HENDAKLAH MENGHANTAR DATA SECARA AUTOMATIK KE PLATFORM PEMANTAUAN IOT (CLOUD IOT DASHBOARD) DAN BOLEH DIAKSES MELALUI LAMAN WEB SERTA MOBILE APP	-	1		
C.1.2	PEMANTAUAN DATA SECARA REAL-TIME • PEMANTAUAN DAN PAPARAN DATA WATER LEVEL, RAINFALL INTENSITY, WATER QUALITY INDEX (WQI), AIR QUALITY DAN SIREN SECARA-REAL TIME MELALUI DASHBOARD DAN MOBILE APP. SISTEM JUGA MAMPU MEMAPARKAN BACAAN PARAMETER TERPERINCI DARIPADA SENSOR-SENSOR TERSEBUT.	-	-		
C.1.3	KONFIGURASI API • KONFIGURASI API BAGI TUJUAN INTEGRASI SISTEM UNTUK PENERIMAAN, PENYIMPANAN DAN PAPARAN DATA DARIPADA SENSOR	-	-		
C.1.4	PERKHIDMATAN NOTIFIKASI DAN KAWALAN SIREN KEUPAYAAN SISTEM DAN MOBILE APP UNTUK : • MENGHANTAR NOTIFIKASI AMARAN KEPADA PENGGUNA BERDASARKAN NILAI AMBANG (THRESHOLD) YANG DITETAPKAN • MENGAWAL FUNGSI ON/OFF SIREN SECARA REMOTE	-	1		
C.1.5	PENYIMPANAN DATA (DATA LOGGING) • DATA BACAAN MESTILAH DISIMPAN SECARA AUTOMATIK DI PANGKALAN DATA AWAN (CLOUD DATABASE) SEKURANG-KURANGNYA 2 TAHUN UNTUK TUJUAN ANALISIS DAN AUDIT.	-	-		
C.1.6	LAPORAN & ANALITIK • SISTEM PERLU MEMPUNYAI KEUPAYAAN MUAT TURUN DATA (CSV/EXCEL) SERTA MENJANA LAPORAN PRESTASI DAN AMARAN AUTOMATIK.	-	-		
C.1.7	DOMAIN BERSAMA SSL CERTIFICATE (SSL/TLS) • PENYEDIAAN DOMAIN BAGI SISTEM LENGKAP DENGAN SIJIL KESELAMATAN SSL/TLS. SAMBUNGAN DATA ANTARA PELAYAN DAN PENGGUNA MESTI DILINDUNGI MENGGUNAKAN PENYULITAN SSL/TLS BAGI MEMASTIKAN KERAHSIAAN DAN INTEGRITI DATA. • AKSES SISTEM HANYA DIBENARKAN KEPADA PENGGUNA BERDAFTAR (AUTHENTICATED USERS) SAHAJA.	-	2		
C.1.8	INTEGRASI API • INTEGRASI API DATA SENSOR KE DALAM DASHBOARD MBIP BAGI TUJUAN PEMANTAUAN MENYELURUH	-	1		
C.2	PERKHIDMATAN SERVER HOSTING - CO HOSTING				
C.2.1	A) DASHBOARD (1 VM SYSTEM, 1 VM DB) [4 CPU, 16GB, 150GB] * 24 BULAN	-	1		
C.2.2	B) SOFTWARE SUBSCRIPTION TELTONIKA RMS (3 YEARS SUBSCRIPTION)	-	3880		
C.3	MEMBEKAL, MEMASANG & MENTAULIAH PERKAKASAN BAGI DASHBOARD MBIP				
C.3.1	SMART BOARD - 50" • SAMSUNG SMARTBOARD LH55WMB-WBGC COME WITH LFD STAND SAM-STN-WM55R, • LFD TRAY SAM-CY-TF65BBC , • LFD FLIP PEN SAM-CY-PENR	-	1		
C.3.2	PC • INTELÂ® COREÂ„¢ I7 14700 (20 CORES, UP TO 5.4 GHZ TURBO, 65 W) • WINDOWS 11 PRO, ENGLISH • INTEL INTEGRATED GRAPHICS • 32GB: 2 X 16 GB, DDR5, 4400 MT/S, NON-ECC • 1 TB, M.2 2280, TLC PCIE GEN4 NVME, SSD, SED READY • PRECISION 3680 TOWER WITH 300W (80 PLUS PLATINUM) PSU • MONITOR	-	1		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
C.3.3	AKSESORI YANG BERKAITAN (STAND TV, CABLE HDMI, EXTENSION PLUG)	-	1		
C.3.4	NETWORK VIDEO RECORDER 8 TB, (8 CHANNEL DS-7608NI-M2) + 8TB HDD VIDEO AND AUDIO • IP VIDEO INPUT 8-CH UP TO 32 MP RESOLUTION *AFTER ULTRA HD RESOLUTION MODE IS ENABLED, THE NVR SUPPORTS UP TO 8-CH 32 MP/24 MP IP VIDEO INPUTS. • INCOMING BANDWIDTH128 MBPS • OUTGOING BANDWIDTH256 MBPS • HDMI OUTPUT8K (7680 X 4320)/30HZ, 4K (3840 X 2160)/60HZ, 4K (3840 X 2160)/30HZ, 2K (2560 X 1440)/60HZ, 1920 X 1080/60HZ • VGA OUTPUT1920 X 1080/60HZ • VIDEO OUTPUT MODEHDMI/VGA INDEPENDENT OUTPU • CVBS OUTPUT1-CH, BNC (1.0 VP-P, 75), RESOLUTION: PAL: 704 X 576, NTSC: 704 X 480 • AUDIO OUTPUT1-CH, RCA (LINEAR, 1 K) • TWO-WAY AUDIO1-CH, RCA (2.0 VP-P, 1 K, USING THE AUDIO INPUT) • DECODING • DECODING FORMATH.265+/H.265/H.264+/H.264 • RECORDING RESOLUTION 32 MP/24 MP/12 MP/8 MP/6 MP/5 MP/4 MP/3 MP/1080P/UXGA/720P/VGA /4CIF/DCIF/ 2CIF/CIF/QCIF *AFTER ULTRA HD RESOLUTION MODE IS ENABLED, THE NVR SUPPORTS UP TO 8-CH 32 MP/24 MP IP VIDEO INPUTS. • SYNCHRONOUS PLAYBACK8-CH • DECODING CAPABILITY2-CH@32 MP (30 FPS)+2-CH@8MP(30FPS)/10-CH@8 MP (30 FPS)/20-CH@4 MP (30 FPS)/40-CH@1080P (30 FPS) • DUAL-STREAM RECORDINGSUPPORT • STREAM TYPEVIDEO, VIDEO & AUDIO • AUDIO COMPRESSIONG.711ULAW/G.711ALAW/G.722/G.726/AAC/MP2L2 • NETWORK • REMOTE CONNECTION128 • NETWORK PROTOCOLTCP/IP, DHCP, IPV4, IPV6, DNS, DDNS, NTP, RTSP, SADP, SMTP, SNMP, NFS, ISCSI, ISUP, UPNP, HTTP, HTTPS, ONVIF(VERSION 2.2), OTAP • NETWORK INTERFACE2, RJ-45 10/100/1000 MBPS SELF-ADAPTIVE ETHERNET INTERFACE • CAMERA ACCESS PROTOCOLONVIF(VERSION 2.5), RTSP • AUXILIARY INTERFACE • SATA2 SATA INTERFACES • CAPACITYUP TO 16 TB CAPACITY FOR EACH DISK • ALARM IN/OUT4/1 • USB INTERFACEFRONT PANEL: 1 USB 2.0; REAR PANEL: 1 USB 3.0 • GENERAL • POWER SUPPLY12 VDC, 3.33 A • CONSUMPTION 15 W (WITHOUT HDD) • WORKING TEMPERATURE-10C TO 55C (14Ã?Â°F TO 131Ã?Â°F) • WORKING HUMIDITY10% TO 90% • DIMENSION (W X D X H)385 X 315 X 52 MM (15.2" X 12.4" X 2.0") • <3 KG (WITHOUT HDD, 2.2 LB.)	-	1		
C.4	RANGKAIAN KOMUNIKASI NETWORK				
C.4.1	A) SIM KAD (8 SITE * 24 BULAN + 3 BULAN 'FASA DEVELOPMENT')	-	-		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
C.4.2	4G MODEM ROUTER TELTONIKA + EXTERNAL ANTENNA (8 SITE) **MOBILE** • MOBILE MODULE : 4G LTE CAT 4 UP TO 150 DL/50 UL MBPS; 3G UP TO 21 DL/5.76 UL MBPS; 2G UP TO 236.8 DL/236.8 UL KBP • SMS : SMS STATUS, SMS CONFIGURATION, EMAIL TO SMS, SMS TO EMAIL, SMS TO HTTP, SMS TO SMS, SCHEDULED SMS, SMS AUTOREPLY, SMPP • APN : AUTO APN • BRIDGE : DIRECT CONNECTION (BRIDGE) BETWEEN MOBILE ISP AND DEVICE ON LAN **ETHERNET** • WAN : 1 X WAN PORT 10/100 MBPS, COMPLIANCE IEEE 802.3, IEEE 802.3U, 802.3AZ STANDARDS, SUPPORTS AUTO MDI/MDIX • LAN : 3 X LAN PORTS, 10/100 MBPS, COMPLIANCE IEEE 802.3, IEEE 802.3U STANDARDS, SUPPORTS AUTO MDI/MDIX **NETWORK** • ROUTING : STATIC ROUTING, DYNAMIC ROUTING (BGP, OSPF V2, RIP V1/V2, EIGRP, NHRP), POLICY BASED ROUTING NETWORK PROTOCOLS : TCP, UDP, IPV4, IPV6, ICMP, NTP, DNS, HTTP, HTTPS, SFTP, FTP, SMTP, SSL/TLS, ARP, VRRP, PPP, PPPOE, UPNP, SSH, DHCP, TELNET, SMPP, SNMP, MQTT, WAKE ON LAN (WOL), VXLAN **POWER** • CONNECTOR : 4-PIN INDUSTRIAL DC POWER SOCKET • INPUT VOLTAGE RANGE : 9 Ã¢Â‚¬Â€Œ 30 VDC, REVERSE POLARITY PROTECTION; SURGE PROTECTION >31 VDC 10US MAX • POE (PASSIVE) : PASSIVE POE OVER SPARE PAIRS. POSSIBILITY TO POWER UP THROUGH LAN1 PORT, NOT COMPATIBLE WITH IEEE802.3AF, 802.3AT AND 802.3BT STANDARDS, MODE B, 9 - 30 VDC • POWER CONSUMPTION : < 2 W IDLE, < 7 W MAX **PHYSICAL INTERFACES** • ETHERNET : 4 X RJ45 PORTS, 10/100 MBPS **OPERATING ENVIRONMENT** • OPERATING TEMPERATURE : -40 TO 75°C • OPERATING HUMIDITY : 10% TO 90% NON-CONDENSING • INGRESS PROTECTION RATING : IP30	-	8		
C.4.3	C) TABLET STORAGE : 256 GB NETWORK : WIRELESS ONLY SIZE : 13 INCH	-	1		
JUMLAH KESELURUHAN (BIL C)					

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
D	PERKHIDMATAN PENYELENGGARAAN 24 BULAN DAN PROGRAM LATIHAN KESEDARAN MASYARAKAT BERKENAAN SISTEM PEMANTAUAN AIR MBIP				
D.1	PENYELENGGARAAN PENCEGAHAN DAN PEMBAIKAN • PENYELENGGARAAN PENCEGAHAN (PREVENTIVE MAINTENANCE) • SENSOR PARAS AIR (WATER LEVEL) - PEMERIKSAAN FIZIKAL, PEMBERSIHAN MUKA SENSOR, SEMAKAN KOMUNIKASI, PENENTUKURAN SEMULA,KEMAS KINI FIRMWARE, PENGGANTIAN BATERI, SOLAR CONTROLLER, DAN LAPORAN PRESTASI.	-	7		
D.1.1	SENSOR HUJAN (RAIN SENSOR) • PEMBERSIHAN/SEMAKAN PERMUKAAN SENSOR, SEMAKAN MEKANISME SENSOR, SEMAKAN SAMBUNGAN DATA KE PAPAN PEMUKA.	-	4		
D.1.2	SENSOR KUALITI UDARA (AIR QUALITY) • SEMAKAN HOUSING DAN PENAPIS, PENENTUKURAN GAS, PENGGANTIAN GAS CELL, UJIAN FUNGSI AMARAN BAU, SEMAKAN SAMBUNGAN RANGKAIAN, KEMAS KINI FIRMWARE.	-	1		
D.1.3	SENSOR KUALITI AIR (WATER QUALITY) • PEMBERSIHAN PROBE, PENENTUKURAN PARAMETER (DO, PH, BOD, COD, NH4, TSS), SEMAKAN KABEL, VALIDASI DATA DENGAN BACAAN MANUAL, LAB TEST, DAN LAPORAN SERVIS. SEMAKAN SAMBUNGAN RANGKAIAN, KEMAS KINI FIRMWARE	-	12		
D.1.4	SISTEM SIREN IOT (360°) • PEMERIKSAAN STRUKTUR DAN TIANG, UJIAN FUNGSI MANUAL DAN AUTOMATIK, SEMAKAN BATERI SANDARAN, KEMAS KINI FIRMWARE, DAN LOG PENYELENGGARAAN.	-	4		
D.1.5	SISTEM CCTV • PEMERIKSAAN KAMERA DAN DVR/NVR, PEMBERSIHAN LENSA, SEMAKAN SAMBUNGAN RANGKAIAN, KEMAS KINI FIRMWARE, UJIAN RAKAMAN DAN PLAYBACK.	-	4		
D.1.6	LAIN-LAIN (UMUM) • PEMERIKSAAN PENEBAT KABEL, KEKEMASAN PEMASANGAN, PENGUJIAN KOMUNIKASI SISTEM IOT, DAN LAPORAN PENYELENGGARAAN LENGKAP.	-	4		
D.2	PENYELENGGARAAN PEMBAIKAN (CORRECTIVE MAINTENANCE)				
D.2.1	SENSOR PARAS AIR (WATER LEVEL) • PENGGANTIAN SENSOR ATAU KOMPONEN ELEKTRONIK YANG GAGAL, PEMBAIKAN PENDAKAP, ATAU KONFIGURASI SEMULA KOMUNIKASI.	-	1		
D.2.2	SENSOR HUJAN (RAIN SENSOR) • PENGGANTIAN MEKANISME TIPPING / CORONG / PCB ROSAK, SEMAKAN KUASA DAN SAMBUNGAN SEMULA.	-	1		
D.2.3	SENSOR KUALITI UDARA (AIR QUALITY) • PENGGANTIAN GAS MODULE, PENENTUKURAN SEMULA SELEPAS PEMBAIKAN, ATAU RESET FIRMWARE.	-	1		
D.2.4	SENSOR KUALITI AIR (WATER QUALITY) GANTIAN TIP INDIVIDU, RECALIBRATION SELEPAS BAIK PULIH, DAN UJIAN FUNGSI.	-	1		
D.2.5	SISTEM SIREN IOT (360°) • PEMERIKSAAN STRUKTUR DAN TIANG, UJIAN FUNGSI MANUAL DAN AUTOMATIK, SEMAKAN BATERI SANDARAN, KEMAS KINI FIRMWARE, DAN LOG PENYELENGGARAAN. • BAIK PULIH UNIT SIREN, PENGGANTIAN SPEAKER, MODUL KAWALAN, ATAU BATERI SANDARAN ROSAK.	-	1		
D.2.6	SISTEM CCTV • GANTIAN KAMERA / KOMPONEN ROSAK, SAMBUNGAN SEMULA KE RANGKAIAN, ATAU KONFIGURASI IP SEMULA.	-	1		
D.2.7	LAIN-LAIN (UMUM) • APA-APA PEMBAIKAN LAIN YANG DIPERLUKAN UNTUK MEMASTIKAN SISTEM BEROPERASI SEPENUHNYA.	-	1		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
D.3	SISTEM DAN MOBILE APP PENYELENGGARAAN SISTEM DAN MOBILE APP DALAM TEMPOH DUA BELAS (12) BULAN, MELIPUTI: • SEMAKAN STATUS SERVER, DATABASE DAN SAMBUNGAN API • KEMAS KINI VERSI SISTEM DAN MOBILE APP, PLUGIN DAN DEPENDENCIES BAGI MEMASTIKAN PRESTASI OPTIMUM • PELAKSANAAN BACKUP PANGKALAN DATA DAN KONFIGURASI SISTEM	-	4		
D.4	LATIHAN DAN PEMINDAHAN PENGETAHUAN / TEKNOLOGI (TOT)				
D.4.1	KHIDMAT LATIHAN MENGGUNAKAN DASHBOARD DAN MOBILE APP MENJALANKAN LATIHAN KEPADA PENGGUNA AKHIR SISTEM. SEPERTI KEPERLUAN BERIKUT: • KEKERAPAN LATIHAN (1 KALI) • BILANGAN PESERTA (20 PESERTA) • TEMPOH LATIHAN 2 HARI • KOS TEMPAT LATIHAN, MAKAN, MINUM AKAN AKAN DITANGGUNG OLEH PETENDER	-	1		
D.4.2	MONTAJ PELANCARAN TERMASUK APA-APA HEBAHAN SEPERTI : • GIMIK PELANCARAN • VIDEO PROMOSI	-	1		
JUMLAH KESELURUHAN (BIL D)					

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
E	PERUNTUKAN SEMENTARA KERJA-KERJA PENAMBAHBAIKAN - INFRASTUKTUR RANGKAIAN DAN KERJA-KERJA AWAM				
JUMLAH KESELURUHAN (BIL E)					