

## DOKUMEN MEJA

Bil	KETERANGAN	Kuantiti	Harga
<b>1.</b>	<b>PRELIMINARIES &amp; PROJECT MANAGEMENT</b>		
	a) Liason with site management, insurance including contractor's All Risks, Workmen Compensation & Public Liabilities	1	Lot
	b) To supply labour & transport to keep site clean & clear of all rubbish & trade debris for the whole duration of works inclusive cleaning for handover after completion of works.	8	Lot
	c) Providing pictures work progress before, during and after work for all location.  1- Existing Station i. Rumah Pam Sri Serdang ii. Rumah Pam KTM Batu3 iii. Rumah Pam Sri Muda Location 1 iv. Rumah Pam Sri Muda Location 2  2- New Station i. Rumah Pam Sg Kuyoh Sri Kembangan ii. Pintu Air Pekan Banting iii. Rumah Pam Star Kelang iv..Rumah Pam Taman Mesra	2	Set
<b>2</b>	<b>DEMOLATION WORKS</b>		
	To dismantle & isolate all control panel and CCTV at proposed area and cart away from site. Others equipment will be use again at site. Existing Station i. Rumah Pam Sri Serdang ii. Rumah Pam KTM Batu3 iii. Rumah Pam Sri Muda Location 1 iv. Rumah Pam Sri Muda Location 2	4	Lot
<b>3</b>	<b>TO SUPPLY AND INSTALL</b>		
3.1	<b>Camera Pole and Bracket</b>		
	To supply, install 8 mtrs mid hinged poles together with solar bracket, camera bracket above ground and 0.6 mtrs below ground, heavy duty galvanized steel at Pintu Air Pekan Banting. Inclusive with all civil works such as drilling, pole base and etc.	1	Nos
	To supply, install 5 mtrs mid hinged poles together with solar bracket, camera bracket above ground and 0.6 mtrs below ground, heavy duty galvanized steel at Rumah Pam Taman Mesra. Inclusive with all civil works such as drilling, pole base and etc.	1	Nos
	To supply, install 4 mtrs mid hinged poles together with solar bracket, camera bracket and other accessories at Rumah Pam Sg Kuyoh Sri Kembangan. Inclusive with all civil works such as drilling and etc.	1	Nos
	To supply, install CCTV bracket and other accessories inside the Rumah Pam Star Kelang.	1	Nos
	Supply and install removeable CCTV bracket to hold CCTV at existing Rumah Pam Sri Serdang, Rumah Pam KTM Batu3, Rumah Pam Sri Muda Location 1 and Rumah Pam Sri Muda	4	Nos

	Location 2		
	Supply and install removeable bracket to hold new CCTV control panel at existing pole Rumah Pam KTM Batu3, Rumah Pam Sri Muda Location 1 and Rumah Pam Sri Muda Location 2. Remove the old bracket control panel at existing site.	4	Nos
3.2	Control Panel c/w Anti-Theft bracket		
	Supply and install CCTV control panel 600mm (H) x 400mm (W) x 300mm (D) including trunking, terminal block, tagging number ,switch socket outlet, panel wiring for switch socket outlet, modem router, AC surge protection , AC/DC converter and other accessories for AC panel wiring work. Fixings with stainless steel bolts and nuts	4	Nos
	Supply and install CCTV control panel 600mm (H) x 400mm (W) x 300mm (D) including trunking, terminal block, tagging number, panel wiring for modem router, DC surge protection, solar charge controller and other accessories for DC panel wiring work. Fixings with stainless steel bolts and nuts	4	Nos
	Supply and install anti-theft bracket	8	Nos
	Supply and install removeable bracket to hold CCTV control panel at Rumah Pam Sri Serdang, Rumah Pam KTM Batu3, Rumah Pam Sri Muda Location 1 and Rumah Pam Sri Muda Location 2. Remove the old bracket and control panel at site.	4	Nos
	To supply and install ABUS padlock	24	Nos
3.3	CCTV		
	<p>Specification Camera Module</p> <p>Image Sensor: 1/2.8" progressive scan CMOS</p> <p>Gain: Auto/Manual</p> <p>"Shutter Time: 50Hz: 1/1 s to 1/30,000 s 60Hz: 1/1 s to 1/30,000 s"</p> <p>Day &amp; Night: IR Cut Filter</p> <p>Digital Zoom: 16x</p> <p>Privacy Mask: 24 programmable privacy masks, mask color configurable</p> <p>Focus Mode: Auto/Semi-automatic/Manual</p> <p>WDR: 120 dB WDR (not supported by full frame rate)</p> <p>Lens</p> <p>Focal Length: 4.8 mm to 120 mm, 25 x optical zoom</p> <p>Zoom Speed: Approx. 3.6 s (optical lens, wide-tele)</p> <p>"Field of View: Horizontal field of view: 55° to 2.4° (Wide-Tele) Vertical field of view: 33° to 1.4° (Wide-Tele) Diagonal field of view: 61.5 to 2.8° (Wide-Tele)"</p> <p>Working Distance: 100 mm to 1500 mm (wide-tele)</p> <p>Aperture range: F1.6 to F3.5</p> <p>IR</p> <p>IR Distance: 100 m</p> <p>Smart IR: Yes</p> <p>PTZ</p> <p>Movement Range (Pan): 360° endless</p> <p>Pan Speed: Configurable, from 0.1°/s to 80°/s, Preset speed: 80°/s</p> <p>Movement Range (Tilt) : From -15° to 90°(auto-flip)</p> <p>Proportional Zoom: Yes</p> <p>Patrol Scan: 8 patrols, up to 32 presets for each patrol</p> <p>Pattern Scan: 4 pattern scans, record time over 10 minutes for each scan</p> <p>Power-off Memory: Yes</p> <p>Park Action: Preset/Pattern Scan/Patrol Scan/Auto Scan/Tilt Scan/Random Scan/Frame Scan/Panorama Scan</p> <p>PTZ Position Display : Yes</p>	8	Nos

	<p>Scheduled Task: Preset/Pattern Scan/Patrol Scan/Auto Scan/Tilt Scan/Random Scan/Frame Scan/Panorama Scan/Dome Reboot/Dome Adjust/Aux Output  Compression Standard  "Video Compression: Main Stream: H.265+/H.265/H.264+/H.264 Sub-stream: H.265/H.264/MJPEG  Third Stream: H.265/H.264/MJPEG"  H.264 Type : Baseline Profile/Main Profile/High Profile  H.264+: Yes  H.265 Type: Baseline Profile/Main Profile/High Profile  H.265+: Yes  Video Bitrate: 32 Kbps to 16384 Kbps  Audio Compression :  G.711alaw/G.711ulaw/G.722.1/G.726/MP2L2/PCM  Image  Max. Resolution: 2560 × 1440  "Sream: 50Hz: 25fps (2560 × 1440, 2048 × 1536, 1920 × 1080, 1280 × 960, 1280 × 720), 50fps (1920 × 1080, 1280 × 960, 1280 × 720)  60Hz: 30fps (2560 × 1440, 2048 × 1536, 1920 × 1080, 1280 × 960, 1280 × 720), 60fps (1920 × 1080, 1280 × 960, 1280 × 720)"  Network  Network Storage: Built-in memory card slot, support Micro SD/SDHC/SDXC, up to 256 GB; NAS (NFS, SMB/CIFS), ANR Protocols: IPv4/IPv6, HTTP, HTTPS, 802.1x, Qos, FTP, SMTP, UPnP, SNMP, DNS, DDNS, NTP, RTSP, RTCP, RTP, TCP/IP, UDP, IGMP, ICMP, DHCP, PPPoE, Bonjour  API : ONVIF (Profile S, Profile G, Profile T), ISAPI, SDK  Simultaneous Live View: Up to 20 channels  User/Host: Up to 32 users - 3 levels: Administrator, Operator and User  User authentication (ID and PW), Host authentication (MAC address); HTTPS encryption; IEEE 802.1x port-based network access control; IP address filtering  Interface  Audio Interface: 1-ch audio input and 1-ch audio output  Network Interface: 1 RJ45 10 M/100 M Ethernet, PoE (802.3 at, class4)  General  "Power: 12 VDC, 2.0 A and PoE (802.3 at), 42.5 to 57 VDC, 0.6 A, class4  Max.: 18 W, including max. 7W for IR"  Working Temperature: -30°C to 65°C (-22°F to 149°F)  Working Humidity: ≤ 90%  Protection Level: IP66 Standard, 4000V Lightning Protection, Surge Protection and Voltage Transient Protection</p>		
	To supply SD card 256GB	8	Nos
3.4	Power Supply AC System - For Existing Station		
	<p>Supply and install AC/DC converter 12Vdc  Output  -Rated current 10.5A  -Rated Power 151Watt  Voltage adjust range 12 ~ 14.5V  Input  -Voltage range 88 ~ 264VAC</p>	4	Nos

	<ul style="list-style-type: none"> <li>-Frequency range 47 ~ 63Hz</li> <li>-AC current 1.5A/230VAC</li> <li>Protection</li> <li>-Overload 105 ~ 135%</li> <li>Over voltage 15.87 ~ 18.63V</li> <li>Battery low 10V±0.8V</li> </ul>		
3.5	<b>Power Supply Solar System - For New Station</b>		
	Supply and install 100 watt solar	8	Nos
	Supply and install 20A Solar charge controller	4	Nos
	Supply and install Battery 100Ah	8	Nos
3.6	<b>Solar Bracket</b>		
	Supply and install solar bracket at Rumah Pam Star Kelang. Solar system will be located at roof Rumah Pam.	1	Nos
3.7	<b>Surge Protection Device</b>		
	Supply and install DC surge arrestor <ul style="list-style-type: none"> <li>-Nominal DC voltage 12 Vdc</li> <li>-Max. load current 20 A</li> <li>-Residual Current(Leakage current to Ground) &lt; 0.1 mA</li> <li>-Nominal discharge current (15 x 8/20 μs impulses) 10 kA</li> <li>Standards compliance IEC 61643-11</li> </ul>	4	Nos
	Supply and install AC surge arrestor <ul style="list-style-type: none"> <li>-Max. AC operating voltage 275 Vac</li> <li>-Max. Load current 16 A</li> <li>-Nominal discharge current - 15 x 8/20 μs impulses 5 kA</li> <li>-Admissible short-circuit current 10000 A</li> <li>-Fuses type gG - 20A*</li> <li>-Standards compliance IEC 61643-11</li> </ul>	4	Nos
	Supply and install Network surge arrestor <ul style="list-style-type: none"> <li>-Application Ethernet</li> <li>-Max. data rate 1000 Mbps</li> <li>-Max. DC Signal 8 Vdc 1 A</li> <li>Nominal discharge currents: <ul style="list-style-type: none"> <li>- Line/Line&lt;500 A @ 8/20 μs</li> <li>- Line/Ground 2000 A @ 8/20 μs</li> </ul> </li> <li>Connections: <ul style="list-style-type: none"> <li>- Input Shielded RJ45 Connectors</li> <li>- Output Shielded RJ45 Connectors</li> </ul> </li> <li>-Standard Compliance IEC 61643-21</li> </ul>	8	Nos
3.8	<b>Modem Router</b>		
	Supply and install Industrial Modem Router <ul style="list-style-type: none"> <li>-Dual SIM redundancy for continuous 2G/3G/4G cellular network</li> <li>-WAN – Static/PPPoE/DHCP Client</li> <li>-IPsec/OpenVPN/GRE/L2TP/PPTP/DMVPN</li> <li>-Management and maintenance via Web/CLI/SMS</li> </ul>	8	Nos

	-Auto reboot via SMS/Timing -Robust industrial design (9 to 26V DC or 9 to 36V DC, desktop or wall mounting or DIN rail mounting) -Standard Compliance or SIRIM certificate of conformity		
<b>3.9</b>	<b>Cabling</b>		
	Lay and install 2 core x 4mm solar cable from solar panel to control panel using 25mm flexible conduit. Cable lay inside the CCTV pole - (estimation 50m for 6 stations)	60	Meter
	Lay and install 2 core x 4mm solar cable form solar panel to CCTV control panel using 3/4 inch GI conduit at Rumah Pam Star Kelang	10	Meter
	Lay and install CAT5E cable from CCTV to control panel using 25mm flexible conduit. Cable lay inside the CCTV pole (estimation 60m for 6 stations)	60	Meter
	Lay and install CAT5E cable from CCTV to control panel using 3/4 inch GI conduit at Rumah Pam Star Kelang	5	Meter
	Lay and install 3 core x 1.5mm power cable from CCTV to CCTV panel. (estimation 70m for 7 stations)	60	Meter
	Lay and install grounding 16mm grounding cable from earth chamber to air rod (estimation 60m for 4 station)	40	Meter
	Supply, lay and install 3 core x 2.5mm outdoor cable using 1 inch GI conduit burried under ground from existing MSB panel to CCTV control panel at Rumah Pam Sri Muda Location 1	20	Meter
<b>3.10</b>	<b>Grounding System</b>		
	Supply and install earth chamber including copper rod and 16mm grounding cable from Lightning arrestor to earth chamber for station Rumah Pam Sg Kuyoh Sri Kembangan, Pintu Air Pekan Banting, Rumah Pam Taman Mesra	3	Lot
	Supply and install earth chamber including copper rod for Rumah Pam Star Kelang	1	Lot
	To supply and install Taper Pointed Air Rod Lightning Arrestor 500mm Cooper for station Rumah Pam Sg Kuyoh Sri Kembangan, Pintu Air Pekan Banting, Rumah Pam Star Kelang, Rumah Pam Taman Mesra	3	Nos
	Supply and install 16mm grounding cable from CCTV control panel to earth chamber at Rumah Pam Star Kelang	5	Meter
	Hacking and conceal at Rumah Pam Star Kelang, Rumah Pam Sg Kuyoh Sri Kembangan and Rumah Pam Taman Mesra	10	Meter
<b>4.</b>	<b>CONNECTIVITY</b>		
	The selection of service provider (Exp: Maxis/Celcom/Digi/Unifi) will differ according to the location based on the optimum coverage in every location Minimum requirement of 20GB is required Price inclusive for 1 Year Contract	8 Nos x 12 month = 96	Nos
	Dyndns services for 2 years	2	year
<b>5</b>	<b>APPLICATION DEVELOPMENT (WEB APPLICATION)</b>		
	-"Contractor shall develop web-based systems with responsive features that can be accessed through the latest versions of	1	Nos

	<p>Internet Explorer, Google Chrome, Safari, Mozilla Firefox and mobile browsers (smartphones iOS dan Android).</p> <ul style="list-style-type: none"> <li>-User Page (Develop interactive user page interface and contents for CCTV web applictation)</li> <li>-Admin Page (Develop interactive admin page interface and contents for CCTV web applictation)</li> <li>-Log in page - enter username and password to enter into the administrator page.</li> <li>-Email registration notification for a new user once registration has been registered.</li> <li>-Develop forgot email or password function</li> <li>-Change password</li> <li>-Update profile</li> <li>-"CCTV List:</li> <li>-"Manage CCTV:</li> <li>-"Image CCTV Query:</li> <li>-User can view and manage user registered in web portal.</li> <li>-"Integration, testing and pilot run             <ul style="list-style-type: none"> <li>- Integration data</li> <li>- Sesion User Acceptance Test (UAT)</li> <li>- Sesion Final Acceptance Test (FAT)</li> <li>- Test Run Installation</li> <li>- Live Run Network Acces</li> </ul> </li> <li>Including cert license documentation and software usage documentation</li> <li>-"Contractor shall provide technical training (Transfer of Technology)</li> </ul> <p><b>*specification compliance details please refer to Borang Spesifikasi Teknikal</b></p>		
<b>6.</b>	<p><b>DATA MANAGEMENT SYSTEM (SERVER)</b>  <b>The successful tenderer is required to upgrade existing server for the new system according to the specifications as follow :-</b></p>		
	<p><b>Existing Server: DELL PowerEdge R440</b></p>		
	<p>a) Memory : 32 DDR4</p>	1	Nos
	<p>b) Hardisk : 1TB hot -swap Drive bays</p>	1	Nos
<b>7.</b>	<b>TESTING AND TRAINING</b>		
	<ul style="list-style-type: none"> <li>a) Inspection will be carried out for the whole CCTV system, perform necessary settings of all the equipment and carry out full testing and commissioning</li> <li>b) Two sets of operation and maintenance manuals covering all the security equipment installed including commissioning records, detailed circuit diagrams, wiring diagrams and lists of spares.</li> <li><b>c)</b> Fitted drawings in the form of three sets of prints and one copy on USB stick. The drawings include a layout of the equipment and wiring on plans and a general schematic drawing of the whole system.</li> <li><b>d)</b> 2 day Training for Admin and users</li> <li><b>e)</b> 1 week Operation support upon training</li> </ul>	10 person support Team	

8.	WARRANTY PERIOD		
	<ul style="list-style-type: none"><li>a) 12months of Warrantied Period</li><li>b) Helpdesk to respond in an hour to troubleshoot minor problems and 1day duration for major problems.</li><li>c) 3months once (4 times a year) maintenance course</li><li>d) Cleaning of camera housing glasses, re aiming of cameras as required, checking of system cabling and equipment, and a dated detailed report on the status of all the equipment including diagnostics of faults encountered on site, if any.</li></ul>	12 Months	

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## **List of CCTV Station**

### Existing Station

- i. Rumah Pam Sri Serdang
- ii. Rumah Pam KTM Batu3
- iii. Rumah Pam Sri Muda Location 1
- iv. Rumah Pam Sri Muda Location 2

### New Station

- iv. Rumah Pam Sg Kuyoh Sri Kembangan
- v. Pintu Air Pekan Banting
- vi. Rumah Pam Star Kelang
- vii. Rumah Pam Taman Mesra





## LAMPIRAN 1

### 1. Rumah Pam Sg Kuyoh Sri Kembang



- 1) Pole 4 meter
- 2) CCTV control panel and others equipment
- 3) Solar 100 watt and bracket - 2 units
- 4) Solar charge controller - 1 unit
- 5) Battery 100Ah - 2 units
- 6) Lay and terminate 2 core x 4mm cable for solar
- 7) Lay 3 core x 1.5mm power cable
- 8) Lay and terminate Cat5E network cable
- 9) Configuration work and testing with CCTV web portal

## LAMPIRAN 2

## 2. Pintu Air Pekan Banting

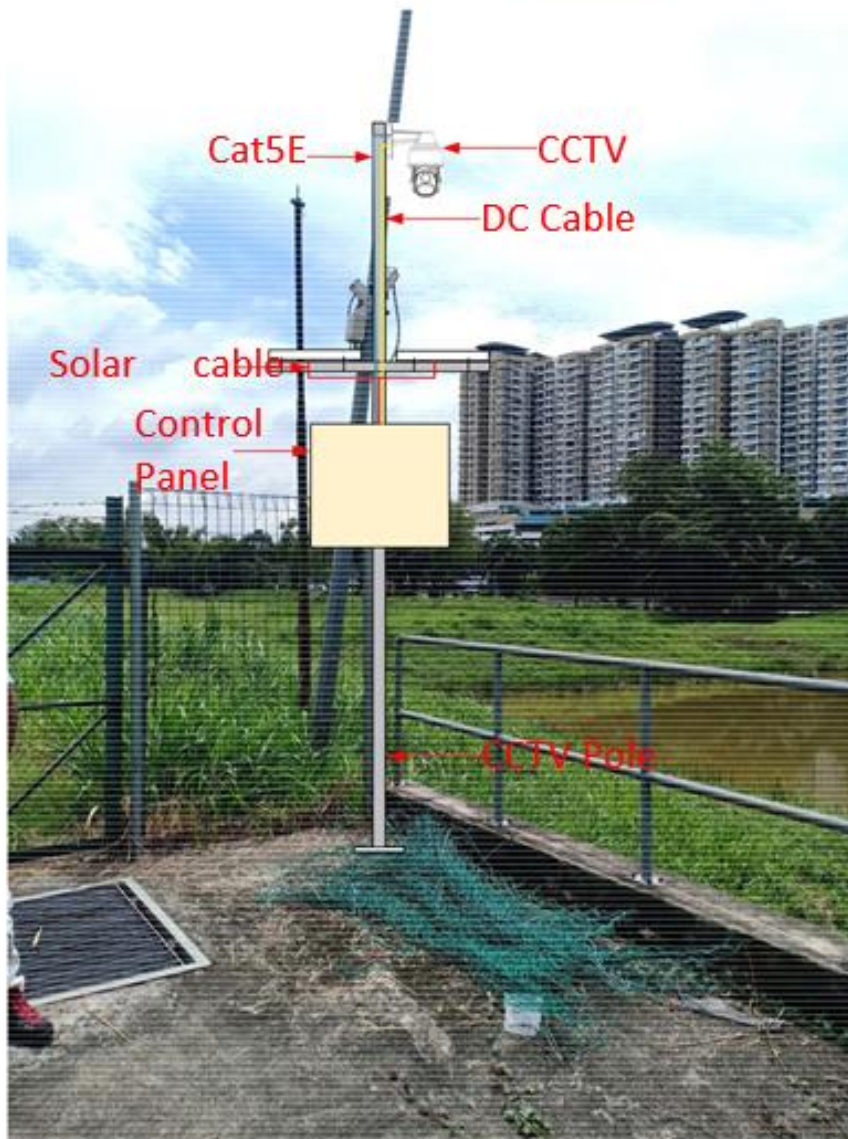


- 1) New 8 meter pole
- 2) New CCTV control panel and others equipment
- 3) Solar 100 watt and bracket - 2 units
- 4) Solar charge controller - 1 unit
- 5) Battery 100Ah - 2 units
- 6) Lay and terminate 2 core x 4mm cable for solar
- 7) Lay 3 core x 1.5mm power cable
- 8) Lay and terminate Cat5E network cable
- 9) Configuration work and testing with CCTV web portal



## LAMPIRAN 3

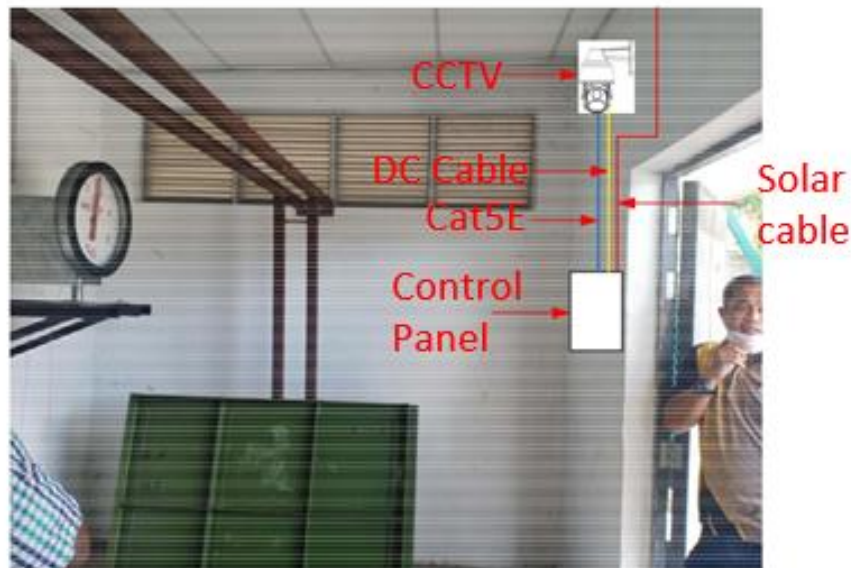
### 3. Rumah Pam Taman Mesra



- 1) New 5 meter pole
- 2) New CCTV control panel
- 3) Solar 100 watt and bra
- 4) Solar charge controller
- 5) Battery 100Ah - 2 units
- 6) Lay and terminate 2 co
- 7) Lay 3 core x 1.5mm po
- 8) Lay and terminate Cat5
- 9) Configuration work and t

## LAMPIRAN 4

### 4. Rumah Pam Star Kelang



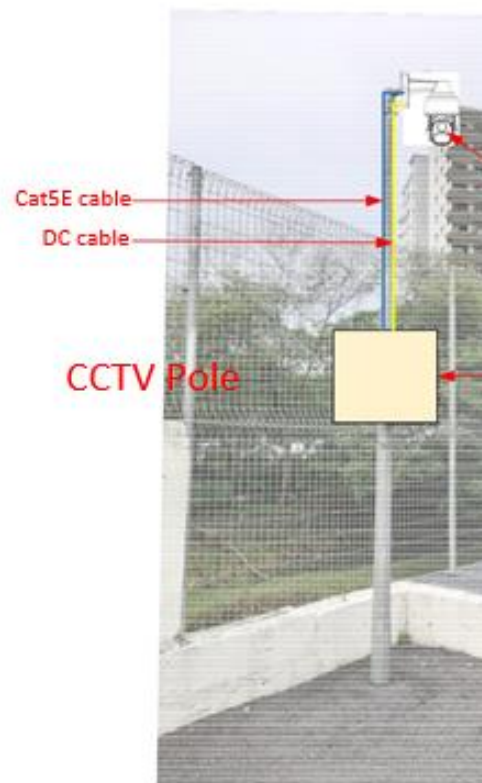
- 1) Install CCTV bracket
- 2) CCTV control panel and
- 3) Solar 100 watt and bra
- 4) Solar charge controller
- 5) Battery 100Ah - 2 units
- 6) Lay and terminate 2 co
- 7) Lay 3 core x 1.5mm po
- 8) Lay and terminate Cat5
- 9) Configuration work and

## LAMPIRAN 5

### 5. KTM Batu 3



Dismantle existing control panel and existing CCTV



Cat5E cable

DC cable

CCTV Pole

- 1) Using existing pole
- 2) Dismantle existing control panel and existing CCTV
- 3) Install new CCTV control panel and others equipment with removable
- 4) Install new CCTV bracket
- 5) Lay and terminate Cat5E network cable
- 6) Lay 3 core x 1.5mm power cable
- 7) Using power supply existing 240vac
- 8) Configuration work and testing with CCTV web portal



## LAMPIRAN 6

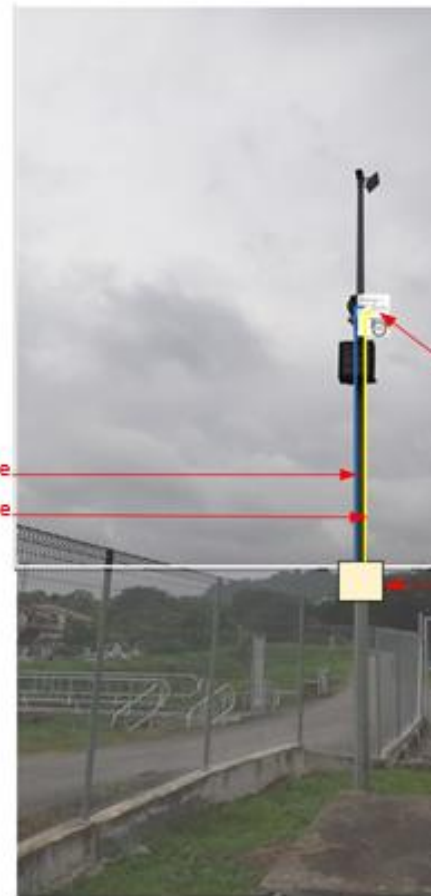
### 6. Rumah Pam Sg Serdang



Dismantle existing control panel and existing CCTV

Cat5E cable

DC cable



- 1) Using existing pole
- 2) Dismantle existing control panel and existing CCTV
- 3) Install new CCTV control panel and others equipment with removable bracket
- 4) Install new CCTV bracket
- 5) Lay and terminate Cat5E network cable
- 6) Lay 3 core x 1.5mm power cable
- 7) Using power supply existing 240vac
- 8) Configuration work and testing with CCTV web portal

## LAMPIRAN 7

### 7. Rumah Pam Sri Muda 1



Dismantle existing control panel and existing CCTV

Install new control panel and new CCTV c/w removable bracket

3 core x 2.5mm outdoor cable buried underground



- 1) Using existing pole
- 2) Dismantle existing control panel and existing CCTV
- 3) Lay 3 core x 2.5mm outdoor cable underground using 1 inch GI conduit
- 3) Install new CCTV control panel and others equipment with removable bracket
- 4) Install new CCTV bracket
- 5) Lay and terminate Cat5E network cable
- 6) Lay 3 core x 1.5mm power cable
- 7) Using power supply existing 240vac
- 8) Configuration work and testing with CCTV web portal



8. Rumah Pam Sri Muda 2



Dismantle existing control panel and existing CCTV



- 1) Using existing pole
- 2) Dismantle existing control panel and existing CCTV
- 3) Lay 3 core x 2.5mm outdoor cable underground using 1 inch GI conduit
- 3) Install new CCTV control panel and others equipment with removable bracket
- 4) Install new CCTV bracket
- 5) Lay and terminate Cat5E network cable
- 6) Lay 3 core x 1.5mm power cable
- 7) Using power supply existing 240vac
- 8) Configuration work and testing with CCTV web portal