	4.1 Mbits minimum PoE Standard: Ports 1 to 4: IEEE 802.3af, IEEE 802.3at, IEEE 802.3bt Ports 5 to 8: IEEE 802.3af, IEEE 802.3at PoE Power Pin: Ports 1 to 4: 8-pin power: 1/2(-), 3/6(+), 4/5(+), 7/8(-) Ports 5 to 8: End-span: 1/2(-), 3/6(+) Max Port Power: Ports 1 to 4: 90 W Ports 5 to 8: 30 W PoE Port: Hi-PoE: Ports 1 to 4 PoE: Ports 5 to 8 Power Budget: 300W minimum Long Range: Ports 1 to 8: up to 300 m. Port Isolation: • Ports 1 to 8: port isolation mode to improve network security • Ports in an isolation group cannot communicate with each other, but they can communicate with ports outside the isolation group. PoE Watchdog: Ports 1 to 8: auto detect and restart the cameras that do not respond. Link Aggregation: Link aggregation is used to aggregate multiple physical ports to form a logical port for load balancing, bandwidth expansion, and port protection. • Support static link aggregation. • Support 8 aggregation groups.	

Loop Prevention:

Loop prevention is used to prevent the switching network from forming loops, which will seriously affect network communication. Disabled by default.

- Support 802.1D STP (Spanning Tree Protocol)
- Support 802.1w RSTP (Rapid Spanning Tree Protocol)
- Support G.8032 ERPS (Ethernet Ring Protection Switching)

Qulity of Service (QoS):

QoS is used to allocate bandwidth to different services so as to provide end-to-end service quality assurance.

- Support port-based priority configuration.
- Support Strict Priority (SP), Weighted Round Robin (WRR) priority schedule mode.

Virtual Local Area Network (VLAN):

VLAN is used for network scale planning and network health improvement.

- Support 802.1Q.
- Configurable VLAN ID from 1-4094.
- Support Trunk, Access port mode.
- Support Max. 4094 VLAN.

Pro-rate Limiting:

Port rate-limiting is used for port bandwidth adjustment to prevent network congestion.

Storm Control:

Storm control is used to prevent switch ports from being blocked by broadcast or multicast storms in the Local Area Network (LAN), which may affect network communication.

- Support port rate limiting based on broadcast, multicast, and unknown unicast packets.

Dynamic Host Configuration Protocol (DHCP) Snooping:

DHCP Snooping can prevent unauthorized connections to DHCP servers from disrupting the network and affecting normal network

	communication, and only allow DHCP packets from trusted ports to pass through. Disabled by default. Access Control List (ACL): • Port security strategy. • Support up to 64 ACL entries. • Support up to 128 configuration rules under all ACL entries. Internet Protocol Source Guard (IPSG): • IPSG can control the security of port access device. • Support port, MAC, IP binding. • Support 256 security entries. Shell Material: Metal material, IP40 Operating Temperature: -40 °C to 75 °C (-40 °F to 167 °F) Operating Humidity: 5% to 95% (no condensation) Power Supply: • 48~57 V DC, 7.5 A • 52 V~57 V recommended input voltage to ensure stable power supply. • Support dual power inputs and hot backup. Installation Mode: Desk-Mounted,Rail Max Power Consumption: 307 W Surge Protection: 6kV	
10	**Dual-socket Rackmount Server** Application: Video Streaming Server **Quantity: 2** *Datasheet Requirements:*	

	CPU: 1 x 4410T (2.7 GHz-4.0 GHz, 26.25 MB Cache, 10 Cores, 20 Threads) Memory: 2 x 32GB Support 16GB/32GB/64GB DDR5 RDIMM, 4800MT/s ECC Slots: 16 x DDR5 DIMM slots, supports RDIMM 16x64 GB MAX (1 CPU Configuration with 8 slots available. 2 CPU configuration with 16 slots available.) Hard Drive: 960GB SSD×2(RAID_1) + 2TB 7.2K SATA×2(RAID_1) Support 2TB/ 4TB/ 8TB/ 12TB/ 16TB/22TB 7.2K SATA Hot-plug HDD Support 480GB/ 960GB/ 1.92TB/ 3.84TB SATA Hot-plug SSD Slots: 8 x 3.5-inch SAS/SATA (HDD/SSD) slots, supports HDD 8 x 22TB max (Empty slots do not include hard drive bays by default) Storage Controller: PERC H355 adaptor LP, support RAID 0/1 Operating System: Windows Server 2022 Standard Remote Management Features: • iDRAC9 • iDRAC Direct • iDRAC RESTful API with Redfish • iDRAC Service Manual OpenManage Software Features and Functions: • OpenManage Enterprise • OpenManage Power Manager plugin • OpenManage Service plugin • OpenManage Update Manager plugin • CloudIQ for PowerEdge plug in • OpenManage Enterprise Integration for VMware vCenter • OpenManage Integration for Microsoft System Center • OpenManage Integration with Windows Admin Center	

	Security Features: • Cryptographically signed firmware • Data at Rest Encryption (SEDs with local or external key mgmt) • Secure Boot • Secured Component Verification (Hardware integrity check) • Secure Erase • Secured-core server • Silicon Root of Trust • System Lockdown (requires iDRAC9 Enterprise or Datacenter) • TPM 2.0 FIPS, CC-TCG certified Integrations and Connections Features: • Truesight • Microsoft System Center • OpenManage Integration with ServiceNow • Red Hat Ansible Modules • Terraform Providers • VMware vCenter and vRealize Operations Manager	
11	**4MP Automatic Number Plate Recognition (ANPR) Intelligent Entrance Video Unit** Application: Plate Recognition Camera **Quantity: 48** *Datasheet Requirements:* Sensor Type: 1/1.8" Progressive Scan CMOS Max Resolution: 2688 × 1520 Min Illumination: Color: 0.0005Lux@(F1.47, AGC ON) B/W: 0.0001Lux@(F1.47, AGC ON) Lens Aperture: 2.8 to 12 mm: F1.2 to F2.5	

	Focal Length & FOV: 2.8 to 12 mm, horizontal FoV: 113.5° to 39°, vertical FoV: 58.4° to 22.7°, diagonal FoV: 141.3° to 44.3° Supplement Light Type: IR Light, Warm White Light Supplement Light Range: Video: 2.8 mm to 12 mm: 20 m Vehicle License Plate: 2.8 mm to 12 mm: 10 m Trigger Type: Video Detection, I/O Coil, Radar Mixed Traffic Picture Type: Scene Picture, Scene Picture + Close-up Picture Scene Mode: Entrance & Exit Toll Gate, Underground Parking Entrance & Exit Capture Type: Strobe Light Mode Image Format: JPEG Capture Resolution: 2688 × 1520 License Plate Recognition: Forward, Backward, Bidirection LED Control: Supports automatic light control/time control of LEDs Smart Recognition: ANPR, Motor Vehicle Feature, Vehicle Color Recognition, Enable Vehicle Manufacturer Recognition	

	Capture Picture Overlay: Location, Capture Time, Plate Number, Capture No., Vehicle Color Vehicle Type High accuracy Philippine plate number recognition rate, more than 99.5% Support customized 2 relay output to control vehicle barrier Vehicle Type Recognition: Car/Van/Bus/Truck/LightTruck/SUV_MPV/Pickup/Pedestrian/Motorcycle/Tricycle Vehicle Color: Red, Yellow (including orange, golden), Green, Cyan, Blue, Purple, Pink, Brown, White, Gray (including silver), Black	
12	**Intelligent Analytics Network Video Recorder (NVR)** **Quantity: 16** *Datasheet Requirements:* IP Video Input: 64-ch Up to 8 MP resolution Incoming Bandwidth: 1024Mbps Outgoing Bandwidth: 1024Mbps Decoding Format: H.265/H.265+/H.264/H.264+ AI by NVR: Human (3 Algorithm models) 1. Facial recognition: 2. People counting: regional people counting, people counting statistics 3. Personal Protective Equipment (PPE): safety helmets and reflective vests detection Vehicle (2 Algorithm models) 1. Vehicle attributes: vehicle brand, vehicle color, vehicle type 2. Non-motorized vehicle detection: motorcycle, bicycles	

	Dangerous Event (2 Algorithm models) 1. Fire and smoke detection 2. Occupation of fire escape Behavior (3 Algorithm models) 1. Street level behavior : falling down detection, people gathering detection, fast moving detection, physical conflict detection 2. Indoor: playing phone, sleeping on duty, absence, number of people allowed, overstaying detection 3. Perimeter: intrusion detection, line crossing detection, region entrance detection, region exiting detection 4. Smoke detection, call detection Engine: 2 × GPU Card (1 Card = 4 * KT2 engine) Live Video Analysis: 32-ch 4 MP or 16-ch 6 MP or 8-ch 8 MP Offline Picture Analysis: 4 image per GPU per second or 1 image per GPU per second (Large model)	
13	**Thermal & Optical Bi-spectrum Network Bullet Camera** Application: Thermal Detection **Quantity: 48** *Datasheet Requirements:* Thermal Module Image Sensor: Vanadium Oxide Uncooled Focal Plane Arrays Resolution: 640 x 512 Pixel Pitch: 12 μm Focal Length: 15 mm	

	IFOV: 0.8 mrad Field of View: 29.3° × 23.4° (H × V) Optical Module Image Sensor: 1/2.7" Progressive Scan CMOS Resolution: 2688 × 1520 Min Illumination: 0.0089Lux @(F1.6,AGC ON) ,0 Lux with IR Field of View: 51.9° × 28° (H × V) Focal Length: 6.4 mm Bi-spectrum Image Fusion: Display the details of optical channel on thermal channel Picture in Picture: Display partial image of thermal channel on the full screen of optical channel Target Coloration: Supported in white hot and black hot mode. IR Distance: Up to 50 m Smart Function VCA: 4 VCA rule types (line crossing, intrusion, region entrance, and region exiting), up to 8 VCA rules in total Temperature Measurement:	

	3 temperature measurement rule types (point, area, line), 21 rules in total Temperature Range: -20 °C to 150 °C (-4 °F to 302 °F) Temperature Accuracy: ± 8 °C (±14.4 °F) Fire Detection: Dynamic fire detection, up to 10 fire points detectable Smoking Detection: Up to 10 smoking points detected	
14	**Network Horn Speaker Power over Ethernet (POE) 25W** **Quantity: 176** *Datasheet Requirements:* Microphone Type: Electret Frequency Response: 100 Hz to 20 kHz Sensitivity: -42 dBV/Pa Speaker Impedance: 8 Ω Rated Power: 25W	

	Sensitivity(1m, 1W): 110 dB Direction: 70° horizontal by 100° vertical Max Acoustic Pressure: 124 dBSPL Frequency Response: 300 Hz to 8 kHz SNR: 83 dB Audio Algorithm: Acoustic Echo Cancellation (AEC) , Automatic Gain Control (AGC), Automatic Noise Suppression (ANS), Dynamic Range Control (DRC) Audio Bit Rate: G.711ulaw (64 Kbps)/G.711alaw (64 Kbps)/MP3 (128 Kbps) Audio File Format: WAV, MP3 NTP Timing: Support Broadcast: Regular broadcast, live broadcast, emergency broadcast Two-way Audio: Support Network Protocol: IPv4, HTTP, HTTPS , SIP, SSL/TLS , DNS, NTP, TCP, UDP, IGMP, ICMP, DHCP, ARP,SSH	

	Interface Protocol (API): ISAPI, ISUP, SIP, RTP,ONVIF Network Interface: RJ45 10 M/100 M Adaptive Ethernet port × 2 Local Storage: Built-in 64 GB EMMC (Audio file storage is 55 GB)	
15	**Liquid Crystal Display (LCD) Unit** **Quantity: 12** *Datasheet Requirements:* LCD Technology: In-Plane Switching (IPS) Screen Size: 55 inch minimum Active Display Area: 1209.6 (H) mm × 680.4 (V) mm Backlight: Direct-lit LED backlight Pixel Pitch: 0.63 mm Physical Seam: 3.5 mm Physical Seam Tolerance: ± 0.8 mm Physical Resolution: 1920 × 1080 Brightness: 500 cd/m²	

16	**Ultra High Definition Decoder** **Quantity: 6** *Datasheet Requirements:* Network Interface: 2 × 10/100/1000 Mbps self-adaptive Ethernet interface (RJ-45) 2 × 100 BASE-FX/1000 BASE-X port Supports the self-adaption between the optical port and electrical port. Video Walls: 1 Video Wall Scale: ≤16 Split Window: Supported Scenes: 64 Video Input Interface: 2 Video Encoding Format: H.264 (default), H.265 Audio Encoding Format: G722.1, G711_U, G711_A, AAC Video Output Interface: 16	

	Video Output Interface Type: HDMI 1.4 Video Decoding Format: H.264, H.265, SmartH.264, SmartH.265, MJPEG Video Decoding Resolution: Up to 32 MP Video Decoding Channel: 256	
17	**Video Wall Controller** **Quantity: 1** *Datasheet Requirements:* Bus Type: 10 GB network switching Mixed Installation Service Boards: Supported Main Controller Board Slot: 2 Installed Main Control Boards: 1 Service Board Slot: 11 Max Input Slot: 10 Max Output Slot: 10	

	Power Supply Slot: 3 Installed Power Supplies: 1 Fans: 4 Dual Device Hot Backup: Supported Screen Type: 4.3 inch non-touch screen, length × width: 105.42 mm × 67.07 mm (4.15 inch × 2.64 inch), resolution: 480 × 272 Device Power Consumption: ≤ 550 W (full configuration) Management Interface: 2 × 10/100/1000 Mbps auto-sensing Ethernet interface (2 network ports on the switching board and 1 network port reserved on the main control board) Transmission Protocol: SDK, RTSP, ONVIF Videowall Scale: 40 Split Window: Supported Window Division per Output Port: 1, 4, 6, 8, 9, 16 Layers Per Port:	

	8 × 1080p layers or 4 × 4K layers Scenes: 128 Plans: 128 Adopts the plug-in modular design and 11 slots for hot swappable service boards: Yes	
18	**Uninterruptible Power Supply (UPS) 3KvA** **Quantity: 16 units** *Datasheet Requirements:* • At least 3000/2700 (VA/W) • Output power factor of 0.9-1.0 • Has at least +/-1% AC Voltage Regulation Capabilities • Has Emergency power off function • With LCD Interface/Display • With overload/overcharge protection • Rack-mounted/Tower design • Complies with Standards: - Safety: IEC/EN 62040-1, IEC/EN 62477-1 - EMC: IEC/EN62040-2, IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8	
19	**Monitoring Workstations for PPA Head Office** **Quantity: 2 Sets** Complete peripherals/accessories (keyboard, mouse, tables, chairs, etc.) Three (3) LED screens, 1920 x 1200 Resolution, (24"/75Hz Vertical Frequency/HDMI/DVI) Connected to a central UPS or individually equipped with a UPS, at 1kVA 4 Cores 8 Threads, 3.0GHZ; 32 GB RAM 512 GB SSD	

	6GB 1060 x 2 GP NIC 1 GBPS 750W Power Supply (Minimum)	
20	**SURVEILLANCE / ESCALATION MANAGEMENT SOFTWARE (1 Lot)** o An existing Proprietary or Third-Party Surveillance and/or escalation management software, or a combination of multiple propriety or third-party software, used during live or analytics-based surveillance by the Remote Video Surveillance Operators which shall be required to have: ▪ User Account Log-in Feature using username or password ▪ Display the list of alerts from the project that aids the surveillance team during incident escalation and handling ▪ Manage (add new incidents or archive / delete incidents) that can be escalated by the surveillance team ▪ Display all escalated incidents made by the surveillance team ▪ Investigate escalated incidents made by the surveillance team by the surveillance supervisors ▪ Validate escalated incidents made by the surveillance team by the surveillance supervisors ▪ Automatically send SMS or email notifications to intended onsite personnel based on preset rules that can be made via the software when an escalation is validated by the surveillance supervisors. ▪ Display list of all closed escalated incidents ▪ A visual dashboard that can monitor incident statistics such as • Trend of total incidents for at least the past six (6) months highlighting the total count of valid incidents for the current month • Top occurring incidents for the current month • Top locations with highest incidents for the current month ▪ Receive analytics-based alarms as an integrated or separate tool used by the surveillance team that allows analytics-based monitoring of cameras • Analytics-based alarms should be displayed in the form of a Thumbnail and / or video • The surveillance team must have the ability to escalate or drop valid or invalid alarms • sHistorical alarms processed by the surveillance team must be displayed	
21	**CONNECTIVITY WITH CENTRAL LIVE REMOTE COMMAND CENTER AND PPA MIRROR COMMAND CENTER (16 SITES+ Central Remote Command Center + PPA Mirror Command Center)**	

	Datasheet Requirements: a. Provide a secure connectivity solution to deliver feed from at least 16 PPA sites nationwide to Central Command Center and Mirror Command Center b. 99.5% guaranteed uptime bandwidth of at least 10 MBPS (symmetric upload and download) per location c. Private/exclusive and secure cyber connection (IP-VPN); d. Scalable as increased demand for analytics is further defined; e. The addition of the new sites for live remote video surveillance will provide the necessary digital information consistent with the requirements outlined per site.	
22	**CENTRAL MONITORING STATION** (1 lot) a. Located in the National Capital Region, with Mayor's/Business Permit; b. At least 150 sq. m. exclusively dedicated to remote video monitoring of PPA facilities, as indicated in the floor plan of the Central Monitoring Station; c. Layout of the remote video monitoring area of the Central Monitoring Station shall be conducive to monitoring by ensuring that the Remote Video Surveillance Supervisor can see the monitors of all the Remote Video Surveillance Operators under his/her supervision, while the Remote Video Surveillance Operators should not be able to see the monitors of the Remote Video Surveillance Supervisor and other Remote Video Surveillance Operators, as indicated in the layout plan of the Central Monitoring Station; d. Equipped with biometric access controlled magnetic door lock with power supply/battery and time-keeping functionalities. e. Equipped with a 49" LED Full HD (1080p) TV f. Workstations: i. Complete peripherals/accessories (keyboard, mouse, tables, chairs, etc.); ii. Three (3) LED screens, 1920 x 1200 Resolution, (24"/75Hz Vertical Frequency/HDMI/DVI); iii. Connected to a central UPS or individually equipped with a UPS, at 1KVA; iv. 4 Cores & Threads, 3.0GHZ; v. 32 GB RAM; vi. 512 GB SSD vii. 6GB 1060 x 2 GP viii. NIC 1 GBPS ix. 750W Power Supply (Minimum) g. Secure Network/Server Room (5 sq. m.), as indicated in the floor plan, with access monitored and restricted strictly to authorized personnel only by a biometric access- controlled magnetic door lock with power supply/battery h. Office Surveillance shall be provided for the Monitoring Area	

	of the Central Monitoring Station for a 360 degrees total perspective, as indicated in the layout/floor plan, and by utilizing the following: i.2 Dome Cameras ii. Video Management Server; and iii. Video Streaming Server The technical specifications of the foregoing are as indicated under items 2 & 3. i. Electric Diesel Generator, which must be able to provide sufficient power for air-conditioning and ensure continuous and complete remote surveillance and monitoring of all locations during power interruptions, and with the following minimum specifications: i.75 KVA; ii.3 phase; iii.60 HZ; and iv.1800 RPM. j. As it is critical for ensuring focus and attention, a Quiet Room/Resting Area (10 sq. m.) with a bunk bed; k. To maximize the rest period of all personnel, a Pantry and Eating Area (15 sq.m.) with refrigerator, microwave, and dining area for at least 8 persons is available for personnel use; l. For team functions, a Conference Room (20 sq. m.) with an 8 seat conference table will be made available; m.Male (5 sq. m.) and Female (5 sq. m.) Bathrooms; n. The amenities shall be indicated accordingly in a floor plan of the Central Monitoring Station. o. Scalable and therefore able to integrate various surveillance solutions (Internet of Things Devices). The integration capability with other systems and accommodating additional areas (up to 1,000,000 cameras) for remote surveillance and monitoring is critical for an ongoing digital transformation of safety and security. p. Business Continuity and Recovery Services shall continue to perform 24/7/365 operations for the 16 PPA sites in the event of a disruptive event such as an earthquake or typhoon.	
23	**4- core Fiber Optic Cable** **(1 lot)**	

	Armored Round Cable 4Core Single Mode 2km/drum	
24	**UTP Cat6E** **(1 lot)** *Indoor UTP Cat6E* (0.56mm 23AWG) OFC Pure Copper 305m/roll Blue *Outdoor UTP Cat6E* 0.56mm 23AWG) Pure Copper 305m/roll Black	
	PROJECT DURATION The winning bidder shall supply and deliver to PPA and install and commission the required surveillance cameras at the areas of deployment within a period of 180 calendar days from the receipt of the Notice to Proceed (NTP). The service component, or the maintenance of the surveillance cameras and the live remote surveillance of the covered ports shall cover a period of five (5) years from the date of activation.	
	PERSONNEL QUALIFICATIONS The Service Provider shall certify that its existing personnel meet the identified qualifications in working with ports, as follows: **A. REMOTE VIDEO SURVEILLANCE SUPERVISOR (2 SUPERVISORS)**	

1. College graduate

2. With at least one (1) year experience in supervising a multi-site (at least 20 sites simultaneously) remote video surveillance team (10 or more operators at a time); provide certifications from employer.

3. With notarized curriculum vitae (CV), indicating among others the relevant experience and training of the required personnel, to be submitted along with the bidding documents;

B. REMOTE VIDEO SURVEILLANCE OPERATOR (20 OPERATORS)

1. Criminology graduate

2. Experienced in multi-site (at least 15 site simultaneously) remote video surveillance operation; provide certifications from employer;

3. With at least six (6) months experience in multi-site remote video surveillance operation;

4. With notarized curriculum vitae (CV), indicating among other the relevant experience and training of the required personnel, to be submitted along with the bidding documents.

OTHER REQUIREMENTS

a. OPERATIONS HANDBOOK

The Operations Handbook shall articulate the operational framework, including but not limited to, process flow, roles and responsibilities of personnel, outcomes and reports for remote multi-site surveillance and monitoring, detailing the standards for such operations and the procedure/protocols by which the standards can be consistently achieved. The handbook shall contain a comprehensive disaster recovery/continuity plan (Business Continuity Plan) in case of natural or man- made disasters, such as, but not limited to, fires, typhoons, internet and power outages.

b. The following documents must be submitted along with the bidding documents and shall be subject to verification during post-qualification:

1. Curriculum Vitae of each of the two (2) Remote Video Surveillance Supervisor and twenty (20) Remote Video Surveillance Operators

	2. Certificate of Experience of all the required personnel issued by the employer. 3. Operations Handbook 4. Certificate of Warranty	
	TRAINING • The winning bidder must provide a minimum of four (4) hours training within 7 days after the activation of a site/port to PPA Personnel for the use of the system. • Winning Bidder shall submit a Proposed Training Plan or Outline indicating topics and duration as proof of readiness to deliver the required training.	
	WARRANTY • The winning bidder shall warrant the continuous operation of the system for the entire 5-year duration of the contract. • A Certificate of Warranty to this effect shall be submitted along with the bidding documents. • If equipment is inoperable and malfunctioning, the winning bidder shall provide maintenance service to the site within seventy two (72) hours after notification for the entire 5-year warranty period. • The winning bidder shall ensure sufficient onsite spare camera inventory at all times for the entire 5-year duration of the contract. Upon depletion of spare units, the winning bidder shall immediately notify PPA and submit the required specifications and quantity for replenishment. PPA shall be responsible for initiating the procurement process to avoid service disruption.	
	All other provisions stated in the Terms of Reference not included herein	

Terms of Reference

Supply, Delivery, Installation, and Commissioning of CCTV Surveillance Monitoring (Phase VI)

I. OBJECTIVES

The objective of this project is to replace the existing Phase 1 CCTV system of the Philippine Ports Authority with upgraded, high-performance surveillance equipment to enhance port security, ensure reliable 24/7 monitoring, and improved operational efficiency across PPA-managed ports.

II. APPROVED BUDGET FOR THE CONTRACT

The Approved Budget for the Contract is **Five Hundred Million Pesos (P500,000,000.00)**

III. PROJECT SCOPE

Security surveillance shall be on a 24/7 basis, for 365 days a year. The areas of deployment are the following ports: (see attached Annex A)

1. PMO NCR North (North Harbor)
2. Port of Batangas
3. PMO Mindoro (Calapan)
4. PMO Mindoro (Roxas)
5. PMO Bicol (Matnog)
6. PMO Panay/Guimaras (Iloilo)
7. PMO Western Leyte/Biliran (Ormoc)
8. PMO Bohol (Tagbilaran)
9. PMO Bohol (Tubigon)
10. PMO Negros Oriental/Siquijor (Dumaguete)
11. PMO Panay/Guimaras (Dumangas)
12. PMO Misamis Occidental (Ozamiz)
13. PMO Misamis Oriental/Cagayan de Oro
14. PMO Zamboanga
15. PMO Zamboanga (Basilan)
16. PPA Head Office

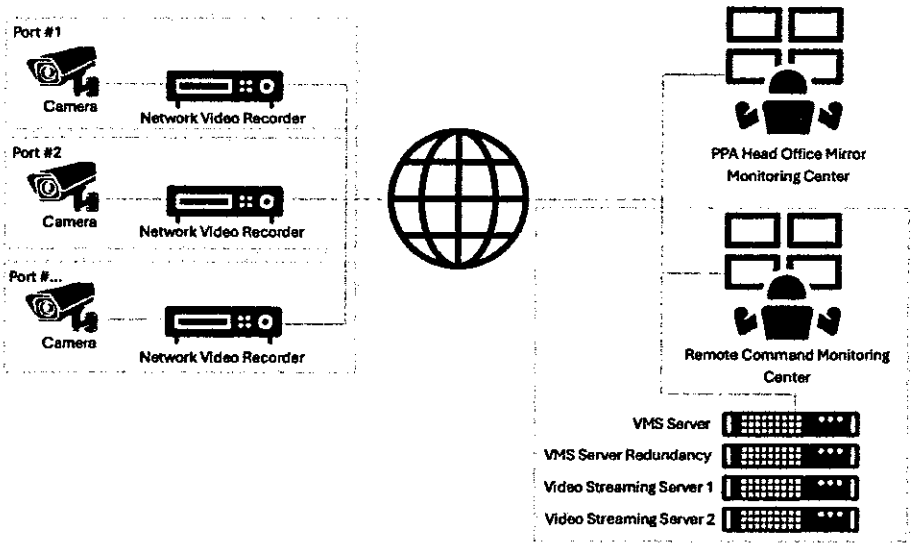
The Contract shall be divided into three (3) stages:

1. Delivery of all CCTV Surveillance Monitoring to the PPA Head Office.

2. Installation and Commissioning of Multi-Site Surveillance Equipment in the Project Sites and Integration and Interconnectivity of the same for central monitoring, which shall be integrated and interlinked with the existing Central Monitoring Station and Command Center.

3. Remote Surveillance Services of the Project Sites shall be provided to PPA on a 24/7/365 basis for (5) years from date of activation.

IV. TECHNICAL SPECIFICATIONS

1	**Network Configuration Layout (1 lot)** 
2	**Dual-socket Rackmount Server** Application: Video Management Server **Quantity: 2 (1+1 Redundancy)** CPU: 2 x 4410T (2.7 GHz-4.0 GHz, 26.25 MB Cache, 10 Cores, 20 Threads) Memory: 2 x 32GB Support 16GB/32GB/64GB DDR5 RDIMM, 4800MT/s ECC Slots: 16 x DDR5 DIMM slots, supports RDIMM 16x64 GB MAX (1 CPU Configuration with 8 slots available, 2 CPU configuration with 16 slots available.) Hard Drive: 960GB SSD×2(RAID_1) + 2TB 7.2K SATA×2(RAID_1) Support 2TB/ 4TB/ 8TB/ 12TB/ 16TB/22TB 7.2K SATA Hot-plug HDD Support 480GB/ 960GB/ 1.92TB/ 3.84TB SATA Hot-plug SSD Slots: 8 x 3.5-inch SAS/SATA (HDD/SSD) slots, supports HDD 8 x 22TB max (Empty slots do not include hard drive bays by default) Storage Controller: PowerEdge Redundant Array of Independent Disks (RAID) Controller (PERC) H355 adaptor LP, support RAID 0/1 Operating System: Windows Server 2022 Standard

	Remote Management Features: • Integrated Dell Remote Access Controller (iDRAC9) • iDRAC Direct • iDRAC RESTful API with Redfish • iDRAC Service Manual OpenManage Software Features and Functions: • OpenManage Enterprise • OpenManage Power Manager plugin • OpenManage Service plugin • OpenManage Update Manager plugin • CloudIQ for PowerEdge plug in • OpenManage Enterprise Integration for VMware vCenter • OpenManage Integration for Microsoft System Center • OpenManage Integration with Windows Admin Center Security Features: • Cryptographically signed firmware • Data at Rest Encryption (Self-Encrypting Drives (SEDs) with local or external key mgmt) • Secure Boot • Secured Component Verification (Hardware integrity check) • Secure Erase • Secured-core server • Silicon Root of Trust • System Lockdown (requires iDRAC9 Enterprise or Datacenter) • Trusted Platform Module (TPM) 2.0 Federal Information Processing Standards (FIPS), Common Criteria - Trusted Computing Group) (CC-TCG) certified Integrations and Connections Features: • Truesight • Microsoft System Center • OpenManage Integration with ServiceNow • Red Hat Ansible Modules • Terraform Providers • VMware vCenter and vRealize Operations Manager
3	**12MP Moto Varifocal Dome Camera** Application: Facial Recognition **Quantity: 48** *Datasheet Requirements:* Image Sensor: 1/1.8" Progressive Scan Complementary Metal-Oxide-Semiconductor(CMOS)

	Max Resolution: 4000 × 3000 Min Illumination: Color: 0.0054 Lux @ (F1.2, Automatic Gain Control (AGC) ON) B/W: 0.002 Lux @ (F1.2, AGC ON) B/W: 0 Lux with IR Lens Type: Varifocal lens, motorized lens, 2.8 to 12 mm Focal Length & Field of View (FOV): 2.8 to 12 mm, horizontal FOV 102° to 44.2°, vertical FOV 53.8° to 24.8°, diagonal FOV 122.6° to 50.7° Supplement Light Type: IR Supplement Light Range: 2.8 to 12 mm: Monitoring: 45 m minimum Built-in Microphone: 2 built-in microphones Built-in Speaker: Max. power consumption: 1.5 W, max. sound pressure level: 98 dB, speaker range: 10 m minimum Basic Event: Motion detection (support alarm triggering by specified target types (human and vehicle)),video tampering alarm, video quality diagnosis, exception (network disconnected, IP address conflict, illegal login, abnormal restart, HDD full, HDD error),vibration detection Smart Event: Scene change detection, audio exception detection, defocus detection Linkage Features: Upload to File Transfer Protocol (FTP)/Network Attached Storage (NAS)/memory card, notify surveillance center, send email, trigger alarm output, trigger recording, trigger capture, audible warning AI Open Platform Model Specification: Detection model, classification model, mixed model Multi-target-type Detection Features and Capability: • Supports simultaneous detection and capture of human body, face, and vehicle, • Captures 7 face features, • Captures 13 human body features, • Captures 2 vehicle features,

	• Supports counting the number of line crossing targets by type, including human body, non-motor vehicle, motor vehicle, • Supports dynamic mosaic mask Face Capture Features: • Detects up to 60 faces simultaneously, captures up to 60 face pictures per frame simultaneously and uploads up to 10 face pictures per second, • Supports swing left and right from -70° to 70°, tilt up and down from -50° to 50°, • Uploads face with background and closed-up face pictures, • Supports best shot and quick shot for capture mode, • Supports dynamic mosaic mask, • Captures 7 face features Face Comparison Features: • Up to 10 face libraries. 30,000 faces for each library. 150,000 faces in total, • Supports face library encryption People Counting Features: • Supports Multi-Dimension People Counting, • Supports counting, displaying and exporting the people flow data of entering, exiting and passing by (The data is stored in the flash.), • Supports real-time uploading and uploading by statistic cycle, • Supports generating daily, weekly, monthly or annually reports, • Supports dynamic deduplication based on face picture comparison, and can filter out the target with the same custom face pictures, same attributes, or filter out repeated invalid targets within the set time interval, • Supports face feature deduplication, • Supports people flow data replenishment Queue Management Features: • Supports up to 8 detection regions, and independent arming schedule and linkage method • Supports 2 detection modes: regional people queuing-up, waiting time detection • Generates reports to compare the efficiency of different queuing-ups and display the changing status of one queue • Supports raw data export for further analysis • Supports real-time data uploading and scheduled data uploading • Regional people queuing-up: supports 4 alarm trigger conditions, including greater than threshold, less than threshold, equal to threshold, not equal to threshold • Waiting time detection: supports 1 alarm trigger condition, including greater than threshold

	Hard Hat Detection Features: • Detects up to 30 human targets simultaneously • Supports up to 4 shield regions Regional People Counting Features: • Supports up to 8 detection regions, and independent arming schedule and linkage method • Supports 3 detection modes: people density detection, number of people exception detection, waiting time exception detection • Supports parameter settings: alarm times per exception, alarm interval, first alarm delay • Supports searching real-time number of people • People density detection: supports scheduled uploading, number of people change uploading, congestion level uploading • Number of people exception detection: supports 6 alarm trigger conditions, including greater than threshold A, less than threshold A, equal to threshold A, not equal to threshold A, greater than threshold A and less than threshold B, less than threshold A or greater than threshold B (threshold A should be less than threshold B) • Waiting time exception detection: supports 3 alarm trigger conditions, including greater than threshold A, less than threshold A, greater than threshold A and less than threshold B (threshold A should be less than threshold B) On/Off Duty Detection Features: • Supports up to 8 detection regions, and independent arming schedule and linkage method • Supports 2 detection modes: absence detection, on/off duty detection • Supports parameter settings: person on duty, absence duration
4	**4MP 42X IR Speed Dome** Application: Pan Tilt Zoom **Quantity: 80** *Datasheet Requirements:* Image Sensor: 1/1.8" progressive scan CMOS Max Resolution: 2560 × 1440 Min Illumination: Color: 0.002 Lux @(F1.5, AGC ON) B/W: 0.0002 Lux @(F1.5, AGC ON) 0 Lux with IR Focal Length:

	5.2 mm to 218 mm, 42× Optical Minimum Field of View: Horizontal field of view: 51.1° to 1.7° (wide-tele) Vertical field of view: 31.3° to 1.0° (wide-tele) Diagonal field of view: 58.0° to 2.0° (wide-tele) IR Distance: 300 m minimum Smart IR WDR: 140dB minimum Optical Defog PTZ Movement Range (Pan): 360 degrees endless Pan Speed: Configurable, from 0.1°/s to 210°/s, Preset Speed: 280°/s PTZ Movement range: (Tilt): From -20° to 90° Park Action Features: Preset/Pattern Scan/Patrol Scan/Auto Scan/Tilt Scan/Random Scan/Frame Scan/Panorama Scan Alarm Interface: 7-ch alarm input/2-ch alarm output Audio Interface Features: 1-ch audio input, 2 to 2.4 V[p-p], 1 KΩ ± 10% 1-ch audio output, line level, impedance: 600 Ω Alarm Linkage Features: • Alarm actions, such as Preset, Patrol Scan, Pattern Scan, Memory Card Video Record, • Trigger Recording, Notify Surveillance Center, Upload to File Transfer Protocol (FTP)/Memory Card/Network Attached Storage (NAS), Send • Email, etc. Perimeter Protection Features: • Intrusion, Line Crossing, Region Entrance, Region Exiting • Support alarm triggering by specified target types (human and vehicle)

	• Filtering out mistaken alarm caused by target types such as leaf, light, animal, and flag Event Detection Features: • Unattended Baggage Detection, Object Removal Detection, Face Detection, Audio • Exception Detection Smart Tracking Features: Manual Tracking, Auto Tracking (support tracking specified target types such as human and vehicle), Event Tracking
5	**4MP Moto Varifocal Bullet Camera** Application: Outdoor Monitoring **Quantity: 192** *Datasheet Requirements:* Image Sensor: 1/1.8" Progressive Scan CMOS Max Resolution: 2688 × 1520 Min Illumination: Color: 0.0005 Lux @ (F1.2, AGC ON) B/W: 0.0001 Lux @ (F1.2, AGC ON) B/W: 0 Lux with IR Focal Length & FOV: 2.8 to 12 mm, horizontal FOV 106° to 41.8°, vertical FOV 55.4° to 23.6°, diagonal FOV 130° to 48.1° Supplement Light Type: IR Supplement Light Range: 2.8 to 12 mm: Monitoring: 60 m minimum Smart Supplement Light Built-in heater to ensure clear image under rainy weather Built-in customized G-sensor for vibration detection suitable for sea port scenario Built-in power meter for historical power statistics Basic Event Features: Motion detection (support alarm triggering by specified target types (human and vehicle)),video tampering alarm, video quality diagnosis,

	exception (network disconnected, IP address conflict, illegal login, abnormal restart, HDD full, HDD error),vibration detection Smart Event Features: Scene change detection, audio exception detection, defocus detection Linkage Features: Upload to FTP/NAS/memory card, notify surveillance center, send email, trigger alarm output, trigger recording, trigger capture, audible warning AI Open Platform Model Specification: Detection model, classification model, mixed model Multi-target-type Detection Features: • Supports simultaneous detection and capture of human body, face, and vehicle, • Captures 7 face features, • Captures 13 human body features, • Captures 2 vehicle features, • Supports counting the number of line crossing targets by type, including human body, non-motor vehicle, motor vehicle, • Supports dynamic mosaic mask Face Capture Features: • Detects up to 120 faces simultaneously, captures up to 40 face pictures per frame simultaneously and uploads up to 10 face pictures per second, • Supports swing left and right from -60° to 60°, tilt up and down from -30° to 30°, • Uploads face with background and closed-up face pictures, • Supports best shot and quick shot for capture mode, • Supports dynamic mosaic mask, • Captures 7 face features Face Comparison Features: • Up to 10 face libraries. 30,000 faces for each library. 150,000 faces in total, • Supports face library encryption Queue Management Features: • Supports up to 8 detection regions, and independent arming schedule and linkage method • Supports 2 detection modes: regional people queuing-up, waiting time detection • Generates reports to compare the efficiency of different queuing-ups and display the changing status of one queue • Supports raw data export for further analysis • Supports real-time data uploading and scheduled data uploading

	• Regional people queuing-up: supports 4 alarm trigger conditions, including greater than threshold, less than threshold, equal to threshold, not equal to threshold • Waiting time detection: supports 1 alarm trigger condition, including greater than threshold Perimeter Protection Features: • Line crossing, intrusion, region entrance, region exiting • Support alarm triggering by specified target types (human and vehicle) • Support combined event alarm triggering Hard Hat Detection: • Detects up to 30 human targets simultaneously • Supports up to 4 shield regions
6	**4MP Moto Varifocal Dome Camera** Application: Indoor Monitoring **Quantity: 176** *Datasheet Requirements:* Image Sensor: 1/1.8" Progressive Scan CMOS Max Resolution: 2688 × 1520 Min Illumination: Color: 0.0005 Lux @ (F1.2, AGC ON) B/W: 0.0001 Lux @ (F1.2, AGC ON) B/W: 0 Lux with IR Lens Type: Varifocal lens, motorized lens, 2.8 to 12 mm Focal Length & FOV: 2.8 to 12 mm, horizontal FOV 114.6° to 41.8°, vertical FOV 59.3° to 23.6°, diagonal FOV 141.3° to 48.1° Supplement Light Type: IR Supplement Light Range: 2.8 to 12 mm: Monitoring: 45 m minimum Smart Supplement light Built-in Microphone: 2 built-in microphones

	Built-in Speaker: Max. power consumption: 1.5 W, max. sound pressure level: 98 dB, speaker range: 10 m minimum Built-in customized G-sensor for vibration detection suitable for sea port scenario Built-in power meter for historical power statistics Basic Event Features: Motion detection (support alarm triggering by specified target types (human and vehicle)),video tampering alarm, video quality diagnosis, exception (network disconnected, IP address conflict, illegal login, abnormal restart, HDD full, HDD error),vibration detection Smart Event Feature: Scene change detection, audio exception detection, defocus detection Linkage Feature: Upload to FTP/NAS/memory card, notify surveillance center, send email, trigger alarm output, trigger recording, trigger capture, audible warning AI Open Platform Model Specification: Detection model, classification model, mixed model Multi-target-type Detection Features: • Supports simultaneous detection and capture of human body, face, and vehicle, • Captures 7 face features, • Captures 13 human body features, • Captures 2 vehicle features, • Supports counting the number of line crossing targets by type, including human body, non-motor vehicle, motor vehicle, • Supports dynamic mosaic mask Face Capture Features: • Detects up to 60 faces simultaneously, captures up to 60 face pictures per frame simultaneously and uploads up to 10 face pictures per second, • Supports swing left and right from -70° to 70°, tilt up and down from -50° to 50°, • Uploads face with background and closed-up face pictures, • Supports best shot and quick shot for capture mode, • Supports dynamic mosaic mask, • Captures 7 face features Face Comparison Features: • Up to 10 face libraries. 30,000 faces for each library. 150,000 faces in total,

	• Supports face library encryption People Counting Features: • Supports Multi-Dimension People Counting, • Supports counting, displaying and exporting the people flow data of entering, exiting and passing by (The data is stored in the flash.), • Supports real-time uploading and uploading by statistic cycle, • Supports generating daily, weekly, monthly or annually reports, • Supports dynamic deduplication based on face picture comparison, and can filter out the target with the same custom face pictures, same attributes, or filter out repeated invalid targets within the set time interval, • Supports face feature deduplication, • Supports people flow data replenishment Queue Management Features: • Supports up to 8 detection regions, and independent arming schedule and linkage method • Supports 2 detection modes: regional people queuing-up, waiting time detection • Generates reports to compare the efficiency of different queuing-ups and display the changing status of one queue • Supports raw data export for further analysis • Supports real-time data uploading and scheduled data uploading • Regional people queuing-up: supports 4 alarm trigger conditions, including greater than threshold, less than threshold, equal to threshold, not equal to threshold • Waiting time detection: supports 1 alarm trigger condition, including greater than threshold Hard Hat Detection Features: • Detects up to 30 human targets simultaneously • Supports up to 4 shield regions Regional People Counting Features: • Supports up to 8 detection regions, and independent arming schedule and linkage method • Supports 3 detection modes: people density detection, number of people exception detection, waiting time exception detection • Supports parameter settings: alarm times per exception, alarm interval, first alarm delay • Supports searching real-time number of people • People density detection: supports scheduled uploading, number of people change uploading, congestion level uploading • Number of people exception detection: supports 6 alarm trigger conditions, including greater than threshold A, less than threshold A, equal to threshold A, not equal to threshold A, greater than threshold A and less than threshold B, less than threshold A or

	greater than threshold B (threshold A should be less than threshold B) • Waiting time exception detection: supports 3 alarm trigger conditions, including greater than threshold A, less than threshold A, greater than threshold A and less than threshold B (threshold A should be less than threshold B) On/Off Duty Detection Features: • Supports up to 8 detection regions, and independent arming schedule and linkage method • Supports 2 detection modes: absence detection, on/off duty detection • Supports parameter settings: person on duty, absence duration
7	**Network Video Recorder (NVR)** Application: Video Storage with AI-powered search **Quantity: 32** *Datasheet Requirements:* IP Video Input: 64 Channels minimum Incoming Bandwidth: 400 Mbps minimum Outgoing Bandwidth: 400 Mbps minimum Decoding Format: H.265/H.265+/H.264/H.264+ Redundant Array of Independent Disks (Raid) Type: RAID 0, RAID1, RAID5, RAID6, RAID10 Serial Advanced Technology Attachment (SATA): 8 SATA interfaces; 3.5-inch HDD eSATAS: 1 eSATA interface Capacity: Up to 20 TB capacity for each HDD Intelligent Analytics AI by NVR: Facial recognition, perimeter protection, video structuralization Intelligent Analytics AI by Camera: Facial recognition, perimeter protection, video structuralization, motion detection2.0, Automatic Number Plate Recognition (ANPR), people counting, Video Content Analytics (VCA) Facial Detection and Analysis:

	Face picture comparison, human face capture, face picture search Face Picture Library: Up to 32 face picture libraries, up to 100,000 face pictures in list library Face Picture Comparison (Captured from Camera): 64-ch; (32-ch for each engine); Comparison speed: 32 pictures per second Facial Detection and Analytics Performance: 24-ch (2MP-8ch./4MP-8ch./8MP-4ch. face pictures captured by NVR) Perimeter Protection by NVR: • Perimeter protection powered by Large Model: 24-ch 2 MP or 16-ch 4MP or 8-ch 8MP.(2 GPU engines for live video analysis, 1 GPU engine for lager model algorithm secondary analysis, capable of secondary analysis is 2 events/s) • Perimeter protection without Large Model: 36-ch 2 MP or 24ch-4MP or 12-ch 8MP Perimeter Protection by Camera: Perimeter protection powered by Large Model cameras: All channels Structured Analysis: 24-ch 2 MP 18-ch 4 MP 9-ch 8 MP Automatic Number Plate Recognition (ANPR): All channels Plate Attributes: Plate number, license plate color, license plate type Vehicle Attributes: Vehicle brand, vehicle color, vehicle type
8	**8TB Surveillance Hard Disk Drive (HDD)** **Quantity: 256** *Datasheet Requirements:* Formatted Capacity: 8TB minimum Form Factor Feature: 3.5-inch Recording Technology Feature: Conventional Magnetic Recording (CMR)

	Interface: 6Gb/s minimum Restriction of Hazardous Substances (RoHs) Compliant
9	**Smart Gigabit Industrial Power over Ethernet (PoE) Switch** **Quantity: 224** *Datasheet Requirements:* Ports: 8 × Gigabit PoE port,4 × Gigabit fiber optical port MAC Address Table: 8K minimum Switching Capacity: Whole-Device Performance: 56 Gbps minimum Port Performance: 24 Gbps minimum Pocket Forwarding Rate: Whole-Device Performance: 41.66 Mpps minimum Port Performance: 17.86 Mpps minimum Internal Cache: 4.1 Mbits minimum PoE Standard: Ports 1 to 4: IEEE 802.3af, IEEE 802.3at, IEEE 802.3bt Ports 5 to 8: IEEE 802.3af, IEEE 802.3at PoE Power Pin: Ports 1 to 4: 8-pin power: 1/2(-), 3/6(+), 4/5(+), 7/8(-) Ports 5 to 8: End-span: 1/2(-), 3/6(+) Max Port Power: Ports 1 to 4: 90 W Ports 5 to 8: 30 W PoE Port: Hi-PoE: Ports 1 to 4 PoE: Ports 5 to 8 Power Budget: 300W minimum Long Range: Ports 1 to 8: up to 300 m. Port Isolation: • Ports 1 to 8: port isolation mode to improve network security • Ports in an isolation group cannot communicate with each other,

but they can communicate with ports outside the isolation group.

PoE Watchdog:
Ports 1 to 8: auto detect and restart the cameras that do not respond.

Link Aggregation:
Link aggregation is used to aggregate multiple physical ports to form a logical port for load balancing, bandwidth expansion, and port protection.

- Support static link aggregation.
- Support 8 aggregation groups.

Loop Prevention:
Loop prevention is used to prevent the switching network from forming loops, which will seriously affect network communication. Disabled by default.

- Support 802.1D STP (Spanning Tree Protocol)
- Support 802.1w RSTP (Rapid Spanning Tree Protocol)
- Support G.8032 ERPS (Ethernet Ring Protection Switching)

Qulity of Service (QoS):
QoS is used to allocate bandwidth to different services so as to provide end-to-end service quality assurance.

- Support port-based priority configuration.
- Support Strict Priority (SP), Weighted Round Robin (WRR) priority schedule mode.

Virtual Local Area Network (VLAN):
VLAN is used for network scale planning and network health improvement.

- Support 802.1Q.
- Configurable VLAN ID from 1-4094.
- Support Trunk, Access port mode.
- Support Max. 4094 VLAN.

Pro-rate Limiting:
Port rate-limiting is used for port bandwidth adjustment to prevent network congestion.

Storm Control:
Storm control is used to prevent switch ports from being blocked by broadcast or multicast storms in the Local Area Network (LAN), which may affect network communication.

- Support port rate limiting based on broadcast, multicast, and unknown unicast packets.

Dynamic Host Configuration Protocol (DHCP) Snooping:
DHCP Snooping can prevent unauthorized connections to DHCP servers from disrupting the network and affecting normal network communication, and only allow DHCP packets from trusted ports to pass through. Disabled by default.

	Access Control List (ACL): • Port security strategy. • Support up to 64 ACL entries. • Support up to 128 configuration rules under all ACL entries. Internet Protocol Source Guard (IPSG): • IPSG can control the security of port access device. • Support port, MAC, IP binding. • Support 256 security entries. Shell Material: Metal material, IP40 Operating Temperature: -40 °C to 75 °C (-40 °F to 167 °F) Operating Humidity: 5% to 95% (no condensation) Power Supply: • 48~57 V DC, 7.5 A • 52 V~57 V recommended input voltage to ensure stable power supply. • Support dual power inputs and hot backup. Installation Mode: Desk-Mounted,Rail Max Power Consumption: 307 W Surge Protection: 6kV
10	**Dual-socket Rackmount Server** Application: Video Streaming Server **Quantity: 2** *Datasheet Requirements:* CPU: 1 x 4410T (2.7 GHz-4.0 GHz, 26.25 MB Cache, 10 Cores, 20 Threads) Memory: 2 x 32GB Support 16GB/32GB/64GB DDR5 RDIMM, 4800MT/s ECC Slots: 16 x DDR5 DIMM slots, supports RDIMM 16x64 GB MAX (1 CPU Configuration with 8 slots available, 2 CPU configuration with 16 slots available.) Hard Drive: 960GB SSD×2(RAID_1) + 2TB 7.2K SATA×2(RAID_1) Support 2TB/ 4TB/ 8TB/ 12TB/ 16TB/22TB 7.2K SATA Hot-plug

	HDD Support 480GB/ 960GB/ 1.92TB/ 3.84TB SATA Hot-plug SSD Slots: 8 x 3.5-inch SAS/SATA (HDD/SSD) slots, supports HDD 8 x 22TB max (Empty slots do not include hard drive bays by default) Storage Controller: PERC H355 adaptor LP, support RAID 0/1 Operating System: Windows Server 2022 Standard Remote Management Features: • iDRAC9 • iDRAC Direct • iDRAC RESTful API with Redfish • iDRAC Service Manual OpenManage Software Features and Functions: • OpenManage Enterprise • OpenManage Power Manager plugin • OpenManage Service plugin • OpenManage Update Manager plugin • CloudIQ for PowerEdge plug in • OpenManage Enterprise Integration for VMware vCenter • OpenManage Integration for Microsoft System Center • OpenManage Integration with Windows Admin Center Security Features: • Cryptographically signed firmware • Data at Rest Encryption (SEDs with local or external key mgmt) • Secure Boot • Secured Component Verification (Hardware integrity check) • Secure Erase • Secured-core server • Silicon Root of Trust • System Lockdown (requires iDRAC9 Enterprise or Datacenter) • TPM 2.0 FIPS, CC-TCG certified Integrations and Connections Features: • Truesight • Microsoft System Center • OpenManage Integration with ServiceNow • Red Hat Ansible Modules • Terraform Providers • VMware vCenter and vRealize Operations Manager
11	**4MP Automatic Number Plate Recognition (ANPR) Intelligent Entrance Video Unit** Application: Plate Recognition Camera **Quantity: 48** *Datasheet Requirements:*

	Sensor Type: 1/1.8" Progressive Scan CMOS Max Resolution: 2688 × 1520 Min Illumination: Color: 0.0005Lux@(F1.47, AGC ON) B/W: 0.0001Lux@(F1.47, AGC ON) Lens Aperture: 2.8 to 12 mm: F1.2 to F2.5 Focal Length & FOV: 2.8 to 12 mm, horizontal FoV: 113.5° to 39°, vertical FoV: 58.4° to 22.7°, diagonal FoV: 141.3° to 44.3° Supplement Light Type: IR Light, Warm White Light Supplement Light Range: Video: 2.8 mm to 12 mm: 20 m Vehicle License Plate: 2.8 mm to 12 mm: 10 m Trigger Type: Video Detection, I/O Coil, Radar Mixed Traffic Picture Type: Scene Picture, Scene Picture + Close-up Picture Scene Mode: Entrance & Exit Toll Gate, Underground Parking Entrance & Exit Capture Type: Strobe Light Mode Image Format: JPEG Capture Resolution: 2688 × 1520 License Plate Recognition: Forward, Backward, Bidirection LED Control: Supports automatic light control/time control of LEDs Smart Recognition: ANPR, Motor Vehicle Feature, Vehicle Color Recognition, Enable Vehicle Manufacturer Recognition

	Capture Picture Overlay: Location, Capture Time, Plate Number, Capture No., Vehicle Color Vehicle Type High accuracy Philippine plate number recognition rate, more than 99.5% Support customized 2 relay output to control vehicle barrier Vehicle Type Recognition: Car/Van/Bus/Truck/LightTruck/SUV_MPV/Pickup/Pedestrian/ Motorcycle/Tricycle Vehicle Color: Red, Yellow (including orange, golden), Green, Cyan, Blue, Purple, Pink, Brown, White, Gray (including silver), Black
12	**Intelligent Analytics Network Video Recorder (NVR)** **Quantity: 16** *Datasheet Requirements:* IP Video Input: 64-ch Up to 8 MP resolution Incoming Bandwidth: 1024Mbps Outgoing Bandwidth: 1024Mbps Decoding Format: H.265/H.265+/H.264/H.264+ AI by NVR: Human (3 Algorithm models) 1. Facial recognition: 2. People counting: regional people counting, people counting statistics 3. Personal Protective Equipment (PPE): safety helmets and reflective vests detection Vehicle (2 Algorithm models) 1. Vehicle attributes: vehicle brand, vehicle color, vehicle type 2. Non-motorized vehicle detection: motorcycle, bicycles Dangerous Event (2 Algorithm models) 1. Fire and smoke detection 2. Occupation of fire escape Behavior (3 Algorithm models) 1. Street level behavior : falling down detection, people gathering detection, fast moving detection, physical conflict detection

	2. Indoor: playing phone, sleeping on duty, absence, number of people allowed, overstaying detection 3. Perimeter: intrusion detection, line crossing detection, region entrance detection, region exiting detection 4. Smoke detection, call detection Engine: 2 × GPU Card (1 Card = 4 * KT2 engine) Live Video Analysis: 32-ch 4 MP or 16-ch 6 MP or 8-ch 8 MP Offline Picture Analysis: 4 image per GPU per second or 1 image per GPU per second (Large model)
13	**Thermal & Optical Bi-spectrum Network Bullet Camera** Application: Thermal Detection **Quantity: 48** *Datasheet Requirements:* Thermal Module Image Sensor: Vanadium Oxide Uncooled Focal Plane Arrays Resolution: 640 x 512 Pixel Pitch: 12 μm Focal Length: 15 mm IFOV: 0.8 mrad Field of View: 29.3° × 23.4° (H × V) Optical Module Image Sensor: 1/2.7" Progressive Scan CMOS Resolution: 2688 × 1520 Min Illumination: 0.0089Lux @(F1.6,AGC ON) ,0 Lux with IR Field of View: 51.9° × 28° (H × V) Focal Length:

	6.4 mm Bi-spectrum Image Fusion: Display the details of optical channel on thermal channel Picture in Picture: Display partial image of thermal channel on the full screen of optical channel Target Coloration: Supported in white hot and black hot mode. IR Distance: Up to 50 m Smart Function VCA: 4 VCA rule types (line crossing, intrusion, region entrance, and region exiting), up to 8 VCA rules in total Temperature Measurement: 3 temperature measurement rule types (point, area, line), 21 rules in total Temperature Range: -20 °C to 150 °C (-4 °F to 302 °F) Temperature Accuracy: ± 8 °C (±14.4 °F) Fire Detection: Dynamic fire detection, up to 10 fire points detectable Smoking Detection: Up to 10 smoking points detected
14	**Network Horn Speaker Power over Ethernet (POE) 25W** **Quantity: 176** *Datasheet Requirements:* Microphone Type: Electret Frequency Response: 100 Hz to 20 kHz Sensitivity: -42 dBV/Pa Speaker Impedance: 8 Ω Rated Power: 25W

	Sensitivity(1m, 1W): 110 dB Direction: 70° horizontal by 100° vertical Max Acoustic Pressure: 124 dBSPL Frequency Response: 300 Hz to 8 kHz SNR: 83 dB Audio Algorithm: Acoustic Echo Cancellation (AEC) , Automatic Gain Control (AGC), Automatic Noise Suppression (ANS), Dynamic Range Control (DRC) Audio Bit Rate: G.711ulaw (64 Kbps)/G.711alaw (64 Kbps)/MP3 (128 Kbps) Audio File Format: WAV, MP3 NTP Timing: Support Broadcast: Regular broadcast, live broadcast, emergency broadcast Two-way Audio: Support Network Protocol: IPv4, HTTP, HTTPS , SIP, SSL/TLS , DNS, NTP, TCP, UDP, IGMP, ICMP, DHCP, ARP,SSH Interface Protocol (API): ISAPI, ISUP, SIP, RTP,ONVIF Network Interface: RJ45 10 M/100 M Adaptive Ethernet port × 2 Local Storage: Built-in 64 GB EMMC (Audio file storage is 55 GB)
15	**Liquid Crystal Display (LCD) Unit** **Quantity: 12** *Datasheet Requirements:* LCD Technology: In-Plane Switching (IPS)

	Screen Size: 55 inch minimum Active Display Area: 1209.6 (H) mm × 680.4 (V) mm Backlight: Direct-lit LED backlight Pixel Pitch: 0.63 mm Physical Seam: 3.5 mm Physical Seam Tolerance: ± 0.8 mm Physical Resolution: 1920 × 1080 Brightness: 500 cd/m²
16	**Ultra High Definition Decoder** **Quantity: 6** *Datasheet Requirements:* Network Interface: 2 × 10/100/1000 Mbps self-adaptive Ethernet interface (RJ-45) 2 × 100 BASE-FX/1000 BASE-X port Supports the self-adaption between the optical port and electrical port. Video Walls: 1 Video Wall Scale: ≤16 Split Window: Supported Scenes: 64 Video Input Interface: 2 Video Encoding Format: H.264 (default), H.265 Audio Encoding Format: G722.1, G711_U, G711_A, AAC

	Video Output Interface: 16 Video Output Interface Type: HDMI 1.4 Video Decoding Format: H.264, H.265, SmartH.264, SmartH.265, MJPEG Video Decoding Resolution: Up to 32 MP Video Decoding Channel: 256
17	**Video Wall Controller** **Quantity: 1** *Datasheet Requirements:* Bus Type: 10 GB network switching Mixed Installation Service Boards: Supported Main Controller Board Slot: 2 Installed Main Control Boards: 1 Service Board Slot: 11 Max Input Slot: 10 Max Output Slot: 10 Power Supply Slot: 3 Installed Power Supplies: 1 Fans: 4 Dual Device Hot Backup: Supported

	Screen Type: 4.3 inch non-touch screen, length × width: 105.42 mm × 67.07 mm (4.15 inch × 2.64 inch), resolution: 480 × 272 Device Power Consumption: ≤ 550 W (full configuration) Management Interface: 2 × 10/100/1000 Mbps auto-sensing Ethernet interface (2 network ports on the switching board and 1 network port reserved on the main control board) Transmission Protocol: SDK, RTSP, ONVIF Videowall Scale: 40 Split Window: Supported Window Division per Output Port: 1, 4, 6, 8, 9, 16 Layers Per Port: 8 × 1080p layers or 4 × 4K layers Scenes: 128 Plans: 128 Adopts the plug-in modular design and 11 slots for hot swappable service boards: Yes
18	**Uninterruptible Power Supply (UPS) 3KvA** **Quantity: 16 units** *Datasheet Requirements:* • At least 3000/2700 (VA/W) • Output power factor of 0.9-1.0 • Has at least +/-1% AC Voltage Regulation Capabilities • Has Emergency power off function • With LCD Interface/Display • With overload/overcharge protection • Rack-mounted/Tower design • Complies with Standards: - Safety: IEC/EN 62040-1, IEC/EN 62477-1 - EMC: IEC/EN62040-2, IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8

19	**Monitoring Workstations for PPA Head Office** **Quantity: 2 Sets** Complete peripherals/accessories (keyboard, mouse, tables, chairs, etc.) Three (3) LED screens, 1920 x 1200 Resolution, (24"/75Hz Vertical Frequency/HDMI/DVI) Connected to a central UPS or individually equipped with a UPS, at 1kVA 4 Cores 8 Threads, 3.0GHZ; 32 GB RAM 512 GB SSD 6GB 1060 x 2 GP NIC 1 GBPS 750W Power Supply (Minimum)
20	**SURVEILLANCE / ESCALATION MANAGEMENT SOFTWARE (1 Lot)** o An existing Proprietary or Third-Party Surveillance and/or escalation management software, or a combination of multiple propriety or third-party software, used during live or analytics-based surveillance by the Remote Video Surveillance Operators which shall be required to have: ▪ User Account Log-in Feature using username or password ▪ Display the list of alerts from the project that aids the surveillance team during incident escalation and handling ▪ Manage (add new incidents or archive / delete incidents) that can be escalated by the surveillance team ▪ Display all escalated incidents made by the surveillance team ▪ Investigate escalated incidents made by the surveillance team by the surveillance supervisors ▪ Validate escalated incidents made by the surveillance team by the surveillance supervisors ▪ Automatically send SMS or email notifications to intended onsite personnel based on preset rules that can be made via the software when an escalation is validated by the surveillance

	supervisors. ▪ Display list of all closed escalated incidents ▪ A visual dashboard that can monitor incident statistics such as • Trend of total incidents for at least the past six (6) months highlighting the total count of valid incidents for the current month • Top occurring incidents for the current month • Top locations with highest incidents for the current month ▪ Receive analytics-based alarms as an integrated or separate tool used by the surveillance team that allows analytics-based monitoring of cameras • Analytics-based alarms should be displayed in the form of a Thumbnail and / or video • The surveillance team must have the ability to escalate or drop valid or invalid alarms • Historical alarms processed by the surveillance team must be displayed
21	**CONNECTIVITY WITH CENTRAL LIVE REMOTE COMMAND CENTER AND PPA MIRROR COMMAND CENTER (16 SITES+ Central Remote Command Center + PPA Mirror Command Center)** *Datasheet Requirements:* a. Provide a secure connectivity solution to deliver feed from at least 16 PPA sites nationwide to Central Command Center and Mirror Command Center b. 99.5% guaranteed uptime bandwidth of at least 10 MBPS (symmetric upload and download) per location c. Private/exclusive and secure cyber connection (IP-VPN); d. Scalable as increased demand for analytics is further defined; e. The addition of the new sites for live remote video surveillance will provide the necessary digital information consistent with the requirements outlined per site.
22	**CENTRAL MONITORING STATION** (1 lot) a. Located in the National Capital Region, with Mayor's/Business Permit;

b. At least 150 sq. m. exclusively dedicated to remote video monitoring of PPA facilities, as indicated in the floor plan of the Central Monitoring Station;

c. Layout of the remote video monitoring area of the Central Monitoring Station shall be conducive to monitoring by ensuring that the Remote Video Surveillance Supervisor can see the monitors of all the Remote Video Surveillance Operators under his/her supervision, while the Remote Video Surveillance Operators should not be able to see the monitors of the Remote Video Surveillance Supervisor and other Remote Video Surveillance Operators, as indicated in the layout plan of the Central Monitoring Station;

d. Equipped with biometric access controlled magnetic door lock with power supply/battery and time-keeping functionalities.

e. Equipped with a 49" LED Full HD (1080p) TV

f. Workstations:

i. Complete peripherals/accessories (keyboard, mouse, tables, chairs, etc.);

ii. Three (3) LED screens, 1920 x 1200 Resolution, (24"/75Hz Vertical Frequency/HDMI/DVI);

iii. Connected to a central UPS or individually equipped with a UPS, at 1KVA;

iv. 4 Cores & Threads, 3.0GHZ;

v. 32 GB RAM;

vi. 512 GB SSD

vii. 6GB 1060 x 2 GP

viii. NIC 1 GBPS

ix. 750W Power Supply (Minimum)

g. Secure Network/Server Room (5 sq. m.), as indicated in the floor plan, with access monitored and restricted strictly to authorized personnel only by a biometric access- controlled magnetic door lock with power supply/battery

h. Office Surveillance shall be provided for the Monitoring Area of the Central Monitoring Station for a 360 degrees total perspective, as indicated in the layout/floor plan, and by utilizing the following:

i.2 Dome Cameras

ii. Video Management Server; and

iii. Video Streaming Server

The technical specifications of the foregoing are as indicated under items 2 & 3.

i. Electric Diesel Generator, which must be able to provide

	sufficient power for air-conditioning and ensure continuous and complete remote surveillance and monitoring of all locations during power interruptions, and with the following minimum specifications: i.75 KVA; ii.3 phase; iii.60 HZ; and iv.1800 RPM. j. As it is critical for ensuring focus and attention, a Quiet Room/Resting Area (10 sq. m.) with a bunk bed; k. To maximize the rest period of all personnel, a Pantry and Eating Area (15 sq.m.) with refrigerator, microwave, and dining area for at least 8 persons is available for personnel use; l. For team functions, a Conference Room (20 sq. m.) with an 8 seat conference table will be made available; m. Male (5 sq. m.) and Female (5 sq. m.) Bathrooms; n. The amenities shall be indicated accordingly in a floor plan of the Central Monitoring Station. o. Scalable and therefore able to integrate various surveillance solutions (Internet of Things Devices). The integration capability with other systems and accommodating additional areas (up to 1,000,000 cameras) for remote surveillance and monitoring is critical for an ongoing digital transformation of safety and security. p. Business Continuity and Recovery Services shall continue to perform 24/7/365 operations for the 16 PPA sites in the event of a disruptive event such as an earthquake or typhoon.
23	**4- core Fiber Optic Cable** **(1 lot)** Armored Round Cable 4Core Single Mode 2km/drum
24	**UTP Cat6E** **(1 lot)** *Indoor UTP Cat6E* (0.56mm 23AWG) OFC Pure Copper 305m/roll Blue

	Outdoor UTP Cat6E 0.56mm 23AWG) Pure Copper 305m/roll Black

V. PROJECT DURATION

The winning bidder shall supply and deliver to PPA and install and commission the required surveillance cameras at the areas of deployment within a period of 180 calendar days from the receipt of the Notice to Proceed (NTP).

The service component, or the maintenance of the surveillance cameras and the live remote surveillance of the covered ports shall cover a period of five (5) years from the date of activation.

VI. PERSONNEL QUALIFICATIONS

The Service Provider shall certify that its existing personnel meet the identified qualifications in working with ports, as follows:

A. REMOTE VIDEO SURVEILLANCE SUPERVISOR (2 SUPERVISORS)

1. College graduate
2. With at least one (1) year experience in supervising a multi-site (at least 20 sites simultaneously) remote video surveillance team (10 or more operators at a time); provide certifications from employer.
3. With notarized curriculum vitae (CV), indicating among others the relevant experience and training of the required personnel, to be submitted along with the bidding documents;

B. REMOTE VIDEO SURVEILLANCE OPERATOR (20 OPERATORS)

1. Criminology graduate
2. Experienced in multi-site (at least 15 site simultaneously) remote video surveillance operation;
provide certifications from employer;
3. With at least six (6) months experience in multi-site remote video surveillance operation;
d. With notarized curriculum vitae (CV), indicating among other the relevant experience and training of the required personnel, to be submitted along with the bidding documents.

VII. OTHER REQUIREMENTS

a. OPERATIONS HANDBOOK

The Operations Handbook shall articulate the operational framework, including but not limited to, process flow, roles and responsibilities of personnel, outcomes and reports for remote multi-site surveillance and monitoring, detailing the standards for such operations and the procedure/protocols by which the standards can be consistently achieved. The handbook shall contain a comprehensive disaster recovery/continuity plan (Business Continuity Plan) in case of natural or man- made disasters, such as, but not limited to, fires, typhoons, internet and power outages.

b. The following documents must be submitted along with the bidding documents and shall be subject to verification during post-qualification:

1. Curriculum Vitae of each of the two (2) Remote Video Surveillance Supervisor and twenty (20) Remote Video Surveillance Operators
2. Certificate of Experience of all the required personnel issued by the employer.
3. Operations Handbook
4. Certificate of Warranty

c. Must have completed a single contract similar to the contract to be bid whose value must at least equivalent to fifty percent (50%) of the ABC. For this purpose, as similar contract shall refer to Supply, Delivery, Installation and Commissioning of CCTV Surveillance Monitoring or Procurement of Multi-Site Remote Surveillance Equipment and Ancillary Services. Ancillary means the surveillance and supplemental services necessary for quality and reliability of service performance relative to safety, security and operational compliance through digital and process transformation.

VIII. TRAINING

- The winning bidder must provide a minimum of four (4) hours training within 7 days after the activation of a site/port to PPA Personnel for the use of the system.
- Winning Bidder shall submit a Proposed Training Plan or Outline indicating topics and duration as proof of readiness to deliver the required training.

IX. TESTING

- Testing will be conducted within 2 days after installation to the sites before acceptance.
- Winning Bidder shall submit a Testing and Commissioning Plan. The plan shall describe the procedures, parameters, tools, and acceptance criteria to be used.
- The winning bidder shall also submit a User Acceptance Form that will be used during the User Acceptance Testing (UAT) during activation of the system.

X. DELIVERY

- Delivery of Equipment at Head Office – within 60 days from receipt of Notice to Proceed
- Delivery, Installation, and Activation at the contracted 16 sites by the winning bidder at no cost to PPA within 180 days (6 months) from receipt of Notice to Proceed.

XI. WARRANTY

- The winning bidder shall warrant the continuous operation of the system for the entire 5-year duration of the contract.
- A Certificate of Warranty to this effect shall be submitted along with the bidding documents.
- If equipment is inoperable and malfunctioning, the winning bidder shall provide maintenance service to the site within seventy two (72) hours after notification for the entire 5-year warranty period.
- The winning bidder shall ensure sufficient onsite spare camera inventory at all times for the entire 5-year duration of the contract. Upon depletion of spare units, the winning bidder shall immediately notify PPA and submit the required specifications and quantity for replenishment. PPA shall be responsible for initiating the procurement process to avoid service disruption.

XII. PAYMENT

The contract price shall be allocated into two (2) components: (a) Surveillance Goods and Equipment, equivalent to sixty-five percent (65%) of the total contract price; and (b) Service Component, equivalent to thirty-five percent (35%) of the total contract price, payable as monthly service fees over five (5) years from the date of activation.

Payment for the Surveillance Goods and Equipment shall be made as follows:

1. Upon Delivery of Surveillance Equipment at Head Office – sixty-five percent (65%) of the Surveillance Goods and Equipment component (equivalent to 42.25% of the total contract price).
2. Upon Completion of Installation and Commissioning at each port – thirty-five percent (35%) of the Surveillance Goods and Equipment component (equivalent to 22.75% of the total contract price);
3. The Service Component, equivalent to thirty-five percent (35%) of the total contract price, shall be paid as a Monthly Service Fee over a period of five (5) years from the date of activation."

Genaro P. Mancio, Jr.
Manager/Superintendent
Port Police Department

Annex A

PHASE 6 CAMERA DISTRIBUTION														
	FR Camera		PTZ		Bullet Camera		Dome Camera		ANPR Camera		Thermal Camera		TOTAL CAMERAS	
	Installed	Spare	Installed	Spare	Installed	Spare	Installed	Spare	Installed	Spare	Installed	Spare	Installed	Spare
1. PMO NCR North (North Harbor)	2	1	4	1	11	1	10	1	2	1	2	1	31	6
2. Port of Batangas	2	1	4	1	11	1	10	1	2	1	2	1	31	6
3. PMO Mindoro (Calapan)	2	1	4	1	11	1	10	1	2	1	2	1	31	6
4. PMO Mindoro (Roxas)	2	1	4	1	11	1	10	1	2	1	2	1	31	6
5. PMO Bicol (Matnog)	2	1	4	1	11	1	10	1	2	1	2	1	31	6
6. PMO Panay/Guimaras (Iloilo)	2	1	4	1	11	1	10	1	2	1	2	1	31	6
7. PMO Western Leyte/Biliran (Ormoc)	2	1	4	1	11	1	10	1	2	1	2	1	31	6
8. PMO Bohol (Tagbilaran)	2	1	4	1	11	1	10	1	2	1	2	1	31	6
9. PMO Bohol (Tubigon)	2	1	4	1	11	1	10	1	2	1	2	1	31	6
10. PMO Negros Oriental/Siquijor (Dumaguete)	2	1	4	1	11	1	10	1	2	1	2	1	31	6
11. PMO Panay/Guimaras (Dumangas)	2	1	4	1	11	1	10	1	2	1	2	1	31	6
12. PMO Misamis Occidental (Ozamiz)	2	1	4	1	11	1	10	1	2	1	2	1	31	6
13. PMO Misamis Oriental/Cagayan de Oro	2	1	4	1	11	1	10	1	2	1	2	1	31	6
14. PMO Zamboanga	2	1	4	1	11	1	10	1	2	1	2	1	31	6

Annex A

15. PMO Zamboanga (Basilan)	2	1	4	1	11	1	10	1	2	1	2	1	31	6
16. PPA Head Office	2	1	4	1	11	1	10	1	2	1	2	1	31	6
TOTAL	**32**	**16**	**64**	**16**	**176**	**16**	**160**	**16**	**32**	**16**	**32**	**16**	**496**	**96**

Section VIII. Philippine Bidding Document Related Forms

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Bid Form for Procurement of Goods

[Note: The duly accomplished form shall be submitted with the Bid]

BID FORM

Project Identification No.: *[Insert number]*

To: [Name of Procuring Entity]

Having examined the Philippine Bidding Documents (PBD) including the Supplemental Bid Bulletin Numbers [insert numbers], the receipt of which is hereby duly acknowledged, we, the undersigned, declare that:

a) I/We have no reservation to the PBD, including the Supplemental Bid Bulletins, for the Procurement Project [Project Title];

b) Select one, delete the other

- I/We undertake to deliver the Goods in accordance with the delivery schedule in the Schedule of Requirements;
- I/We offer to execute the Works for this Contract in accordance with the PBD;

c) The total price of our Bid in words and figures, excluding any discount offered below, is *[insert information]*

d) The discounts offered and the methodology for their application, if any, are: *[insert information];* or indicate N/A if no discount offered]

e) The total bid price in words and figures, after applying the applicable discount, includes the cost of all taxes, such as, but not limited to *[specify the applicable taxes, e.g. (i) value added tax (VAT), (ii) income tax, (iii) local taxes, and (iv) other fiscal levies and duties]*, which are itemized in the *[Select one, delete the other:* the Price Schedules/ Detailed Estimates].

f) This Bid shall remain valid within a period stated in the PBD, and it shall be binding upon me/us at any time before the expiration of that period;

g) If our bid is accepted, I/we commit to enter to a contract and provide a performance security in the form, amounts, and within the times prescribed in the PBD, and hereby acknowledge the consequences under the IRR of RA No. 12009 on forfeiture of Bid Security or enforcement of Bid Securing Declaration and on Blacklisting.

Until a formal Contract is prepared and executed, this Bid, together with your written acceptance thereof and your Notice of Award, shall be binding upon the Bidder.

I/We understand that you are not bound to accept the Lowest Calculated Bid or any Bid you may receive.

I/We certify/confirm that we comply with the eligibility requirements pursuant to the PBD.

The undersigned is authorized to submit the bid on behalf of [Name of the Bidder] as evidenced by the attached [State the Written Authority].

I/We acknowledge that failure to sign each and every page of this Bid Form, including the attached Schedule of Prices, shall be a ground for the rejection of our bid.

Duly authorized to sign the Bid for and behalf of:

[Insert Bidder's Name]

[Signature over Printed Name]
[Position/Designation]
[Date]

Price Schedule for Goods

Name of Bidder _____. Project ID No. _____. Page _ of _____

Pricing Details for Goods Offered from Within the Philippines

1	2	3	4	5	6	7	8	9	10
Item	Description	Source of Domestic Product, as certified by the Relevant Agency	Quantity	Unit price exw per item	Transportation and all other costs incidental to delivery, per item	Sales and other taxes payable if Contract is awarded, per item	Cost of Incidental Services, if applicable, per item	Total Price, per unit (col 5+6+7+8)	Total Price delivered Final Destination (col 9) x (col 4)

Summary of Bid Prices

The Procuring Entity may modify the table below as necessary to comply with the requirements of the Procurement Project.

1	2	3	4
Item No.	Item	Particulars / Description	Total Amount

Name:_____

Signature:_____

Duly authorized to sign the Bid for and behalf of:_____

Price Schedule for Goods

Name of Bidder _____. Project ID No. _____. Page _ of _____

Pricing Details for Goods Offered from Abroad

1	2	3	4	5	6	7	8	9
Item	Description	Country of origin	Quantity	Unit price CIF port of entry (specify port) or CIP named place (specify border point or place of destination)	Total CIF or CIP price per item (col. 4 x 5)	Unit Price Delivered Duty Unpaid (DDU)	Unit price Delivered Duty Paid (DDP)	Total Price delivered DDP (col 4 x 8)

Summary of Bid Prices

The Procuring Entity may modify the table below as necessary to comply with the requirements of a specific Project.

1	2	3	4
Item No.	Item	Particulars / Description	Total Amount

Name:_____

Signature:_____

Duly authorized to sign the Bid for and behalf of:_____

Contract Form

[Note: The duly accomplished form is not required to be submitted with the Bid but shall be submitted within ten (10) days after receiving the Notice of Award]

CONTRACT FOR [Insert Project Title]

This CONTRACT executed on the _____ day of _____ 20_____ by and between:

[Name of Procuring Entity], a government agency of the Republic of the Philippines, hereinafter called "the Entity";

-and-

[Name of Supplier /Contractor/ Consultant] a company duly organized and existing under the laws of [city and country], with principal office at [insert address], hereinafter called "the Supplier".

WHEREAS, the Entity invited Bids for certain goods and services/works/consulting services, particularly *[Brief description of Project]*;

WHEREAS, the Supplier/Contractor/Consultant submitted a responsive bid and was awarded the contract for the procurement in the total amount of *[Contract price in words and figures, including currency]*, hereinafter referred to as the "Contract Price."

NOW, THEREFORE, for and in consideration of the foregoing premises, the parties hereby agree as follows:

17. Unless otherwise stated, terms and expressions used in this Contract shall have the same meanings as those assigned to them in the Conditions of Contract, which form an integral part of this Contract.

18. The following documents as required by the Implementing Rules and Regulations of Republic Act No. 12009 shall form part and be read and construed as integral parts of this Contract, *viz.*:

    a. Philippine Bidding Document (PBD); *[Select one, delete the others]*

    - *For Procurement of Goods*

        i. Invitation to Bid;
        ii. Instruction to Bidders;
        iii. Bid Form, including all the documents/statements contained in the Bidder's bidding envelopes, as annexes, and all other documents submitted (e.g., Bidder's response to request for clarifications on the bid), including corrections to the bid, if any, resulting from the Procuring Entity's bid evaluation;
        iv. Bid Data Sheet;
        v. Schedule of Requirements;
        vi. Technical Specifications;
        vii. General and Special Conditions of Contract;
        viii. Supplemental Bid Bulletins, if any; and

ix. Other contract documents that may be required by existing laws and/or the Entity.

- *For Procurement of Infrastructure Projects*

i. Drawings/Plans;
ii. Specifications;/Scope of Work;
iii. Bill of Quantities;
iv. General and Special Conditions of Contract; and
v. Supplemental Bid Bulletins, if any;

- *For Procurement of Consulting Services*

i. General and Special Conditions of Contract;
ii. Terms of Reference;
iii. Request for Expression of Interest;
iv. Instructions to Bidders;
v. Bid Data Sheet;
vi. Addenda and/or Supplemental/Bid Bulletins, if any;
vii. Bid forms, including all the documents/statements contained in the Bidder's bidding envelopes, as annexes, and all other documents/ statements submitted (*e.g.*, bidder's response to request for clarifications on the bid), including corrections to the bid, if any, resulting from the Procuring Entity's bid evaluation;
viii. Eligibility requirements, documents and/or statements;
ix. Performance Security;
x. Notice of Award of Contract and the Bidder's *conforme* thereto; and
xi. Other contract documents that may be required by existing laws and/or the Entity.

b. Winning bidder's bid, including the Eligibility Requirements, Technical and Financial Proposals, and all other documents or statements submitted;

c. Performance Security;

d. Notice of Award of Contract; and the Bidder's Conforme thereto; and

e. Other contract documents that may be required by existing laws and/or the Procuring Entity concerned in the PBD, such as but not limited to the Notice to Proceed and Warranty Security.

3. In consideration of the Contract Price of *[Contract Price in words and figures],* or such other sums as may be determined in accordance with the terms of the Contract, the Supplier/Contractor/Consultant agrees to deliver and perform the items and related services for the *[Project Title]* described herein in accordance with the terms and conditions specified in the Contract and its annexed documents.

4. The *[Name of the Procuring Entity]* agrees to pay the above-mentioned sum to the Supplier/Contractor/Consultant in accordance with the schedule and manner provided in the Bidding Documents and its annexes.

5. Any dispute, difference, or claim arising out of or relating to this Contract, including its existence, validity, interpretation, breach, or termination thereof, may be submitted to arbitration or other form of alternative dispute resolution in accordance with the

applicable law, such as Republic Act No. 9285 (Alternative Dispute Resolution Act of 2004) or Executive Order No 1008, series 1985 (Construction Industry Arbitration Law).

IN WITNESS WHEREOF, the parties hereto have caused this Contract to be executed in accordance with the laws of the Republic of the Philippines on the day and year first above written.

For the Procuring Entity Head of the Procuring Entity or Duly Authorized Representative	*For the Bidder* Duly authorized to sign the Contract for and behalf of *[Bidders Name]*:
[Signature over Printed Name] *[Position/Designation]* *[Date]*	*[Signature over Printed Name]* *[Position/Designation]* *[Date]*

Signed in the presence of:

[Name and Signature] *Witness – Procuring Entity*	*[Name and Signature]* *Witness- Supplier*

ACKNOWLEDGMENT

BEFORE ME, A Notary Public for and in the _____, City/Province of _____, this _____ day of _____, 20_____, personally appeared the above-named persons who have satisfactorily proven to me their identity, through their identifying documents written below their names and signatures, that they are the same persons who executed and voluntarily signed the foregoing instrument consisting of ____ pages, including this page where this Acknowledgement is written, which they acknowledged before me as their free and voluntary act and deed.

WITNESS MY HAND AND SEAL this ___ day of *[month] [year]*.

NAME OF NOTARY PUBLIC

Notarial Commission No. _____
Notary Public for _____ until _____
Roll of Attorneys No. _____
PTR No. __, *[date issued], [place issued]*
IBP No. __, *[date issued], [place issued]*

Doc. No. _____
Page No. _____
Book No. _____
Series of _____

Omnibus Sworn Statement Form

[Note: The duly accomplished form shall be submitted with the Bid]

REPUBLIC OF THE PHILIPPINES)
CITY/MUNICIPALITY OF _____) S.S.

OMNIBUS SWORN STATEMENT

I, *[Name of Affiant]*, of legal age, *[Civil Status]*, *[Nationality]*, and with residence at [*Address of Affiant]*, after having been duly sworn in accordance with law, do hereby depose and state that:

1. *Select one, delete the others:*

   - *If sole proprietorship:* I am the sole proprietor or authorized representative of *[Name of Bidder]* with office address at *[Address of Bidder]*;

   - *If partnership, corporation, cooperative, or joint venture:* I am the duly authorized and designated representative of *[Name of Bidder]* with office address at *[Address of Bidder]*;

   - *If individual consultant not registered under a sole proprietorship, in case of Consulting Services:* I am the individual consultant or authorized representative of *[Name of Bidder]* with office address at *[Address of Bidder]*;

2. ***Select one, delete the others:***

   - *If sole proprietorship:* As the owner and sole proprietor or authorized representative of *[Name of Bidder]*, I have full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for *[Project Title]* of the *[Name of the Procuring Entity][insert* "as supported by the attached duly notarized Special Power of Attorney" *for authorized representative]*;

   - *If partnership, corporation, cooperative, or joint venture:* I am granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for *[Project Title]* of the *[Name of the Procuring Entity]*, as supported by the attached duly notarized Special Power of Attorney, Board/Partnership Resolution, or Secretary's Certificate, whichever is applicable;

   - *If individual consultant not registered under a sole proprietorship, in case of Consulting Services:* As the individual consultant or authorized representative of *[Name of Bidder]*, I have full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for *[Project Title]* of the *[Name of the Procuring Entity]*, as supported by the attached duly notarized Special Power of Attorney *for authorized representative*;

3. *[Name of Bidder]* is not "blacklisted" or barred from bidding by the Government of the Philippines or any of its agencies, offices, corporations, or Local Government Units, foreign government/foreign or international financing institution whose blacklisting rules have been recognized by the Government Procurement Policy Board; by itself or by relation, membership, association, affiliation, or controlling interest with another blacklisted person or entity;

4. Each of the documents submitted in satisfaction of the bidding requirements is an authentic copy of the original, complete, and all statements and information provided therein are true and correct;

5. *[Name of Bidder]* is authorizing the Head of the Procuring Entity or its duly authorized representative(s) to verify all the documents submitted;

6. *Select one, delete the others:*

   - *If sole proprietorship :* The *[Name of Bidder]* and its spouse are not related by consanguinity or affinity up to the third civil degree to the Head of the Procuring Entity, Procurement Agent (if engaged), End-User or Implementing Unit, project consultants, head of the Project Management Office, or the members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat;

   - *If partnership :* The partnership itself and the partners of *[Name of Bidder]* are not related by consanguinity or affinity up to the third civil degree to the Head of the Procuring Entity, Procurement Agent (if engaged), End-User or Implementing Unit, project consultants, head of the Project Management Office, or the members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat;

   - *If cooperative:* The cooperative itself and members of the board of directors, general manager, or chief executive officer of *[Name of Bidder]* are not related by consanguinity or affinity up to the third civil degree to the Head of the Procuring Entity, Procurement Agent (if engaged), End-User or Implementing Unit, project consultants, head of the Project Management Office, or the members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat;

   - *If corporation, or joint venture:* The corporation or joint venture itself, and officers, directors, and controlling stockholders of *[Name of Bidder]* are not related by consanguinity or affinity up to the third civil degree to the Head of the Procuring Entity, Procurement Agent (if engaged), End-User or Implementing Unit, project consultants, head of the Project Management Office, or the members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat;

   - *If individual consultant not registered under a sole proprietorship, in case of Consulting Services:* The individual consultant and its spouse are not related by consanguinity or affinity up to the third civil degree to the Head of the Procuring Entity, Procurement Agent (if engaged), End-User or Implementing Unit, project consultants, head of the Project Management Office, or the members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat;

7. It is understood that failure to faithfully disclose its relationship with the Head of the Procuring Entity, members of the BAC, the TWG, and the BAC Secretariat, the head of the PMO or the end-user unit or implementing unit, and the project consultants of the Procuring Entity, or of the procurement agent by consanguinity or affinity up to the third civil degree, as well as its submission of beneficial ownership information containing false entries shall be subject to blacklisting under Section 100 of the Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 12009, without prejudice to criminal and civil liabilities under applicable laws, including their accessory penalties, if any.

Select one, delete the rest:

- *In case of corporations: [Name of Bidder]* declares its beneficial ownership information consistent with its updated General Information Sheet or Beneficial Ownership Declaration Form or any other document duly submitted to the SEC and has maintained a valid and updated file therein in compliance with Sections 20.2.9.1, 81, and 82 of the IRR of RA No. 12009.

- *In case of Foreign Bidders: [Name of Bidder]* submitted an appropriate equivalent document in English issued by the country of the bidder concerned in accordance with Section 20.2.9.2 of the IRR of RA No. 12009.

8. *[Name of Bidder]* complies with existing labor laws and standards; and

9. *[Name of Bidder]* is aware of and has undertaken the following responsibilities as a Bidder:

    a) Carefully examine all of the Bidding Documents;

    b) Acknowledge all conditions, local or otherwise, affecting the implementation of the Contract;

    c) Made an estimate of the facilities available and needed for the contract to be bid, if any; and

    d) Inquire or secure Supplemental Bid Bulletin(s) issued for the *[Project Title]*.

10. *[Name of Bidder]* did not give or pay directly or indirectly, any commission, amount, fee, or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the government in relation to any procurement project or activity.

11. In case advance payment was made or given to *[Name of Bidder]*, failure to perform or deliver any of the obligations and undertakings in the contract shall be sufficient grounds to constitute criminal liability under existing laws.

IN WITNESS WHEREOF, I have hereunto set my hand this __ day of ___, 20__ at _____, Philippines.

Duly authorized to sign the Bid for and behalf of:

[Insert Bidder's Name]

[Affiant's Signature over Printed Name]
[Position/Designation]
[Date]

JURAT

SUBSCRIBED AND SWORN to before me this _____ day of *[month] [year]* at *[place of execution]*, Philippines. Affiant/s is/are personally known to me and was/were identified by me through competent evidence of identity as defined in the 2004 Rules on Notarial Practice (A.M. No. 02-8-13-SC). Affiant/s exhibited to me his/her *[insert type of government identification card used]*, with his/her photograph and signature appearing thereon, with no. _____.

WITNESS MY HAND AND SEAL this ___ day of *[month] [year].*

NAME OF NOTARY PUBLIC
Notarial Commission No. _____
Notary Public for _____ until _____
Roll of Attorneys No. _____
PTR No. __, *[date issued], [place issued]*
IBP No. __, *[date issued], [place issued]*

Doc. No. _____
Page No. _____
Book No. _____
Series of _____.

Bid Securing Declaration Form

[The duly accomplished form shall be submitted with the Bid if bidder opts to provide this type of bid security]

REPUBLIC OF THE PHILIPPINES)
CITY/MUNICIPALITY OF _____) S.S.

BID SECURING DECLARATION

Project Identification No.: *[Number]*

To: *[Insert name of the Procuring Entity]*

I/We, the undersigned, declare that:

1) I/We understand that, according to your conditions, bids must be supported by a Bid Security, which may be in the form of a Bid Securing Declaration;

   [Insert paragraph for Unsolicited Offer with Bid Matching]

   I/We understand that upon conferment of the original offeror status under Section 30.6 of the Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 12009, the offeror shall submit a Bid Securing Declaration within ten (10) days from the receipt of the certificate of conferment;

2) Select one, delete the other:

   - I/We accept that: (a) I/we will be automatically disqualified from bidding for any procurement contract with any Procuring Entity upon receipt of your Blacklisting Order; and, (b) I/we will pay the applicable fine provided under the Guidelines on the Use of Bid Securing Declaration, within fifteen (15) days from receipt of the written demand by the Procuring Entity for the commission of acts resulting to the enforcement of the Bid Securing Declaration under Sections 52.2 (a), 63.2, 69.1 and 100, except 100.3 (c),of the IRR of Republic Act No. 12009; without prejudice to other legal action the government may undertake; and

   (For Unsolicited Offer with Bid Matching)

   - I/We accept that: I/we will be automatically disqualified from any procurement opportunity of the Procuring Entity for a period of one (1) year on the first offense, two (2) years on the second offense, and perpetually on the third offense without prejudice to other legal action the government may undertake.

3) I/We understand that this Bid Securing Declaration shall cease to be valid on the following circumstances:

   a) Upon expiration of the bid validity period, or any extension thereof pursuant to your request;

   b) I am/we are declared ineligible or post-disqualified upon receipt of your notice to such effect, and (i) I/we failed to timely file a request for reconsideration or (ii) I/we filed a waiver to avail of said right;

[Insert this paragraph for Unsolicited Offer with Bid Matching]

b) Upon contract award and the LCCRB is not the original offeror; or

c) I am/we are declared the bidder with the *[Insert Award Criterion[1]]* and I/we have furnished the performance security and signed the Contract.

IN WITNESS WHEREOF, I/We have hereunto set my/our hand/s this ____ day of *[month] [year]* at *[place of execution]*.

Duly authorized to sign the Bid for and behalf of:

[Insert Bidder's Name]

[Signature over Printed Name]
[Position/Designation]
[Date]

JURAT

SUBSCRIBED AND SWORN to before me this _____ day of *[month] [year]* at *[place of execution]*, Philippines. Affiant/s is/are personally known to me and was/were identified by me through competent evidence of identity as defined in the 2004 Rules on Notarial Practice (A.M. No. 02-8-13-SC). Affiant/s exhibited to me his/her *[insert type of government identification card used]*, with his/her photograph and signature appearing thereon, with no. _____.

WITNESS MY HAND AND SEAL this ___ day of *[month] [year]*.

NAME OF NOTARY PUBLIC
Notarial Commission No. _____
Notary Public for _____ until _____
Roll of Attorneys No. _____
PTR No. __, *[date issued], [place issued]*
IBP No. __, *[date issued], [place issued]*

Doc. No. _____
Page No. _____
Book No. _____
Series of _____.