



Republic of the Philippines  
PROVINCE OF PAMPANGA  
Provincial Capitol, City of San Fernando, Pampanga  
**BIDS AND AWARDS COMMITTEE**



**BAGONG PILIPINAS**

**BID BULLETIN 2024-01**

**P.R. #24-5323- Supply, Delivery, Installation Configuration & Integration of Seamless LED Video Wall System & Upgrade of I.T. Equipment for the Pampanga Command & Control Center**

**This Bid Bulletin No. 01 is issued to modify or amend items in Bid Documents. This shall form an integral part of the Bid Documents, to wit:**

	<b>Particulars</b>
<b>Technical Specifications</b>	<b>Please see attached Revised Technical Specifications ANNEX "A"</b>

For your guidance and information of all concerned.

27 November 2024.

**FRANCIS V. MASLOG**  
BAC-Chairman

# ANNEX "A"

## REVISED

### SUPPLY, DELIVERY, INSTALLATION, CONFIGURATION, AND INTEGRATION OF SEAMLESS LED VIDEO WALL SYSTEM AND UPGRADE OF I.T. EQUIPMENT FOR THE PAMPANGA COMMAND AND CONTROL CENTER

#### I. BACKGROUND

The Pampanga Command Center serves as the center for monitoring and managing critical activities that ensure the safety and security of the Province of Pampanga. Recognizing the need for improved monitoring capabilities, the provincial government has initiated this project to upgrade the command center's functionality.

**This project focuses on two key aspects:**

**Enhancing Display and Equipment Capabilities:** Supplying, delivering, installing, maintaining, and configuring a high-quality LED screen and upgrade of IT Equipment that will significantly improve the command center's visual presentation of data, by offering increased resolution, enhanced color accuracy and improved viewing angles and upgraded technical specifications. This will allow for real-time visualization of crucial information, alerts, and operational details, facilitating better coordination during emergencies and daily operations. The high-quality display will benefit assigned personnel within the command center with improved situational awareness, enabling them to make well-informed decisions and communicate effectively.

**Integration of Advanced AI:** Along with the LED screen and IT Equipment upgrade, the project will introduce a cutting-edge Artificial Intelligence (AI) system that marks a significant enhancement in the command center's operational efficiency. This AI-driven platform will seamlessly collect and unify data from various existing systems into a centralized hub. The AI will leverage this comprehensive data pool to provide predictive analytics, identify patterns, and generate intelligent insights, supporting informed decision-making across diverse scenarios.

**By integrating AI and consolidating data from disparate sources, the Pampanga Command Center will achieve:**

- **Enhanced Coordination:** Improved data sharing and collaboration between different departments will lead to a more coordinated response to emergencies and ongoing operations.
- **Optimized Resource Allocation:** Real-time data visualization and intelligent insights will empower officials to allocate resources more effectively based on real-time needs.
- **Improved Emergency Response:** Faster and more efficient responses to emergencies will be possible due to better situational awareness and data-driven decision-making.

This project signifies a significant advancement in the Pampanga Command Center's capabilities. The integration of a modern LED screen with a cutting-edge AI-powered system will elevate the council's operational readiness, response efficiency, and overall decision-making processes, ultimately contributing to the safety and well-being of the entire Pampanga community.

#### II. RATIONALE

The current monitoring capabilities of the Pampanga Command Center characterized by outdated software that is slow and lacks the latest features of effective monitoring, are inadequate to effectively manage critical activities for provincial safety and security. Upgrading the existing system is essential to ensure efficient response and informed decision-making during emergencies and daily operations.

### III. OBJECTIVE

#### 1. ENHANCE DISPLAY CAPABILITIES OF THE PAMPANGA COMMAND CENTER

- Procure and deliver a high-quality LED screen with a resolution suitable for clear and detailed visualization of real-time data, alerts, and information for operations and emergency response coordination.
- The LED screen size should be based on command center dimensions and viewing distance to ensure optimal visibility from all operational areas.
- Achieve a minimum refresh rate of at least 3800Hz to provide smooth and clear visuals for real-time data and video feeds.
- Configure the LED screen to properly integrate with the existing command center control systems for effortless content display and management.
- Implement functionalities for displaying various data formats, including text, images, maps, and live video feeds, to cater to diverse operational requirements.

#### 2. LEVERAGE ADVANCED AI FOR ENHANCED OPERATIONAL EFFICIENCY

- Develop and implement a comprehensive Artificial Intelligence (AI) platform that can seamlessly integrate data from existing departmental systems such as weather monitoring, fire response, traffic management, and disaster risk reduction.
- Ensure the AI platform is compatible with various data formats, including sensor data (real-time monitoring readings), and textual data (reports, incident logs).
- Incorporate the following AI functionalities to enhance the platform's capabilities:
  - **Real-time Predictive Analytics:** Leverage AI algorithms to analyze data and predict potential incidents or emergencies.
  - **Pattern Recognition:** Develop AI capabilities to identify recurring patterns in historical data to anticipate future events and develop preventive measures.
  - **Intelligent Insights Generation:** Utilize AI to provide insights and recommendations based on data analysis, supporting informed decision-making by command center personnel.

#### 3. Optimize Resource Allocation and Emergency Response

- Develop a system for real-time visualization of resource deployment (ambulances, rescue trucks and vehicles, firetrucks, police vehicles) to optimize resource allocation during emergencies.
- Integrate features within the screen to display real-time traffic information and incident locations, enabling faster response times for emergency personnel.
- Utilize AI-powered insights to predict resource needs based on real-time data and incident types, ensuring efficient resource dispatch during emergencies.

#### 4. Ensure System Interoperability and User Training

- Ensure the procured LED screen, IT Equipment and the AI system are interoperable with existing command center infrastructure and communication networks.
- Develop comprehensive training programs for command center personnel on operating and utilizing the upgraded system functionalities effectively.
- Provide ongoing technical support to address any technical issues or challenges encountered during system operation.

### IV. SCOPE OF WORK

- A. Measure the designated location within the Pampanga Provincial Command and Control Center for the LED Screen.

- B. Determine the typical viewing distance for personnel within the command center.
- C. Evaluate the type of content to be displayed on the LED screen (text, images, maps, video feeds).
- D. Deliver the LED screen and IT Equipment to the designated location within the Pampanga Command Center. Upon delivery, conduct a thorough inspection to ensure the screen is free from damage and functions correctly.
- E. LED Screen Configuration and Integration
  - Develop a configuration plan to seamlessly integrate the LED screen with the existing command center control systems (Identifying compatible control system ports and protocols, determining the software needed for content management and display on the LED screen, specifying the layout and organization of information displayed on the screen).
  - Configure the IT Equipment and LED screen for optimal performance, including the brightness and contrast calibration for accurate image reproduction, Input source configuration for connection to various data feeds, setting up pre-defined layouts for displaying different types of information, screen must have the ease of use as that of a normal Desktop PC display for maximum efficiency, screen must display properly proportioned elements such that the application windows must not appear too small or too large to view.
  - Implement functionalities for displaying various data formats on the LED screen using dedicated control software. The software shall allow for uploading and scheduling of text, images, maps, and live video feeds, real-time content editing and manipulation on the screen, pre-setting different display layouts for various operational scenarios, user-friendly interface for intuitive control by command center personnel.
  - Conduct a thorough testing and validation process to ensure the LED screen functions correctly and integrates flawlessly with the control systems. Testing shall include the verification of proper image quality and display clarity, validation of content upload, scheduling, and editing functionalities, confirmation of seamless integration with data feeds and control systems.
- F. Geospatial Data Platform Development and Integration
  - Integrate a geospatial data platform capable of utilizing data from diverse sources within the Pampanga provincial government, including fire response, traffic management, disaster risk reduction department, regional and national agencies. The platform shall meet the following specifications:
    - Data Compatibility
      - ✓ Support for various spatial data formats (e.g., shapefiles, geodata sets, KML, TIFF, etc.) for maps, geospatial coordinates, and infrastructure locations.
      - ✓ Integration with sensor data feeds from real-time monitoring systems (e.g., traffic cameras, weather stations, water level sensors).
      - ✓ Capability to handle textual data formats (e.g., CSV, reports) for incident logs, resource deployment information, and historical data.
    - Functionality:
      - ✓ User-friendly interface for data visualization, manipulation, and analysis.
      - ✓ Feature for real-time data display on a map with customizable overlays for different data types.
      - ✓ Tools for spatial queries and analysis to identify patterns and trends in incidents and resource allocation.
      - ✓ Reporting functionalities to generate reports on incidents, resource deployment, and historical data analysis.

- AI Module Development
  - Develop a process for preparing historical data from various sources within the geospatial data platform for AI analysis. This may involve data cleaning, normalization, and feature engineering to ensure the data is suitable for machine learning algorithms.
  - Select and train appropriate machine learning algorithms based on the specific goals of the AI module. Here are some potential applications:
    - ✓ Real-time Predictive Analytics: Utilize algorithms like recurrent neural networks (RNNs) or Long Short-Term Memory (LSTM) networks to analyze historical data on incidents, weather patterns, traffic flow, etc. This allows the AI module to identify trends and predict potential emergencies or high-risk situations before they occur.
    - ✓ Pattern Recognition: Implement unsupervised learning algorithms like k-means clustering to identify recurring patterns in past incidents. This can help pinpoint areas with higher frequencies of specific emergencies or resource deployment needs.
    - ✓ Anomaly Detection: Train anomaly detection algorithms to recognize unusual patterns in real-time sensor data or incident reports. This can help flag potential emergencies or developing situations that require immediate attention.
  - After training the AI models, conduct thorough validation to assess their accuracy and effectiveness in predicting incidents, identifying patterns, and detecting anomalies. This may involve techniques like cross-validation and hyperparameter tuning to optimize the model's performance.
- Develop a user-friendly interface within the AI platform that allows command center personnel to effectively interact with the system. This interface should provide clear explanations of AI-generated insights and recommendations, fostering trust and understanding of the AI's capabilities. Users should be able to:
  - View the confidence levels associated with AI predictions.
  - Access historical model performance data to understand the AI module's accuracy.
  - Configure specific thresholds for triggering alerts based on AI insights.
- Implement robust security measures to protect the integrity and confidentiality of the data used by the AI module. Develop mechanisms to explain the reasoning behind the AI's predictions and recommendations. This transparency is crucial for building trust in the system and allowing personnel to make informed decisions based on AI insights.
- Establish a plan for ongoing monitoring and maintenance of the AI module. This includes regularly retraining the models with new data to ensure they adapt to changing patterns and maintain accuracy. Additionally, performance metrics should be tracked to identify potential issues and areas for improvement.
- Integrate the geospatial platform with the LED screen to enable real-time data visualization for improved situational awareness. This integration shall allow for:
  - Dynamic display of real-time data feeds on the LED screen, including maps, incident locations, resource deployment status, and sensor data visualizations.
  - Configuration of different display layouts for various operational scenarios (e.g., focusing on traffic during rush hour or displaying evacuation zones during emergencies).
  - Seamless data transfer between the geospatial data platform and the LED screen control system for up-to-date information visualization.

#### G. System Testing and Training

- Conduct comprehensive testing of the entire system, including the LED screen, AI module, and integration with existing infrastructure. Testing shall encompass:

- Functionality testing of all software components to ensure data integration, analysis, and visualization work seamlessly.
  - Performance testing to evaluate system response times and data processing speed.
  - Security testing to verify data integrity and system access controls.
  - Integration testing to confirm proper data exchange between the LED screen, and existing control systems.
- Develop training programs for command center personnel on effectively operating and utilizing the upgraded system functionalities. Training shall include:
    - AI Module Training: Basic understanding of how AI functionalities work within the system and how to utilize generated insights for decision-making.
    - LED Screen Control System Training: Comprehensive instruction on operating the LED screen control software for content management, scheduling, and display layout configuration.
    - Scenario-Based Training: Hands-on exercises simulating real-world emergencies to familiarize personnel with system functionalities in a practical setting.

#### H. Documentation

- Deliver user manuals for the LED screen, geospatial data platform, and AI module. These manuals shall provide clear and concise instructions on:
  - System installation and configuration procedures.
  - Operating instructions for each software component.
  - Troubleshooting guides for common technical issues.
  - Maintenance and after care of hardware components
- Provide detailed system installation and configuration guides for future reference. These guides shall include:
  - Hardware and software installation instructions.
  - Network configuration requirements.
  - System access control procedures.
- Develop comprehensive training materials for future training sessions, including:
  - Training presentations on system functionalities.
  - User guides and reference manuals.
  - Scenario-based training exercises.

#### V. PROJECT TIMELINE

The Contractor shall submit its comprehensive proposed project management plan solution with detailed project design, scope of work program, and training description not later than ten (10) working days (exclusive of Saturday and Sunday, including holidays) from the acceptance of the notice of award (NOA).

The Contractor awarded with the project shall complete installation and commissioning and shall deliver the complete software and hardware system, application, and all necessary documents of the proposed solution within a period of ninety (90) Calendar days from the notice to proceed

#### VI. TECHNICAL SPECIFICATIONS

##### LED Screen Cabinet

- approximately 1.56mm pixel pitch, 1R1G1B Configuration, seamless, Flip COB Chip LED Type, up to 800 nit brightness, approximately 160° viewing angle, approximately 96x108 dots module resolution, approximately 384 x 216 dots cabinet resolution, die-casting aluminum cabinet material, IP Rating (Front – IP65 / Rear – IP43), approximately 16:9 aspect ratio, up to 10000:1

contrast ratio, approximately 3840Hz refresh rate, approximately 100,000 hours lamp lifespan, Wired LAN or Fiber Signal Transmission

#### **LED Sending Box**

- at least Quadcore microprocessor, PCI-E, at least 12 slots for Main Control Board and Video and Audio Function Board, up to 10 Video Input Box and up to 10 Video Output box, supports up to 4K, support up to 50 screens splicing, supports analog/digital video signals input and matrix output, supports IP Camera, NVR, PC Video signal input, gigabit network ports

#### **Matrix Host**

- at least Quadcore microprocessor, PCI-E, up to 10 service card slots, up to 10 Video Input Box and up to 10 Video Output box, supports up to 4K, supports up to 35 video-wall splicing, supports splicing zoom/merge/roam/overlay, support up to 45 4TB HDDs for storage, Video Input (at least Digital Camera and NVR, gigabit network ports, *with at least 2 units Decoding Card and 1 unit Encoding Card*)

#### **Network Keyboard Controller**

- At least android 6.0 or equivalent OS, At least 10" LCD Touchscreen, up to 1280 x 800 screen resolution, 4-axis joystick, supports up to 1080P/720P live view resolution, At least 10/100/1000 network interface, WiFi Supported, At least USB, HDMI ports

#### **Workstation for LED Screen Operator**

- Processor (at least 33M Cache, up to 5.60GHz, up to 20 Cores and 28 Threads)
- Motherboard (Compatible with Processor, DDR5 Memory, M.2 port, up to USB 3.2, PCI, built-in WiFi 6, Bluetooth 5.3)
- Memory (at least 32GB DDR5)
- Primary Storage (at least 500Gb SSD)
- Backup Storage (at least 2TB HDD, 7200RPM, SATA)
- Graphics (at least 8GB GDDR6, 3072 Cuda Cores)
- Power Supply (Military Grade, 750Watts, 80% Gold Efficiency rating, True-Rated)
- Casing (Mid Tower, Fine Mesh Front Panel, Tempered Glass)
- CPU Cooler (Cooled Fan, 120mm RGB Fan with radiator)
- Wireless Keyboard and Mouse

#### **Workstation for Operators - Console**

- Processor (at least 33M Cache, up to 5.60GHz, up to 20 Cores and 28 Threads)
- Motherboard (Compatible with Processor, DDR5 Memory, M.2 port, up to USB 3.2, PCI, built-in WiFi 6, Bluetooth 5.3)
- Memory (at least 32GB DDR5)
- Primary Storage (at least 500Gb SSD)
- Backup Storage (at least 2TB HDD, 7200RPM, SATA)
- Graphics (at least 8GB GDDR6, 3072 Cuda Cores)
- Power Supply (Military Grade, 750Watts, 80% Gold Efficiency rating, True-Rated)
- Casing (Mid Tower, Fine Mesh Front Panel, Tempered Glass)
- CPU Cooler (Cooled Fan, 120mm RGB Fan with radiator)
- Wireless Keyboard and Mouse
- At least 32" Digital Signage Display Monitor

#### **Sub-Display Monitor - Console**

- At least 32", Digital Signage Display

#### **Smart Interactive Whiteboard**

- Approximately 86 inches panel dimensions, Infrared touch technology, anti-glare tempered glass
- Quadcore Processor with OS (windows and android)
- Multitouch, finger or stylus pen (magnetic) writing mode

- at least 8GB RAM and at least 128 GB ROM
- approximately 16:9 aspect ratio
- up to 4K HD Display resolution, at least DLED backlight, up to 60Hz refresh rate
- WiFi, built-in camera, built-in speakers and array microphone
- Features (Split screen and performs screen sharing between the whiteboard and other devices, can install software and play audio and video files, intelligent text, sound source positioning)
- with rolling stand

**Management Software (Integrated Geospatial Data Platform with Artificial Intelligence and Data Analytics)**

- Leverages AI to unify data from various departments, creating a cohesive platform for enhanced decision-making.
- The platform anticipates risks, predicts events, and enables proactive decisions that protect lives and livelihoods.
- The AI analyzes data, and identifies patterns that can be used for DRRM.
- Features (Assistance Tasks – documentation drafting and creation, content creation and translation, image creation, natural language generation, contextual learning, summarization, explanation, integration, user’s requirement design, user’s existing system integration via API, customizable forms, custom assistant creation, dedicated local support, data sovereignty, local data ownership and management)
- Online Geographical Information System (GIS) Software Professional Standard License Subscription for one (1) Year including training for at least 3 users with the following capabilities:
  - o Database management, editing, and data validation
  - o Networks and topological fabrics
  - o Imagery and Remote Sensing
  - o Geoprocessing Tools
    - Cartography Tools – Cartography Licensing
  - o Conversion Tools - Conversion Toolbox Licensing
    - Excel Toolset, From PDF Toolset, From Raster Toolset, From WFS Toolset, GPS Toolset, Graphics Toolset, JSON Toolset, KML Toolset, LAS Toolset, SAS Toolset, to CAD toolset, To Collada Toolset, To Database Toolset, To Geodatabase Toolset, to GeoPackage Toolset, To Raster Toolset, To Shapefile Toolset,
  - o Data Management Tools - Data Management Toolbox Licensing
    - 3D Object Toolset, Archiving Toolset, Attachments Toolset, Attribute Rules Toolset, Catalog Dataset Toolset, Contingent Values Toolset, Distributed Geodatabase Toolset, Domains Toolset, Feature Binning Toolset, Feature Class Toolset, Features Toolset, Fields Toolset, File Database Toolset, General Toolset, Generalization Toolset, Geodatabase Administration Toolset, Indexes Toolset, Joins and Relates Toolset, LAS Dataset Toolset, Layers and Table Views Toolset, Package Toolset, Package / Scene Layers Toolset, Photos Toolset, Projections and Transformation Toolset, Raster Toolset, Mosaic Dataset Toolset, Ortho Mapping Toolset, Raster Processing Toolset, Raster Properties Toolset, Relationship Classes Toolset, Sampling Toolset, Subtypes Toolset, Table Toolset, Tile Cache Toolset, Toolbox Toolset, Topology Toolset, Trajectory Toolset, Versions Toolset, Workspace Toolset
  - o Intelligence tools - Intelligence toolbox licensing
    - Analysis Toolset, Blind Spot Toolset, Conversion Toolset
  - o Network Diagram tools - Network Diagram toolbox licensing
    - Toolset/Tool, Configuration Toolset, Layout Toolset
  - o Parcels tools - Parcels toolbox licensing
    - Toolset/Tool, Administration Toolset
  - o Public Transit tools - Public Transit toolbox licensing
    - Analysis Toolset, Conversion Toolset
  - o Trace Network tools - Trace Network toolbox licensing
    - Toolset/Tool, Trace Configuration Toolset,
  - o Utility Network tools - Utility Network toolbox licensing



- Toolset/Tool, Administration Toolset, Trace Configuration Toolset
- The GIS application must have a parcel toolbox - The Parcel toolbox contains tools to create, administer, and load data into parcel fabrics
  - Analyze Parcels By Least Squares Adjustment, Append Parcels, Apply Parcels Least Squares Adjustment, Build Parcel Fabric, Copy Parcel, Export Sequence Parcel Features, Generate Parcel Fabric Links, Import Parcel Fabric Points, Merge Collinear Parcel Boundaries, Set Parcel Line Label Position

## VII. DELIVERABLES

- Approximately 49sqm total size of LED Screen Cabinet
- At least 2 units LED Sending Box
- At least 1-unit Matrix Host with at least 2 units decoding card and at least 1 unit encoding card
- At least 1-unit Network Keyboard
- At least 1-unit Workstation – LED Operator
- At least 7 units Command Center Workstations
- At least 7 units Sub-Display Console 32" (Digital Signage Display)
- **At least 3 units Smart Interactive Whiteboard**
- 1 lot Structural Frame Fabrication, Distribution Cabinet, and Labor (installation of cables, materials, accessories, tools, equipment, programming, testing and commissioning)
- 1 Lot Management Software (Integrated Geospatial Data Platform with Artificial Intelligence and Data Analytics)
  - AI module integrated within the Command-and-Control Center real-time predictive analytics, pattern recognition, and intelligent insights generation.
  - Online Geographical Information System (GIS) Software Professional Standard License for at least 3 users for 1 year
  - System software for seamless control and management of the LED screen content.
- Documentation
  - User manuals for operating and maintaining the LED screen and the integrated AI system.
  - System installation and configuration guides.
  - Training materials for command center personnel.

## VIII. WARRANTY

- All Hardware and software shall be covered by the warranty on the services, upgrades, and updates of the Software within the license period. The warranty period for the licenses supplied commences upon acceptance.
- LED Wall including parts and services to be supplied shall come with at least two (2) year warranty and all other IT Equipment & software shall come with at least one (1) year which shall be served on the day after the project's final acceptance.
- Replacement of Defective item within 24 hours upon notification by the end user
- The Contractor shall warrant all equipment and its complement accessories as free from any defect, of the latest design and technology as specified by this project and quality workmanship.

## IX. PROJECT STANDARDS

- **COORDINATION MEETING**
  - The contractor's project management representative shall attend a monthly meeting or as frequently as may be necessary to be convened by the client for the purpose of discussing any operational issues and solving any problems in connection with the conduct of services or to realize the objectives of the contract.

- The Contractor shall prepare the minutes of every meeting, have it signed by all attendees including the client-side, and print them for distribution to the client before being provided with a certificate of completion.
- **TRAINING**
  - The Contractor must provide technology transfer free of charge. The Contractor must provide in-depth technical and user training in the contractor's accredited training centers/laboratory free of charge, and to be conducted by the contractor's Certified Trainers/Instructors for the Provincial Government of Pampanga.
- **PROOF OF CONCEPT**
  - The Contractor shall provide functional prototype that will integrate to the existing system of the end-user for testing and evaluation. This requirement is compulsory and required for post-bidding qualifications. Failure to comply and/or failure to satisfy the capabilities/specification set forth by the client shall automatically result in a disqualification.
  - It is a requirement for the contractor to completely respond to all the specified items in the compliance matrix provided in this document.
- **DOCUMENTATION**
  - The Contractor shall provide system manuals and technical materials of the system package as well as the user's manual and training kit for training purposes and as a reference guide for the users of the system.
  - The user's manual shall include a complete description of the system and operating instructions including a live demonstration to the client so they can easily pass it to the next generation of users.

#### **X. IMPLEMENTATION REQUIREMENT**

- The project location is in the Command-and-Control Center of the Province of Pampanga.
- All outputs of the project such as specifications, designs, reports, and other documents, materials, data, and software developed by the Contractor for the Province of Pampanga shall become and remain the property of the Province of Pampanga, and the Contractor shall not later than upon termination or expiration of the Contract, deliver all outputs to the Province of Pampanga, together with a detailed inventory thereof.
- Copyright. The Intellectual Property Rights in all System Software and General-Purpose Software and proprietary Materials or methodologies shall remain vested in the owner of such.
- Data that may be used for testing and actual operation of the system that will encroach into the privacy of or jeopardize the interests of persons, and concerned entities or provide undue advantage to third parties are considered confidential.
- The Province of Pampanga shall be the sole owner and controller of the database from its inception, completion, and final acceptance. The Province of Pampanga shall only give temporary access to the Contractor and/or its staff and has the sole jurisdiction to terminate said access to the database.
- The Contractor shall not, without the Province of Pampanga's prior written consent, use any Confidential Information received from the Province of Pampanga for any purpose other than those that are required for the performance of the project.

#### **XI. MAINTENANCE/TECHNICAL SUPPORT**

- The Contractor shall provide a helpdesk (telephone/e-mail/phone number) to provide support during implementation and maintenance to provide necessary operational support to all system users at all times.

- The system shall be capable of being remotely controlled anytime and anywhere with a secured password for a fast and reliable resolution. Any hardware equipment or software that becomes defective or have failed or malfunctioned within the warranty period shall be attended to immediately by the Contractor under the following service level agreement (SLA):
  - 1st Level Support- Remote Assistance (via telephone/phone)
  - 2nd Level Support- On-Site Technical Support not later than 48 hours from notification.

## **XII. PROGRESS BILLINGS AND CERTIFICATIONS**

- The service provider will be eligible for progress billings throughout the project lifecycle.
- These billings will be tied to the accomplishment of specific project milestones and deliverables.
- Each billing request must be accompanied by a detailed work accomplishment report, verified and certified by the Province of Pampanga.
- This process ensures transparency and aligns payments with tangible project progress.
- Upon successful project completion and system acceptance by the Province of Pampanga, the final payment will be issued.
- To receive final payment, the service provider must submit a 100% work accomplishment report, along with the following certifications:
  - Certification from the Province of Pampanga.
  - Signed Inspection and Acceptance Report from the designated Inspection Team.

## **XIII. REQUIREMENTS**

- With service facility in the locality for aftersales service
- Brochure or printed materials of the item being offered for Hardware
- The procuring entity reserves the right to conduct product testing / inspection to determine the fitness of the items being offered by prospective supplier.