



Republika ng Pilipinas
Lungsod ng Quezon
TANGGAPAN NG INHINYERYA
(Office of the City Engineer)
TERMS OF REFERENCE



**SUPPLY, INSTALLATION, COMMISSIONING AND
TESTING OF QUEZON CITY ENGINEERING DEPARTMENT
MAINTENANCE OPERATIONS MANAGEMENT SYSTEM (ED-MOMS)**

I. RATIONALE AND BRIEF BACKGROUND

The Local Government of Quezon City is committed to comply with the accountability and transparency standards to its entire citizenship, plans to procure the **Quezon City Engineering Department Maintenance Operations Management System (ED-MOMS)**.

The project will initially provide an operations management system of all resources and valuable assets in support of the Job Orders requirements of the **Engineering Department of Quezon City**. The ED-MOMS project aims to support the administration of the Engineering Department in the reconciliation of these resources and assets. The project will also focus on improving the existing system of monitoring and conduct of Engineering Job orders. Furthermore, the project will provide an efficient system of inventory and reporting on the accomplishment of Job Orders and consumption of inventories.

One of the recurring observations of the Commission on Audit is the accuracy in the conduct of physical inventory of equipment, spare parts, materials, manpower and engineering structures. This project will ensure better visibility of properties and accountability by providing a system that will help in the tracking of resources and assets. This will also ensure proper maintenance of maintainable assets.

There are three major stages for the implementation of the Project namely:

1. Delivery and Construction of IT Infrastructure
2. Delivery of Engineering Department Maintenance Operations Management System (ED-MOMS)
3. Encoding Services for Engineering Department Inventory and Resource records.

The system is a centralized system customized to the inventory and resource management needs of the Engineering Department of the Local Government of Quezon City. Inventory Services and Encoding services will be provided for 6 months to support the department in building up of data to the system.

1. Delivery and Installation of IT Infrastructure

- Prepare Work Area and Server locations
- Network Cabling, Wi-Fi Routers and Switches
- Deliver furnishings for IT equipment
- Deliver Servers, Workstations and Printers
- Deliver and Install Systems Licenses
- Install Systems Software to Server and Workstations
- Configure Servers and Workstations

2. Delivery of Engineering Department Maintenance Operations Management System (ED-MOMS)

- Job Order Registration and Monitoring System complete with progress reporting, prioritization and risk criteria
- Design and develop a General Resource Database including categories
 1. Manpower Resources
 2. Equipment Inventory
 3. Spare Parts Inventory

4. Materials Inventory

- Provide a Usage Management System based on each Asset
- Design and develop Building and Non-Building Structure Inventory System and databases
- 1. Integration of location details using existing mapping system of Engineering Department
- Install and Configure ED-MOMS to Servers and Workstations
- Training and Hand over Services
- User and Asset Maintenance Features
- 3. **Encoding Services of Engineering Department Inventory and Resource record**
- 6 months of encoding services to build up all maintenance records, resource and inventory records.

II. PROJECT DESCRIPTION

At the completion of the project, the Engineering Department of the local government of Quezon City will enjoy the benefits of the ED-MOMS. The Information Systems will include ownership licenses plus licenses of system proprietary software. The projects will jumpstart the database build-up with 6 months of encoding services. The turnover of the system will include a year of maintenance on the infrastructure and application systems on the defined functionalities.

There are three main functional features of the ED-MOMS that highlight the value of the system to the QC Engineering department.

1. Job Order Management System for Engineering Works

The system shall support the Engineering Department in administering the Job order request. The system shall provide a registration system of Job orders that will categorize the required types of work. It shall also help in the prioritization of Job orders based on impact to the city and the risk criteria set.

The Job order shall provide templates for repetitive work especially on maintenance, repairs and renovations. The system will be complete with a progress reporting that is categorized as to do, on-going (percentage of completion), and completed.

2. General Resource and Assets Database

The ED-MOMS will accurately record the Engineering resources and assets of the QC Local Government including its properties, conditions and custodianship. The following will be part of the inventory of the general assets and resources database:

- Manpower Resources
- Equipment Inventory
- Spare Parts Inventory
- Materials Inventory

The system shall provide a usage management system that will provide automatic logs and accounting of used hours/days of a resource which is vital to Job order assignments and planning of additional acquisitions.

3. Building and non-Building Structure Inventory System

This is an inventory system of QC owned and managed buildings and non-building structure which includes but not limited to roads and bridges. Each structure shall have properties that include conditions and maintenance schedules. The system will also update the locations of these structures using existing mapping system of Engineering Department.

4. Overall Monitoring and Reporting

The ED-MOMS shall provide dashboards and print-out reports from top to its breakdown details as required by end-user.

III. PROJECT SCOPE OF WORK

The project shall cover the delivery of services for the installation, configuration, customization, testing, deployment, documentation, training and implementation of the ED-MOMS, which includes but not limited to the following:

1. Project Management

The approved Project Plan and schedule will present the milestones of the project. These will be presented during the project kick-off to the Project stakeholders. Project initiation will include systems investigation to identify current operations on property, equipment and asset management, and disposal. The data and information gathered shall be used for the target customization and configuration of the EDMOMS. This includes the requirements for migration from existing XLS files to the target databases.

2. Delivery of IT Infrastructure

The service provider shall deliver necessary hardware, software and network resources for the installation of all systems software and its databases. The service provider will also provide workstations that would enable the end-user to operate and manage during the actual system rollout / implementation. The provision of network solutions interoperable with the existing information system and network infrastructure to ensure workability of the system. A one (1) year warranty from the delivery date for all Hardware and Software licenses.

3. Systems Development

The design, development, and implementation of the (ED-MOMS) is aimed to be secured, robust and a reliable information system that should support the governance of the Engineering Department.

The system will be used to keep the track and store inventory information related to the various Engineering Department resource and assets items. This system will be the central repository for the management of all building and non-building structure owned and managed by QC Local Government. Job Order registration will ensure the integrity of all requests on the basis of relevance, prioritization, impact and risk.

The ED-MOMS enables easy and efficient search and retrieval of records and provides sophisticated electronic records management capabilities to ensure that the QC LGU records can be accessed, secured, tracked and managed over time.

4. Training, handover and Documentation

The project will provide training and user handholding to ensure IT capability and competence to ensure seamless usage of the system. This will also help in the avoidance of human errors in the processes of the systems in place. The project will provide users and management training. Duration will be 32 hours training (via zoom - 2 times 8-hour training, classroom type - 2 times 8-hour training), up to 15 persons.

The service provider shall provide all documentation of technical (system administration, maintenance and operation) and user manuals of procedures, operation and maintenance. Provision of at least 2 sets of manuals and softcopies per system and of updates.

5. Managed Services

The ED-MOMS support desk will be set up for encoding services which will start up the system that will provide the references tables and file management of the system. This service will ensure correct status of all inventory and job order requests that includes the prevailing versions of all documents. The Support Desk shall also handle systems inquiries which will serve as informational source for applicants and processors with regards to the inquiries and incidents. The support desk will be provided for 6 months upon the delivery of IT Infrastructure.

IV. AREA OF COVERAGE

Engineering Department Maintenance Operations Management System (ED-MOMS) shall be customized to the compliance activities and business operations of the Engineering Department. The technical and functional features will all be established within the compounds of the Engineering Department and will be accessed users from Department that are granted with roles on monitoring and reporting.

V. PROJECT OBJECTIVES

Engineering Department Maintenance Operations Management Systems (ED-MOMS), is envisioned to fully satisfy the needed adequacy of the local government's requirements in the management of Engineering Job Order works by providing a system that will register and monitor job orders, management of materials, assets, manpower, building and non-building structures.

This project will also implement identified IT services for better practices and opportunities for improvement to the administration of the Engineering Department. A fully implemented ED-MOMS will assist those responsible to better manage and improve service delivery and to promote accountability for performance of the office.

The General Objective of the project is "to deliver a system that will provide an Information Technology System that includes an IT Infrastructure, Application System and Managed Services for management Engineering Job Order works and the inventory of its resources of Engineering Department."

Specific Objectives are as follows:

- To deliver and install a technology infrastructure to support the Engineering Department Maintenance Operations Management System (ED-MOMS).
- To install, configure and customize an Information System, the Engineering Department Maintenance Operations Management System (ED-MOMS) accessible by all authenticated users
- To complete the project with proper turnovers and competence development for the users and administrators of the system within one year upon the approval of the notice to proceed.
- To provide warranty and maintenance services for one year
- To provide consultancy regarding ED-MOMS and other related systems that includes system administration.

VI. PROJECT STANDARDS & REQUIREMENTS

The requirements are expressed in indicative and functional terms to guide the Service Provider in the provision of services that will ensure the overall health of the system to include its performance, interoperability, integration, and information exchange.

1. BIDDERS REQUIRED STANDARDS/QUALIFICATIONS

- 1.1. The bidder/service provider shall submit, as part of its bid, a copy of its company profile and organizational structure.
- 1.2. The bidder/service provider should have implemented and completed an IT system project related to Engineering applications such as required as similar project in

nature with at least 50% of the ABC within the last three (3) years. The bidder/service provider must submit proof of project and completion.

1.3. The bidder/service provider must submit resume of at least two (2) personnel who will act as Project Team and IT Technical support team for this project. It shall show systems development trainings and experience.

1.4. The winning bidder must provide Certificate of Good Performance for the Completed Projects.

1.5. The service provider must be duly registered under the National Privacy Commission.

2. Engineering Department Maintenance Operations Management System (ED-MOMS)

- Perpetual License with unlimited users
- Dashboards and Reporting system for administration
- ED-MOMS Maintenance Module for administration of the system such as Building Category, Job order Classification, Asset and resource properties, back-up and recovery.
- Other functionality are administration of the system such as user authentication, system diagnostics and system policies

2.1 Job Order Registration and Monitoring System

Functionality as follows:

- Job Order Registration
- Job Order Prioritization/Impact
- Job Order Financials
- Resource assignments
- Planned, Ongoing and Completed Monitoring Database

2.2 Resource and Assets Properties

Functionality as follows:

- Manpower, Equipment, Spare Parts and Materials Inventory List
- Specifications and Property details (Property Numbers)
- Condition and History Sheet
- Availability Details
- Reports
 - Usage reports
 - Yearly/Quarterly Orders Actual Comparison
 - Asset Accountability report

2.3 Building and Non-Building Structure Inventory

Functionality as follows:

- Structure Identification
- Structure Classification
- Structure Records Identification
- Maintenance Details
- History of Construction

3. HARDWARE SPECIFICATIONS

3.1 Server - Local Server/ Physical (1 Unit)

- Processor : minimum of 10-core/20Thread, up to two 2nd Generation Scalable Processors, or its equivalent benchmark processor
- Operating System : Microsoft windows server 2019 or latest, license for up to 16 cores
- Storage: up to 16x2.5" SAS/SATA 12TB HDD, max 61TB
- Memory : 32GB RAM DDR4 DIMM Slots, Supports RDIMMs/ LRDIMMs
- Power Supply: 750W Hot-plug
- Form Factor :Tower Type
- Black Wired Multi-Media Keyboard English (same brand of the server)
- Optical Mouse - Black (same brand of the server)

3.2 UPS (1 Unit)

- 1.5 KVA UPS

3.3 Desktop Computer (9 Units)

- Intel Core i5 Processor , 10th generation "or equivalent processor"
- Ram: 16GB; Chipset - H57 or same
- Storage: 1TB Hard Drive or higher
- Optical Drive: DVD-RW
- Network Adapter: Gigabit LAN Adapter
- Video Display: 21.5 inches, Full HD LED monitor
- Power Supply: 500W
- Operating System: Licensed Windows 10 PRO, Microsoft Office Professional 2019 or latest
- Keyboard: USB Keyboard (same brand of the unit)
- Mouse: USB Mouse (same brand of the unit)
- UPS 500VA or Higher

3.4 Portable Hard Disk 2TB SDD (4 Units)

3.5 Laptop (8 Units)

- Intel Core i5 Processor , 10th generation "or equivalent processor"
- 15.6" FHD IPS
- Graphics: 2 GB
- RAM: 16 GB
- Storage: 1 TB HDD + 16G M.2. PCIE
- Cam: HD 720P
- 3 CELL
- Windows 10 PRO, Microsoft Office Professional 2019 or latest

3.6 High Speed Scanner (4 Units)

- Scanning Face: Duplex
- Scanning Method: Colour CIS (600dpi) / Black or White Background
- Scanning Resolution: 100-1200dpi
- Scanning Speed: Simplex – up to 65ppm, Duplex – 130ipm (Binary/Colour A4 size 200/300 dpi)
- Document Paper Size when 1 page: 1.9in. X 2.1in – 8.5in X 220in
- Feed Tray Capacity: up to 100 sheets
- Daily Duty Cycle: 8,000 sheets
- Automatic Detection: Intelligent Double Feed Detection using ultrasonic sensor or same
- Image Impression: MH, MMR, JPEG
- File Output: PDF, PDF/A, Searchable PDF, JPEG, JPEG 2000, TIFF, Multi TIFF, BMP, can convert to word/excel/PowerPoint

3.7 Continuous Ink System Printers (12 Units)

- Print resolution: up to 720 X 720dpi
- Print Speed: up to 8.5 ipm
- 180 nozzles Black, 59 nozzles, each color (Cyan, Magenta, Yellow)

3.8 Local Area Network Specifications (1 set) 48 ports

- Structured Cabling
- CAT 6 cable - 1 box (300meters/box)
- RJ 45 - 100 pcs
- LAN 48 port switch (Specifications: CPU Core Count: 1; CPU Nominal Frequency: 650MHz; Dimensions: 297x443x44mm; RouterOS license: 5; Operating System: Router OS; Size of RAM: 64 MB; Storage Size: 16MB; Storage Type: Flash; MTBF: Approx. 200'000 hours at 25C; Number of AC inputs: 2; AC input range: 100-240; Max Power Consumption: 60W; Max Power Consumption without attachments: 50W; FAN Count: 3; 10/100 Ethernet Ports: 1; 10/100/1000 Ethernet Ports: 48; SFP+ ports: 4; Number of 40G QSFP+ ports: 2;

- Peripherals: Serial Console Port: RJ45; Certifications: CE, EAC, ROHS; IP: IP20;
 Inclusions: 2 pcs IEC cords, 1 pc Cable Management Brackets, 1 pc Rackmount
 Ears, K-48 Fastening set) - 1 unit
 • Mouldings - 20 pcs (1 inch x 10 ft.)

4. SOFTWARE SPECIFICATION

4.1 Database Management System

- Server Installation Package
- Enterprise License

4.2 Engineering Department Maintenance Operations Management System

- Server Installation Package
- Performance Monitoring
- Operating System Software
- Client Runtime

5. MANAGED SERVICES

5.1 Support Desk

- Encoding Services
- Technical assistance

5.2 Training and Manuals

- Knowledge transfer training on application fixes, enhancements, technical configuration, system administration and database support
- User Manuals
- Training – 32 hours training (via zoom - 2 times 8-hour training, classroom type - 2 times 8-hour training), up to 15 persons

5.3 Back-up and recovery support

- Passive replication of database and scanned files
- External HD full back up
- Six (6) months duration

5.4 Warranty, Maintenance and Support

- Two (2) hour response time for critical issues for resolution within twenty-four (24) hours.
- 1-year coverage after full acceptance of project

6. PROJECT MANAGEMENT PLAN

1. Project Plan – the overall project planning includes project timelines and deliverables, systems design, development and deployment, training and handover, and documentation.
2. Delivery of Hardware components
 - i. Installation and Configuration of Server
 - ii. Installation and Configuration of workstations
3. Customization of Systems:
 - i. Systems and Database Design
 - ii. System Configuration and Program Customization
4. Project Documentation
5. Technical and User Trainings
6. Warranty and Support Services

7. PROFESSIONAL SERVICES

The contractor/Service Provider/Bidder shall have the critical technical knowledge that includes knowledge of database systems; ability to manage database system integration, implementation, and testing; ability to manage relational databases and create complex reports; knowledge and ability to implement data and information policies, security requirements; and knowledge of client tools used by business users. The project should provide the following Professional Services:

ability to implement data and information policies, security requirements; and knowledge of client tools used by business users. The project should provide the following Professional Services:

- a. Project Manager - The Project Manager should have at least experience in Systems Integration projects.
- b. System Analyst (2) – System Analysts will identify and develop functionalities and modules of the system by using design techniques and implement them into the production environment.
- c. Programmers (2) – Programmers will develop and customize the ED-MOMS. They should have background on web-based application.
- d. Systems Administrator (1) – System Administrators are for the installation and configuration of systems that includes operating systems, security systems, and backup systems. These administrators will provide support systems to assure continuous operation of the systems including all servers, storages, and software systems.
- e. Facilities Support (1) – Provides technical support to assure all facilities including all scanners, workstations, network and peripherals are all in good condition.
- f. Support Desk/Encoders (2) – for encoding of administration and maintenance tables

VII. PROJECT DURATION

Project duration is for a period of two hundred forty (240) days upon the receipt of Notice to Proceed (NTP). The delivery schedule expressed as calendar days stipulates the project delivery date.

Item No.	Description	Delivered (Days)
1	- Delivery and Construction of IT Infrastructure - Development and Customization of the Engineering Department Maintenance Operations Management System (ED-MOMS)	Within 60 days upon the receipt of the NTP
2	- Digitization (scanning, evaluation, encoding and uploading of documents) - Documentation and Knowledge Transfer/ Training	Additional 180 days (61 st day to 240 th day) upon the delivery of IT Infrastructure and Development and Customization of ED-MOMS

VIII. APPROVED BUDGET FOR THE CONTRACT

The approved budget for the **ENGINEERING DEPARTMENT MAINTENANCE OPERATIONS MANAGEMENT SYSTEM (ED-MOMS)** which includes the cost of all taxes, such as, but not limited to value added levies and duties is **NINE MILLION ONE HUNDRED FORTY THREE THOUSAND FOUR HUNDRED FORTY SIX PESOS (PHP 9,143,446.00)** only. Any and all taxes, charges, imposts and other legal exactions due or that may become due under this contract shall be for the account of the Supplier / Contractor. The implementing Agency shall withhold applicable withholding taxes, if any, from its payments to the Contractor in accordance with the requirements of the law.

No Price Adjustment

The Project Cost shall be fixed and there shall be no price adjustments applicable for the duration of the contract except when the operations costs are increased by more than 10% as a result of any extraordinary circumstance as determined by the National Economic Development Authority (NEDA). Pursuant to the provisions of RA 9184 and its IRR on contract price escalation, all contract price escalation shall be approved by the Government Procurement Policy Board (GPPB).

IX. BASIS OF PAYMENT

1. 15% upon submission of Project Plan
2. 25% upon delivery of Hardware Component
3. 40% upon completion of the Engineering Department Maintenance Operations Management System (ED-MOMS)
4. 20% upon full completion of the project including Digitization (scanning, evaluation, encoding and uploading of documents) and Documentation and Knowledge Transfer/ Training

X. PENALTIES FOR BREACH OF CONTRACT

Failure to deliver the services according to the standards and requirements set by the City shall constitute an offense and shall subject the Contractor to penalties and/or liquidated damages pursuant to RA 9184 and its revised Implementing Rules and Regulations.

XI. CANCELLATION OR TERMINATION OF CONTRACT

Should there be any dispute, controversy or difference between the parties arising out of this TOR, the parties herein shall exert efforts to amicably settle such dispute or difference. However, if any dispute, controversy or difference cannot be resolved by them amicably to the mutual satisfaction of parties, then the matter may be submitted for arbitration in accordance with existing laws, without prejudice for the aggrieved party to seek redress before a court of competent jurisdiction.

The guidelines contained in R.A. 9184 and its Revised Implementing Rules and Regulations (IRR) shall be followed in the termination of any service contract. In the event the City terminated the Contract due to default insolvency, or for cause, it may enter into negotiated procurement pursuant to Section 53 (d) of R.A. 9184 and its Implementation Rules and Regulations (IRR).

XII. PROOF OF CONCEPT

The winning bidder should have provided a proof of concept of the system that will be used in this project. The POC should present a system that has the functionalities and expected performance that is acceptable to the Engineering Department. The POC should be completed as part of the Post Qualification Process.


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