Proposal — Building Management System

Kingsford Hotel Bacolod Project

Submitted to: Megaworld Corporation **Project Reference:** TUEC-PR-AUX-010 — BMS **Date:** 2026-04-28 **Proposal validity:** 90 days from issue **Currency:** Philippine Peso (PHP)

---

1. Cover Letter

To Megaworld Corporation Attention: Mr. Rome Amiel P. Gonzales

Dear Sir,

We are pleased to submit our proposal for the **Complete Supply, Delivery, Installation, Testing and Commissioning of the Building Management System** for the **Kingsford Hotel Bacolod** project, in response to your enquiry and based on the following Construction Bulletin documents:

- BMS Points list (TUEC) — sheets BMS-01, BMS-02, BMS-03, dated October 2025, by R.J. Calpo & Company
- EE Plan (TUEC) — Construction Bulletin No.8, dated November 5, 2025, by Mario A. Alix Philippines, Inc.
- Megaworld MC Standards — BMS Standards CONDOTELS (DRC-004-2024), Mechanical and Plumbing Points Lists

This proposal covers a comprehensive Building Management System designed to monitor and control the building's mechanical, plumbing, electrical-metering, and casino-MVAC systems, with operator-friendly graphics, energy-savings algorithms, and standards-compliant integration via BACnet IP and Modbus protocols. Our scope follows the project-specific points list issued by R.J. Calpo & Company while complying with the Megaworld MC Standards baseline.

We have identified a number of items that we have assumed for purposes of this proposal — these are listed in **Section 7 (Stated Assumptions)** and **Section 8 (Inclusions / Exclusions / Clarifications)**. Should you wish to confirm any of these or revise our basis, our team is ready to refine the proposal accordingly.

We thank you for the opportunity and look forward to your favourable consideration.

Sincerely yours,

[BMS Contractor signatory] [Name, Title]

---

2. Executive Summary

Item	Value
Project	Kingsford Hotel Bacolod — BMS
Stage	Greenfield (new construction)
Scope	Complete Supply, Delivery, Installation, Testing & Commissioning of BMS
BMS I/O points	~716 (across HVAC, plumbing/hotwater, ventilation, casino MVAC, boiler, electrical metering)
BMS-monitored equipment	135 instances (chillers, AHUs, DOAS, PAHUs, pumps, fans, calorifiers, boilers, power meters)
BMS field panels	18 (with ~30 DDC controllers)
Network	Isolated BMS LAN — 1 core + 6 edge managed switches, fiber backbone
Operator interface	2 redundant servers + 2 workstations + graphics PC + 35-page graphic interface
Project duration	16 weeks from PO to handover
Peak on-site headcount	11 personnel during weeks 9–10
Total project price (incl. VAT)	**PHP 21,978,117**

3. Project Background

The Kingsford Hotel Bacolod project, located at Manhattan Street, The Upper East, Bacolod City, Negros Occidental, is a new-construction hotel and mixed-use development by Megaworld Corporation. It includes:

- Multi-floor hotel with guestrooms above the 3rd floor
- Casino at the 2nd Level with dedicated MVAC (Mechanical Ventilation & Air Conditioning)
- Amenity facilities at the 3rd Floor

- Full back-of-house infrastructure: chiller plant at Ground Level, hotwater plants at Lower Ground and Roofdeck, steam boilers for laundry, multiple ventilation zones, electrical distribution and metering

Our understanding of the BMS scope is based on the Construction Bulletin documents issued by the project consultants:

- **R.J. Calpo & Company** (BMS engineer of record) — issued BMS Points list (TUEC) covering general specifications, I/O point tabulation, and process & instrumentation diagrams (P&IDs) for chiller plant, AHUs, DOAS, PAHUs, and cooling tower
- **Mario A. Alix Philippines, Inc.** (electrical consultant) — issued EE Plan revisions (Construction Bulletin No.8) covering revised power system layouts, load schedules, and power riser

The points list reflects ~716 monitoring and control points distributed across: - Chilled Water plant (3 chillers, primary CHW pumps, condenser water pumps, cooling towers, headers, BTU meter) - Basement-Podium BOH Air Handling Units (3 confirmed units at GND Level; total of 10 indicated in tabulation — see Stated Assumptions) - Plumbing/Sanitary Hotwater (6 calorifiers, 6 heat pumps, 6 recirculating pumps split between Lower Ground and Roofdeck) - General Ventilation (68 exhaust fans across 5 zones) - Boiler/Laundry (2 steam boilers at Lower Ground) - Casino MVAC (DOAS unit, 2 AHUs, 2 ozonizers) - Hotel/Roofdeck DOAS (2 units serving guestrooms) - Roofdeck Precooled Air Handling Units (2 units) - Electrical metering (3 main + 10 sub-feeder multifunction meters)

The cover letter from your team described the project as a “Rehabilitation of Building Management System”. Our review of the project documents — which are stamped Construction Bulletins dated 2025 with revisions referencing adjusted mechanical and kitchen power layouts — strongly indicates a greenfield new-construction project. We have based this proposal on greenfield assumptions; please refer to **Section 7 — Stated Assumptions** for clarification on this point.

---

4. Scope of Work

Our scope follows the project Work Breakdown Structure shown below. All items listed are **included** in this proposal unless explicitly listed under exclusions in Section 8.

4.1 Project Management & Engineering

- BMS system design and engineering: system architecture, panel layouts, IO list consolidation, control sequence design from Description-of-Operations text in points list, BACnet/Modbus network design, IP plan
- Submittals and approvals: material approvals, panel general arrangement drawings, network architecture submittal, riser diagrams
- Factory Acceptance Test (FAT) at vendor facility prior to site mobilization
- Project management throughout: weekly progress, customer + MEP coordination meetings, change-order administration

4.2 Material Supply

Sub-system	Items
Head-End	2× redundant rack servers, 2× operator workstations, 1× graphics PC + 55-inch display, 3 kVA UPS, software licenses, server-room peripherals
Network Infrastructure	1× core managed switch + 6× edge managed switches, OM3 riser fiber, transceivers, IDF enclosures
18× BMS field panels	with ~30 DDC controllers, I/O modules, switching power supplies, terminal blocks, surge protection, IP54 wall-mount enclosures
HVAC field devices	Temperature sensors (immersion + duct + outdoor), humidity sensors, pressure sensors, flow sensors, BTU meter, modulating valve actuator (CHW bypass), CO2/CO/VOC sensors
Plumbing field devices	Tank temperature sensors, header temperature sensors, pump aux-contact

Sub-system	Items
	wiring kits
Boiler field devices	Steam pressure sensor, feedwater temperature sensor, fluegas T+O2 sensors, motorized blowdown valve actuator
Power metering	3× main multifunction meters + 10× sub-feeder meters (Modbus), CTs, Modbus IP gateways
Cabling and containment	~6,810 m total cable (control + network + power feeds), branch conduit

4.3 Installation

- Mobilization to site (week 7)
- First-fix containment (conduit, supports, mounting plates)
- Cable pulling (control + network + power feeds)
- BMS field cabinet installation (mounting, dressing, internal verification)
- Field device mounting and termination
- Network infrastructure installation (switches, fiber/Cat6 termination, IP addressing)
- Head-end installation (server room build-out, server install + image + license activation)
- Pre-commissioning power-up and smoke tests

4.4 Programming & Configuration

- Controller programming: ~1,245 programmable point database objects, ~30 control sequences (per Description-of-Operations from points list), 8 schedules, 38 alarm definitions, 10 reports, ~250 trend logs
- Graphics development: 35 graphic pages (home, 6 floor pages, 8 system pages, 10 equipment popup templates, alarm + trend + report pages)
- Reports configuration (daily, monthly, runtime, PM, energy savings)
- Integration programming for BACnet (chillers, AHUs, DOAS, PAHU) and Modbus (power meters, BTU meter)

4.5 Testing & Commissioning

- Pre-commissioning per panel
- Point-to-point (P2P) testing of all 523 physical I/O points
- Functional testing per equipment (135 instances)
- Integrated commissioning of 8 cross-system sequences (chiller plant staging, energy savings, hotwater sequencing, etc.)
- Owner T&C / SAT support
- Snagging and punch-list resolution
- As-built documentation (drawings, O&M manuals, point database export, programming archive)

4.6 Training & Handover

- 16 hours of operator training on-site after handover
- Documentation handover with sign-off
- Warranty start: 1-year manufacturer warranty + 1-year on-site defect liability

---

5. Technical Proposal

5.1 System Architecture

The BMS is implemented as a 3-tier architecture:

- **Head-End Layer:** Redundant BMS servers (primary + standby) hosting the central database, alarm management, trending, reports, and graphics. Operator workstations and a graphics PC + 55-inch display provide operator access. All head-end equipment is UPS-protected (3 kVA, 30-min runtime). The BMS server software supports BACnet IP communication, web-based access, redundancy, and energy-savings optimization modules per the BMS general specification.

- **Network Layer:** A dedicated, isolated BMS LAN with a single uplink to the customer's corporate LAN. The network comprises 1 core managed L2/L3 switch at the BMS Server Room and 6 edge managed L2 switches distributed across the building (Lower Ground, Ground, 2nd Floor, 3rd Floor, Basement, Roofdeck) connected via OM3 multimode riser fiber. The flat /24 BMS subnet provides a clean addressing structure with future expansion capacity.

- **Field Layer:** 18 BMS field panels housing ~30 DDC controllers and associated I/O modules, distributed across plant rooms (chiller, hotwater LZ + RD, boiler, cooling tower, casino MVAC, roofdeck DOAS/PAHU) and floor-level distribution panels (ventilation per floor). BACnet/IP-native equipment (chillers, AHUs, DOAS, PAHU) connects directly to the network; legacy Modbus equipment (power meters, BTU meter) connects via Modbus serial-to-IP gateways. Hardwired analog and digital signals from BMS-supplied sensors and ME-supplied valves/dampers terminate in the nearest field panel.

5.2 Key Features

- **Open BACnet IP standard** — interoperable with Megaworld portfolio standards
- **Web-based access** — operators can monitor and control via any browser on the BMS LAN
- **Redundant server architecture** — automatic failover; no single point of failure for the head-end
- **30-minute UPS runtime** — head-end protected against short power outages
- **Energy savings optimization** — per BMS general spec, includes chiller plant sequencing, demand control, peak shaving
- **Integrated commissioning** — cross-system sequences validated together (chillers + CHW pumps + AHUs)
- **Comprehensive alarming and reporting** — per points-list “Generate Alarm” and “Generate Report” specifications
- **Future-ready expansion** — 25% spare I/O capacity in every panel; flat IP plan allows easy addition

5.3 Compliance

- BACnet IP per ASHRAE 135
- Modbus RTU/TCP per IEC 61158
- IP54 minimum for indoor BMS panels
- FRLS (Fire Retardant Low Smoke) jacketed cables per Philippine fire code
- VAT-registered supply per BIR

---

6. Project Schedule

A 16-week schedule from Purchase Order to Handover:

Week	Phase
1	Mobilization + Engineering kickoff
2–4	Engineering & design + submittals
4	Long-lead supply orders placed
5	Factory Acceptance Test
5–6	Material supply on site
7	Installation start (plant rooms)
8–10	Peak installation phase (cable, panels, devices, head-end build-out)
11	Installation continues (floor levels)
12	Installation close-out + pre-commissioning
13	Point-to-Point testing
14	Functional testing
15	Integrated commissioning + Owner SAT
16	Training + handover

Critical milestones: - Week 4 — Engineering complete, submittals approved - Week 6 — All supply on site - Week 12 — Installation complete (mech-ready for T&C) - Week 15 — SAT signed - Week 16 — Handover, warranty start

Peak manpower: 11 personnel on site during weeks 9–10 (4 wireman + 2 BMS technicians + 1 graphics engineer + 1 BMS engineer + 1 PM, plus float).

---

7. Stated Assumptions

The following assumptions form the basis of this proposal. Should any need to be revised, our team will be pleased to amend the proposal accordingly.

1. **Project stage — Greenfield (new construction).** Our base proposal is priced for new-construction scope. The cover letter referenced “Rehabilitation”; the technical documents (Construction Bulletins from 2025 with adjusted mechanical and kitchen power layouts) clearly indicate active new construction. We respectfully request confirmation. *If the project includes retrofit elements (existing equipment to demolish or*

integrate), pricing will be revised — typically +30% for demolition, hot cutover, and after-hours work.

2. **Project schedule — 16 weeks from PO to handover.** This is a comfortable schedule with normal manpower loading. *If a shorter duration (e.g., 10–12 weeks) is required, we will re-plan with augmented crew and overtime — typically +20–30% on labor.*

3. **Working hours — Standard daytime construction hours (8am–5pm Mon–Sat).** No night-work or special-access premium has been priced for greenfield site.

4. **Network and IT integration — Isolated BMS LAN with single uplink to customer's corporate LAN.** No integration with PMS, FDAS, CCTV, or ACS is included in the base proposal. *Each integration is available as a priced option on request.*

5. **Commercial terms.** 30-day net payment; 10% retention released at handover; 1-year manufacturer warranty + 1-year on-site defect liability; no LD/penalty clauses; PHP-denominated.

6. **Training scope.** 16 hours on-site operator training (up to 6 operators, over 2 days) is included. Administrator training and vendor factory training are available as priced options.

7. **Maintenance.** A 1-year preventive-maintenance contract is *not* included in the base proposal. It is available as a priced option after the warranty period.

8. **BMS scope coverage — Per points list.** Our scope follows the project-specific BMS Points list (TUEC) issued by R.J. Calpo & Company, with the Megaworld MC Standards as the baseline reference. Items not in the points list (e.g., per-guestroom Fan-Coil Unit controls, domestic cold-water booster pumps) are *not* in our base scope; these are listed in our clarifications package and may be added if confirmed in scope.

9. **Brand selection.** We have priced our proposal based on Tier-1 brand BACnet IP equipment per the BMS general specification; the specific brand will be selected per Megaworld portfolio standardization once confirmed.

10. **Cable lengths and equipment quantities.** Have been estimated based on the points list and architectural information available. Refinement may

follow when complete architectural and mechanical layouts are made available.

---

8. Inclusions / Exclusions / Clarifications

8.1 Inclusions

Per Section 4 (Scope of Work) above. All material supply, installation, programming, testing, commissioning, training, and warranty for the BMS system as described.

8.2 Exclusions

The following are NOT in our base proposal scope. They are either supplied by other contractors, civil works, or hotel building systems beyond the BMS perimeter:

Item	Reason for exclusion
Mechanical equipment (chillers, cooling towers, pumps, AHUs, DOAS, PAHU, fans, calorifiers, heat pumps, recirculating pumps, boilers, ozonizers)	Mechanical Contractor / Equipment Supplier scope
Mechanical valves and dampers (motorized iso valves, modulating CHW valves on AHUs/DOAS, OA/RA dampers)	Mechanical Contractor scope (BMS supplies wiring + termination only)

Item	Reason for exclusion
VFDs and motor starters	Equipment Supplier scope (BMS supplies BACnet/Modbus integration)
Switchgear, MCCs, panelboards, breakers	Electrical Contractor scope
240V power feeds *to* BMS panels (×18) and to head-end UPS input	Electrical Contractor scope (we provide the power requirements schedule for coordination)
Civil works (panel plinths, core drilling, server room build-out, finishes)	Civil Contractor scope
FDAS (Fire Detection & Alarm) integration	Excluded pending Q-012 — available as priced option
PMS (Property Management System) integration for guestroom occupancy	Excluded pending Q-012 — available as priced option
CCTV / Access Control / Security systems integration	Not requested
Per-guestroom Fan-Coil Unit (FCU) controls	Excluded pending Q-019 — points list does not show FCU scope
Domestic cold-	Excluded pending Q-020

Item	Reason for exclusion
water booster pump monitoring	
Demolition or removal of any existing equipment	N/A for greenfield (excluded unless Q-018 confirms retrofit)
1-year preventive maintenance contract	Excluded from base; available as priced option
Vendor factory training (overseas)	Available as priced option
Spare parts inventory beyond warranty stock	Available on request

8.3 Clarifications (open items requiring customer input)

The following items have been assumed in this proposal at industry-standard practice; customer confirmation will refine the proposal. Full RFI list available on request.

Priority	Subject	Default assumed
P1	Project stage (greenfield vs. retrofit)	Greenfield, per technical documents
P1	Required completion duration	16 weeks from PO
P2	Contracting entity	Megaworld Corporation
P2	Architectural floor plans availability	Cable lengths estimated per typical density
P2	Mechanical	Equipment locations inferred from

Priority	Subject	Default assumed
	(HVAC) layout drawings	points list
P2	Complete electrical drawing set	Metering count assumed per construction-bulletin scope
P2	Working-hour constraints	Standard daytime greenfield construction
P3	Network/IT integration scope (PMS, FDAS, CCTV, ACS)	None — isolated BMS LAN with uplink to customer LAN
P3	Brand preferences / Megaworld portfolio standardization	Tier-1 BACnet IP brand per BMS spec
P3	Commercial terms	Standard local market (30-day net, 10% retention, 1+1 yr warranty)
P3	Training scope	16-hr operator training included
P3	Maintenance contract scope	Not included; offered as option

9. Commercial Proposal

9.1 Pricing Summary

Item	PHP
Base proposal cost (material + labor + services)	15,211,875
+ Overhead and margin (20%)	3,042,375
+ Contingency (7.5%)	1,369,069
Sub-total before VAT	**19,623,319**
+ VAT (12%)	2,354,798
GRAND TOTAL (VAT-inclusive)	**PHP 21,978,117**

9.2 Pricing breakdown by section

WBS Section	Subtotal (PHP)	% of base
1.0 Project Management & Engineering	1,688,000	11.1%
2.0 Material Supply	10,792,510	70.9%
3.0 Installation	1,743,025	11.5%
4.0 Programming & Configuration	417,040	2.7%
5.0 Testing & Commissioning	480,100	3.2%
6.0 Training & Handover	91,200	0.6%
Base subtotal	**15,211,875**	**100.0%**

9.3 Optional items (priced separately on request)

Item	Status
1-year preventive maintenance contract	Quote on request
FDAS integration (subject to FDAS vendor specs)	Quote on request
PMS integration (guestroom occupancy → FCU control)	Quote on request, subject to Q-019 (FCU scope)
Additional administrator training (8 hr session)	PHP ~30,000 per session
Vendor factory training	Quote on request, varies by vendor + location

9.4 Payment Milestones

We propose the following payment schedule (subject to customer's commercial terms):

Milestone	% of contract	Trigger
Mobilization advance	10%	Upon PO + signed contract
Engineering	15%	Submittals approved

Milestone	% of contract	Trigger
complete		(Week 4)
Long-lead materials delivered	25%	Site delivery (Week 5–6)
Standard materials delivered	20%	Site delivery (Week 6–7)
Installation complete	15%	Mech-ready at Week 12
T&C complete + SAT	10%	Customer SAT signed (Week 15)
Handover + warranty start	5%	Documentation accepted (Week 16)
Total	**100%**	

9.5 Validity

This proposal is valid for **90 days** from the date of issue.

9.6 Governing Terms

This proposal is governed by the standard commercial terms outlined in Section 7 (Stated Assumptions). The final contract will incorporate any agreed revisions from the customer's procurement team.

---

10. Acceptance

We thank you for the opportunity to bid for this important project. Should you wish to accept this proposal, please countersign below or issue your standard PO.

For [BMS Contractor]	**For Megaworld Corporation**
Signed: _____	Signed: _____
Name:	Name:
Title:	Title:
Date:	Date:

This proposal package was prepared with the assistance of structured engineering tools that aggregate technical data from the project's Construction Bulletins and our internal cost-estimation models. Quantities and costs are derived from the documents listed in Section 1; supplier quotes are being solicited in parallel for refinement of material pricing. We will gladly provide detailed BOQ, cable schedule, panel schedule, and other working documents on request.