

installation specifications.

Structural Engineering Drawings

- Foundation plans, ground beam layouts, column schedules, floor slabs, framing plans, and critical connection details.
- Comprehensive structural calculation sheets and site-specific foundation designs.
- An excavation protection plan and shoring methodology suitable for local soil conditions.

MEP (Mechanical, Electrical, Plumbing) Systems

- Plumbing: Domestic freshwater distribution systems, wastewater management, sewer layouts, stormwater drainage, and ground well extraction/integration details.
- Electrical Power & Lighting: Solar PV integration, general power distribution, internal/external lighting layouts, HVAC (Air-conditioning) systems, public address/sound distribution, and IT networking plans.
- Engineering Calculations: Detailed thermal load (BTU) calculations for HVAC sizing and illuminance (lumen) calculations matching functional space requirements.
- Life Safety: Fire protection drawings showing fire extinguisher layouts, exit signs, and fire safety equipment specifications.

Quantity Surveying & Specifications

- Bill of Materials (BOM): A detailed inventory of raw materials, manufacturing standards, and components.
- Bill of Quantities (BOQ): A structured BOQ for tendering, commercial evaluation, and construction billing.
- Technical Specifications: Comprehensive material datasheets and execution methodologies for civil, structural, finishes, and MEP works.

Visualizations & Renderings

- High-fidelity exterior 3D renderings showcasing all building elevations.
- Interior 3D visualizations highlighting the Main Prayer Hall, and entrance lobbies.

Functional Space	Capacity / Allocation Target	Access Requirements
Main Prayer Hall	500 Worshippers Total	Structural columns minimized to prevent row obstruction; full universal access
Classrooms (1x)	15 Students	Accessible from the educational zone
Library	15 Students	Quiet study area integrated with digital infrastructure

Value Engineering & Lifecycle Management

- **Cost Optimization:** The design must prioritize economical construction methods without compromising structural safety or aesthetic quality.
- **Passive Design:** Maximize natural cross-ventilation and daylight harvesting to reduce daily operational energy loads.
- **Low Maintenance:** Material selections must prioritize highly durable, corrosion-resistant, and locally/regionally available finishes to minimize long-term maintenance costs for Maldives' coastal and marine environments.

Specific Component Specifications

Walkways & Common Areas

- Paved walkways must encircle the Main Prayer Hall, providing smooth architectural transitions to general utility areas.

Ablution & Sanitary Facilities

- Separate ablution areas for men and women, each with dedicated entrances.
- **Supply Ratio:** A minimum of 1 ablution tap per 30 worshippers.
- **Accessible Facilities:** At least 5% of the total units (or a minimum of 1 unit per zone) must be fully compliant with disability access standards, including ramps and rails.
- **Environmental Control:** Mechanical and natural ventilation configurations to manage moisture and maintain air quality.

Building Services & Electrical Distribution

- Distribution Boards (DB): Isolated DBs must be provisioned for:
 1. External lighting and compound fixtures.
 2. The Main Prayer Hall systems.
 3. General auxiliary building areas.
- Attendance System: Provision for a GSM-enabled biometric attendance machine within the Imam's office.
- Containment: Cable trays and ducts shall include accessible inspection and termination points, leaving 30% spare capacity for future utility expansion.
- Both floors shall be air-conditioned and enclosed as separate zones, with independent air-conditioning systems and controls for each floor.

Structural Roofing & Geometries

- Roof Engineering: Roof structures must be engineered to withstand dead loads, wind loads, and additional loads imposed by the solar PV array installation. Ramps or ladders must provide safe roof maintenance access.
- Central Dome: A visually prominent central dome shall be incorporated into the design. The dome shall be proportionate to the building's scale and clearly identifiable from all principal exterior elevations.

Minaret Engineering

- Proportions: The minaret height must be proportional to the main building mass, standing no less than 1.3 times the height of the main mosque roofline.
- Acoustics & Lighting: Horn speakers must be omnidirectionally arrayed to optimize Adhan coverage. The minaret shell must feature prominent structural uplighting for nighttime visibility.
- Safety: Integrated internal or structural cat-ladder with safety cages to facilitate high-level access.

Submission Deliverables

The selected consultant is contractually obligated to submit the following deliverables at specific milestones:

Phase 1: Concept Stage

- Design statement
- Site layout plan
- Concept floor plans and elevations
- Preliminary 3D visualization

Phase 2: Detailed design stage

- Fully coordinated architectural, structural & MEP drawings
- Engineering calculations (Structural, BTU, Lumens)
- Complete Tender Package (BOM, BOQ, Technical Specifications)

Phase 3: Final approved submissions

- Regulatory approved & Stamped drawing sets (Architectural & Structural)
- Final Photo – Realistic 3D Renderings (interior & Exterior)
- Digital Handover (Editable CAD/BIM/Word files + Master Vector PDFs)

General & Legal Framework

1. Statutory Compliance: All designs, engineering assumptions, and construction methodologies shall comply strictly with the applicable laws, building codes, and structural regulations of the Republic of Maldives.
2. Ministry Coordination: The consultant shall maintain regular communication with the Infrastructure Development Section of the Ministry throughout the design life cycle.
3. Change Management: Any significant deviations from the approved SOW or concept brief are strictly subject to formal approval by the Ministry.
4. Iterative Refinements: The consultant shall incorporate all corrective review comments, structural adjustments, and layout revisions requested by the Ministry during the design development stage at no additional cost.
5. Interdisciplinary Coordination: The consultant bears sole responsibility for performing rigorous clash-detection across architectural, structural, and MEP fields prior to the final submission of tender documents.

