Lampiran D

TERMS OF REFERENCE

FOR PROFESSIONAL SERVICES ON ARCHITECTURAL WORKS

IN CONNECTION WITH

CADANGAN BALAI BOMBA DAN PENYELAMAT BEAUFORT, SABAH

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1.0 Definitions

In this Terms of Reference unless the context otherwise requires, the following expression shall have the meanings hereby assigned to them:-

“Consulting Architect” or **"CA"**, **"Project"** and **"Works"** meanings are described in Form **CSA2014-Architectural (Amendment 2018)**;

"KPKT" means Kementerian Perumahan dan Kerajaan Tempatan

"Client" means Jabatan Bomba dan Penyelamat Malaysia

“Government” means the Government of Malaysia;

2.0 Introduction

2.1 It has been decided by the Government to appoint a Consulting Architect (CA) to undertake the planning, design, drafting, documentation and construction supervision for this Project.

2.2 In order for the physical implementation to be on schedule, the deliverables such as design models, the completed set of drawings (duly signed by a registered professional architect and the Government and specifications together with all other drawings by other relevant Consulting Engineers, Quantity Surveyors and etc) must be ready for tender by the date specified by the Government.

2.3 The role of KPKT in this Project shall be:

(i) as the executing agency overseeing the physical implementation of the Project; and

(ii) as the monitoring agency overseeing throughout the overall Project progress including the pre-contract and post-contract stages.

2.4 The CA shall provide all reasonable cooperation and access to KPKT officers throughout the Project implementation stages.

2.5 While every cooperation is given to the CA, it is the responsibility of the CA to collect all the information that is needed in the execution of this Project. The CA should undertake to inspect the site and its surroundings to ascertain for himself the specific requirements of the Project.

2.6 It will be necessary for the CA to meet and consult with the client department and KPKT in order to obtain detailed requirements necessary for the preparation of the design and plans.

3.0 Objectives

3.1 The main objective of employing architectural consulting services is to assist the Government in implementing the Project within reasonable cost, set quality and the time scheduled.

3.2 In rendering professional services, the CA shall comply with the latest of Government procedures and practices and regulations.

4.0 Scope of Work

4.1 The scope of work for the CA shall include professional architectural services in accordance with the procedures and requirements of Government projects throughout the pre-contract to the post contract stages.

4.2 The descriptions of the Project and the scope of work as per Project Brief in **Appendix 1**.

Project Name	Cadangan Balai Bomba Dan Penyelamat Beaufort, Sabah
Project Cost-	RM 8,000,000.00
CA Service Duration (Approx.)	Pre-construction: 2 months Construction : 24 months DLP : 12 months CMGD : 3 months 14 days Final Account : 3 months
Client Department	Jabatan Bomba dan Penyelamat Malaysia

4.3 The appointment of CA shall be based on conditions of engagement and terms as stipulated in Form **CSA2014-Architectural (Amendment 2018)** in Pekeliling Perbendaharaan/PK3.8 and in all other documents contained or mentioned or referred to in the Consultancy Services Agreement between the Government and the CA.

4.4 The CA shall commence architectural consultancy services from the date of accepting the **Letter of Acceptance** and shall complete the services until the **Certificate of Final Account** has been issued.

5.0 Scope of Consultancy Services

5.1 The **Basic Professional Services** that shall be provided by the CA comprise the following phases:

(i) Schematic Design Phase;

(ii) Design Development Phase;

(iii) Contract Documentation Phase;

(iv) Contract Implementation and Management Phase; and

(v) Final Completion Phase

5.2 The CA may appoint other consultants to carry out **Special Services** and shall obtain the consent of the Government before commencing the services. The Special Services to be rendered by the CA as specified in **Appendix 2** shall consist of the following:

(i) Town Planning Services; and

(ii) Landscape Architecture Services

5.3 The CA shall provide full-time **supervision on site** and the number of staff to be employed, including the CA's own staff to be seconded to site for the purpose, shall be approved in writing by the Government.

5.4 The CA shall be the lead consultant and Principal Submitting Person (PSP) to the authorities and shall be responsible for the overall planning and designing, coordination and management of the Project according to MS ISO 9001:2015 Prosedur Kerja KPKT/BPEMB/PK(P) and shall be directly responsible to Chief Secretary of KPKT for all aspects which fall within the scope of the Project.

5.5 The CA shall advise the Government on the best and most economical design with regards to the site constraints, layout planning, environmental conditions, energy efficiency and industrialised building systems (IBS).

5.6 The CA shall prepare the design and plans of the Project to meet the requirements of sustainable development practices and IBS construction methods to achieve the following:

(i) Comply to Government Green Procurement (painting work); and

(ii) Overall IBS Score of **not less than 70.0%**, calculated using the latest Manual For IBS Content System (IBS Score) by CIDB.

5.7 The CA shall carry out preliminary site investigation, topography study, boundary demarcation where required, data collection inclusive of field reconnaissance and to determine the existing and proposed availability of facilities, services and hindrances.

5.8 In rendering professional services by the CA, tools in each phase of The Basic Professional Services shall comprise but not limited to the following:

5.8.1 Basic Professional Services under Schematic Design Phase

(i) taking the Government's instruction and analyzing the Project Brief;

(ii) preparing preliminary conceptual Design to interpret the Project Brief;

(iii) preparing Spatial Requirement Analysis Report based on Buildings Works Model to validate space planning in accordance to Schedule of Accommodations (SOA) and Client's Brief of Requirements (CBOR) using massing, area plan (zoning of building programme) and room object. The validation of spaces shall comprise but not limited to the followings:

(a) zoning by classified group functions;
(b) area by departments, levels and blocks;
(c) norm floor area;
(d) total nett area;
(e) total circulation;

(f) total services area;
(g) total gross floor area;
(h) capacity;
(i) adequacy of proposed area;
(j) room finishes;
(k) ceiling height;
(l) air conditioning and ventilation provision; and
(m) percentage ratio of functional and non-functional area (if required).

(iv) developing the preliminary conceptual model into design model to a stage sufficient to enable an application to be made for planning approval or approval in principle as required under any relevant laws and regulations;

(v) preparing preliminary estimates of the probable construction cost based on current area, volume or other unit costs; and

(vi) where applicable, preparing and submitting the drawings derived from model and other necessary documents to relevant approving authorities for either planning approval or approval in principle as required under any relevant laws and regulations.

5.8.2 Basic Professional Services under Design Development Phase

(i) upon the approval of the design by either the relevant authority or the Government, developing schematic design drawing to a stage to enable other consultants to commence their detailed design work;

(ii) preparing working drawings and submitting the same together with all necessary particulars to the relevant approving authorities to obtain statutory building approval;

(iii) updating the preliminary estimates of construction costs and submitting the same to the Government; and

(iv) updating the project planning and implementation schedule and submitting the same to the Government for approval.

5.8.3 Basic Professional Services under Contract Documentation Phase

(i) Upon the approval by the Government of the updated preliminary estimates of construction costs and the project planning and implementation schedule, preparing and finalizing the detailed drawing and other particulars necessary to the stage of completion sufficient to enable bills of quantities to be prepared;

(ii) The CA shall prepare all related schedules from the details drawing including but not limited to drawing and room data sheet list, schedule of space/area conformance, component and material schedule;

(iii) Prior to preparing all documents necessary for obtaining competitive tenders for the works, the CA shall carry out **Design Coordination** which includes Design Review with other consultants to produce **Coordinated Design Drawing**;

(iv) The CA shall fulfill the followings:

(a) Carry out monitoring and supervising coordinated detailed Design Drawing throughout the whole project duration; and

(b) The Design Coordination Reports shall be submitted for reference as and when requested by the Government.

(v) Any design conflict need to be resolved upfront before construction works begin on site to reduce conflicts that may have cost implication and cause delay in project completion;

(vi) The CA shall produce Coordinated Drawing consisting of the combination of the completed final design Architecture, Structural, Mechanical and Electrical drawings;

(vii) Tender drawings including specifications, building component and material schedule shall be prepared by CA in collaboration with other consultants; and

(viii) Preparing the building contract documents in collaboration with other consultants appointed by the Government for signature by the Government and the contractor.

5.8.4 Basic Professional Services under Contract Implementation & Management Phase

The Basic Services that may be provided by the architectural consultancy practice under the Contract Implementation & Management Phase shall be any or all the following;

(i) preparing construction drawings to enable contractor to carry out the works;

(ii) updating drawings for any design changes;

(iii) performing all functions and duties of the CA under the terms and conditions of the building contract;

(iv) advising the Government on the site staff required for the project and estimating the cost and the duration of their employment;

(v) providing information and issuing instructions to the contractor as required under the terms and conditions of the building contract to enable the contractor to proceed with the works;

(vi) examining the works programme submitted by the contractor and to be satisfied that the works can reasonably be completed within the contract period; and

(vii) inspecting the works at periodic intervals so as to ensure that the works are being executed in accordance with the building contract and to recommend the Certificate of Practical Completion (CPC) for issuance by S.O.

5.8.5 Basic Professional Services under Final Completion Phase

(i) issuing Certificate of Completion and Compliance (CCC)/ Occupancy Certificate (OC)/ Occupational Permit (OP) for buildings after having satisfied that the buildings are fit and safe for occupancy;

(ii) preparing and certifying as-built drawings and submitting maintenance manuals together with all warranties to the Government;

(iii) issuing Certificate of Making Good Defects (CMGD) after having satisfied that all defects to the building(s) have been rectified; and

(iv) preparing final accounts for the contract and issuing a final certificate of payment to the contractor.

5.9 The CA is not required to carry out Basic Professional Services under Contract Documentation Phase as items listed below:

(i) inviting, on behalf of the Government, tenders for the work;

(ii) evaluating the results of the tenders and submitting a report and recommendation to the Government; and

(iii) awarding the contract on behalf of the Government.

6.0 Methods To Establish Consulting Fees

6.1 The Ministry of Finance circular **Pekeliling Perbendaharaan PK3.2 - Kos Perkhidmatan Perunding** elaborates on the rules for determining consulting fees in implementing Government projects.

6.2 Basically, there are (two) 2 methods on how to establish consulting fees namely, **Fixed Fee** and **Timed-Based Basis**:

6.2.1 Fixed Fee Method

(i) The cost of consultancy services as agreed in the **Letter of Acceptance** which consists of consulting fee, supervision fee and out-of-pocket expenses **shall be fixed**. Nonetheless, the Government shall have the absolute discretion whether or not to consider application of additional consulting fees if there are works variation and/or extension of time in the construction contract.

(ii) Any additional consulting fees due to the increased in construction contract price and calculated according to Architects (Scale of Minimum Fee) Rules is not applicable for Government projects since 15 September 2016.

(iii) If the accepted construction contract price is lower than the estimated project cost, the Government reserves the right to reduce the consulting fee proportionally in relation to the accepted construction contract price.

(iv) In tender submission to the Government, the consultant's consulting fees proposal shall include any reasonable and competitive calculation methods together with costs breakdown.

6.2.2 Timed-Based Basis Method (Man-month)

(i) If the consultant is required to extend full-time **supervision on site** due to extension of time in the construction contract and upon approval of the Government, the consulting fees shall be calculated according to timed-based basis method.

(ii) The formula for calculation of consulting fees according to this method currently adopted by the Government is:

CF = BS X MF X MM

and representing the above abbreviations are as the following,

CF = consulting fee
BS = basic salary
MF = multiplier factor; and
MM = duration/time period in 'man-month'

6.3 All out of-pocket-expenses or reimbursable expenses shall be billed in accord with the allowed items by KPKT and shall not exceed the cost capping as prescribed in The Ministry of Finance latest circular.

6.4 The consultant shall pay and maintain at its own cost any insurance policy as required by the Government and the cost shall not be included in out of-pocket-expenses.

7.0 Deliverables

Deliverables for this consultancy services are as specified in **Table 3**.

	Deliverables	**Soft Copy** (compact disc/ portable drive) *file format*	**Hard Copy** (no. of sets)	**Submission** (due date)
	Schematic Design Phase			
(i)	Conceptual Design Drawings consists of Architectural Drawings and Site Plan	Auto-CAD (portable drive)	-	-
(ii)	Spatial Requirement Analysis Report based on Buildings Works Drawing - Schedule of Accommodation	Auto-CAD (portable drive)	-	-
(iii)	Submission Drawings Documentation in soft copy (amendable format eg.: Auto-CAD format) - upon submission for Planning Approval to the relevant authority	-	-	-
(iv)	Submission Drawings Documentation in hard copy - upon submission for Planning Approval to the relevant authority	-	20 Sets	26/9/19
(v)	Submission Drawings Documentation in soft copy (amendable format eg.: Auto-CAD format) - upon submission for approval to the Client	-	-	-
(vi)	Submission Drawings Documentation in hard copy - upon submission for approval to the Client	-	-	-

	Design Development Phase			
(i)	Development Design Drawing which consists of: (a) Architectural Working Drawing (b) Details Drawing	Auto-CAD (portable drive)	-	-
(ii)	Submission Drawings Documentation in soft copy (amendable format eg.: Auto-CAD format) - upon submission for Building Approval to the relevant authorities	Auto-CAD (portable drive)	-	-
(iii)	Submission Drawings Documentation in hard copy - upon submission for Building Approval to the relevant authorities	-	16 Sets	26/9/19
	Contract Documentation Phase			
(i)	Coordinated Design Drawing which consists of: (a) Architectural Drawing (b) Structural Drawing (c) Mechanical & Electrical Drawing (d) Site Drawing (Civil) (e) Room Data Interaction (Drawing and Schedule)	Auto-CAD (portable drive)	-	-
(ii)	Design Coordination Reports	Microsoft (portable drive)	-	-
(iii)	Detailed Drawings Documentation in soft copy (amendable format eg.: Auto-CAD format) (a) Architectural Drawings (b) Site Plan Drawings	Auto-CAD (portable drive)	-	-
(iv)	Detailed Drawings Documentation in hard copy (a) Architectural Drawings (b) Site Plan Drawings	-	-	-

(v)	Tender Drawings Documentation in soft copy (amendable format eg.: Auto-CAD format) (a) Architectural Drawings (b) Site Plan Drawings	Auto-CAD (portable drive)	-	-
(vi)	Tender Drawings Documentation in hard copy (a) Architectural Drawings (b) Site Plan Drawings	-	22 Sets	30/9/19
	Contract Implementation & Management Phase			
(i)	Construction Drawing which consists of: (a) Architectural Drawing (b) Structural Drawing (c) Mechanical & Electrical Drawing (d) Site Drawing (Civil)	Auto-CAD (portable drive)	-	-
(ii)	Construction Drawings Documentation in soft copy (amendable format eg.: Auto-CAD format) (a) Architectural Drawing (b) Site Drawing	Auto-CAD (portable drive)	-	-
(iii)	Construction Drawings Documentation in hard copy (a) Architectural Drawings (b) Site Plan Drawings	-	22 Sets	25/10/19
	Checklist of CCC/OC/OP complete with all the form required in hard copy	Microsoft (portable drive)	-	-
(iv)	A letter of recommendation for issuance CPC by S.O.	Microsoft (portable drive)	-	-
	Final Completion Phase			
(i)	A certificate of CCC/OC/OP by CA	Microsoft (portable drive)	-	-
(ii)	As-Built Drawings which consists of: (e) Architectural Drawing (f) Structural Drawing (g) Mechanical & Electrical Drawing (h) Site Drawing (Civil)	Auto-CAD (portable drive)	-	-

(iii)	As-Built Drawings Documentation in soft copy (amendable format eg.: Auto-CAD format) (a) Architectural Drawing (b) Site Drawing	Auto-CAD (portable drive)	-	-
(iv)	As-Built Drawings Documentation in hard copy (a) Architectural Drawings (b) Site Plan Drawings	-	-	-

Table 3: Deliverables

8.0 Submission of Reports, Schedules and Other Documents

8.1 Within two (2) weeks after the appointment of the CA, the CA shall submit the proposed **implementation schedule** for the design of the Project for approval of the Government. The CA must ensure that all the consulting services can be completed within the stipulated time. The CA shall submit a progress report of the services every month in a format acceptable by the Government.

8.2 Within two (2) weeks after the appointment of the CA, the CA shall furnish a list of personnel involved in the architectural consulting services indicating their inputs corresponding to each component of work and the implementation schedule. This should include submission of curriculum vitae of all professional and non-professional personnel's must be provided at all times.

8.3 The CA shall submit ten (10) sets of Consultancy Services Agreement for signing not later than two (2) months after the date of the Letter of Appointment.

8.4 The CA shall provide three (3) sets minimum of printed drawings at each stage of the Basic Professional Services of the Project and certifying "as-built" of the works, records, manuals, drawings and technical data as are necessary for operation maintenance of the buildings. A soft copy of each submission must be submitted together on recordable compact disc and properly marked.

8.5 All submission must be properly endorsed by the professional architect.

8.6 The CA shall provide three (3) sets of printed final Design Coordination Reports.

9.0 Technology and Knowledge Transfer

9.1 The CA shall endeavour to ensure that the employees of the Government are trained or exposed to the expertise of such professionals pursuant to a programme for technology and knowledge transfer.

9.2 The CA shall provide talks and knowledge sharing for the minimum of eight (8) hours in three session during the implementation of the project.

9.3 The CA shall provide hands-on training with latest architectural computer-aided design and drafting (CADD) minimum of three (3) nominated by the Government.