بسم الله الرحمن الرحيم

Miinistry of Finance
Republic of Maldives

TERMS OF REFERNCE (TOR)

for

DEVELOPMNET OF B. THULHAADHOO, TH. VILUFUSHI, SH. BILEIYFAHI AND HDH. MAKUNUDHOO AIRPORT

TES/2021/W-001

Issued by: National Tender

REQUEST FOR EXPRESSION OF INTEREST – DEVELOPMENT OF DOMESTIC AIRPORTS

1. Introduction:

The Government of Maldives (GoM) represented by the Ministry of National Planning, Housing and Infrastructure (hereinafter referred as the "Ministry"), invites interested parties, local and foreign with demonstrated financial and technical capability, to register their interest by submitting an Expression of Interest (EOI) for the development of airports in the following islands.

- B. Thulhaadhoo
- Th. Vilufushi
- Sh. Bileiyfahi
- HDh. Makunudhoo

This announcement outlines the objectives of issuing this Request for EOI and the process for review and evaluation of applications received under this announcement.

2. Scope of the Project:

The minimum requirements for the respective airports noted under Annex 2 and other related documentation is available from **31st January 2021 on Ministry of Finance** website www.finance.gov.mv for downloading free of cost. The Employer shall not be liable for any information not received by the Bidder. It is the Bidder's responsibility to verify the website for the latest information related to this Bid.

3. Purpose and Process of EOI

The purpose of issuing the EOI is to gauge the interest of the private sector in development of the projects outlined herein through applicant's private financing without any recourse to the Government, and obtain information on indicative terms at which interested applicants may be open to carry out the projects under a cross-subsidization model.

Government will review the submissions received under this EOI and shortlist parties with demonstrated financial and technical capacity based on the following aspects:

1. Technical capacity: Experience of the applicant in development of projects of the scope and magnitude as outlined under Annex 2.
2. Financial capacity: The applicant should demonstrate availability of sufficient funds up to 10% of proposed investment.

The Ministry may call applicants during the review stages for clarification or queries. All such communication will be in written form.

The Ministry will depend on documentation submitted, in review and shortlisting of applicants. It is the responsibility of the applicant to submit all the necessary information and documentation noted in the Request for EOI.

The submissions received under the Request for EOI may be used by the Ministry to gauge the level of private sector interest in delivery of the projects, and in determining potential structure and terms of the projects for future Request for Proposals that may be issued from the Ministry.

Only those applicants who have submitted an EOI and is shortlisted as per the provisions of this announcement shall be allowed to participate in any subsequent stages of the project as decided by the Ministry, and shall be as per the terms and conditions that may be specified in such Request for Proposal document.

The Ministry reserves the right to accept or reject any or all EOIs without assigning any reason thereto.

4. <u>Submission Requirements</u>

The EOI submitted shall consist of the following:

1. Name, title address and telephone number of the Investor or Principal who will serve as the Contractor for this project.
2. Details of the individual firm, company or consortium, including company profile, expertise and resource capacity.
3. Financial capacity of the applicant

   Such documentation can include letter from a Bank or Financial Institution or other such documentation to confirm availability of sufficient funds.For the purposes of demonstrating financial capacity under this EOI, interested applicants may consider:-

Lot Number	Lot Name	minimum investment
Lot 1	Development of **B. Thulhaadhoo** Airport	USD 1,800,000.00 or equivalent in MVR
Lot 2	Development of **Th. Vilufushi** Airport	USD 1,800,000.00 or equivalent in MVR
Lot 3	Development of **Sh. Bileiyfahi** Airport	USD 1,800,000.00 or equivalent in MVR
Lot 4	Development of **Hdh. Makunudhoo** Airport	USD 1,800,000.00 or equivalent in MVR

4. Annual Audited Financial Accounts of the applicant for the latest two financial years.
5. Brief background and profiles of previous similar projects undertaken

6. Detail information the applicant desires to submit to emphasize applicant's strength on investing and delivering the project.
7. Indicative terms on which the applicant proposes to carry out the project. These may include, but is not limited to the following:
    a) Operational rights to the airport
    b) Development and operation of a hotel, guesthouse or other economic activity on the airport island/premises.
    c) Development and operational right of commercial or economic activity at a location of applicants' choice (To indicate details inclusive of any concessionary terms sought on such right for development and operation).
    d) Any other terms proposed by the applicant.

Any clarifications to the bid may be sent to below given mail addresses on or before February 7, 2021 at 1400 hours.The Ministry will provide written responses to all of the queries submitted by interested parties on or prior to the deadline for submission of queries.

Ms. Fathimath Rishfa Ahmed,

National Tender,

Ministry of Finance,

Ameenee Magu, Male', Maldives

Tel: +(960) 334 9296,+(960)3349106

Email: aishath.nadheema@finance.gov.mv
tender@finance.gov.mv

Expressions of interest must be delivered in a written form to the address below (in person, or by mail, or by e-mail) by **1400 hours Maldivian time on February 15, 2021**.The EOI should contain at least the information specified in the Application Form that is made available on the Ministry's website.

5. Evaluation Criteria

The evaluation will be carried out based on the following criteria. Technical evaluation will be based on the experience of past work in similar projects and also the quality and details of the documents submitted.

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• Indicative Terms – 40%

• Technical Capacity – 60%

Annex 1: Template for Expression of Interest

EOI Information	
Applicant's legal name	
In case of a consortium, legal name of each member	
Applicant's legal address in country of constitution	
Applicant's authorized representative information (name, designation, address, Telephone/Fax numbers, E-mail)	
Any relevant information on the applicant or consortium members related to the competence and ability to undertake the project (This may include previous experience in development of similar projects, etc.)	
Indicative terms on which the applicant is open to carry out the project on its own finance and/or alternative models proposed to carry out the project	
Interested parties may optionally provide general information on their entities, such as annual reports, company brochures, or other information on relevant project experience	

Annex II

I. Project Scope

The project is geared towards constructing domestic airports in 4 islands.

The major project scope includes construction of 1200 meter runway with turning pads, taxiways, apron with shoulder and service roads with all operational facilities. The project scope includes construction the passenger terminal building, fire station with associated support services, supply and installation of all the necessary safety operational features required for airport operations.

The project scope also includes reclamation and shore protection of land required for airport construction works.

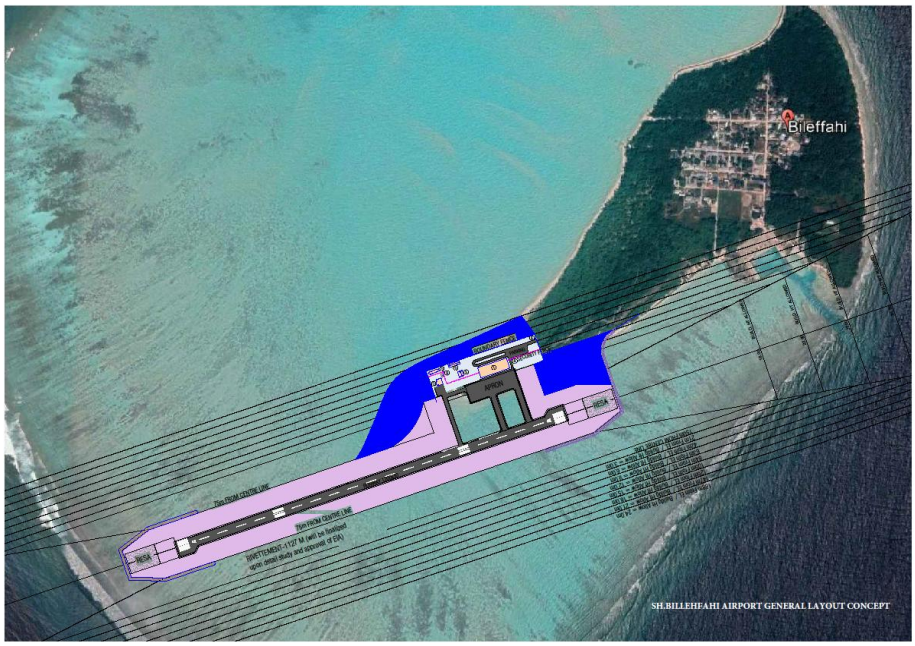
Airport shall also be developed to the minimum standard and requirement for ATR 72-600 and complete certification process in accordance with Maldives Civil Aviation Regulation MCARs 4, 139 and National Aviation Security Program conducted by Maldives Aviation Security Command (AVSECOM) including domestic operation to cater for existing turboprop aircraft used by local airlines.

II. Conceptual Drawings

1- B.Thulhaadhoo

2- Th.Vilufushi

3- Sh.Bilefahi



4- Hdh. Makunudhoo

III. Minimum Technical Requirements

1. Planning, Design and Construction

1.1. Design Aircraft

The Aircraft selected for runway pavement design is ATR 72 - 600 with a seating capacity of 70 passengers.

1.2. Airfield Pavement

- Physical planning Runway, Taxiways and Apron shall be in accordance with the standards and recommendations of MCAR Part 14, ICAO Annex 14 and ICAO Aerodrome Design Manual Part 2 with respect to physical clearances and safeguarding.
- Runway, Taxiways and Apron construction and shall be designed to have a 20 year design life or as specified in the minimum requirement.
- Slopes on Runway, Taxiways and Apron shall comply with the requirements of MCAR Part 14, ICAO Annex 14 and ICAO Aerodrome Design Manual Part 2 and, where stands are used for aircraft refueling, with NFPA 415. In any case, apron slopes shall not be less than 0.5% in any direction to facilitate positive drainage.
- Pavement markings, signage and AGL shall be in accordance with the requirements of MCAR Part 14, ICAO Annex 14, ICAO Aerodrome Design Manuals. The Developer shall, as a minimum submit the proposed Airport development concept plans at 1:5000 showing the proposed general arrangement of Airport infrastructure layout.

1.3.Airside Roads

a. Airside roads shall be provided to facilitate safe and efficient operation and movement of airside vehicles. The road system shall provide;

   - Access to and on aprons
   - Connections between aprons passenger terminal buildings including, ground support equipment areas
   - Connections and approaches to rescue and firefighting stations

b. The layout and operating strategy of the network shall be established in the master plan and developed during the design process to demonstrate the adequacy of the proposed system. It shall be designed to provide as direct a route as possible between facilities and shall have sufficient capacity to avoid traffic congestion at junctions at peak periods of operation.

c. Road geometry and structure shall be designed to suit the characteristics of the vehicles operating and in compliance with relevant requirements of GOM highway design standards where appropriate. Clearances to roads from operational airside areas shall be in accordance with the minimum requirements of MCARs.

d. Pavements shall be a flexible construction and shall be designed to GOM Highway Design Standards where these exist, otherwise to recognized international standards. Flexible pavements shall be designed to have a 15-year design life.

e. Airside and Land side roads shall be suitably marked and signed be in accordance with the recommendations of MCAA, ICAO, Transport Authority of Maldives to ensure that priority of turn and direction is clearly shown.

2. Basic Aerodrome Requirements

Runway Length:	1200 meter
Runway Width:	30 meters
Strip Length:	60 meters from each end of runway
Strip Width:	75 meters from each side of runway centerline (at land) Support facilities shall be beyond 70 meters from centerline and transitional surface
Taxiway Length:	60 meters
Taxiway Width:	15 meters
Apron Length:	150 meters
Apron Width:	45 meters
Runway End Safety Area (RESA) Length:	90 meters
Runway End Safety Area (RESA) Width:	60 meters
Transverse gradient:	1.5% for Runway & Taxiway, 0.75% for Apron
Transitional surface:	1 : 5
Approach Slope:	3.33%
Divergence angle:	15%
Take off climb slope:	4%
Pavement Classification Number (PCN):	15
Designation Number:	As stated in Drawing
Aerodrome Reference Code:	2C

3. Design Concept

   Airport concepts shall be developed to establish the primary services and facilities required including the provisions for improvement and modification for the future as regulated in ICAO and Maldives Civil Aviation Authority.

4. Pavement Structure

   a- Embankment

   - This Item shall consist of the construction of embankment layers in accordance with the Specification and in conformity with the lines, grades and dimensions shown on the approved plans.
   - Material for embankment layers shall consist crushed stone, crushed slag, or crushed or natural gravel and filler of natural or crushed sand, dredged or other finely divided mineral matter.
   - The composite material shall be free from vegetable matter and lumps or balls of clay, and shall be of such nature that it can be compacted readily to form a firm, stable sub base. It is also the responsibility of the Contractor and verify the conformity of the material at site and sourcing the material for any additional requirement to complete the job.

   b- Sub base Course

   - This item shall consist of furnishing, placing and compacting local material sub base course on a prepared subgrade in accordance with the Specification and the lines, grades and cross-sections shown on the approved plans.
   - The material used in preparation shall be dredged or from the existing stock at site and shall be approved by the Employer.
   - Material for sub base shall consist of hard, durable particles or fragments of crushed stone, crushed slag, or crushed or natural gravel and filler of natural or crushed sand, dredged or other finely divided mineral matter.
   - The composite material shall be free from vegetable matter and lumps or balls of clay, and shall be of such nature that it can be compacted readily to form a firm, stable sub base. It is also the responsibility of the Contractor and verify the conformity of the material at site and sourcing the material for any additional requirement to complete the job.

   c- Aggregate Base Course

- This Item shall consist of furnishing, placing and compacting crushed gravel, crushed stone or crushed rock on a prepared subgrade/sub base in one or more layers in accordance with this Specification and lines, grades, thickness and typical cross-sections shown on the approved plans.
- Material shall consist of hard, durable particles or fragments of stone or gravel crushed to the size and of the single requirements of this Item. It shall be clean and free from vegetable matters, lumps or balls of clay and other deleterious substances. The material shall be of such nature that it can be compacted readily to form a firm, stable base.
- The base material shall conform to the grading requirements under BS 812, AASTHO- 147, ASTM or Equiva1ent Standard acceptable to the Employer.

d. Asphalt Wearing Course

- This Item shall consist of Mixing, transporting, furnishing, placing and compacting the asphalt concrete material on a prepared base in one or more layers in accordance with the Specification and lines, grades, thickness and typical cross-sections shown on the approved plans.
- The whole of the bituminous surfacing works shall be carried out by an experienced specialist work force. Trial sections shall be conducted upon acceptance of approval procedures.

e. Quality Control Tests

- Design Consultant shall finalize and provide to the contractor minimum quality control tests requirements in the construction specification in accordance with BS, AASTHO, ASTM or Equivalent Standard acceptable to the Employer.

5. Boundary and Security Fence

Boundary and Security Fence shall be completed as per the boundary and security layout approved by Employer/Consultant and Directorate of Aviation Security Administration (DASA). The regulatory requirement shall meet to the National Civil Aviation Security Program).

6. Shoulder Area

Shoulder for runway, apron and, a graded area to the Strip minimum 40m from center line on each side of the runway shall be provided as per Maldives Civil Aviation Regulations (MCAR) including general levelling of the area beyond 40 meter edge.

7. PVC Duct System

- Approved ducts shall be laid under sub base on Runway, Taxiways and Roads for Runway light and Road lights cabling, Sewerage, Water supply etc. for future as per the requirement of Employer.
- Ducts for Runway lights shall be laid in 2 locations, 450 meter from both end of runway.
- Ducts for roads shall be designated established in connection to the external electrical, sewerage disposal and water supply including all external cabling layout.

8. Airfield Lighting System & Navigational Aids

a. Airfield Lighting System

Airfield Lighting System shall comply with the ICAO International standards and recommended practices for Aerodromes given in Annex 14, Volume 1 for Aerodrome Design and Operations. Reference should also be made to Aerodrome Design Manual Part 4 – visual aids and Part 5 Electrical Systems. The components specifically stated should comply with FAA requirements.

The detailed design and preparation of shop drawings is the sole responsibility of the

Contractor. This specification and description is intended only to set out the minimum requirements and it is expressly understood and agreed by the Contractor that anything which is usually furnished as a part of such installation which is necessary for its proper completion, execution and function shall be furnished as a part of this specification without additional costs and extension of time whether or not shown in details on the drawings or described in particular

hereinafter.

The technical documentation shall include all layouts, calculations, shop drawings, material/equipment submittals, as built drawings etc. as necessary for complete installation in light of the tender documents and FAA/ICAO recommendations.

The monitoring and control system shall be complete and fully functional. The system shall be designed to achieve faultless operations, converting operating system into visual displays, easy adaption to suit subsequent modifications and controlling the airfield lighting with status display and command input facilities and apron lighting from Control Tower.

The Constant Current Regulators CCR’s are intended to be installed in the CCR Room provided at the Fire Station Building. The control and monitoring desk is to be installed in the Fire Building.

b. Aerodrome Identification Sign

A sign board to show the name of the Aerodrome, visible at night. Font, Colour and size etc. shall be approved by the Employer.

c. Information Signs

Taxiway designation sign board must visible from both sides and shall be illuminated and fixed at the entrance of each Taxiway. These lights could be controlled automatically by connecting a light dependent switch to the circuit and hence might minimize the need for remote control cabling.

d. Illuminated Wind Direction Indicator

Wind direction Indicator shall be illuminated so as to be visible for the approaching pilot at night. An obstruction light shall also be fixed on top of the mast, if it is considered as an obstacle. This illumination could be controlled automatically by connecting a light dependent switch to the circuit and hence might minimize the need for remote control cabling.

e. Obstruction Light

After an obstacle survey on the aerodrome, all objects considered as Obstacles shall be properly

marked and fixed with obstruction lights for use at night. These lights could be controlled

automatically by connecting a light dependent switch to the circuit and hence might minimize

the need for remote control cabling.

f. Runway Edge lights

- To be placed along the full length of the runway, in two parallel rows equidistant from the runway center line.
- To be placed along the edges of the area declared for use as the runway or outside the edges of the area at a distance of not more than 3 meters.
- To be uniformly spaced in rows at intervals of not more than 60 meters.
- Lights on opposite sides of the runway axis shall be on lines at right angles to that axis shall be fixed lights showing variables white.

g. Runway End Lights

- Located at both ends of the runway.

h. Taxiway edge lights (including both turning pads)

- Should be spaced at intervals of not more than 60 meters.

- Lights on curves should be spaced at intervals less than 60 meters, so that a clear indication of the curve is provided.
- Retro-reflective blue markers (reflector) is also an economical option can be used instead of Lights.

i. APAPI

- The APAPI System shall consist of 2 lights unit for each threshold. Each box shall contain two light beams in order to provide the pilot with the necessary information to execute the approach procedure with the maximum precision and safety.
- The APAPI unit shall be as compact as possible to limit the resistance to the engine jet blast. The unit shall be fully protected against corrosion. The unit shall be completely dust proof and closed, drain holes shall be provided to remove condensation water.
- The units shall be fixed to concrete slab through breakable coupling/legs and mounting flanges/base.

j. Series Loop Circuits

- Runway Edge Lights and Runway End Lights can be connected together. This circuit is connected in a series loop and supplied through a Constant Current Regulator (CCR). An isolating transformer has to be connected at each lamp to ensure circuit continuity in the case of a lamp failure.
- These Lights require to be connected in two series circuits. Alternate series of lamps connected to one circuit and the remaining lamps to the second circuit. 03 CCR are required in total.

k. System Rating

- Runway Edge Lamp Power rating: 2 x 19 x 45W
- Runway End Lights: 2 x 6 x 150W
- Secondary current: 6.6A

l. Apron Flood Lighting

Apron flood lighting has to be fixed on masts so as to minimize shadows and glare to the pilot. 04 Apron flood Lights shall be fixed on two masts of height 12m, 02 lights on each mast aligned for best illumination. High Pressure sodium lamps are preferred. Each light unit consists of two lamps. Mast should be painted with red and white.

An obstruction light shall also be fixed on top of the mast, if it is considered as an obstacle.

- Lamp Power rating: 4 x 2 x 400W
- Obstruction lamp rating: 60W
- Input Power supply: 220V connected to mains supply through a lamp Switching-gear box

m. Remote Switching and Monitoring

Switching and monitoring console shall be fixed at the Tower cab. At a controlled Aerodrome, the Air Traffic Controller shall be able to control the Aerodrome lighting and shall be able to monitor their serviceability.

Control and monitoring devices shall be fixed at the console for the following circuits.

- Aerodrome Beacon (2 headed)
- APAPI (Abbreviated Precision Approach Path Indicator)
- Series loop Circuits – both circuits shall be switched together
- Apron Flood lighting – all floods could be switched together
- Sign Boards - all signs could be switched together
- Windsock (obstruction lights)

n. Alternative Control Panel

This is required as an alternative to switch the lighting in case the Tower console fails, this is situated at the CCR Vault and could be used as a maintenance technicians' requirement. All the circuits shall be controllable from here when control transfer switch is on at the Tower console.

o. Emergency Lighting Units

These are self-powered portable units to be sited at each Runway Light fixing in case of a power failure. Emergency lighting units shall be provided if an Aerodrome is not supplied with a Standby power system. The maximum power failure time for non-instrument Runway is 2 minutes. If the power persists to be longer, then Emergency Lighting Units shall be employed.

p. Cabling and Cable Trench

The Contractor shall provide the following minimum guarantee for each cable that the cable has been supplied and shall perform in accordance with the manufacture's specification and that any defect in material or workmanship that may occur during proper and normal use during a period of 1 year from the date of installation or a

maximum of 2 years from date of shipment will be corrected or replaced by the Contractor.

Minimum size of the cable trench shall 300 mm wide and 600 mm deep. Cable route must be straight and the cable route layout shall be approved before trench excavation is done. After completion of the laying the cable the r trench should be filled with suitable and acceptable sand including light compaction to the satisfaction of the Employer.

q. Testing – General

Upon completion of the installation, the contactor shall perform field tests on all equipment, cables, materials and systems. All tests shall be conducted in the presence of the Employer for the purpose of demonstrating equipment or system compliance with the Specifications. The Contractor shall submit for Engineers approval complete details of tests to be performed describing the procedures, test observations and expected results.

All tests shall be made with proper regard for the protection of the personnel and equipment and the contractor shall be responsible for adequate protection of all personnel and equipment during such tests. The costs of any damages or rectifications works due to any accident during the testing shall be the sole responsibility of the contactor. Copies of all test data and results certified by the Engineer shall be given to the Employer/Consultant for record purpose.

The witnessing of any tests does not relieve the contactor of his guarantees for materials, equipment's and workmanship or as any other obligations of the contact.

Earth resistance tests shall be made by the contactor on the airfield earthing system, separating and reconnecting earth connection.

The complete lightning protection system shall be tested for continuity and earth resistance. The combined earth resistance at any point in the lightning protection system shall not exceed 10 ohms.

r. Other Related Works

All the bases of the lights including APAPI, Wind cone and Apron flood lights shall be design for Mass, RC Concrete and shall be laid as per the approved design drawing and in accordance with Manufacture/Suppliers instruction.

9. Navigation and MET Equipment

Documentations such as product specifications, brochures, catalogues should be submitted for the approval of the Employer before purchase and installation. Preference shall be given

to offer latest technologies. As a minimum following equipment shall be supplied and installed.

- VHF Main, VHF Standby and VHF Emergency Frequency 121.5
- PABX System
- UPS
- Motorola Handset and Motorola Repeater Station
- Digital Clock with Temperature gauge
- Binocular (day / night) and Barometer
- Anemometer and wind direction indicator - Visala Wind system
- Provision of Crash Alarm System and Signaling Lamp

10. Operation and Maintenance Equipment

Documentations such as product specifications, brochures, catalogues should be submitted for the approval of the Employer before purchase and installation. Preference shall be given to offer latest technologies.

- Security Equipment shall meet to the regulatory requirement of National Civil Aviation Security Program. As a minimum following equipment shall be supplied and installed.

  Walk through detectors, Hand Held Metal Detectors, X-Ray machine for checked baggage and hold baggage, CCTV system.

- Fire and rescue services equipment shall meet Category 5. System shall include all firefighting equipment such as mobile fire extinguishers (trolley or wheel type), portable fire extinguishers, breathing apparatus, Portable fire and rescue pumps & fire hose, Gas blowers, Medical first aid kit, with all accessories. All equipment shall be approved by Ministry of Defense before purchase.

- Ground handling & Maintenance equipment. As a minimum following equipment shall be supplied and installed.

  Powered Baggage Cart, Baggage Trolleys, Ground Power Unit, Terminal Arrival Baggage Belt Conveyor, Checkin Belt Conveyor, Medical Equipment (Wheel Chair, Stretcher, Patient Bed, IV Stand), Vehicle for Runway Inspection and Maintenance, Rotarslasher with Tractor, Auto Rancher and Signaling Lamp.

11. Aerodrome Certification Documentation

All necessary documentations shall be submitted to Maldives Civil Aviation Authority for final approval.

- Safety Management System (including SMS for ATS and Aerodrome Manual as ASC – OPS 25)

- Standard Operating Procedures / Hand books/ Manuals for the following areas of
- work:
  - Rescue and Fire Fighting
  - Pavement Surface Condition Inspection and Maintenance
  - Bird Control Reduction
  - Removal of disabled aircraft
  - Control of Obstacles
  - Airport Emergency Planning Manual
  - Airport Emergency Planning Manual
  - Airport Operational Services (Unit Operation Instructions)
  - Airport Management Services
  - Air Traffic Services

12. Staff Training

The contractor shall provide training to the staff assigned by the Employer/Consultant during project implementation stage for the following: -

- Repair and Maintenance of the Runway
- Maintenance of Buildings
- Maintenance of Electrical and Air-Conditioning Systems

13. Passenger Terminal Building

The minimum functional requirement of terminal are as follows:

- Check -in hall shall be completed with Check-In Counter systems (minimum 2 counters with chair and 2 weighing scale), seats, tables, cabinets, air conditioning, telephone, information technology system and public addressing system, etc. as required. Baggage check-in conveyor belt system at check-in area shall be fitted with all necessary requirements to complete the job.
- Departure lounge shall be completed with minimum 2 counters with chair, 100 seats, tables, cabinets air conditioning, telephone, information technology system, public addressing system and TV etc. as required.
- Toilet facilities with all necessary fittings.
- Arrival hall shall be completed with public address system, seats, baggage clearing bench etc. as required and toilet facilities with all necessary fittings. Baggage conveyor belt system shall be fitted with all necessary requirements to complete the job.

- First Aid services shall be completed with toilet facilities and furniture, wheel chair, stretcher, patient bed, IV stand etc. as required.
- Airline and Airport offices shall be completed with furniture and fittings, air conditioning, telephone, information technology system, etc. as required.
- Prayer rooms segregated for women and men.
- Baggage loading / unloading area.
- Left luggage room.
- Operations Offices.
- Security Office.
- Toilet facilities for public use.
- Public flight information display system with screens and flat panel boards.
- Internal and external sign boards (including security signboards).

14. Fire Station with Fire Staff Accommodation

- Fire station building design shall include watch room, office breathing apparatus room & resting areas and toilet facilities as required. The building shall be completed with electrical, sanitary fittings and furniture, telephone, information technology system etc. as required.
- Specific office space with necessary furniture and equipment for the need of
- Emergency Operation Centre (EOC)
- The building shall be completed with electrical, sanitary fittings and furniture and all services as required.

15. Security Check Post

- Building design shall complete with furniture and fittings etc. as required.
- Portable check post is also acceptable based on the cost, durability and suitable to the environment.

16. Lightning Protection System

Lightning Protection system shall be designed and installed upon approval of drawings and specifications as required by the Employer.

17. Fire Pond with Pump Shed

- Fire Pond size = 9.4m x 8.4m (outer dimension of the protection wall), 8.2m x 7.2m (inner dimension of the protection wall), Depth to the bottom of protection wall = 3m.

- Pump Shed shall be RCC Structure with masonry infill size = 1.8m x 1.8m with RCC roof slab height = 1.35m from NGL.

18. Runway End Safety Area (RESA)

- RESA at both ends of the runway including graded areas of both sides.
- RESA shall be levelled and graded to the specification and the drawing approved by Employer.
- Safety zone on both sides shall be compacted with suitable soil organised from the land or dredged soil to the specification or to the satisfaction of Employer.

19. Landscaping and Street Lighting

- Street light posts shall be galvanized PV LED lights and spacing shall not be more than 30 meters. Street Lighting System shall include the civil works and must be approved by the Employer.
- Landscaping works including road edge kerbs, paver blocks on foot paths, grass seeding and planting trees as directed by the Employer/Consultant.

20. Reclamation and Shore Protection Works

The reclamation and civil works shall be carried according to the concept finalized. Contractors are required to submit with their proposals detailed specifications for the intended works.

The scope of works of the project includes (but not limited to):

- Bathymetric and Topographic survey to determine the volume of sand required to reclaim the required area and also to determine the volume of sand available from the borrow area.
- Undertake geological studies in a sand search campaign to identify borrow areas and alternative borrow areas.
- The contractor must provide results of the sand search campaign to the Employer in the form of a written report. The Employer will have full rights to the results of the sand search campaign.
- Study the existing sewerage network, and identify the location of the outfalls and if any outfall is located in the proposed reclamation area, the contractor should allow for this in his work methodology and if required, should allow for the possible diversion of the outfall. This may be included as a Provisional Sum in the Contract Price.
- Proper drainage between the existing island the new reclaimed island should be addressed.

- Final report providing final volume calculations, borrow area(s) and dredging and reclamation methodology.
- Carrying out the dredging and reclamation works as per the proposed methodology.
- Carrying out revetment construction works as per the proposed methodology.