



Ministry of National Planning Housing and Infrastructure  
Republic of Maldives

**TERMS OF REFERENCE**

**CONSULTANCY TO DEVELOP CODE COMPLIANCE DOCUMENTS FOR  
BUILDING CODE**

**MALDIVES URBAN DEVELOPMENT AND RESILIENCE PROJECT**

**A. PURPOSE**

The Government of the Republic of Maldives through Ministry of National Planning Housing and Infrastructure (MNPHI) is implementing “Maldives Urban Development and Resilience Project” (MUDRP) financed by the World Bank and intends to apply part of the proceeds for the selection of the following technical consultants for the implementation of this project by Ministry of National Planning Housing and Infrastructure. A successful consultant team can be composed of Team Leader, Architect, Civil/Structural Engineer, Building Services Engineer and a Fire Specialist.

**B. BACKGROUND**

The main objective of the MUDRP is to enhance urban services and strengthen resilience in selected cities in Maldives. The various components in this project include construction of Sewage Treatment Facility at Hulhumale, Storm water Drainage Improvement and Rain Water Storage, Establishment of Disaster Emergency Operations Center at National Disaster Management Authority (NDMA) and also financing a number of technical and analytical studies to strengthen sustainable urban development. The MUDRP has been prepared and implemented in accordance with the World Bank’s policies and standards on social and environmental management.

Among the technical studies planned under the MUDRP, the project will fund the development of code compliance documents for building and fire codes. The Construction Industry Development Department (CIDD) of MNPHI is mandated to develop and implement “Building Code” drafts prepared in the Maldives in 2008. There are a total of 35 building code compliance documents divided in to 8 key areas, the list can be found in Appendix I. Drafts were done in 2008 and not much review was carried out since then. The 8 groups are

1. Structure (B1 and B2)
2. Fire Safety (C1, C2, C3, C4, F6, F7)
3. Safety (D1, D2, F4, F5, F8)
4. Piped Services (G10, G12, G13, G14, G15)
5. Air & Energy (G4, G8, G9, H1, G11)
6. Water (E1, E2, E3)
7. Hazardous Agents (F1, F2, F3)
8. Wellbeing (G1, G2, G3, G5, G6, G7)

“Building Code” sets the minimum requirements with regards to safety and quality of the environment in buildings. “Building Code” will state the objectives, functional requirements and

the performance that is required. Whereas the code compliance documents will give the actual detail on how to achieve the requirements set out in “Building Code” as “acceptable solution” or provide “verification method” which gives guidance on how to check whether the requirement is set. Sometimes the document may hold both. Works on draft code compliance documents were started in year 2009, however the drafts require extensive review before it can be finalized and published.

### **C. OBJECTIVES OF ASSIGNMENT**

The objective of this assignment is to provide technical assistance for the development of code compliance documents for “Building Code”. The assignment should be carried out in accordance with the MUDR project documents and in collaboration with the project team and stakeholder agencies to ensure all related works are carried out smoothly and on time.

### **D. OVERALL RESPONSIBILITY**

The overall responsibilities of the technical consultants are to draft and review the code compliance documents for “Building Code”. The documents were drafted in 2008 and are outdated as well as having minimum requirements set out. With reference to the “Fire Safety” related documents, the documents were found to be very well developed for that time, however some of the scenarios were found to be hard to implement in the setting in Maldives, thus compliance documents needs to be revised in that respective as well.

### **E. SCOPE OF WORKS**

The code compliance documents for “Building Code” have been packaged based on priority; further information on them can be found in the appendix I and II of the TOR. The consultant is required to complete the documents based on the stated priority. The Scope of work is divided in to three phases. The consultants are allowed to suggest alternatives to the proposed lead consultant (for instance, if the document to be reviewed by an Architect is found to be equally or more related to Service Engineering the document can be suggested to be assigned to the Service Engineer ) and schedule (Stated in Appendix I and II) provided that MNPHI agrees to it and the deadlines do not drastically change to the ones provided without justifiable reasons.

#### **Phase 1: Inception Phase (2 weeks duration)**

##### Inception report

1. Two weeks after contract commencement, an inception report should be submitted. The report should cover but not limited to: (i) overall assignment objectives and strategies; (ii) a work plan - outlining project sub-tasks, methodology, timeline, dedicated resources etc.; (iii) list of key and supporting staff, their qualifications and experiences, tasks assigned and time allocations; (iv) literature reviewed and data referred; (v) outline of a strategy for engaging various stakeholders,

questionnaires/checklists for information gathering, key respondents to be interviewed and consulted etc, potential capacity building activities.; and (vi) planned field visits.

### Capacity Building Strategy

2. A Capacity Building Strategy (Developing Training of Trainers) is to be developed at the start of the consultancy for the purpose of successfully implementing the codes. The strategy will: (i) identify key groups of participants; (ii) propose capacity building activities and training (including a sustainable capacity maintenance strategy for trained professionals and new professionals, and strategic coordination mechanism with academic and vocational training facilities in the country for educating the youth wishing to enter the construction sector); (iii) propose plan to implement the codes once ToTs are completed.

### **Phase 2: Development of Code compliance documents for Priority areas (7, 9 & 18 months)**

Groups are listed in priority order, whereas the priority groups are groups 1 - 5 and the documents are identified in table. It is a requirement that the priority documents work be carried out first. The *High Priority* document reviews works should be completed within 7 months from signing of contract and the *Priority* documents within 9 months from signing of contract. All remaining documents listed below shall be completed within 18 months of signing of the contract.

	<b>Group</b>	<b>Clause</b>	<b>Document</b>	<b>Priority documents</b>
1	Structure	B1 & B2	Structure & Durability	Priority
2	Fire safety	C1	Means of escape	Priority
		C2	Spread of fire	Priority
		C3	Structural stability during fire	Priority
		C4	Access and facilities for the fire service	Priority
		F6	Lighting for emergencies	Priority
		F7	Warning systems	Priority
3	Safety	D1	Access routes	Priority
		D2	Mechanical installation for access	Priority
		<b>F4</b>	<b>Safety from falling</b>	<b>High Priority</b>
		F5	Construction and demolition hazards	Priority
		F8	Signs	Priority
4	Piped Services	<b>G10</b>	<b>Piped services</b>	<b>High Priority</b>

		<b>G12</b>	<b>Water supplies</b>	<b>High Priority</b>
		G13	Foul water	
		G14	Industrial liquid waste	
		G15	Solid waste	
5	Air & Energy	<b>G4</b>	<b>Ventilation</b>	<b>High Priority</b>
		G8	Artificial light	
		G9	Electricity	
		H1	Energy Efficiency	
		G11	Gas as an energy source	
6	Water	E1	Surface water	
		E2	External moisture	
		E3	Internal moisture	
7	Hazardous agents	F1	Hazardous agents on site	
		F2	Hazardous building materials	
		F3	Hazardous substances and processes	
8	Wellbeing	G6	Airborne Impact and Sound	
		G7	Natural Light	
		G1	Personal hygiene	
		G2	Laundering	
		G3	Food preparation and prevention of contamination	
		G5	Interior environment	

Review “Building Code” compliance documents as per lists and schedule provided in Appendix 1 for Priority 1 compliance codes:

- (a) Carry out research and review “Building Code” Compliance Documents to incorporate all applicable Laws and Regulations related to the scope of “Building Code” and Code compliance documents.

- (b) Carry out stakeholder consultations on Compliance Documents requested to draft or review. Collect all the relevant information from the stakeholders and applicable authorities.
- (c) Edit and incorporate into the draft, national and international commitments. The compliance documents shall be applicable to the context of Maldives. With regards to international commitments currently Maldives as well as other SAARC countries are in discussion to harmonize the material standards, however no particular standard has been finalized by SARSO (SAARC Standards Organization), most discussions involved the ISO and ISO standard.
- (d) Elaborate as per request, any documents necessary to discuss the draft with Ministries, departments and other organizations involved in the coordination process.
- (e) Support MNPHI throughout the entire period of coordinating the draft in terms of considering all comments received and to finalize and formulate the responses to the comments.
- (f) The consultants must provide the documents to MNPHI after drafting, to present to the Attorney General's and President's office for review and commenting, as well as any necessary edits to the draft after the comments and until the documents are gazetted.
- (g) The consultant shall liaise with any other consultants selected for the work via any other agreements.
- (h) Prepare the presentation and any necessary documentation essential for information sessions.
- (i) Present and deliver all the necessary information required during the ToT session.

### **Phase 3: Development of Code / Standard for Special Buildings**

The scope of work for this phase includes but not limited to the following;

- (a) Review relevant code to include occupancy based parking.
- (b) Develop code / standard for public buildings such as Mosques, Hospitals, Schools, Parking and other specialized buildings.
- (c) Carry out research and identify components that are not included in "Building Code" and Compliance Document in relation to Mosques, Hospitals, Schools and other specialized buildings.
- (d) Identify which parts could be incorporated into "Building Code", and if any parts are required to be published as a separate Standard for the specific type of building.
- (e) Carry out stakeholder consultations to review the components identified by Consultant and identify any gaps not addressed.
- (f) Edit and incorporate into the draft, national and international commitments (*refer to phase 2 c) for details*). The compliance documents shall be applicable to the context of Maldives.
- (g) Elaborate as per request, any documents necessary to discuss the draft with Ministries, departments and other organizations involved in the coordination process.
- (h) Support MNPHI throughout the entire period of coordinating the draft in terms of considering all comments received and to finalize and formulate the responses to the comments.

- (i) The consultants must provide the documents to MNPHI after drafting, to present to the Attorney General's and President's office for review and commenting, and any necessary edit to the draft after the comments till the documents are Gazetted.
- (j) The consultant shall liaise with any other consultants selected for the work via any other agreements.
- (k) Prepare the presentation and any necessary documentation essential for information sessions.
- (l) Present and deliver all the necessary information required during the ToT session.

## **F. PROJECT TEAM**

### **Qualifications**

1. A multi-disciplinary team of professional and technical personnel will be required for the execution of the project. The Consultant Team should be led for the full term of the project by a Team Leader with extensive experience in developing building codes who will lead the works and align all works as required. Other professionals will be required to provide specialized inputs as well as carry out all necessary works to bring out the draft code compliance document. The consultant's key personnel shall satisfy the following requirements.
2. The Consultant Team has the obligation of carrying out the consultancy with due diligence, efficiency and a high standard of professionalism. The Consultant Team shall employ competent staff and use appropriate planning approaches and methods. The Consultant Team will also act, in respect of any matter relating to the consultancy, as a faithful adviser to the client.
3. The following list of qualifications serves as a guide and the Consultant Team may, with justification, propose additional staff for effective and efficient execution of the assignment. The Consultant Team shall also propose the time allocation for each of the member dedicated to their respective tasks, and whether they will be performed on location or remotely.

#	Post	Qualification
1	Team Leader	<ul style="list-style-type: none"> <li>• Postgraduate degree in Architecture/Civil Engineering or Building Services Engineering (the Team Leader may be one of the consultants proposed from the specific areas listed below)</li> <li>• At least 15 years of work / professional experience in developing “Building Code”.</li> </ul>
2	Civil / Structural Engineer	<ul style="list-style-type: none"> <li>• Postgraduate degree in Civil/ Structural Engineering</li> <li>• At least 10 years of work / professional experience in the following areas relevant to field of expertise after graduating with postgraduate degree course.               <ol style="list-style-type: none"> <li>1.Design experience</li> <li>2.Practical experience on site relevant to field</li> <li>3.Technical research, technical publication or assessment</li> </ol> </li> <li>• At least 2 years of experience in developing “Building Code”</li> </ul>
3	Building Services Engineer	<ul style="list-style-type: none"> <li>• Bachelor’s degree in Building Services Engineering</li> <li>• At least 10 years of work / professional experience in the following areas relevant to field of expertise after graduating with first degree course.               <ol style="list-style-type: none"> <li>1.Design experience</li> <li>2.Practical experience on site relevant to field</li> <li>3.Technical research, technical publication or assessment</li> </ol> </li> <li>• At least 2 years of experience in developing “Building Code”</li> </ul>
4	Architectural Consultant	<ul style="list-style-type: none"> <li>• Postgraduate degree in Architecture</li> <li>• At least 10 years of work / professional experience in the following areas relevant to field of expertise after acquiring postgraduate degree in Architecture.               <ol style="list-style-type: none"> <li>1.Design experience</li> <li>2.Practical experience on site relevant to field</li> <li>3.Technical research, technical publication or assessment</li> </ol> </li> <li>• At least 2 years of experience in developing “Building Code”</li> </ul>
5	Fire Specialist	<ul style="list-style-type: none"> <li>• Bachelor’s degree in Fire Engineering</li> <li>• At least 10 years of work / professional experience in the formulating or reviewing compliance codes in the following key areas:               <ol style="list-style-type: none"> <li>1. Designing means of escape</li> <li>2. Fire spreading prevention</li> <li>3. Structural stability during fire</li> <li>4. Access and facilities for fire service</li> </ol> </li> <li>• At least 2 years of experience in developing building codes.</li> </ul>

## **G. REPORTING OBLIGATIONS**

The consultants will be reporting directly to the Project Manager of MUDRP.

- The Consultant is not required to be stationed in MNPHI, but is required to participate in all work-related meetings.
- The work-related meetings should be prioritized and be carried out between 10:00am to 14:00pm on public working days.
- MNPHI shall facilitate venues for meetings and consultations as required.

## **H. ARRANGEMENTS BY CLIENT**

MNPHI will provide the consultants with necessary information and materials available for fulfillment of the tasks and facilitate the necessary meetings and secretariat works needed.

MNPHI is to establish the relevant 8 technical committees and steering committees mentioned in the Appendix 4 for the review of the code compliance documents.

MNPHI will be responsible for calling the technical and steering committee meetings, where the consultant gives minimum 1 weeks' notice to call for such a meeting. Individual Technical & Steering Committee meetings shall be facilitated by MNPHI and at no cost to the consultant.

## **I. ARRANGEMENTS TO BE MADE BY CONSULTANT**

Consultants are to quote price inclusive of travel costing and accommodation within the pricing and make the travel and accommodation arrangements on their own.

In addition to this, the costs of stakeholder workshops and traveling within Maldives for such consultations will be borne by the consultant.

Where the members of all technical committees need to be brought together to arrange a workshop, the Consultant the expenses shall be borne by the Consultant.

## **J. METHOD OF SELECTION**

The consultant will be selected in accordance with the Consultant's Qualification based Selection (CQS) method set out in the World Bank Procurement Regulations for IPF Borrowers, July, 2016, revised November 2017, revised August 2018. The aim is to hire an international team of consultants with at least one local consultant or an additional technical team member who is local for the purposes of knowledge passing.



## K. PAYMENT SCHEDULE

The consultants will be paid upon invoicing as per payment schedule upon completion of each deliverable.

<b>Deliverable</b>	<b>Payment (%)</b>
<b>Phase 1 Upon submission, review and acceptance of Inception Report and Capacity Building Strategy</b>	<b>5%</b>
1. Inception Report and Capacity Building Strategy	
<b>Phase 2 Upon submission, review and acceptance of Building codes for Priority Areas</b>	<b>80%</b>
1. Drafts approved by committee	
2. Draft incorporating public comments approved by committee	
3. Draft incorporating Attorney General's comments approved by committee	
4. Presentation material for information session on Code Compliance Documents	
5. Presentation in ToT session	
<b>Phase 3 Upon submission, review and acceptance of "Building Code"/Standard for Special Buildings</b>	<b>15%</b>
1. Drafts for approved by committee	
2. Draft incorporating public comments approved by committee	
3. Draft incorporating Attorney General's comments approved by committee	
4. Presentation material for information session on Code Compliance Documents	
5. Presentation in ToT session	

**Note:** Consultant can claim after completion of each specific document.

## L. DURATION OF THE ASSIGNMENT

The period of total engagement will be **24 months** upon the signing of the contract agreement with the selected Consultant for the Consultancy for the Development of Code Compliance Documents for building and fire codes. The consultant is expected to complete Phase 1 and 2 within 18 months of commencement of work and Phase 3 within 24 Months of commencement.

Appendix 3 refers to the estimated time that will be required to complete each type of Document (A and B). It is only for guidance and the consultant can propose their own timeline for the documents.

**APPENDIX 1: LIST & SCHEDULE (Priority 1)**

CODE CLAUSE	DOCUMENT	LEAD CONSULTANT (1)	SCHEDULE (2)
<b>STABILITY</b>			
<b>B1 &amp; B2</b>	Structure & Durability	Engineer	A
<b>FIRE SAFETY</b>			
<b>C1</b>	Means of escape	Fire Specialist	A
<b>C2</b>	Spread of fire	Fire Specialist	A
<b>C3</b>	Structural stability during fire	Engineer	B
<b>C4</b>	Access and facilities for the fire service	Fire Specialist	B
<b>ACCESS</b>			
<b>D1</b>	Access routes	Architect	A
<b>D2</b>	Mechanical installation for access	Architect	A
<b>SAFETY OF USERS</b>			
<b>F4</b>	Safety from falling	Architect/Engineer	B
<b>F5</b>	Construction and demolition hazards	Architect/Engineer	B
<b>F6</b>	Lighting for emergencies	Services Engineer	B
<b>F8</b>	Signs	Services Engineer	A
<b>SERVICE AND FACILITIES</b>			
<b>G4</b>	Ventilation	Services Engineer	B

## APPENDIX 2: LIST & SCHEDULE (Priority 2)

CODE CLAUSE	DOCUMENT	LEAD CONSULTANT	DOCUMENT TYPE – REFER TABLE (2)
<b>MOISTURE</b>			
E1	Surface water	Engineer	A
E2	External moisture	Engineer	B
E3	Internal moisture	Engineer	B
<b>SAFETY OF USERS</b>			
F1	Hazardous agents on site	Architect & Engineer	B
F2	Hazardous building materials	Architect & Engineer	B
F3	Hazardous substances and processes	Architect & Engineer	B
F7	Warning systems	Services Engineer	B
<b>SERVICE AND FACILITIES</b>			
G1	Personal hygiene	Architect / Services Engineer	A
G2	Laundering	Architect / Services Engineer	B
G3	Food preparation and prevention of contamination	Architect / Services Engineer	B
G5	Interior environment	Services Engineer & Architect	B
G6	Airborne and impact sound	Architect / Engineer	B
G7	Natural light	Services Engineer & Architect	B
G8	Artificial light	Services Engineer & Architect	B
G9	Electricity	Service Engineer	B
G10	Piped services	Services Engineer	B
G11	Gas as an energy source	Services Engineer	B
G12	Water supplies	Services Engineer	A
G13	Foul water	Services Engineer	A
G14	Industrial liquid waste	Services Engineer	B
G15	Solid waste	Services Engineer	B
<b>ENERGY EFFICIENCIES</b>			
H1	Energy Efficiency	Architect	B

**Appendix 3: Estimated minimum time to complete each type (Schedule).**

<b>TABLE 2</b>			
<b>STEP #</b>	<b>ACTIVITIES TO BE CARRIED OUT PER DOCUMENT</b>	<b>DOCUMENT TYPE</b>	
		<b>A</b>	<b>B</b>
1	Research		
1	Review of existing draft	3 weeks	1 week
2	Compose and edit new draft after review	2 weeks	1 week
3	Submit to MNPHI/committee for comments	2 weeks	1 week
4	Open for public comments, conduct stakeholder consultations & conduct workshop for stakeholders	6 weeks	6 weeks
5	Analyze and incorporate relevant comments	2 weeks	1 week
6	Incorporate comments approved by MNPHI	1 week	1 week
7	Share final draft to stakeholders for final comments	2 weeks	2 weeks
8	Incorporate comments approved by MNPHI	1 week	1 week
9	MNPHI to approve draft to be sent to AGO	1 week	1 week
10	MNPHI to send for AGO comments	1 week	1 week
11	Incorporate AGO comments approved by MNPHI	1 week	1 week
12	MNPHI to approve draft to be sent to PO	1 week	1 week
13	MNPHI to share draft to PO for their comments	1 week	1 week
14	Incorporate PO comments	1 week	1 week
15	MNPHI to approve & send draft to be gazette	1 week	1 week
<b>TOTAL DURATION</b>		<b>26 weeks</b>	<b>21 weeks</b>

#### Appendix 4: Committee groupings

Each of the following group of documents will have a corresponding technical committee. All committee works will be overseen by a steering committee.

	Group	Clause	Document	Committee members	
				Representation office/ association	area/ No.s
1	Structure	B1 & B2	Structure & Durability	CIDD/MNPHI	2
				Civil Engineers/ MNPHI	2
				Civil Engineers/ Minister Appointees	2
				Civil Engineers / Association	3
2	Fire safety	C1	Means of escape	CIDD/MNPHI	2
		C2	Spread of fire	Ministry of Defense / MNDF Fire and Rescue	2
		C3	Structural stability during fire	Civil Engineers / Association	1
		C4	Access and facilities for the fire service	Architects / Association	2
		F6	Lighting for emergencies	Building Services Engineer	1
		F7	Warning systems	Fire Engineer	1
3	Safety	D1	Access routes	CIDD/MNPHI	2
		D2	Mechanical installation for access	MNPHI	1
		F4	Safety from falling	Minister Appointees	1
		F5	Construction and demolition hazards	Civil Engineers / Association	2
		F8	Signs	Architects / Association	1
				Gender Ministry	1
Disability Council	1				

4	Piped Services	G10	Piped services	CIDD/MNPFI	2
		G12	Water supplies	Ministry of Environment / Environmental Protection Agency	2
		G13	Foul water	Male' Water and Sewerage Company	1
		G14	Industrial liquid waste	Fenaka Coropration	1
		G15	Solid waste	Building Services Sector	1
				Architect / Association	1
Civil Engineer / Association	1				
5	Air & Energy	G4	Ventilation	CIDD/MNPFI	2
		G8	Artificial light	Ministry of Environment / Maldives Energy Authority	2
		G9	Electricity	State Electric Company Ltd	1
		H1	Energy Efficiency	Fenaka Coropration	1
		G11	Gas as an energy source	Building Services Sector	1
				Architect / Association	1
Civil Engineer / Association	1				
6	Water	E1	Surface water	CIDD/MNPFI	2
		E2	External moisture	Ministry of Environment / Environmental Protection Agency	2
		E3	Internal moisture	Minister Appointees	2
				Civil Engineer / Association	2
				Architect / Association	1
7	Hazardous agents	F1	Hazardous agents on site	CIDD/MNPFI	2
		F2	Hazardous building materials	Ministry of Environment / Environmental Protection Agency	2
		F3	Hazardous substances and processes	Minister Appointees	2
				Health Protection Agency	1
				Civil Engineer / Association	1

				Architect / Association	1
8	Wellbeing	G6	Airborne Impact and Sound	CIDD/MNPHI	2
		G7	Natural Light	Ministry of Environment / Environmental Protection Agency	1
		G1	Personal hygiene	Health Protection Agency	1
		G2	Laundering	Minister Appointees	1
		G3	Food preparation and prevention of contamination	From building services sector	2
		G5	Interior environment	Architect / Association	1
					Civil Engineer / Association

**Government entities:**

- MNPHI
- Ministry of Defense
- MNDF Fire & Rescue / Maldives National Defense Force
- Ministry of Environment
- Environmental Protection Agency
- Health Protection Agency