



**Road Development Corporation Limited**  
Republic of Maldives

**Terms of Reference for**  
**CONSULTANCY FOR DETAILED SURVEYING OF GDH. THINADHOO MAJOR ROADS**  
Date: 29<sup>th</sup> April 2021

**1. BACKGROUND**

Road Development Corporation Limited, an incorporated limited liability company operating under the registration number C10482019 and having its registered office at MSL Building, First Floor, Malé, Republic of Maldives (herein after called and referred to as “the Employer”,) wishes to receive bids for the Consultancy service for detailed surveying of GDh. Thinadhoo Major Roads.

**2. SCOPE OF WORK**

Detailed Surveys including geotechnical survey & hydrological survey required for the detailed design of the proposed roads and storm water management system.

**Geotechnical survey**

Geotechnical investigation must be done to determine the following using the following tests

1. Physical properties of soil
  - a) Sieve analysis
2. Mechanical properties of soil
  - a) Standard Compact test 111
  - b) California Bearing Ratio test

The tests should be carried out as follows

Physical properties of soil

Sieve tests must be done to determine grain size of soil in an area. At least one sample must be taken from each road proposed for construction and depending on road length, multiple samples should be taken such that distance between the sampling points is not more than 200m. For every sieve test, the gradation curve must be plotted and Coefficient Curvature (Cc) and Coefficient of Uniformity (Cu) must be determined. Well graded soils should show Cc in the range 1 to 3 and Cu higher than 6. All sieve analysis tests can be performed on disturbed samples and soil sample must be taken 100mm below the ground surface. If D60 of soil sample is more than 5mm, then the subgrade sand in that area must be sieved to remove all large soil particles, and the area backfilled with sieved sand.

### Mechanical properties of soil

Standard Compaction tests and California Bearing Ratio tests must be conducted on soil samples taken from each road proposed for construction and depending on road length, multiple samples should be taken such that distance between the sampling points is not more than 200m. Standard Compaction Tests must be conducted to determine Maximum Dry Density (MDD) of soil and Optimum Moisture Content (OMC) of soil. These tests can be done in the laboratory on disturbed soil samples taken from 100mm below ground surface.

California Bearing Ratio (CBR) tests must be done to determine the stiffness of the subgrade soil. These tests must be done on undisturbed samples on actual ground. CBR tests should be done on every road proposed for construction and depending on road length, multiple samples should be taken such that distance between the sampling points is not more than 200m. The top 100mm soil must be removed prior to performing this test. If the CBR obtained is less than 20%, then a 2nd test must be performed 3m away from the initially tested location. If the 2nd CBR is still less than 20%, then the soil must be considered too soft for pavement construction and a subgrade stabilization method must be proposed. Most common subgrade stabilization method is to remove the soft soil and backfill with a well graded sand.

### **3. CONSULTANT'S QUALIFICATION & TEAM COMPOSITION**

In order to provide for the top-level performance of the assigned task, the Consultant shall utilize the qualified staff (key personnel as well as the support staff), and shall contribute in testing, amendments till the surveys are approved from authorities.

All the specialists shall be certified professionals in their respective fields with at least 3-year experience in the similar work environment. CV's of the team members are to be submitted for approval procedure.

The consultant should Utilize the following personnel:

<b>N</b>	<b>Consultants</b>	<b>Number</b>	<b>Month</b>	<b>Input, person*month</b>
<b>Key Experts</b>				
1	Team Leader/Project Manager	1	1.0	1.0
2	Structural engineer	1	1.0	1.0
3	Geotechnical engineer	1	1.0	1.0
<b>Non-Key Experts</b>				
4	Surveyors, Surveying assistants	1	1.0	1.0

#### 4. EMPLOYER'S CONTRIBUTION

The employer shall grant access to all available materials, which may be required for the Consultant to perform their services.

#### 5. DURATION OF THE ASSIGNMENT

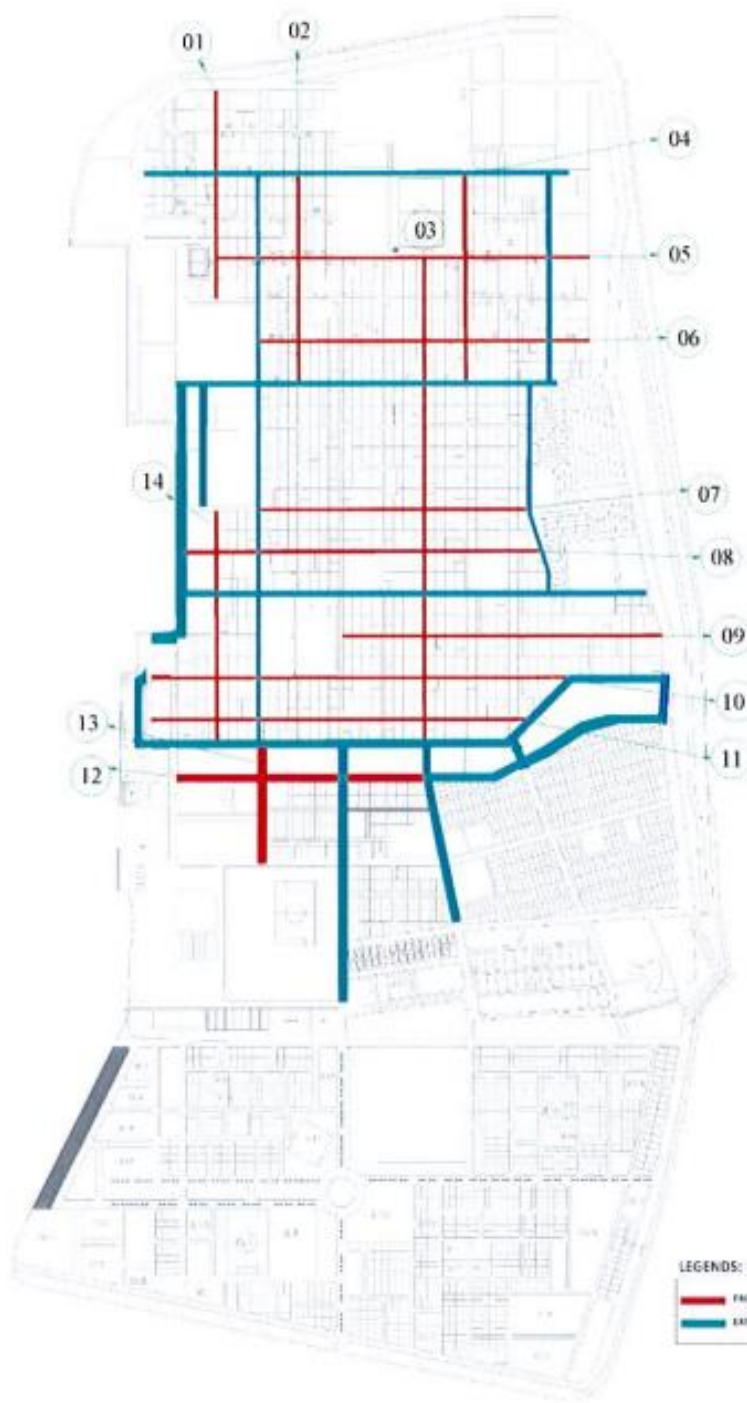
Expected duration of the consultant assignment is **30 days**.

#### 6. CONTRACTOR'S REPORTING OBLIGATIONS:

DELIVERABLES	SUBMISSION DATE	LANGUAGE
Results of survey- investigation works (Geotechnical survey and hydrological survey)	Within 30 calendar days from the commencement date.	English

#### 7. GDH. THINADHOO PROPOSED ROADS TO BE DEVELOPED

#	ROAD NAME	LENGTH (m)	WIDTH(m)
1	Daisy Magu (i)	326.36	5.5
2	Violet Magu	323.49	4.5
3	Madu Fehi Magu	760.17	4.5
4	Narugis Magu	323.79	5.55
5	Ranahamaidhu Magu	594.15	7.9
6	Kaanna Magu	526.45	4.5
7	Maafai Magu	428.46	4.5
8	Rahdhebai Magu	562.61	4.5
9	Varahagu Magu	507.63	4.5
10	Dhanna Magu	666.12	5.93
11	Gadhahamaidhu Magu	595.58	4.5
12	Aabaadhee Hingun	393.52	12
13	Orchid Magu	185.46	12
14	Daisy Magu (ii)	364.03	4.5
TOTAL LENGTH (m)		6,557.82	



**LEGENDS:**  
 PROPOSED ROADS TO BE CONSTRUCTED  
 EXISTING ASPHALT ROADS

**8. DATES & VENUES FOR THE TENDER:**

<b>ACTIVITY</b>	<b>DATE</b>	<b>VENUE</b>
Pre-Bid Meeting	<u>05<sup>th</sup> May 2021, 10:00hrs</u>	Road Development Corporation Limited. MSL Building. 1 <sup>st</sup> Flr, Orchid Magu Male', Rep. of Maldives
Deadline for Bid Registration	<u>05<sup>th</sup> May 2021, 14:00hrs</u>	Via Email to <a href="mailto:tender@rdc.com.mv">tender@rdc.com.mv</a>
Deadline for written inquiry by potential bidders:	<u>09<sup>th</sup> May 2021, 12:00hrs</u>	Via Email to <a href="mailto:tender@rdc.com.mv">tender@rdc.com.mv</a>
Deadline for Bid Submission and Opening:	<u>16<sup>th</sup> May 2021, 10:00hrs</u>	Road Development Corporation Limited. MSL Building. 1 <sup>st</sup> Flr Orchid Magu Male', Rep. of Maldives