Environment Impact Assessment

for the proposed

Nationwide Submarine Cable by Ooredoo Maldives

May 2016

Prepared for

Ooredoo Maldives

Consultant

CDE Consulting, Maldives

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List of Abbreviations

BMH	Beach Manhole
CAM	Communication Authority of Maldives
COADS	Comprehensive Ocean-Atmosphere Data Set
CLS	Cable Landing Station
DO	Dissolved Oxygen
EIA	Envrionmental Impact Assessment
GPS	Global Positioning System
IPCC	Intergovernmental Panel on Climate Change
IPPC	International Plant Protection Convention
IUCN	International Union for Conservation of Nature
KWp	Kilowatt peak
MEE	Ministry of Environment and Energy
MH	Manhole
MHI	Ministry of Housing and Infrastructure
MSL	Mean Sea Level
MWSC	Maldives Water and Sewerage Company
NaSCOM	Nationwide Submarine Cable Ooredoo Maldives
NAPA	National Adaptation Programme of Action
NE	North East
NEAP II	National Environmental Action Plan II
NW	North West
PV	PhotoVoltaic
SAP	Strategic Action Plan
SE	South East
SW	South West
TDS	Total Suspended Solids
ToR	Term of Reference
UNFCCC	United Nations Framework Convention on Climate Change and the Kyoto Protocol

Acknowledgement

The lead author of this report is Dr. Ahmed Shaig

Additional assessments and field assistance were provided by the following team members.

Mr. Mohamed Faizan (Marine environment assessment)

Mr. Ali Moosa Didi (Surveying & Mapping)

Ms. Mariyam Hana Saeed (Project Description Section)

Mr. Ali Nishaman (Terrestrial Environment Expert)

Ms. Shahdha (Social Profiling)

Mr. Mohamed Ali (Marine Environment Specialist)

Mr. Ahmed Haiman Rasheed (Field Assistant)

The curriculum vitae's of the EIA consultants are attached in Appendix L of this report.

Lead Consultant's Declaration

I certify that statements made in this Environment Impact Assessment are true, complete and correct to the best of my knowledge and available information.

Dr Ahmed Shaig

Proponent's Declaration

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(See Appendix I)

Executive Summary

This document is submitted by the proponent to the Environmental Protection Agency to fulfil the requirement for an EIA under the Environmental Protection and Preservation Act (4/93). The EIA Regulation 2012 has been used as the basis for preparing this document. The proponent of this project is Ooredoo Maldives. The project involves laying a communication submarine cable stretching the entire archipelago of Maldives. The estimate length of the cable is 11,000 km, and is divided into 5 main segments with 6 landings sites.

The main rationale for the project is to increase the capacity, and improve the quality of all telecommunication services provided by Ooredoo Maldives. The proponent estimates that they will not be able to cater for the growing demand for telecommunication services in a near future with the existing system.

In each island a cable ship will lay the submarine cable and it will be passed to the reef flat using experienced divers and small boats. A concrete stabiliser clamped on reef flat will be used to pass the cable line from reef flat to a precast concrete trench on the seabed in each island. An existing trench will be used in B.Eydhafushi and Hulhumale'. Cable line will pass through the trench to Beach Manhole (BMH). In Gdh, Thinadhoo, geo-bags at beachfront will have to be cleared to facilitate the transfer of cable to BMH. MTCC has been contracted to clear the geo-bags and to build the precast concrete trench in Thinadhoo. Submarine cable will be connected to a land cable inside BMH and the land cable will then pass through an earth trench to Connecting Landing Station (CLS) in each island.

The proposed development plans are generally in conformance to the laws and regulations of the Maldives. The key laws and regulations applicable are: Environmental Protection and Preservation Act, Maldives Telecommunication Act, Fisheries Act, Environmental Impact Assessment Regulation 2012, Waste Management Regulation 2013, The Environmental Liability Regulation, EIA decision note is required before implementation of this project.

The cable landing sites for all the proposed islands are existing Ooredoo Antenna Stations and does not require the removal of any vegetation from these areas. The cable laying route (on land) up to the cable landing site in each of the islands follow an existing road or pathway from the beach with the exception of Hdh.Kulhudhuffushi and S.Hithadhoo.

The reefs flat at all islands are mainly made up of rocky bottom, with low live coral coverage. Large seagrass patch occurs on the reef flat near shore along the cable route in *Kolhufushi*. Live coral abundance is higher mainly near the reef edge of all islands. Highest live coral coverage was recorded at Thinadhoo, while the lowest was recorded in Kulhudhuffushi.

The most significant negative impacts from this project during construction stage would be, loss of sessile marine life within the cable route, and the potential health and safety risks to the workers and general public associated with offshore cable deployment, and excavation works on land.

The project mainly has positive socio-economic benefits; via improvement in quality and speed of telecommunication service provided by Ooredoo Maldives across the Maldives.

The key mitigation measures proposed for the construction stage include relocation of live coral colonies on the reef flat of project sites to nearby locations, and strict measures to minimize healthy and safety risks to workers and the general public from the project.

Alternative options were evaluated for the activities that are identified to have significant impacts on the project. Alternative options have been considered for method of excavation on land.

Main concern of the utility providers and telecommunication service providers in all the islands is potential damage to their existing infrastructure in the footprint of proposed land cable during excavation works. Manual excavation has been recommended over the use of an excavator to reduce the risk of damage to existing cables and pipelines. It has also been recommended to inform these institutions prior to commencing the earth trenching works.

The Environmental Management Plan (EMP) for this project is designed to produce a framework for anticipated impacts, including practicable and achievable performance requirements and systems for monitoring, reporting and implementing corrective actions. In addition, provide evidence of compliance to legislation, policies, guidelines and requirements of relevant authorities.

Monitoring plan is designed to assess any changes to the physical environment as well as operational aspects of the project. The total cost of mitigation and monitoring are estimated around US$ 4000 annually.

The main conclusion of this report is to move forward with the proposed development after with the proposed alternatives and the suggested mitigation measures.

ސާރާ ހުލާސާ

މި ދިރާސާ ރިޕޯޓަކީ އުރީދޫ މޯލްޑިވްސް އިން ދިވެހިރާއްޖޭ ގައި އެޅުމަށް ހަމަޖެހިފައިވާ 11000 ކިލޯ މީޓަރު ދިގު ސަބްމެރިން ކޭބަލް މަޝްރޫއިން ތިމާވެއްޓަށް ކޮށްފާނެ އަސަރު ވަޒަންކުރުމުގެ ގޮތުން ތައްޔާރުކުރެވިފައިވާ އީ.އައި.އޭ ރިޕޯޓެވެ. މިމަޝްރޫއުގެ އޮޕަރޭޓަރަކީ އުރީދޫ މޯލްޑިވްސް ޕްރައިވެޓް ލިމިޓެޑް އެވެ.މިޕްރޮޖެކްޓުގެ މައިގަނޑު ބޭނުމަކީ މަޝްރޫއު ހިންގުމަށްޓަކައި ބޭނުންވާ ޢިމާރާތްގެ ހުއްދައަށް ބޭނުންވާ މައުލޫމާތުތަކާއި އެންވަޔަރަމަންޓަލް ޕްރޮޓެކްޝަން އެޖެންސީ (އީޕީއޭ) އަށް ހުށަހެޅުމެވެ. މި މަޝްރޫއުގެ ދަށުން އެޅުމަށް ހަމަޖެހިފާ 11000 ކިލޯ މީޓަރުގެ ދިގު ކޭބަލް ބެހިފައި ވަނީ ޖުމްލަ 5 ބައިތަކަކަށެވެ. އަދި ދިވެހިރާއްޖޭގެ މުޅިން ދިރިއުޅޭ 6 ރަށް◌ގައި މި ކޭބަލްގެ ސައިޓްބައެއް ގާއިމުކުރެވިގެން ދާނެއެވެ.

މި މަޝްރޫއުގެ މައިގަނޑު ބޭނުމަކީ އުރީދޫ މޯލްޑިވްސް އިން ދިވެހިރާއްޖޭގައި ދެމުންދާ މުއާސަލާތީ ހިދުމަތ◌ްގެ ކޮލިޓީ އިތުރު ކޮށް ހިދުމަތުގެ ފެންވަރު ރަގަޅު ކުރުމުގެ ބޭނުމުގައެވެ.އުރީދޫ މޯލްޑިވްސް އިން ހިޔާލުކުރާގޮތުގައި މިހާރު ދިވެހިރާއްޖޭގައި މުއާސަލާތީ ހިދުމަތް ދޭން އުރީދޫ މޯލްޑިވްސް އިން ބޭނުންކުރާ އާލާތްތަކަށް ތަރައްޤީކުރަން ހިދުމަތް ދިނުމަށް ބޭނުންކުރާމީހުން ކުރިއަށް އޮތް މުސްތަޤުބަލުގައި ދިވެހިރާއްޖޭގައި މުއާސަލާތީ ހިދުމަތްތަކަށް އޮތް ޑިމާންޑް އިތުރުވާނެއިރު ހިދުމަތް ދިނުމަށް ދަމަހައްޓާ ޓްރާންސްމިޝަން ޗެނަލް ކުރުވުމެވެ.

މި މަޝްރޫއުގެ ދަށުން ސަބްމެރިން ކޭބަލް އަޅާ ކޮންމެ ރަށެއްގައި ވެސް އެކަން ކުރެވިގެންދާނީ ސަބްމެރިން ކޭބަލް އެޅުމަށް ހާއްސަ ކުރެވިފައިވާ ބޯޓެއް ދުއްވާ ކޭބަލް ރަށުގެ ފަޅުތެރެއިން ގޮސްގެން ކޮންމެ ރަށެއް ގައި ގާއިމް ކުރާ ސައިޓަށް ކޭބަލް ގެންގޮސްގެންނެވެ. މި މަސައްކަތުގެ ކުރިން އެކަމަށް ހާއްސަ އަދި ތަޖުރިބާ ލިބިފައި ޑައިވަރުން ގެ އިތުރުން މިކަމަށް ހާއްސަ ކުރުވާ ކުދި އުޅަނދުފަހަރުގެ އެހީގައެވެ.

ކޭބަލް ރަށުގައި މިމަސައްކަތް ކުރާނީ އެކަމަށް ހާއްސަ ކުރެވިފައިވާ ފަރުގެ ވަކި ސަރަހައްދުގައި ހަރުކޮށްފައި ހުންނަ ކޮންކްރީޓް ސްޓަބިލައިޒަރ ގެ އެހީގައި ސަބްމެރިން ކޭބަލް ފަރުމަތީން ގެންގޮސް ކޭބަލް ރަށުގެ މޫދުގައި ގާއިމް ކޮށްފައިވާ ޕްރީކާސްޓް ކޮންކްރީޓް ބީޗްމެންހޯލް މެދުވެރިކޮށް ކޭބަލް ގެންގޮސްގެންނެވެ.

ބ. އާދަކުރި އަދި ހުޅުމާލޭގައި ކުރިއަށް ގެންދާ މަސައްކަތުގައި ބޭނުންކުރަނީ މިހާރުވެސް ގާއިމް ކުރެވިފައިވާ ޕްރީކާސްޓް ކޮންކްރީޓް ބީޗްމެންހޯލް ގެ އިތުރުގައެވެ. ބީޗްމެންހޯލްގެ އިތުރުގައި ކޭބަލް ގުޅުވާލާދޭނީ ބީޗް މެން ހޯލް (ބީ.އެމް.އެޗް) އަށެވެ. މި މަސައްކަތް ކުރާއިރު ބީޗް މެން ހޯލް ސަބްމެރިން ކޭބަލް ފައުންޑޭޝަން، ގަދު.މިނަދު ޖަސްޖެހިލުގައި ޖަރާކުރި ހުރި ޖިއޯ ބޭގްސް ނަގަން ޖެހޭނެއެވެ. ކޭބަލް އެޅުމަށް ބޭނުން ކުރާ ޕްރީކާސްޓް ކޮންކްރީޓް ބީޗްމެންހޯލް ގާއިމް ކުރުމަށް، ގަދު.މިނަދު ޖަސްޖެހިލު◌ގައި ޖަރާކުރި ހުރި ޖިއޯ ބޭގްސް ނަގަމުން އެމް.ޖީ.ސީ އާއި ވަން ހަވާލު ކުރެވިގެންނެވެ. ސަބްމެރިން ކޭބަލް ގުޅާލާނީ ބީޗް މެންހޯލް

ގައި އަޅާފައިވާ ޓްރަންކް ކޭބަލްތަކެވެ. އަދި އާރު◌ޓީ ބްރޯޑްބޭންޑް ޑޮމެސްޓިކް މި ކޭބަލް ރަނގަޅުގައި ފަސް ކަސްޓަމަރުން ލޭންޑިން ސްޓޭޝަން (ސީ.އެލް.އެސް) އާއި ގުޅުވާލެވޭނެއެވެ.

މިމަޝްރޫޢުގެ ބައިވެރި ރާއްޖޭގެ ގޮތުންނާއި ގަވާއިދުތަކަށް ފެތޭގޮތަށެވެ. މި މަޝްރޫޢު ކުރިއަށް ގެންދާއިރު އަމަލު ކުރަން ޖެހޭ ގަވާއިދު ޤާނޫނު ތަކަށް ބަލާފައި ރާއްޖޭގެ ބައިވެރިންގެ ގޮތުން، ރިޕޯޓް ތައްޔާރުކުރުމުގައި ގޮތުން، ރިސޯޓްތަކާއި ގުޅޭ ޤަވާއިދުތަކުގެ ތެރެއިން ވަނީ 2012 ވަނަ އަހަރު އެމެންޑްކުރެވުނު ގަވާއިދާއި 2013 ވަނަ އަހަރު އެމެންޑްކުރެވުނު ގަވާއިދެވެ. އަދި މި މަޝްރޫޢު ތަންފީޒު ކުރުމުގެ ކުރިން އީއައިއޭ ރިޕޯޓް ތައްޔާރުކުރަން ޖެހެއެވެ.

މިރިޕޯޓުގައި ފާހަގަކޮށްފައިވާ މިމަޝްރޫޢުގެ ސަބަބުން ތިމާވެށްޓަށް ކުރާނެ އަސަރުތަކާއި މި އަސަރުތައް ކުޑަކުރުމަށް އަޅަންޖެހޭ ފިޔަވަޅުތަކާއި އަދި ތަނުގެ ތިމާވެށްޓަށް ބަދަލު ހުރިތަން ބެލުމަށް ކުރާނެ މޮނިޓަރިންގ ޕްރޮގްރާމް ހިމެނެއެވެ. ސައިޓް އަދި ސަރަހައްދު ގެނެސް ޖެހިފައިވާ މައްސަލައިގެ މިންވަރާއި އެއްވެސް އަސަރެއް ނެތުމުގެ ހުރި ބަދަލުތަކާއި މިމަޝްރޫޢުގެ ކަންކަމުގައި ބެލުން ކުރަން މަސައްކަތްކޮށް◌ން ކުރަން.

މިމަޝްރޫޢުގެ ސަބަބުން ތިމާވެށްޓަށް އެޅެންޖެހޭ ފިޔަވަޅުތައް ކަނޑައެޅުމަށް ރިޕޯޓްކޮށް މިރިޕޯޓުގައި މޮނިޓަރިން ހިމެނެއެވެ ކޮރަލް އިންޓަރވިއު ހިމެނޭ ކަމުގެ މަތިން، ވަރަށް ސަބަބު ބިނާވެ މަސައްކަތް، ސިމެންޓް ބޭނުންކުރާ ފަރާތް ބީޑް އިން ދިރިއުޅުމުގެ އެކި ކަމަކަށްވެސް ގޮތުގައި ކުރަން ބޭނުންވާ ހިސާބުތައް ބައްލަވައިލުމަށް އެދެން.

މަޝްރޫޢުގެ ސަބަބުން ކަންތައްތައް ތިމާވެށީގެ އަސަރުތަކަށް ބަދަލުވުމުގެ ގޮތުން ، މި މަޝްރޫޢުގެ ގ ކޭބަލް ލޭންޑިންގ ސްޓޭޝަން ސަރަހައްދު ހިމަނާ ކަމެއް ވެސް މަޝްރޫޢުގެ ތިމާވެށްޓަށް ހިނގާ ސަރަހައްދުގެ◌ ގެންދާ ކަމެއް ހިމެނޭ ހުރި ބަދަލު ވެށީގެ އަޅާ ސަރަހައްދުތަކަށް ބަދަލު ކުރަން ޖެހުނެވެ. އަދި ތިމާވެށީގެ މިންވަރު، އާއްމު ވެށީގެ ސަރަހައްދުތަކަށް ކުރިމަތީ ފަސޭހަ ރަށްރަށުގައި ހުރިކަމަށް ބުރަވެފައިވާ ކުރުމަށް ސަރަހައްދާއި ކޮރަލް ކުރެވޭނެ ގޮތް ކަނޑައެޅުމަށް ކުރަން ޖެހުނެވެ.

މަޝްރޫޢުގެ ތިމާވެށީގެ ކުރިއަށްދާއިރު މަޝްރޫޢުގެ ސަބަބުން ކޭބަލް ލޭންޑިން ތިމާވެށީގެ ކުރިމަތިލެވޭ ނުރައްކާ ކުޑަކުރުމަށް ކަނޑައެޅިފައިވާ ގޮތް، ކަނޑަކަށް ހާލަތު ކުރުމަށް އިތުރު ގޮތް ތަކެއް ފާހަގަ ކުރަނީ މިގޮތުން މި މަޝްރޫޢުގެ ކުރިއަށް ތިމާވެށީގެ ކުރަން ހަރަކާތް ކަމެއް ދިރުމަށް ހުރިގޮތް ކަމެކެވެ.

މި މަޝްރޫޢު ކުރިއަށް ގެންދިއުމުގައި ތަރައްޤީ ގެނައުމަށް ބައިވެރިވާ ދިރި ތިމާވެށީގެ އަދި ދަތުރުފަތުރުގެ ހިފުމަށް ލޭ ފަރާތްތަކުގެ މައިގަނޑު ކަންތައް ތަކެއް އުފެދެން ގައިޑްލައިންތަކާއި ތިމާވެށީގެ މަސައްކަތް މި މަޝްރޫޢުގައި އެދިވަޑައިގަތުމަށް ކޭބަލް އަޅާ ސަރަހައްދެއް ނެތް ކަމަށް މަޝްރޫޢުގައި ބޭނުންކުރާ އަލުގައިވާ ކޭބަލްގެ އިތުރުން ވެސް

ޓޫރިޒަމާއި، ނަރުދަމާ ނިޒާމްއަށް ވީހާވެސް ގެއްލުން ކުޑަ ކުރުމުގެ ގޮތުން އެކްސްކަވޭޝަން ބޯރިން ކުރުމުގެ ބަދަލުގައި އަޅުން ކޮންނަނަން އުދީރުން ބާރު އަޅައިފި.

މި މަޝްރޫޢު ކުރިއަށް ގެންދިއުމަށްޓަކައި އެންވަޔަރަމަންޓް މެނޭޖްމަންޓް ޕްލޭން (އީ.އެމް.ޕީ) ޖެހިން ކޮން ތައްޔާރުކޮށް ފައިވަނީ

މިރިޕޯޓުގައި ބަޔާންކޮށްފައިވާ މިޓިގޭޝަން އަސަރުތަކަށް ކުރިމިނަށްވަރު ދިރުމަތިކުރުމާއި އެގޮތަށް ކަމަކުން ދިޔަބެރުން ގެއްލުން ކުރުމުގެ ފަރާތުގައި އަދި މި ރިޕޯޓުގައި ބަޔާންކުރެވިފައިވާ ކަމުގެ ކުރިމަތިލާއިރު އަސަރުތަކަށް ދަށުކުރުމަށް ތަރުތީބުކުރެވިފައިވާ މަޝްރޫޢުގެ އެކި މަރުހަލާތަކުގައި މިފަދަ ކަންކަމަށް ސަމާލުކަން ދިނުމަށް ހަމަޖެހިފައިވާ ގޮތް. މިގޮތުން ބެލުމަށް ހަމަޖެހިފައިވާ ބައިތަކުގެ ތަފްސީލު މިރިޕޯޓުގައި ހިމެނިފައިވާނެއެވެ.

މި ރިޕޯޓުގައި ތިމާވެށްޓަށް ކުރާ އަސަރު މެނޭޖް ކުރާނެ ގޮތުގެ ޕްރޮގްރާމް ހިމަނާފައިވާނެއެވެ. މި ޕްރޮގްރާމްގައި މަޝްރޫޢުގެ މޮނިޓަރިންގ ކުރާނެ ގޮތާއި، ޑޭޓާ ނަގާނެ ފްރިކުއެންސީއާއި، ބޭނުންވާ ކުރުމާއި، ރިޕޯޓު ކުރާނެ ފްރިކުއެންސީ، ކަމާބެހޭ ފަރާތްތަކާއި ބައިވެރިވުން ގެންނަ ގޮތްތަކާއި ހިމެނޭ. މޮނިޓަރިން ކުރުމުގެ ބަޖެޓު ކުރިން ލަފާކުރެވޭ ގޮތުގައި ވާނީ. މޮނިޓަރިންގައި ހިނގާނެ ޚަރަދު ކަމަށް ލަފާކުރަނީ 4000 ޑޮލަރު ހާރަކަށް.

މިމަޝްރޫޢު ކުރިއަށް ގެންދާނަމަ މި މަޝްރޫޢުގެ ސަބަބުން ވެށްޓަށް ކުރާނެ ބަދަލުތަކުގެ އަސަރު އެކަށީގެންވާނެއެވެ. އެހެންނަމަވެސް މިންވަރު އަސަރުތައް ކުޑަކުރުމުގެ ގޮތުން ފުރުސަތުދީ ކަންކަން ސަލާމަތީ މަޝްރޫޢު ކުރިއަށް ގެންދެވޭނެ ގޮތްތައް ހިމެނޭ. ބަދަލުތަކުގެ ސަބަބުން ކުރާ ނޭދެވޭ އަސަރުތަކަކީ ވަރަށް ބޮޑު ކުޑަކުރެވިދާނެއެވެ. އެހެންކަމުން މަޝްރޫޢު ބާރުކުރުމުގައި ކަންކަމަށް ދިމާވާ ދަތިތަކާއި ދިވެހިރާއްޖޭގެ ތަރައްޤީ ވިޔަ ފައިދާތަކާއި ހުރި މަޝްރޫޢެކެވެ.

1 INTRODUCTION

1.1 Purpose of the EIA

This Environment Impact Assessment (EIA) report is an evaluation of the potential environmental impacts the proposed Nationwide Submarine Cable Ooredoo Maldives (NaSCOM) project.

This document is submitted by the proponent to the Environmental Protection Agency of the Maldives, to fulfil the requirements for an EIA under Article 5 of the Environment Protection and Preservation Act (4/93). The EIA Regulations 2012 has been used as the basis for preparing this document.

This report provides the background to the proposed project components as well as an assessment of their likely environmental and social impacts, both beneficial and adverse. The proposed enhancement and mitigation measures are outlined where necessary together with an environment management plan and a monitoring programme.

1.2 Project Proponent

The proponent of this project is Ooredoo Maldives is telecommunication provider, registered since the Maldives in 2005. The address and contact information for the proponent is as follows:

Ooredoo Maldives
Sunleet Building, 7th Floor
Phone: +960-966003
Fax: +960-9611001
Email: ahmed.haleem@ooredoo.mv

1.3 Project Background and Rationale

Presently, Ooredoo Maldives relies on the microwave transmission to provide all telecommunication services (e.g. mobile, internet, land lines and lease circuits) to their clientele. Based on current usage of internet and other telecommunication services the existing system has reached its uppermost limit. Proponent estimates that the present system will not be able to cater for the growing demand for telecommunication services, especially internet in a near future.

Hence, the proponent is proposing to change the system to fibre cable with capacity of 16 ×100 Gigabytes, which is expected to increase the speed and quality of telecommunication services provided throughout Maldives.

In addition, this system is expected to reduce the energy requirements from the current 25,000 – 30,000 kwh per month to 10,000 kwh per month

1.4 Project Scope

The overall project involves deployment of a submarine communication cable. The total length of the cable is approximately 11,000 km and is divided into 5 main segments:

- Segment 1: *Hithadhoo* to *Thinadhoo*
- Segment 2: *Thinadhoo* to *Kolhufushi*
- Segment 3: *Kolhufushi* to *Hulhumale'*
- Segment 4: *Hulhumale'* to *Eydhafushi*
- Segement 5: *Eydhafushi* to *Kulhudhuffushi*

See next chapter for more details.

1.5 Aim and Objectives

The aim of this project is to meet the demands of businesses and households for mobile broadband, and fibre optic internet services.

The key objectives of the project are:

- Improve and enhance all telecommunication services provided by Ooredoo Maldives
- Upgrading the existing infrastructure to cater for the increasing demand

1.6 Consultants, Contractors and Government Institutions

All the EIA related work was undertaken by consultants from CDE Consulting. The contractors have not yet been determined.

The project will be financed by private equity.

The Government agency relevant to this development is Communications Authority of Maldives

1.7 EIA Scope and Terms of Reference

The scope of this EIA is broadly based on the EIA Regulations 2012. The assessment more specifically adheres to the Terms of Reference (ToR) issued by the Environmental Protection Agency on 18th April 2016. The ToR is based on a scoping meetings held at the Ministry on the 13th April 2016. A copy of the ToR is attached in Appendix A.

The EIA report contains the following main aspects:

- A description of the project including the need for the project, how the project will be undertaken, full description of the relevant parts of the project, methodology used in the assessment, implementation schedules, site plans and summary of project inputs and outputs *(Chapter 1 and 2).*
- A description of the pertinent national and international legislation, World Bank safeguard policies, regulations and policies that are relevant and applicable to the project and a demonstration of how the project conforms to these aspects *(Chapter 3).*
- Information about the exiting baseline environmental conditions of the site. These include coastal and marine environment of the site and natural hazard vulnerability of the site *(Chapter 4).*
- An assessment of the potential impacts during both construction and operational stages of the project as well as identification and cost of the potential mitigation measures to prevent or reduce significant negative impacts during both construction and operation stages of the project *(Chapter 5 & 6).*
- Assessment of alternatives for the proposed project *(Chapter 7)*
- Environment Management Plan (Chapter 8)
- Details of the environmental monitoring plan *(Chapter 9).*
- Potential gaps in information *(Chapter 10)*
- Main conclusions (Chapter 11)

1.8 Project Location

The submarine cable stretches the entire archipelago of Maldives, and is planned to be connected in 5 main segments, with 6 main landing sites at:

- *Hithadhoo, Addu City*
- *Thinadhoo, Gaafu Dhaalu Atoll*
- *Kolhufushi, Meemu Atoll*

- *Hulhumale', Kaafu Atoll*
- *Eydhafushi, Baa Atoll*
- *Kulhudhuffushi, Haa Dhaalu Atoll*

Maps showing the cable landing sites and cable routing is presented in Figure 1.1. Locality maps of the proposed sites are presented in Figure 1.2 to 1.7.

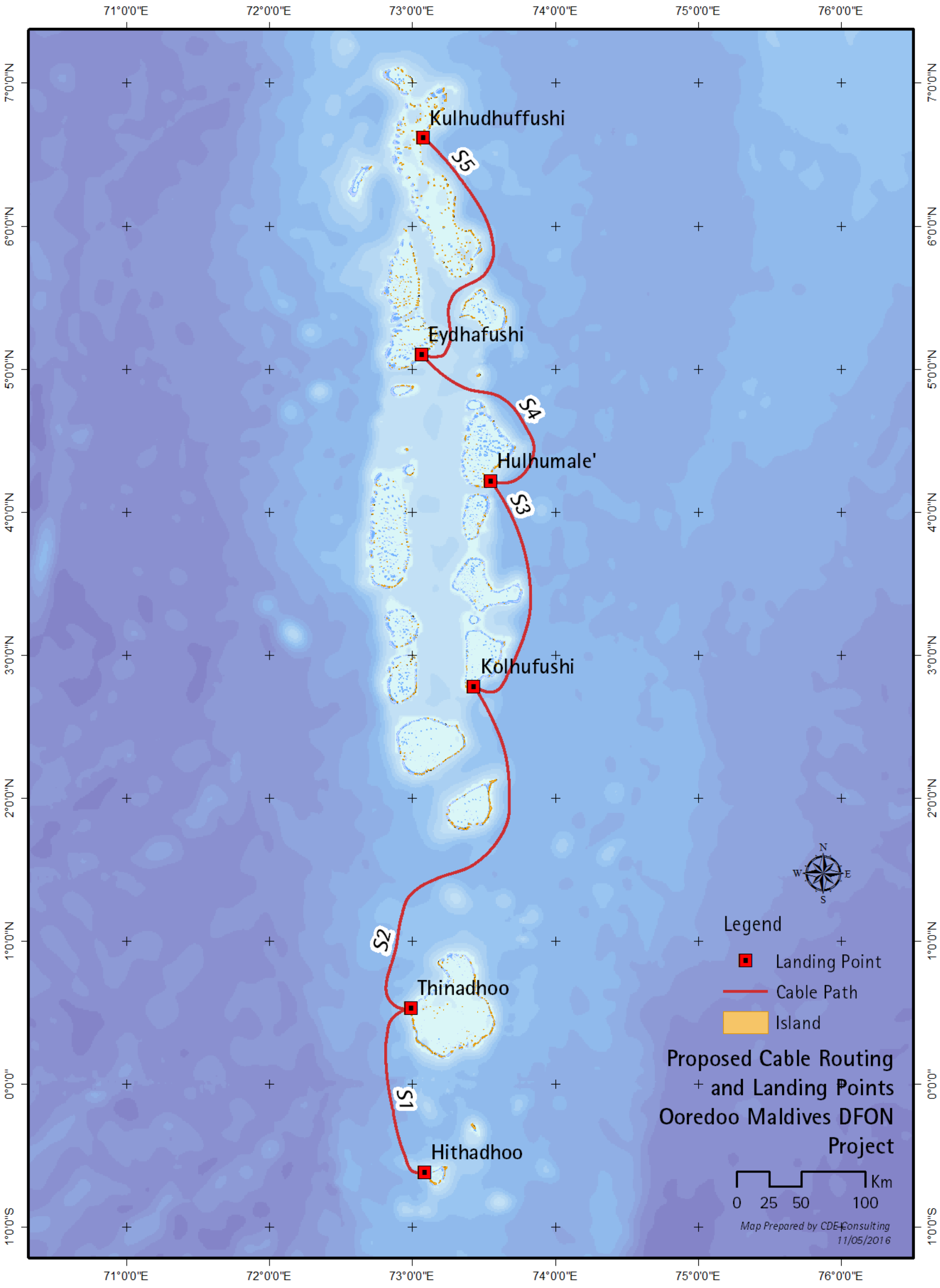


Figure 1.1: Location map of project landing sites andcable routing

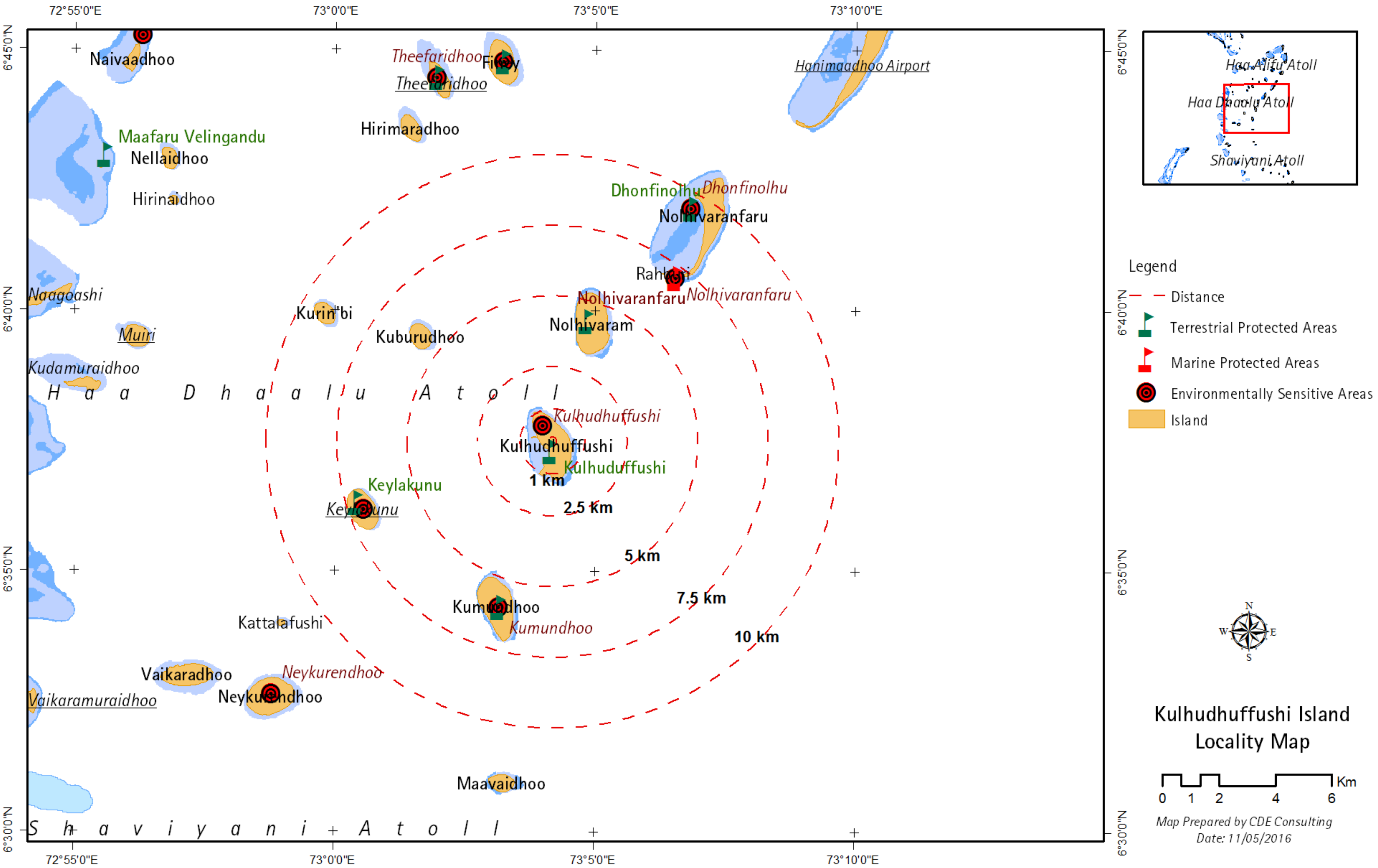


Figure 1.2: Locality map of Kulhudhuffushi showing sensitive envrionments and islands in the vicinity

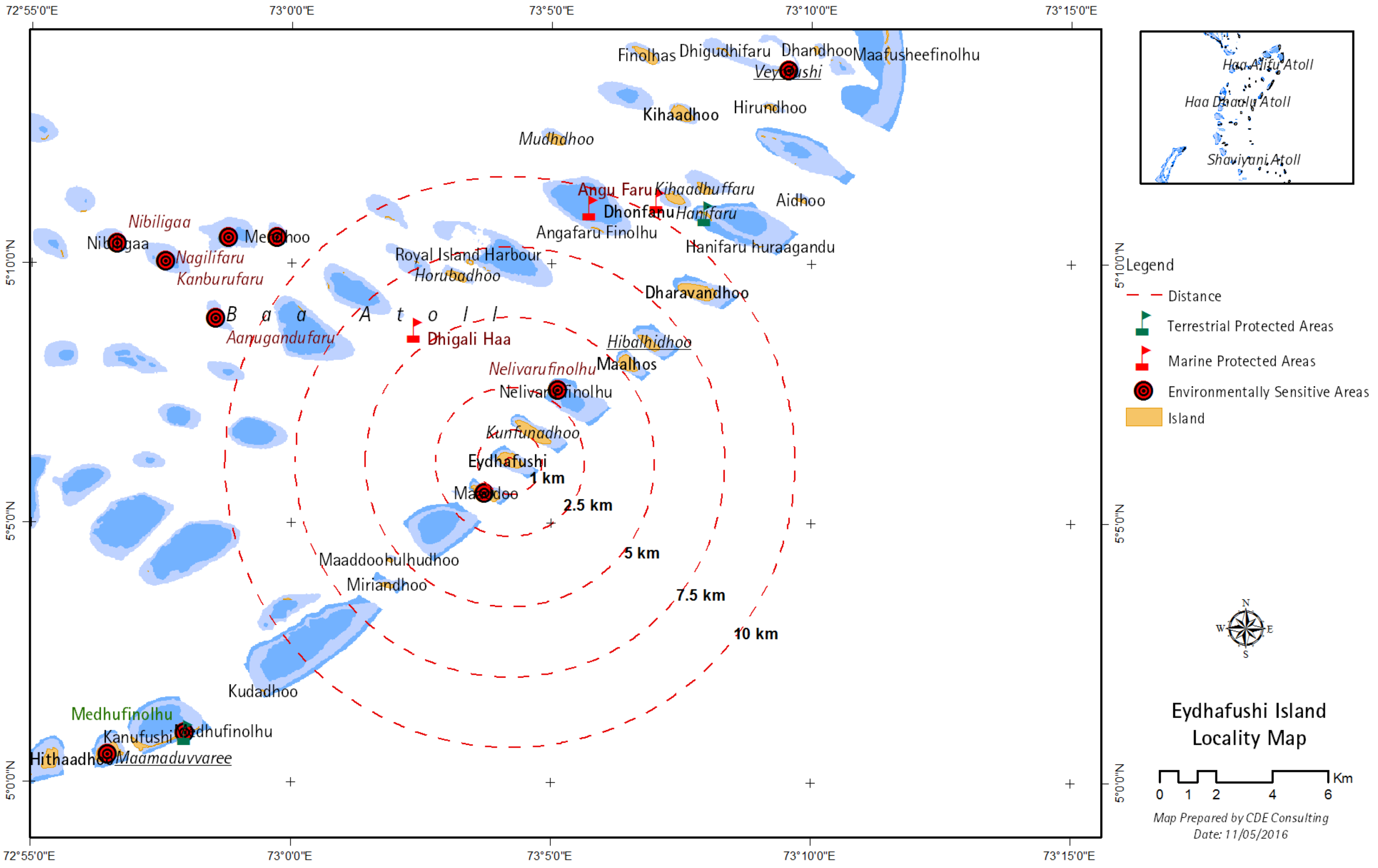


Figure 1.3: Locality map of Eydhafushi Island showing sensitive envrionments and islands in the vicinity

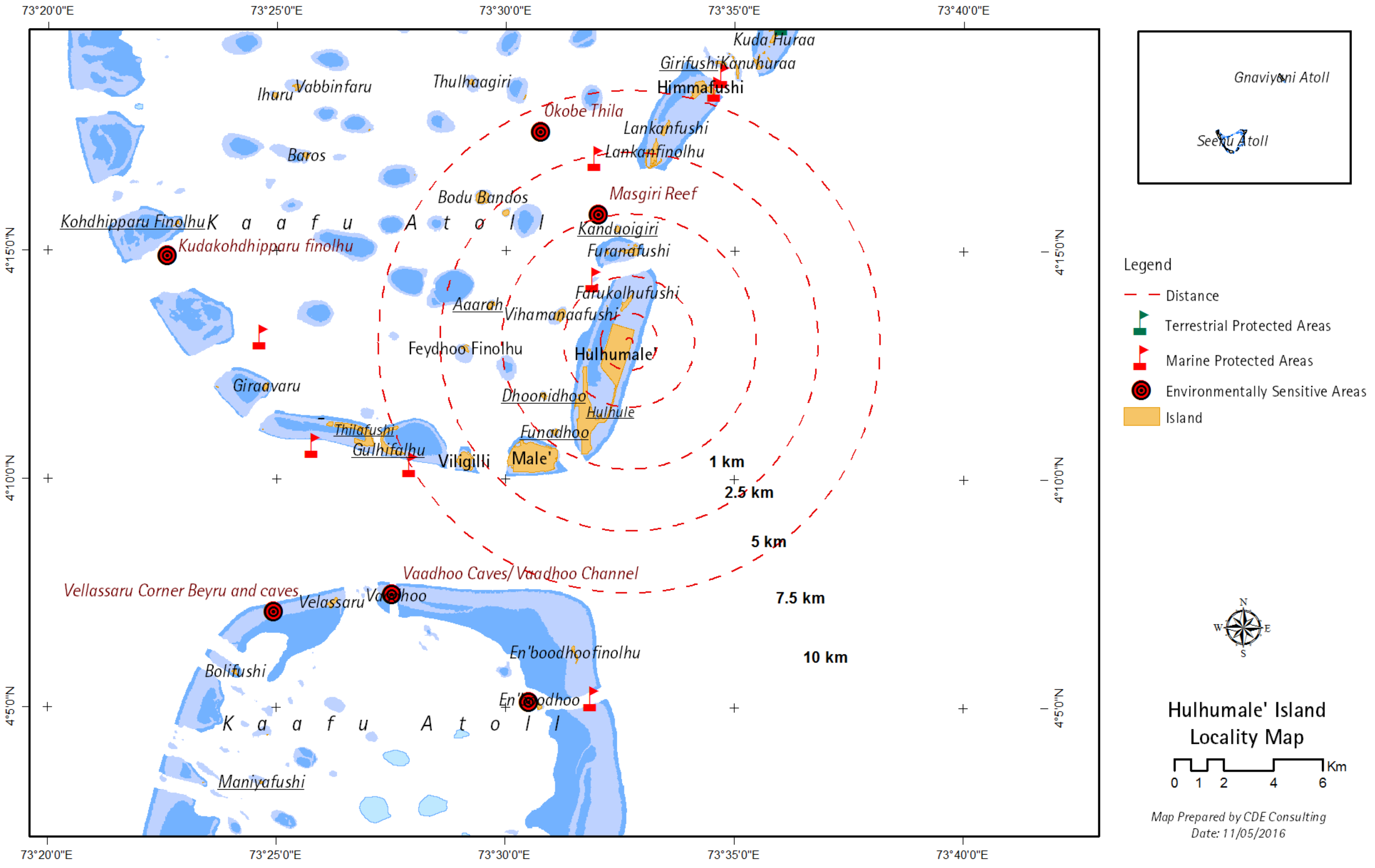


Figure 1.4: Locality map of Hulhumale' Island showing sensitive envrionments and islands in the vicinity

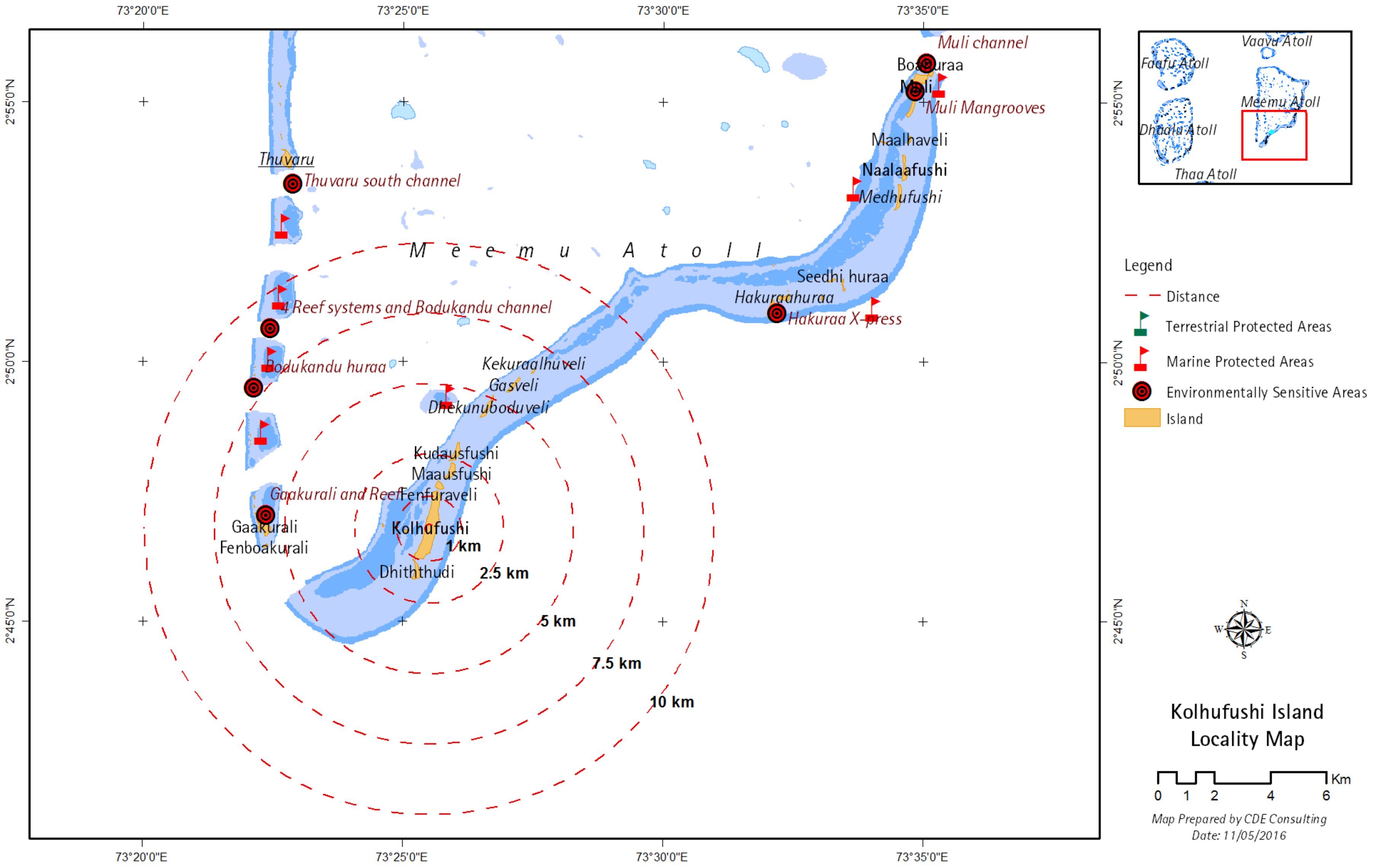


Figure 1.5: Locality map of Kolhufushi Island showing sensitive envrionments and islands in the vicinity

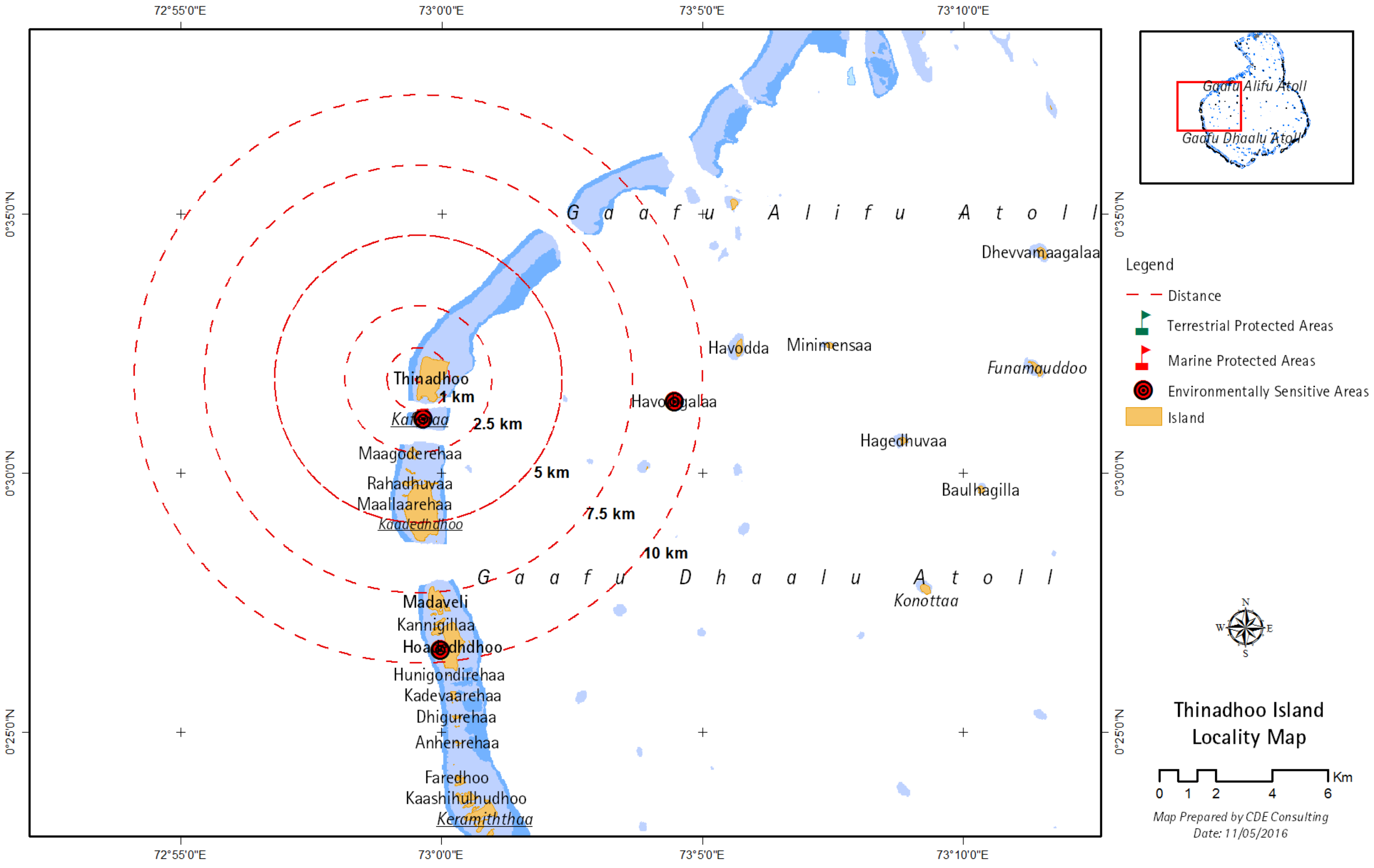


Figure 1.6: Locality map of Thinadhoo Island showing sensitive envrionments and islands in the vicinity

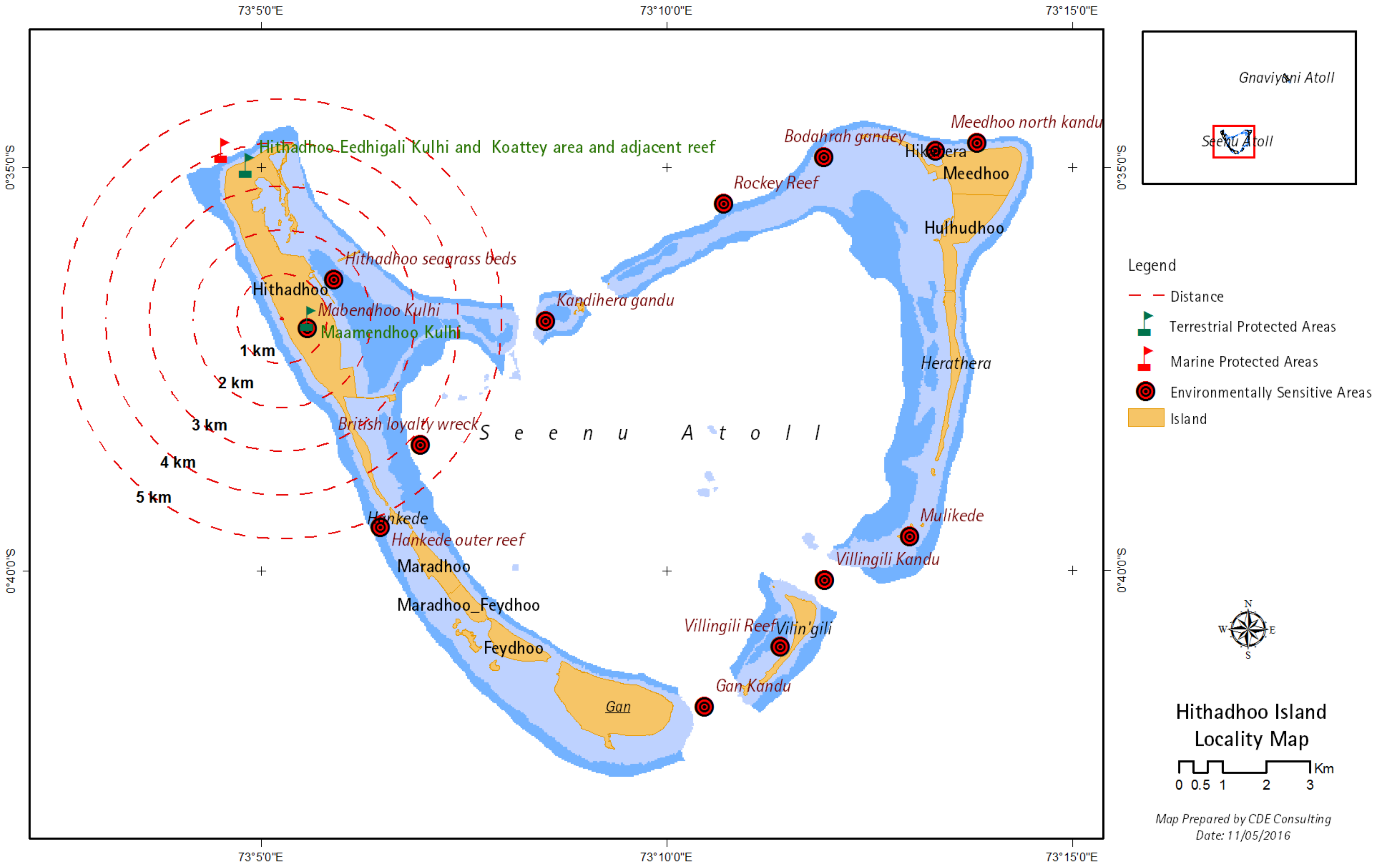


Figure 1.7: Locality map of Hithadhoo Island showing sensitive envrionments and islands in the vicinity

1.9 Assessment Methodology

1.9.1 General Approach

This EIA is broadly guided by the EIA Regulations 2012.

This report has been prepared to ensure that the significant environmental and social impacts of the proposed project at the preconstruction, construction, operation and demobilising stages have been considered and assessed at the project planning phase.

The process followed in the preparation of this EIA report consists of six parts. These are: scoping consultations; literature review; field surveys; stakeholder consultations; analysis of results; and compilation of the assessment in the form of a report.

In order to conduct a broad based and inclusive study, the proponent and the consultant have from the onset ensured the exercise is participatory. As such, discussions have been held with community members in the projects area and relevant stakeholders with the assistance and coordination of the proponent.

1.9.2 The Study Area

The area impacted by projects like these can be quite wide particularly when the socio-economic impacts are considered. The study are of this project considers the cable deployment site of each island.

Based on the results of the initial scoping of potential environmental impacts and the identification of sensitive aspects of the environment we have identified the following geographical areas likely to be affected at the various stages of the Project:

- During construction the most direct physical impact will be on-site in the area of the actual physical interventions, particularly the cable deployment area on the reef flat, and on the island.
- There will also be induced development impacts due to the project, mainly in the form of positive economic benefits across the Maldives via improved telecommunication services.

Study area boundary is presented in Figure 1.8 – 1.13 and survey locations map for the project is attached in Appendix E.

Figure 1.8: Study Area boundary of Kulhudhuffushi Island

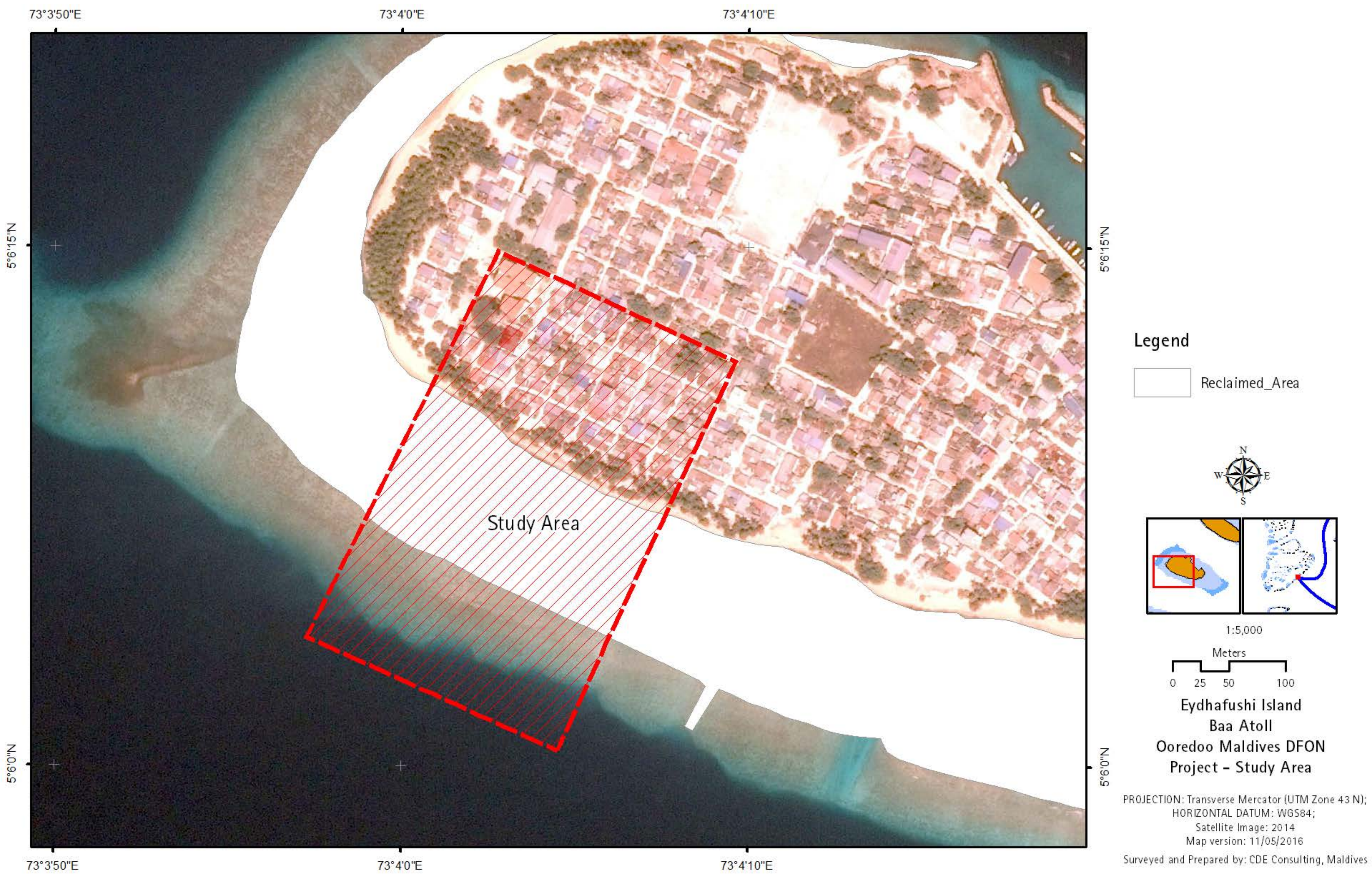


Figure 1.9: Study Area boundary of Eydhafushi Island

Figure 1.10: Study Area boundary of Hulhumale Island

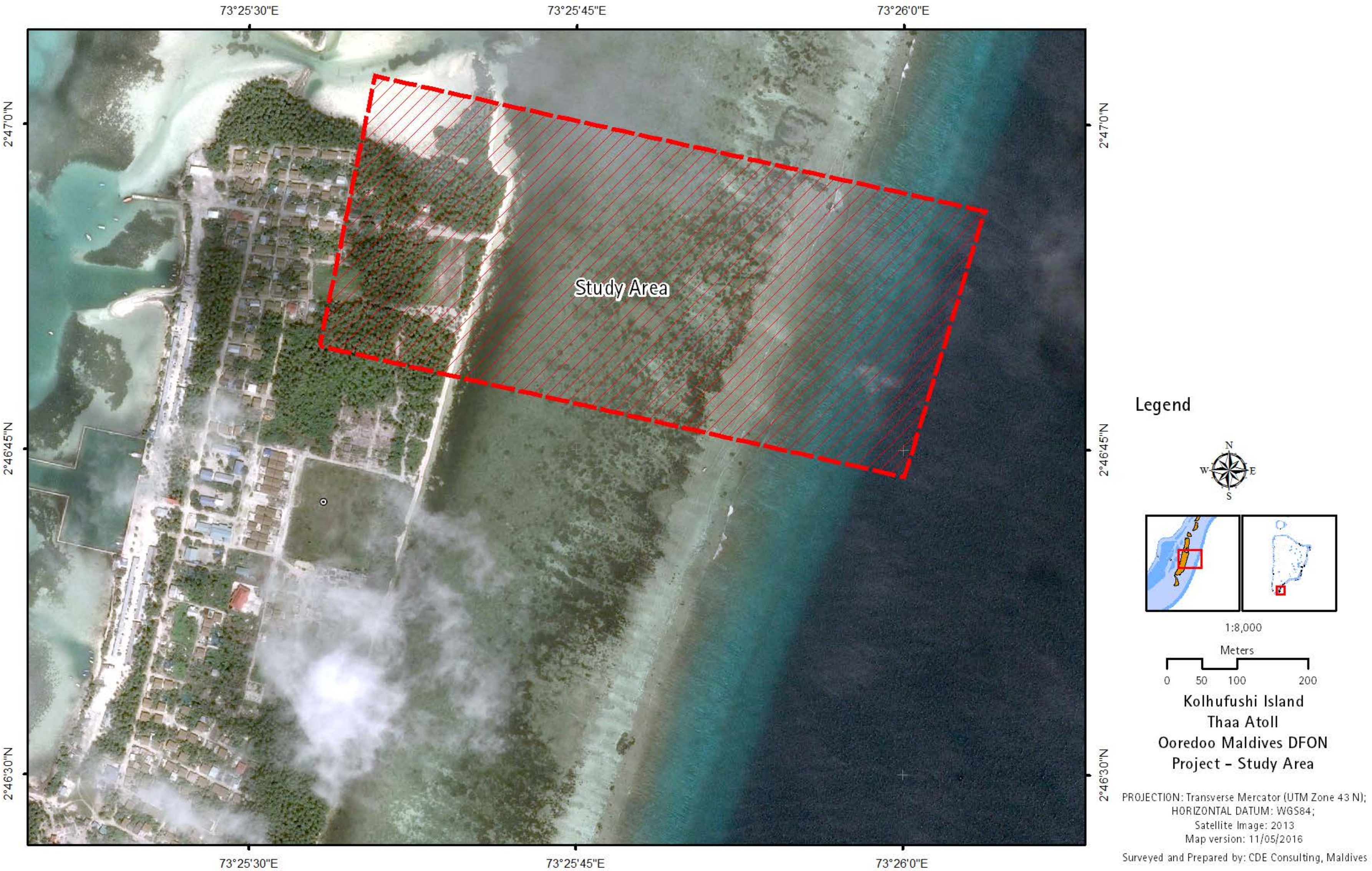


Figure 1.11: Study Area boundary of Kolhufushi Island

Figure 1.12: Study Area boundary of Thinadhoo Island

Figure 1.13: Study Area boundary of Hithadhoo Island

1.9.3 Field Observations

Field assessments were undertaken from 30th March 2016 to 26th April 2016. Field visits mainly covered reef system, bathymetry, and water quality and fauna assessment of the proposed project sites. In addition, stakeholder consultations were carried out specifically for this EIA.

Coastal Processes

Tide data has been taken from Male' International Airport Tide Gauge.

Wave patterns have been estimated using secondary studies and visual field assessments.

Marine Assessments

Fish census

Fish and invertebrates species assemblages and abundance was surveyed using 50 m line transects, whereby the monitor swam along transect and recorded the number and the different species of fish and invertebrates observed within 2.5 m either side of the transect line.

A category-based methodology was adopted to estimate fish abundance and the mean number of fish per category and observation was extracted to estimate species and family abundance. The categories used to estimate abundance is shown below:

- **Category 1**: 1
- **Category 2**: 2 – 4
- **Category 3**: 5 – 16
- **Category 4**: 17 – 64
- **Category 5**: 65 - 256

Photo Quadrat Survey

The benthic composition of the substrate was assessed by taking ten high-resolution images every 5 m (pictures covering 0.5m^2 of the seabed) along the same transect line used for the fish surveys. These were later analysed using CPCe. CPCe, or Coral Point Count with excel extension, developed by the National Coral Reef Institute, is software designed to determine coral community coverage and diversity using transect photographs. Underwater photographic frames are overlaid by a matrix of randomly generated points, and the fauna/flora of species or substrate type lying beneath each point is identified. 20 random points per picture were analysed to characterize the substrate composition (sample size: 200 points per transect).

Visual Snorkelling Survey

Visual snorkeling surveys were carried out, to qualitatively determine the benthic substrate composition at select locations of the reef. During the survey an observer swam across the site noting down the main benthic substrates, seagrass and coral species observed. Three replicate swims were made at each site.

Water Quality

Water quality was assessed from MWSC laboratory. Water quality samples were taken at different locations selected based on proposed developments. Parameters measured include Nitate, pH, Nitrogen Ammonia, Total Petroleum Hydrocarbon, Total Suspended Solids (TSS), and Turbidity.

Bathymetry survey

The bathymetric survey was conducted using the Sonarmite Echo-sounder coupled with the RTK GPS attached to a survey vessel. The bathymetric survey conducted using a 25 m grid with data collected up to the reef line.

Vertical control was established by doing a tide observation on site during the surveyed period. The observation was calculated and reduced to the MSL using the predicted tide table provided by Maldives Metrological Service, (UH SEA LEVEL CENTER Data). Predicted tide data of Hulhulé tide station was used for the corrections.

1.9.4 Desk Study Review

A literature review was conducted to acquire background information on the site and its environment as well as to identify possible environmental impacts of similar developments in island settings. In this context, the EIA Regulations 2012, best practices from similar development activities, scientific studies undertaken in similar settings around Maldives and previous documents/historical publications was considered.

The literature review comprised of, but is not limited to, the following:

- Relevant laws, regulations to the project

1.9.1 Key Stakeholder Consultation

Stakeholder consultations were undertaken with the following stakeholders:

- Communication Authority of the Maldives
- Island Council of Hdh. Kulhudhuffushi

- Island Council of Baa. Eydhafushi
- Island Council of Meemu Kolhufushi
- Island Council of Gdh. Thinadhoo
- Seenu Hithadhoo District Office

1.9.2 Data Analysis

The EIA experts used their experience and knowledge in their respective fields to analyse the data from the previous studies and field visits in order to determine the potential impacts of the proposed projects, the severity of effects arising from these impacts and how any adverse impacts can be best mitigated and positive impacts enhanced. This analysis provides the framework for the recommendations on corrective actions and remedial measures and provides the basis for the formulation of the environmental management plan which forms part of this EIA.

1.9.3 Report Format

The report format and structure presented here follows the report formatting guidelines issued by Environmental Protection Agency

1.10 Study Team Members

The team members of this EIA are:

- Dr. Ahmed Shaig (Lead EIA consultant)
- Mr. Mohamed Faizan (Marine environment assessment)
- Mr. Ali Nishaman (Terrestrial Environment Specialist)
- Mr. Ali Moosa Didi (Surveying & Mapping)
- Ms. Shahdha (Social Profiling)
- Ms. Mariyam Hana Saeed (Project Description)
- Mr. Mohamed Ali (Marine Environment Specialist)
- Mr. Ahmed Haiman Rasheed (Field Assistant)

The curriculum vitae's of the EIA consultants are attached in Appendix H of this report.

2 PROJECT DESCRIPTION

2.1 Project Outline and Key Features

The project involves deployment of a submarine communication cable connecting the existing telecom network of Ooredoo Maldives. The total length of the cable is approximately 11,000 km and it is divided into five segments with six landing stations as specified below.

- Segment 1: *S. Hithadhoo* to *Gdh. Thinadhoo*
- Segment 2: *Gdh.Thinadhoo* to *M. Kolhufushi*
- Segment 3: *M. Kolhufushi* to *Hulhumale'*
- Segment 4: *Hulhumale'* to *B.Eydhafushi*
- Segment 5: *B.Eydhafushi* to *Hdh.Kulhudhuffushi*

Work sequence for the project will begin from *S.Hithadhoo* and will continue up north ending in *Hdh. Kulhudhuffushi*. Work will be carried out simultaneously in all six islands. Details of the work methodology on each island will be discussed in the following section.

2.2 Detailed Project Outline and Work Methodology

2.2.1 Scope of Work

The key components of the project in each island are as follows,

1. Laying of submarine cable onto the reef slope using a cable laying ship
2. Transfer of submarine cable through a stabiliser clamped on reef flat
3. Transfer of submarine cable to the Beach Manhole (BMH) via a precast concrete trench
4. Connection of submarine cable and land cable inside the BMH
5. Transfer of land cable from BMH to manhole (MH) and to Cable Landing Station (CLS) via an earth trench

2.2.2 List of Equipment and Machineries

The following is a list of key equipment and machineries that will be used in this project.

- Cable ship for laying submarine cable
- Splicing machine
- Optical Time-Domain Reflectometer (OTDR)
- Concrete machine
- Excavator
- Crane
- Drilling machines

Details of the work sequence and methodology of the project are discussed below.

2.2.3 Work Sequence

2.2.3.1 Hithadhoo, Addu City

The first segment of the cable begins in *Hithadhoo*, and is connected to the island from the oceanwards (western side) as shown in Figure 2.1.

Submarine cable from the end of coral reef will pass through the trench to the Beach Manhole (BMH). Distance from reef edge to the BMH is approximately 300 m.

Cable Landing Station (CLS) in *Hithadhoo* is an existing site, which is approximately 370 m from the Beach Manhole. The masonry shelter in *Hithadhoo* is 7m by 4m and the existing generator set in the proposed location for masonry shelter will be relocated. See Figure 2.2 for site plan of masonry shelter. Location points and proposed distance from connecting sites are summarized in the table below.

Table 2.1: Location and specification details in Hithadhoo, Addu City

Location of points	
Point	**Location**
Reef Slope	0^0 36.916' S, 73^0 5.102 ́E
Beach Manhole (BMH)	0^0 36.846' S, 73^0 5.249 ́E
Manhole (MH)	0^0 36.757' S, 73^0 5.410 ́E
Cable Landing Station (CLS)	0^0 36.760' S, 73^0 5.417 ́E
Connecting point length	
Point	**Length**
Reef slope to BMH	300 m
CLS to LP	350 m

Figure 2.1: Project site plan – Hithadhoo, Addu City

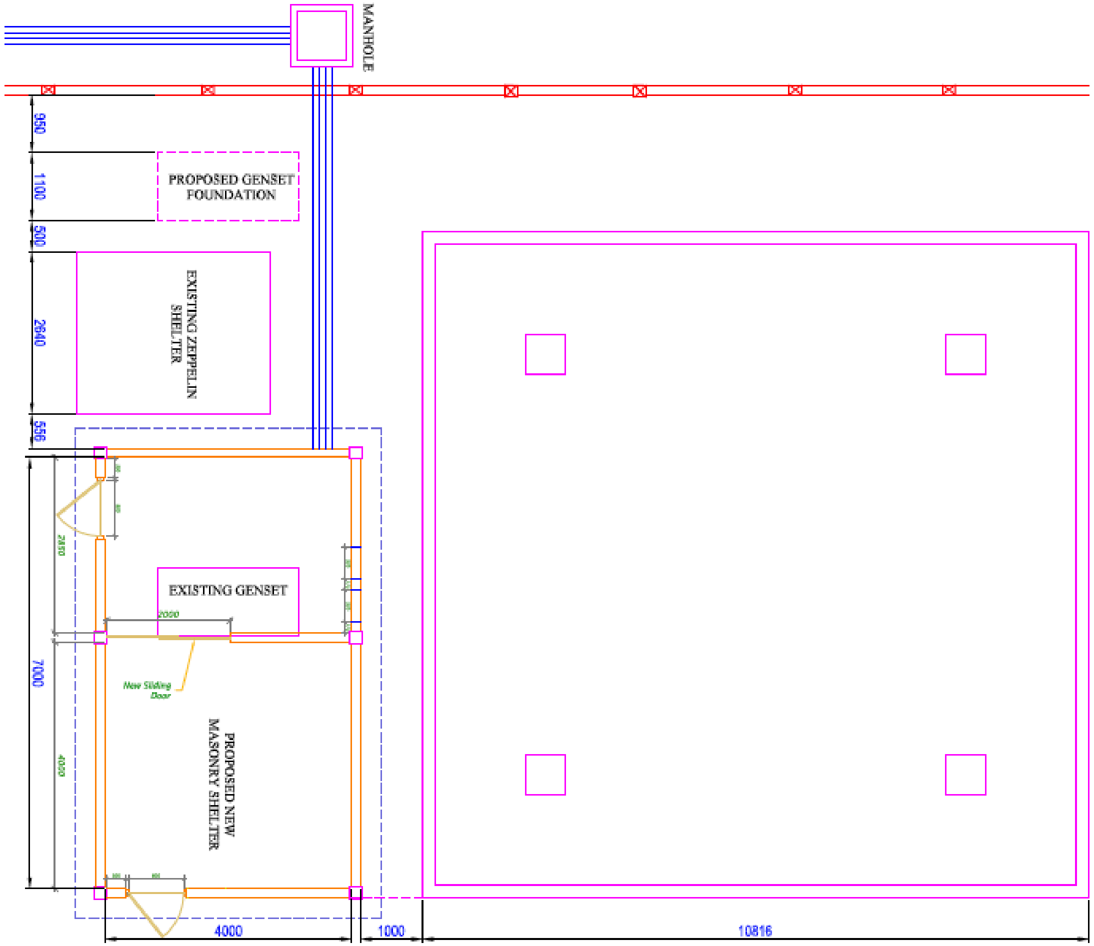


Figure 2.2: Site plan of masonry shelter in Hithadhoo, Addu City

2.2.3.2 Thinadhoo, Gaafu Dhaalu

Submarine cable from *Hithadhoo* will extend up north to *Gdh. Thinadhoo*. The project site is located in the western side of the island as shown in the map in Figure 2.3.

Distance from the coral reef edge to the BMH is approximately 350 m. Connecting station in *Thinadhoo* is an existing site which is located at approximately 170 m from BMH.

In *Thinadhoo*, geo-bags placed at beachfront will need to be cleared for excavating process to transfer cables. The proponent of this project has already contracted Maldives Transport and Contracting Company (MTCC) to clear geo-bags from the project site and to construct the precast concrete trench in the seabed.

Submarine cable will enter the masonry shelter via Manhole (MH). The masonry shelter in *Thinadhoo* is 3 m by 3.5 m and the existing Zeppelin shelter will be replaced to construct the proposed masonry shelter. See Figure 2.4 for site plan of Masonry Shelter. Location points and proposed distance from connecting sites are summarized in the table below.

Table 2.2: Location and specification details Thinadhoo, Gaafu Dhaalu

Location of points	
Point	**Location**
Reef Slope	0^0 36.941’ N, 72^0 59.419 ‘E
Beach Manhole (BMH)	0^0 31.900’ N, 72^0 59.601 ‘E
Manhole (MH)	0^0 31.878’ N, 72^0 5.673 ‘E
Cable Landing Station (CLS)	0^0 31.890’ N, 72^0 59.683 ‘E
Connecting point length	
Point	**Length**
Reef slope to BMH	350 m
CLS to LP	200 m

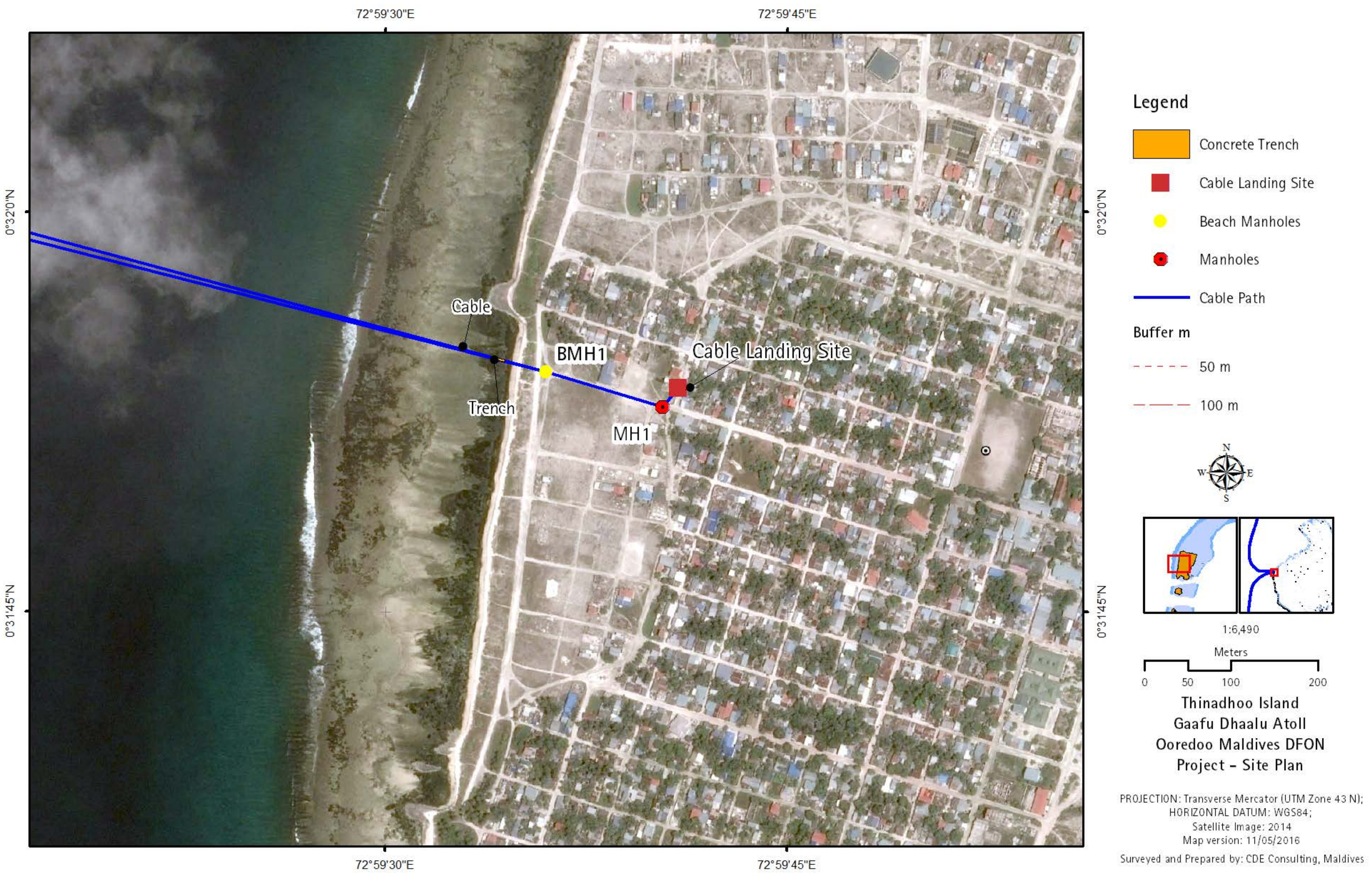


Figure 2.3: Project site plan – Thinadhoo, Gaafu Dhaalu

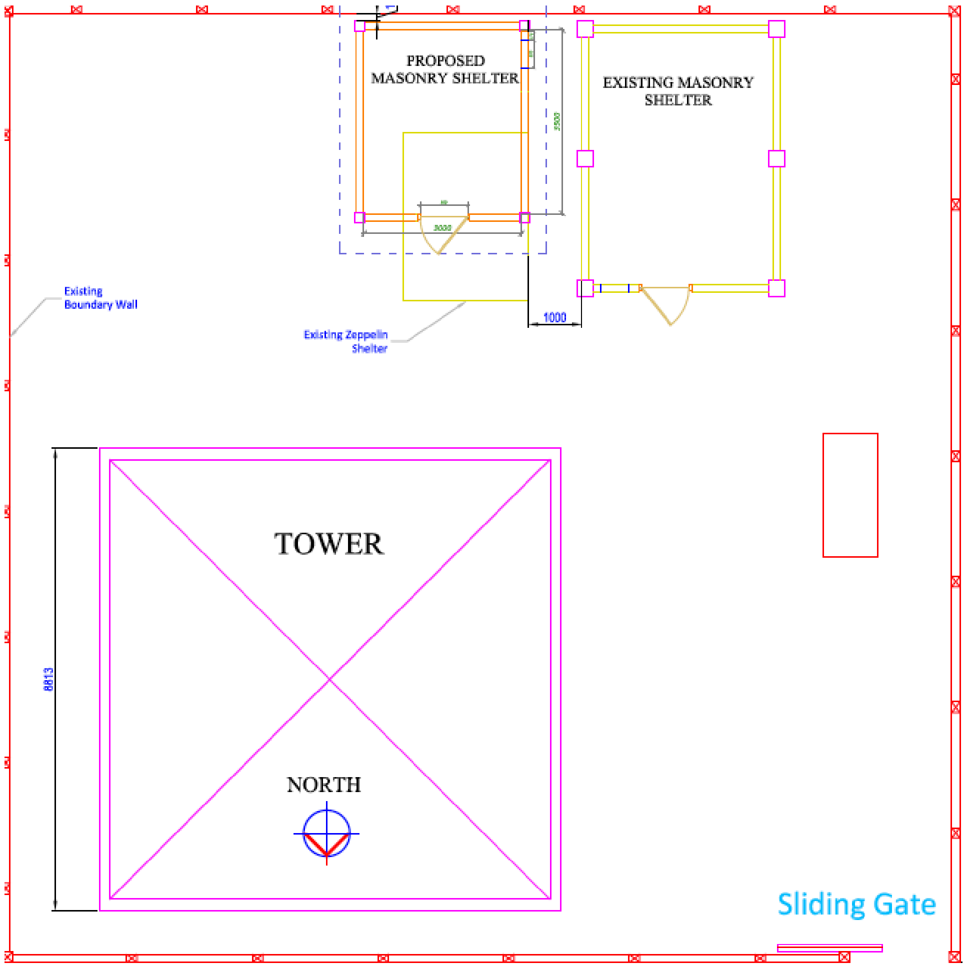


Figure 2.4 Site plan of masonry shelter in Thinadhoo, Gaafu Dhaalu

2.2.3.3 Kolhufushi, Meemu

Submarine cable from *Gdh. Thinadhoo* will then extend up to *M. Kolhufushi* where the next connection will be established. The project site is located in the eastern side of the island as shown in the map in Figure 2.5.

Submarine cable from reef slope will pass through the precast concrete trench to the Manhole (MH) at Kolhufushi. Distance from the coral reef edge to the Landing Point (LP) is approximately 650 m.

Connecting station in Kolhufushi is an existing site, which is approximately at a distance of 100 m from the LP. Masonry shelter in this island is 7m by 4m and the existing two generators in the proposed location will be relocated to existing V-SAT foundation. See Figure 2.6 for site plan of masonry shelter.

Location points and proposed distance from connecting sites are summarized in the table below.

Table 2.3: Location and specification details in Kolhufushi, Meemu

Location of points	
Point	**Location**
Reef Slope	2^{0} 46.852’ N, 73^{0} 26.017 ‘E
Manhole (MH)	2^{0} 46.919’ N, 73^{0} 25.640 ‘E
LP	2^{0} 46.910’ N, 73^{0} 25.686 ‘E
Specification of land cable duct width	
Connecting point length	
Point	**Length**
Reef slope to LP	650 m
CLS to LP	100 m

Figure 2.5: Project site plan in – Kolhufushi, Meemu

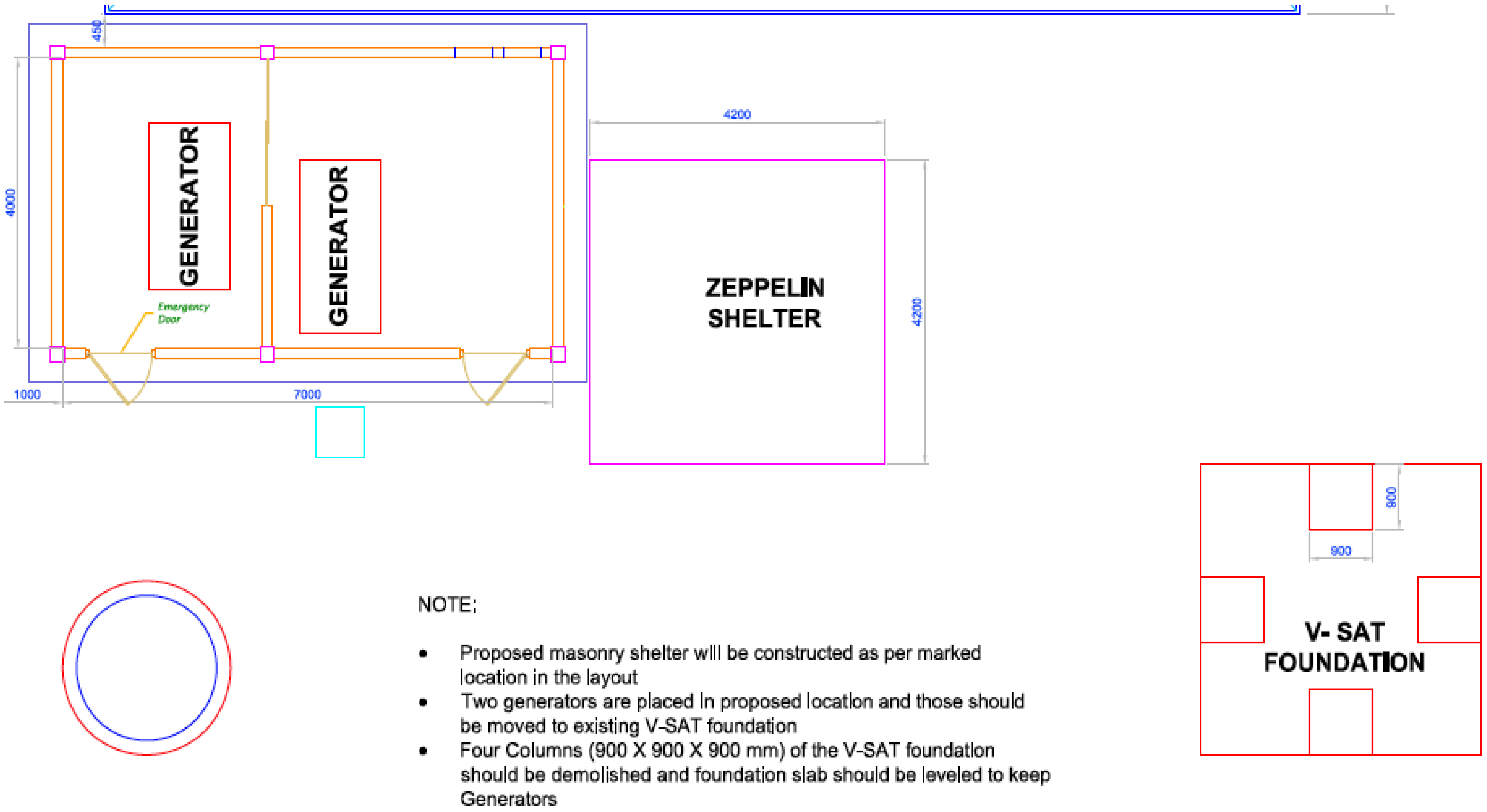


Figure 2.6: Site plan of masonry shelter in.Kolhufushi, Meemu

2.2.3.4 Hulhumale’, Kaafu

Submarine cable from M.Kolhufushi will then extend up to Hulhuamale’ where the new submarine cable will connect to the existing international submarine cable. The project site is located in the north eastern side of the island as shown in the map in Figure 2.7.

Submarine cable from reef slope will pass through the trench to the existing Beach Manhole (BMH) at Hulhumale’. Distance from the coral reef edge to the BMH is approximately 300 m. An alternative BMH location is also considered which is situated next to the existing BMH. An existing trench will be used in Hulhumale’ to transfer the cable from the reef slope to BMH.

Connecting station in Hulhumale’ is an existing site, which is approximately at a distance of 200 m from the BMH.

Location points and proposed distance from connecting sites are summarized in the table below.

Table 2.4: Location and specification details in Hulhumale’

Location of points	
Point	**Location**
Reef Slope	4^0 13.248’ N, 73^0 32.910 ´E
Existing BMH	4^0 13.264’ N, 73^0 32.798 ‘E
Options BMH	4^0 13.268’ N, 73^0 32.795 ‘E
CLS	4^0 13.281’ N, 73^0 32.683 ‘E
Connecting point length	
Point	**Length**
Reef slope to BMH	300 m
BMH to CLS	200 m

Figure 2.7: Project site plan - Hulhumale

2.2.3.5 Eydhafushi, Baa

Submarine cable from Hulhumale' will then extend up north to *B. Eydhafushi* where the fifth segment of the project will take place. The project site is located in the south western side of the island as shown in the map in Figure 2.8.

Submarine cable from reef slope will pass through the trench to the Beach Manhole (BMH) in *Eydhafushi*. Distance from the coral reef edge to the BMH is approximately 150 m. Connection Landing Station is located at approximately 300 m from the BMH. An existing trench will be utilized to transfer the cable from reef slope to BMH. Submarine cable will then pass through BMH to the CLS via three Manholes (MH). Submarine cable will then enter the masonry shelter. Proposed new masonry shelter is 3.5m by 3m. See site plan in Figure 2.9.

Location points and proposed distance from connecting sites are summarized in the table below.

Table 2.5: Location and specification details in Eydhafushi, Baa

Location of points	
Point	**Location**
Reef Slope	5^0 6.045’ N, 73^0 4.049 ´E
BMH	5^0 6.088’ N, 73^0 4.056 ´E
MH1	5^0 6.199’ N, 73^0 4.064 ´E
MH2	5^0 6.172’ N, 73^0 4.052 ´E
MH3	5^0 6.157’ N, 73^0 4.084 ´E
CLS	5^0 6.204’ N, 73^0 4.058 ´E
Connecting point length	
Point	**Length**
Reef slope to BMH	150 m
BMH to CLS	300 m

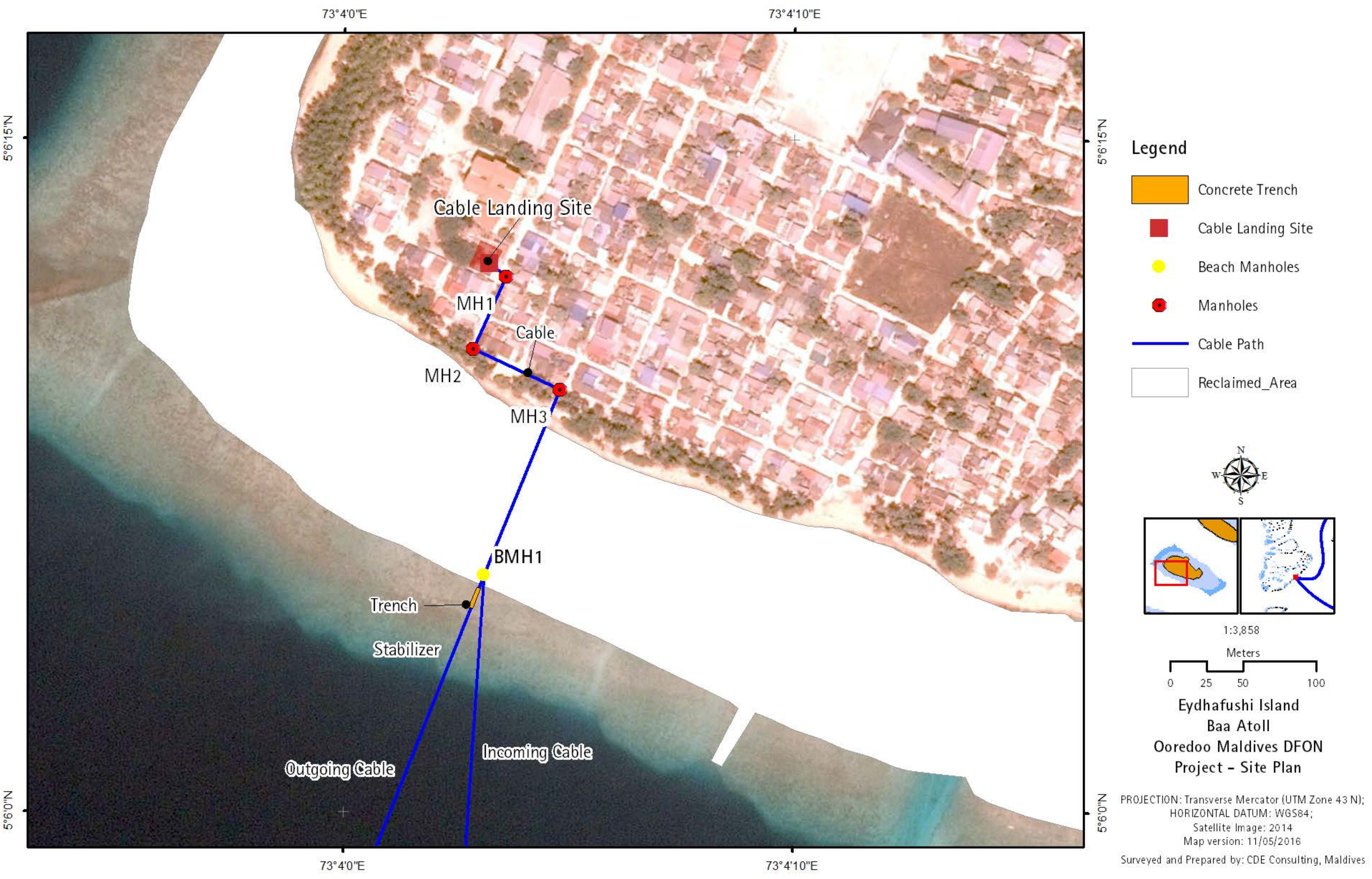


Figure 2.8: Project site plan – Eydhafushi, Baa

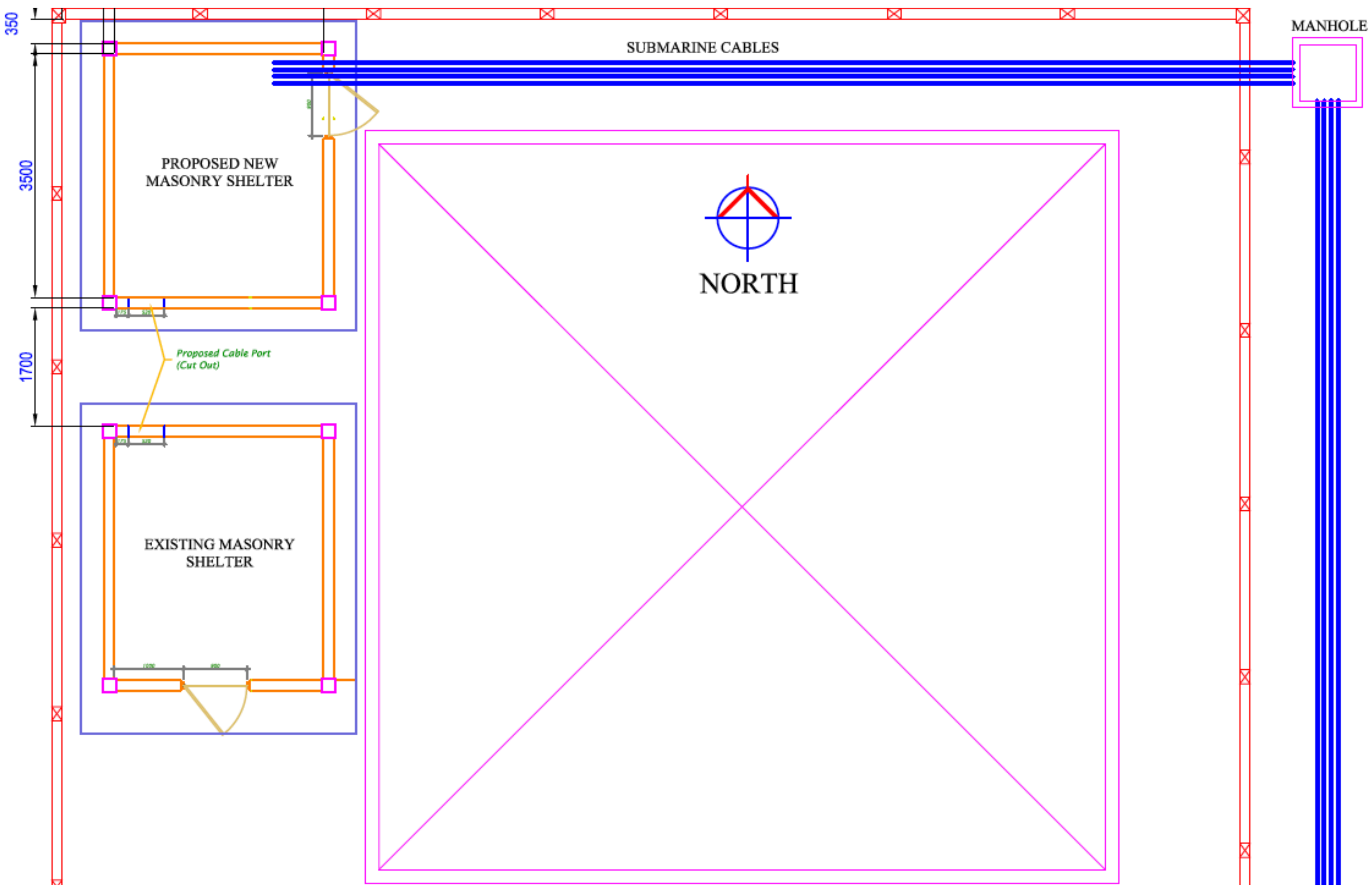


Figure 2.9: Site plan of masonry shelter in B.Eydhafushi

2.2.3.6 Kulhudhuffushi, Haa Dhaalu

Submarine cable from B.Eydhafushi will then extend up Hdh. Kulhuduffshi where the project will complete its final segment. The project site is located in the southeastern side of the island near the football stadium as shown in the map in Figure 2.10.

Submarine cable from reef slope will pass through the trench to Beach Manhole (BMH) at Kulhudhuffushi. Distance from the reef edge to the BMH is approximately 250 m.
Connecting station in Kulhudhuffushi is located at approximately at approximately 350 m from BMH and two Manholes are required in this island. Manhole 1 (MH1) located at CLS and Manhole (MH2) located at approximately 200 m from BMH. Cable from MH will enter masonry shelter connected to CLS. See Figure 2.11 for site plan of masonry shelter.
Location points and proposed distance from connecting sites are summarized in the table below.

Figure 2.6: Location and specification details in Hdh. Kulhudhuffushi

Location of points	
Point	**Location**
Reef Slope	6^{0} 36.925 N, 73^{0} 4.575 ´E
BMH	6^{0} 36.936 N, 73^{0} 4.451 ´E
MH1	6^{0} 36.929 N, 73^{0} 4.266 ´E
MH2	6^{0} 36.933 N, 73^{0} 4.355 ´E
CLS	6^{0} 36.937 N, 73^{0} 4.266 ´E
Connecting point length	
Point	**Length**
Reef slope to BMH	250 m
BMH to CLS	350 m

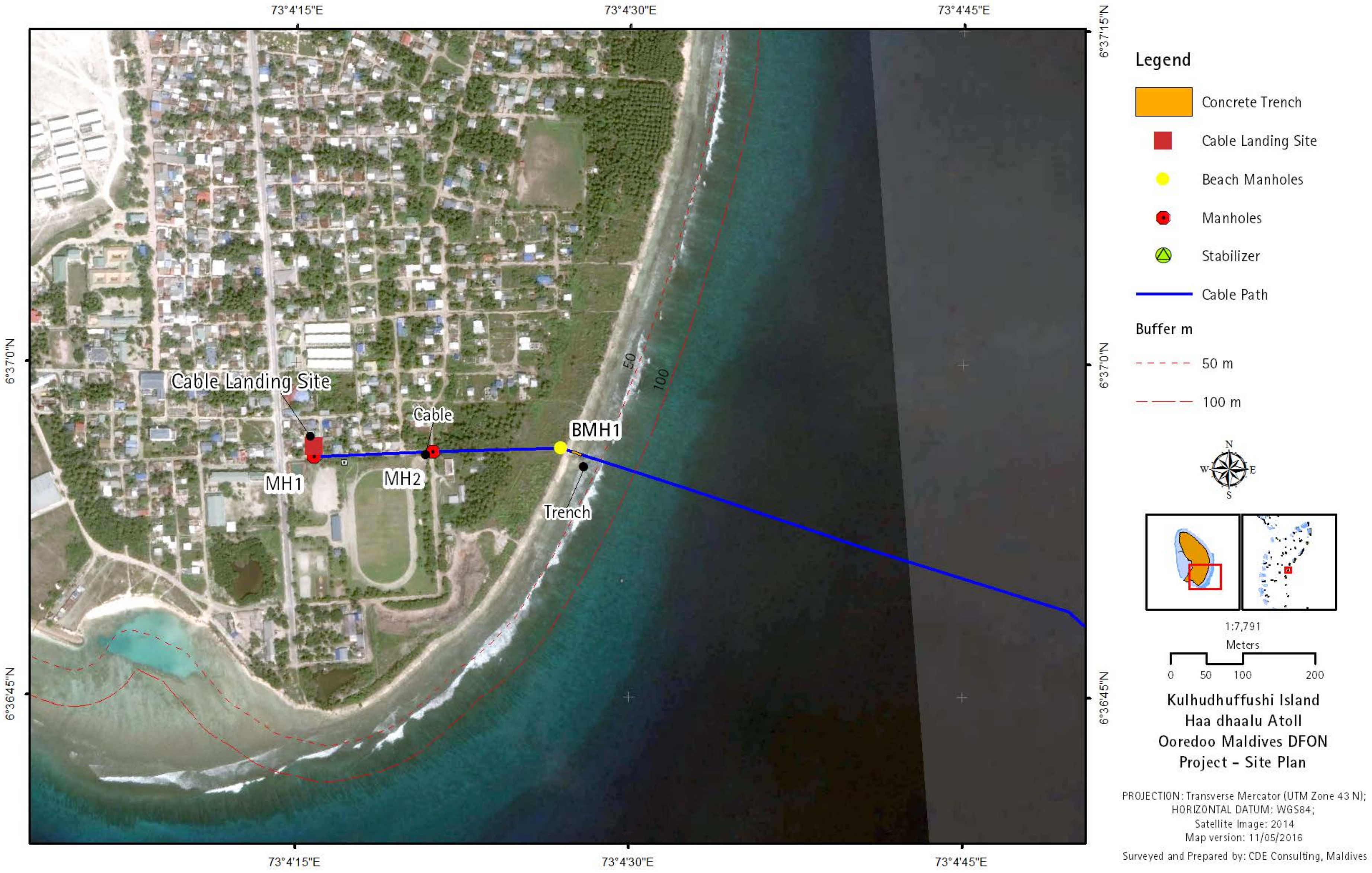


Figure 2.10: Project site plan – Kulhudhuffushi, Haa Dhaalu

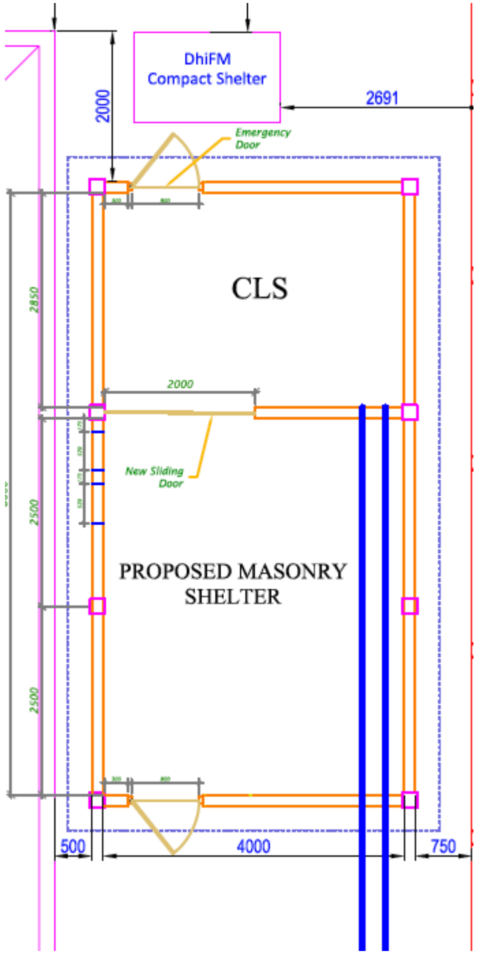


Figure 2.11: Site plan of masonry shelter in Kulhudhuffushi, Haa Dhaalu

2.2.4 Details of Work Methodology

The project will follow a similar work methodology in all of the six landing stations. The flow of cable line will flow the route illustrated in the diagram in Figure 2.12. Details of the methodology in each stage, beginning from reef slope to the Cable Landing Station (CLS) is discussed below.

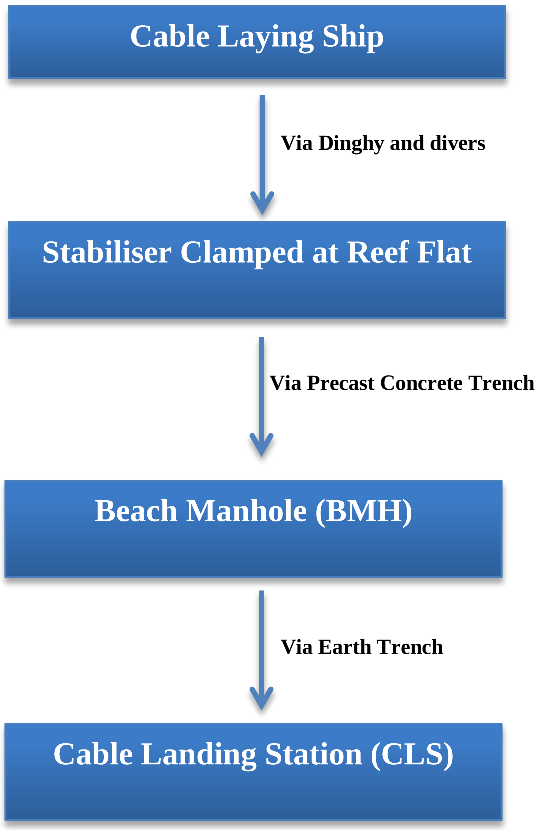


Figure 2.12: Flow diagram showing key steps from cable laying ship to CLS

2.2.4.1 Cable Laying Ship to Beachmanhole (BMH)

A cable laying ship will be positioned offshore to lay the pilot line in each island. Details of the ship including its dimensions and the distance it will be positioned from the reef slope were not available at the time of the report preparation.

The pilot cable will be laid out from the ship and it will be passed on to the reef slope using buoys. Divers will place the buoys in position to mark the route of the cable from the ship to the landing point. Six divers will be working to assist lay out the cable in each island and small

boats (e.g. Dinghy) will also be used to control the bight during the cable landing. The ship will be required to hold the cable in position for divers to align the cable in right route.

Stabilizer

The cable will then pass from the reef slope to the beach manhole via a concrete stabiliser. The stabiliser will be clamped at the reef flat through which the cable will pass to the Beach Manhole (BMH) via a concrete trench. The stabiliser is made of Grade 30 Mass concrete and it will have 4-inch high pressure PVC Pipes inside it for the cables to pass through. Plane view and elevation of the proposed stabiliser is shown in Figure 2.13. Cables will be anchored using articulated pipes placed in the stabiliser to protect the cables from rocky areas on the seabed.

Precast Concrete Trenching

Cable from the stabiliser will pass to the Beach Manhole (BMH) via a precast concrete trench. The 1m deep precast concrete trench will be made of Grade 25 concrete wall with its base made of Grade 15 concrete wall. The trench will also have 4-inch PVC pipes inside the trench for cables to pass and will have a precast concrete lid on top. See Figure 2.14 for details. In B.Eyadhafushi and Hulhumale', an existing concrete trench will be used to transfer the cable from the reef slope to the BMH. Figure 2.15 shows example of an offshore insitu concrete trench

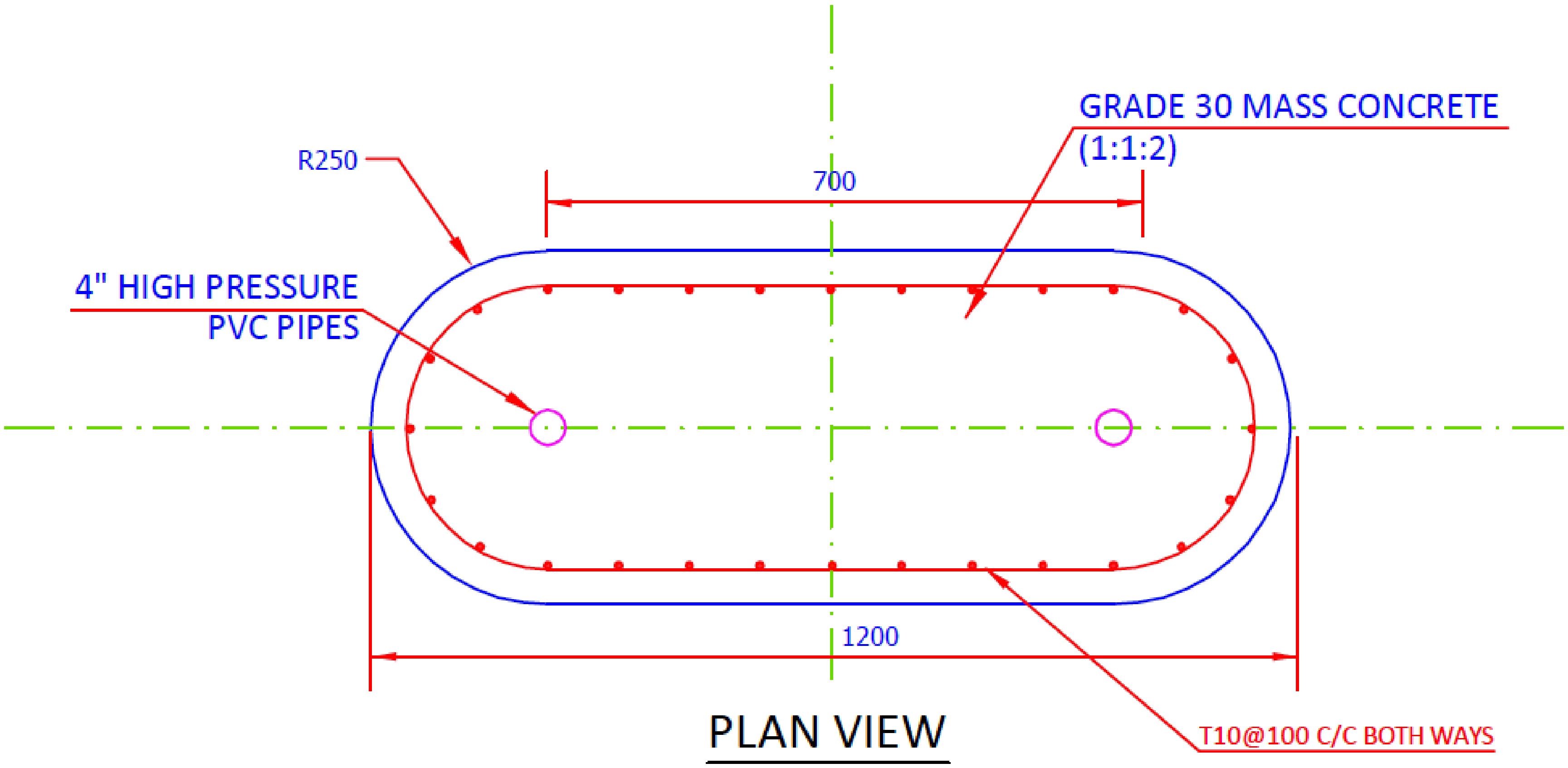


Figure 2.13: Plane view of concrete stabilier

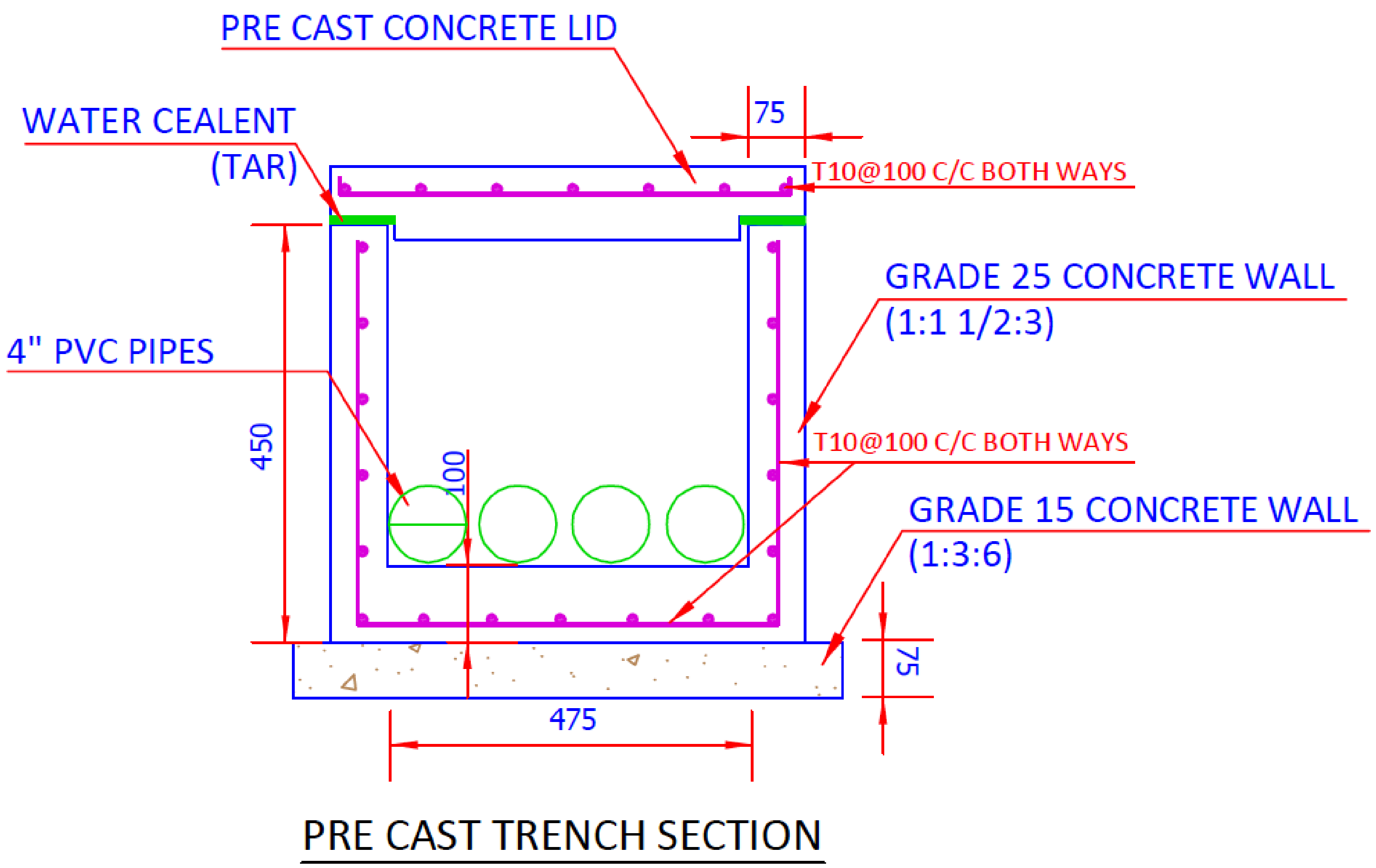


Figure 2.14: Plane view of Precast Concrete Trench

Figure 2.15: Example of an offshore in-situ concrete trenching work

2.2.4.2 Beach Manhole and Connectivity at Land Station

Beach Manhole

The Beach Manhole (BMH) in each island will be made of Grade 25 concrete walls with a steel cover and two 3-inch PVC pipe holes on each side. The PVC pipe holes are for incoming submarine cable and for the outgoing cable to Cable Landing Station (CLS). All unused PVC duct holes will be closed by end caps at both ends. A steel manhole cover will be placed inside the BMH where cable will be coiled and anchored. See Figure 2.16 and Figure 2.17 for section and plane view of the BMH.

The submarine cable will be connected to the land fibre cable at BMH for each island, except *Kolhufushi* (where a BMH is not placed). In *Thinadhoo*, geo-bags at beachfront will have to be removed to facilitate the transfer of submarine cable line to BMH. Land cable connected to the submarine cable inside BMH will be transferred to CLS via earth trenching. Manhole (MH) on each island next CLS will be 1m x 1m x 2m.

Earth Trench

Once the cable is secured in the BMH and the necessary slack has been ensured the cable will be placed inside the earth trench and the divers will remove the buoys in the water so the cable is sunk on its correct line. After the land cable and submarine cable has been connected in the BMH, the land cable will pass through earth trench and ducts to the CLS in each island.

Earth trench will be filled with fine sand and soil layer. Total width of the trench will be 0.5m. and it will be 1.5m deep. This will be used to run the ducts to the CLS from BMH. See Figure 2.18 for details of earth trenching used.

Manhole

Manhole (MH) on each island next CLS will be 1m x 1m x 2m. Land cable will pass through MH to the masonry shelter in each island. MH structure will be made of grade 25 and grade 15 concrete wall and it will have 3-inch PVC pipe holes on both sides for incoming and outgoing cable. A steel cover will be used to cover the MH. See Figure 2.19 and Figure 2.20 for plane and section view of MH.

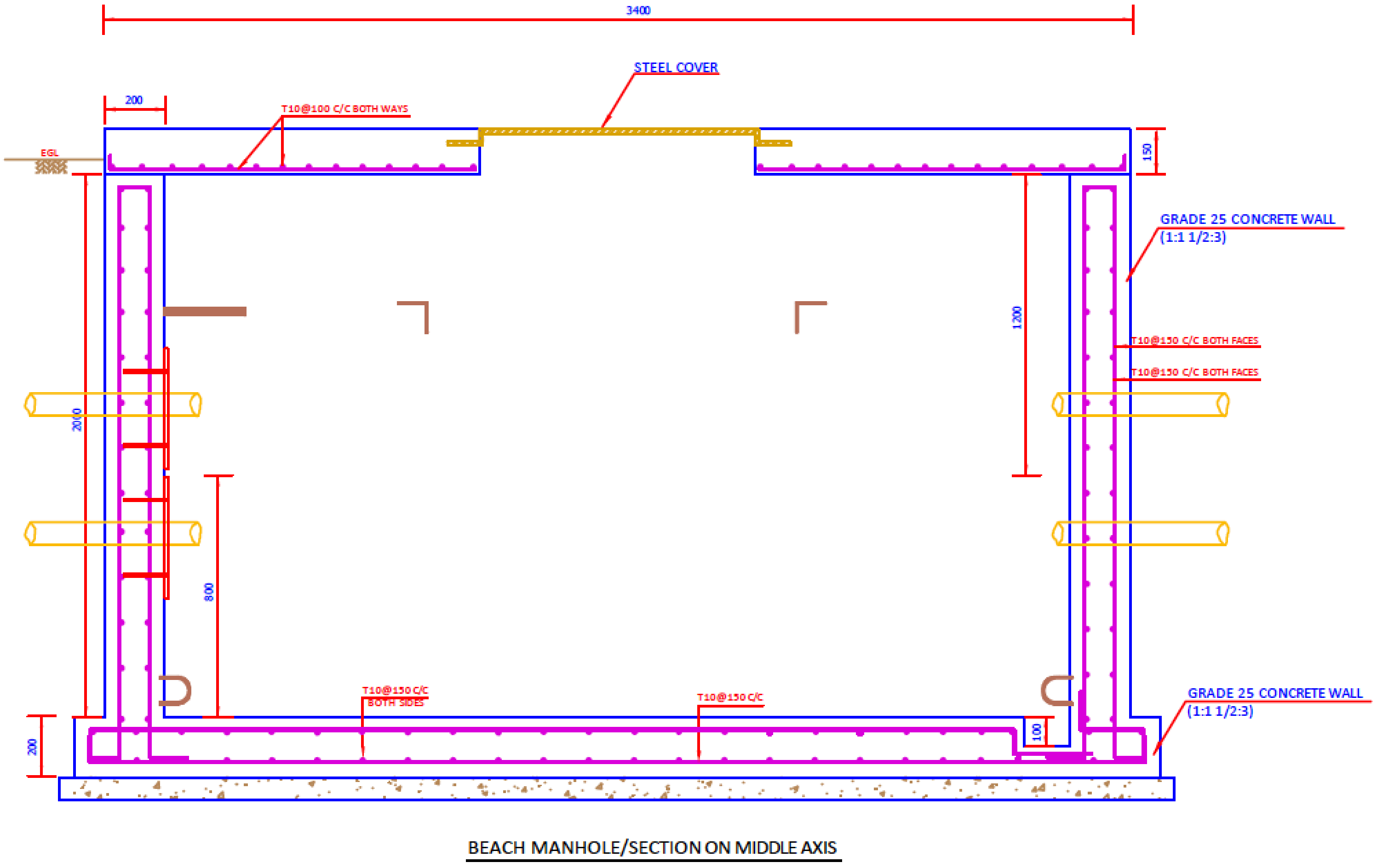


Figure 2.16: Section view of Beach Manhole (BMH)

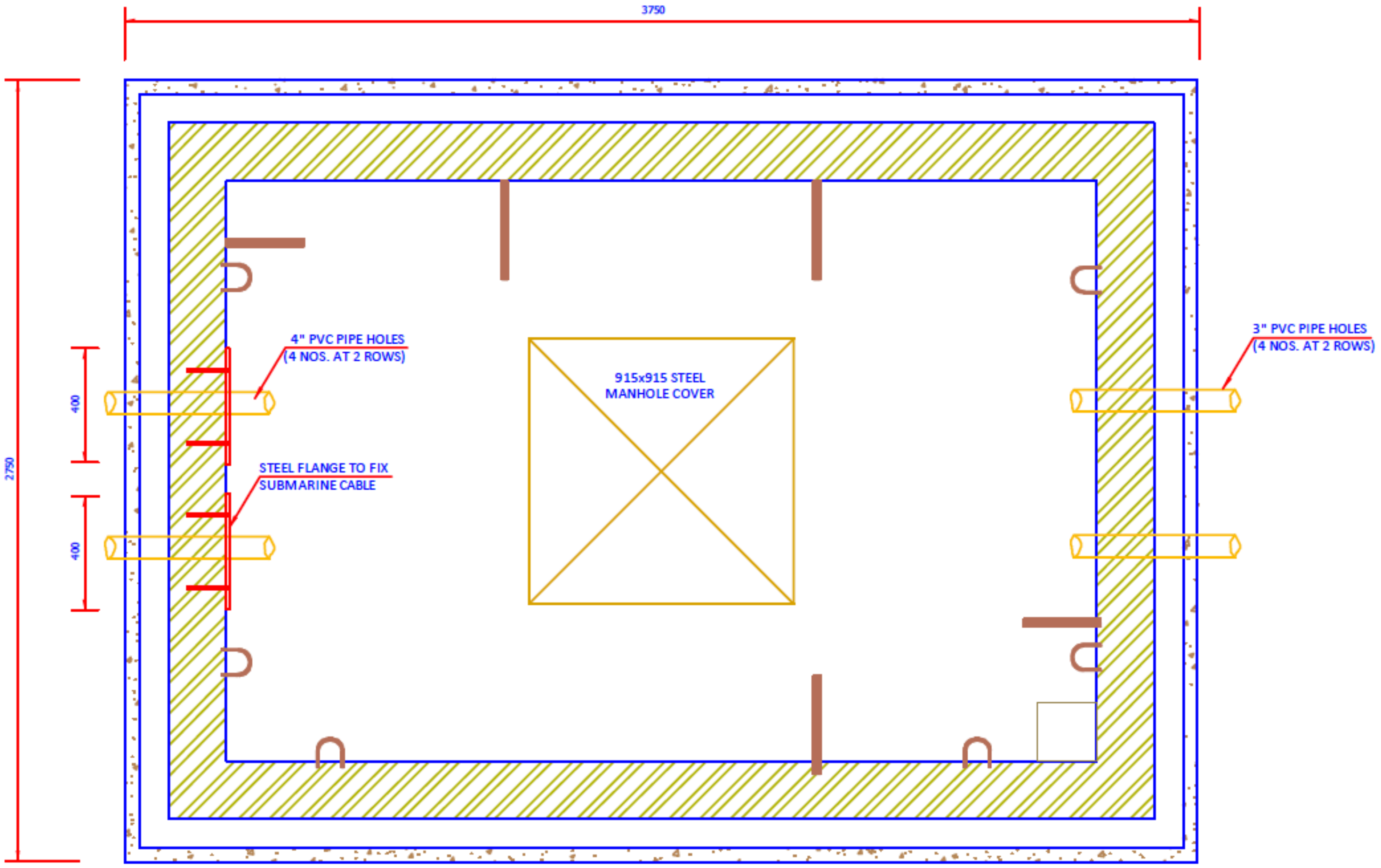


Figure 2.17: Plane view of Beach Manhole (BMH)

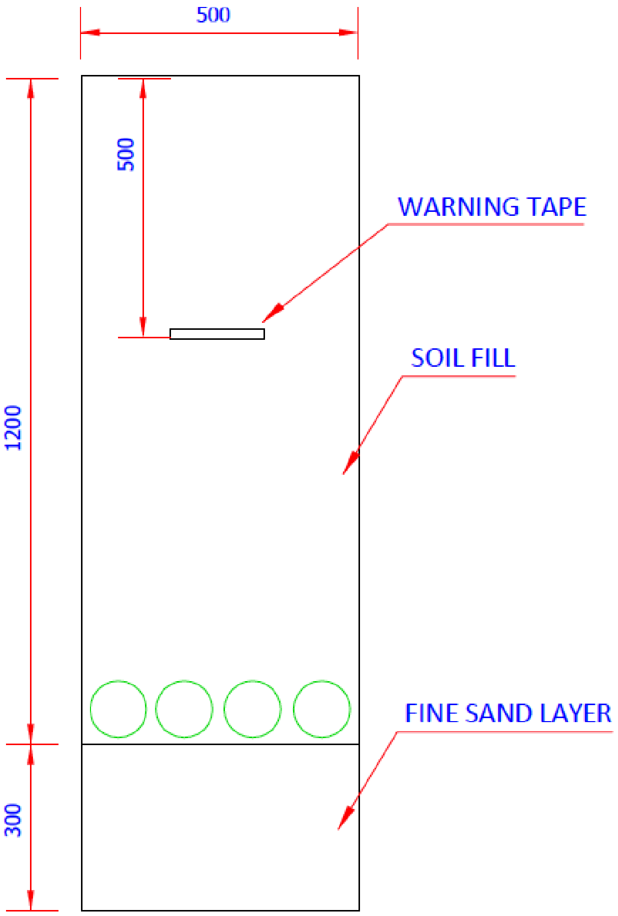


Figure 2.18: Earth Trench

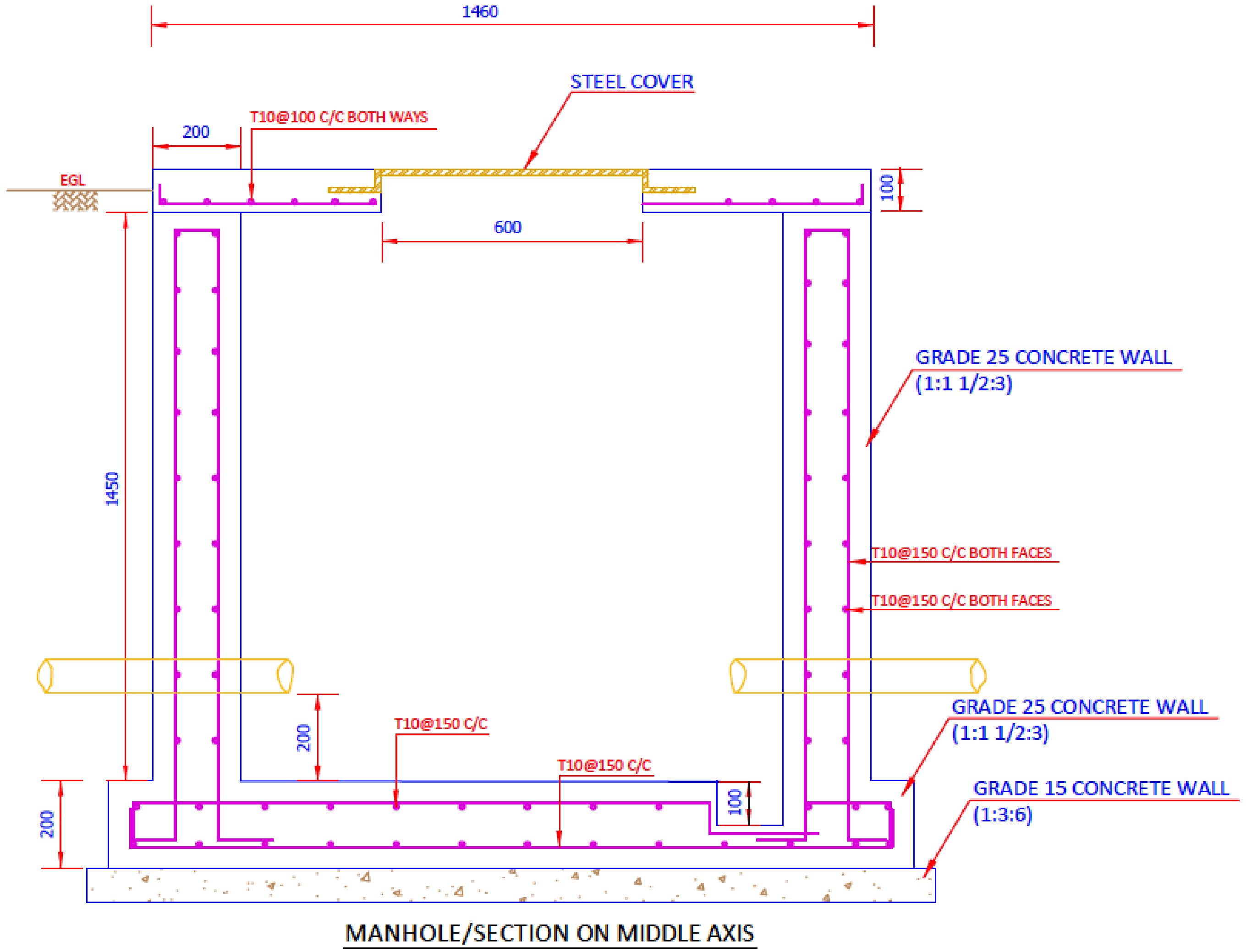


Figure 2.19: Section view of Manhole (MH)

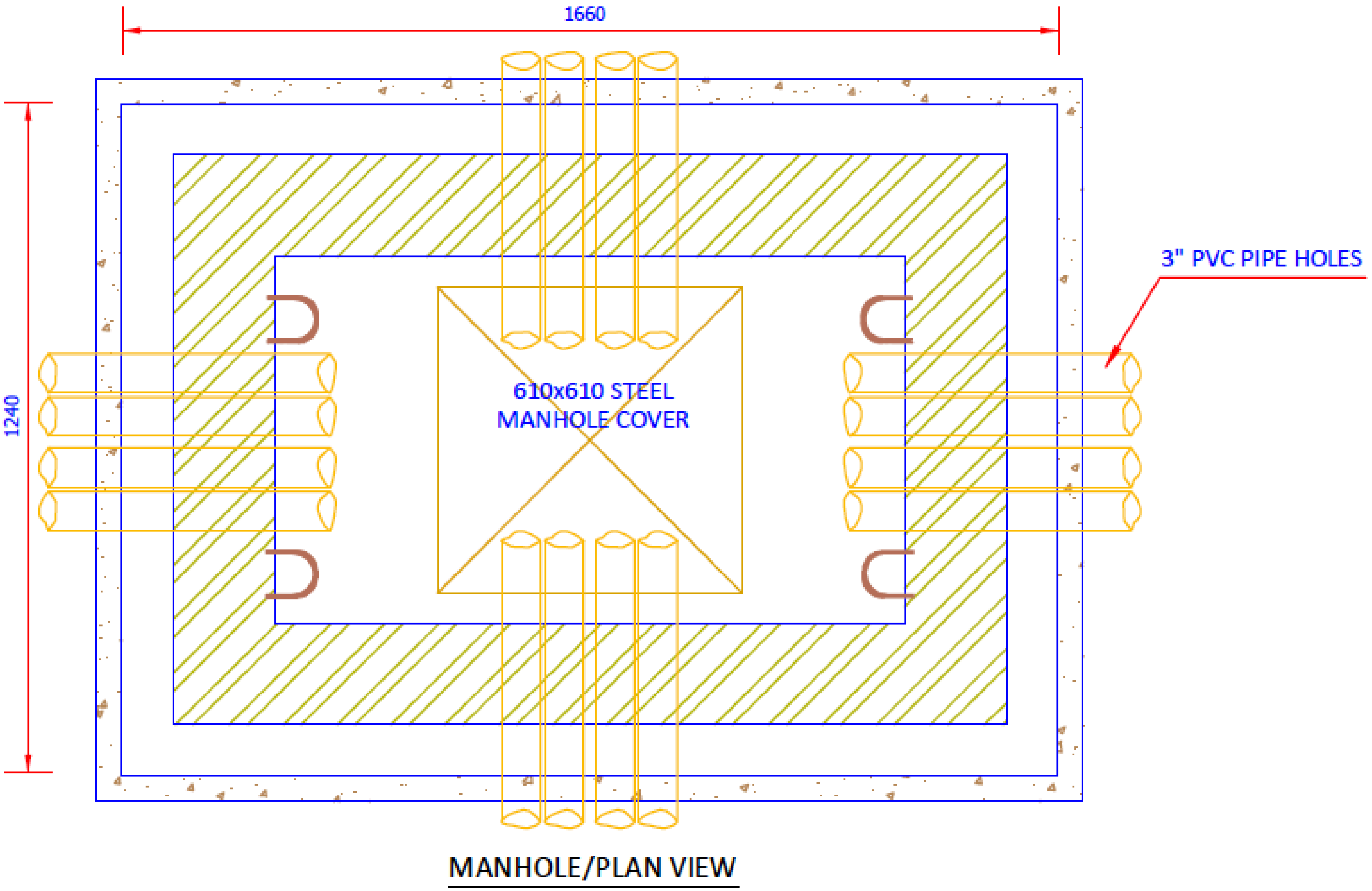


Figure 2.20: Plane view of Manhole (MH)

2.3 Project Schedule and Life Span

Mobilisation for the project will begin after the EIA is approved. The project is expected to be completed in the last quarter of 2016. Work will be carried out simultaneously in all six islands with the first segment of the project starting at *Hithadhoo*.

The preliminary work plan is provided in Appendix D. The actual details may be dependent on the final contractor.

2.4 Workforce and Accommodation

It is projected that a total of 155 people will be recruited for the project, including 30 workers on each island with one site supervisor at each site. The 30 workers at each landing site will be recruited from the respective islands and contractors for the project arrange their accommodation and meal plans.

2.5 Waste management, Logistics and Safety measures

2.5.1 Construction Waste Management and Disposal

Small amounts of waste oil may be generated from the operation and maintenance of vehicles. All waste oil will be disposed as per the approved standards of the Environment Ministry

2.5.2 Pollution and Emission Control Measures

The following measures will be taken to ensure minimal pollution during construction stage.

- Machinery will be properly tuned and maintained to reduce emissions and minimize risk of spills/leaks.

2.5.3 Health and Safety Measures

- The contractor would ensure that Health and Safety procedures are complied with at all times.
- Construction activities would be carried out under the supervision of a suitably experienced person.
- All reasonable precautions will be taken for the safety of employees, and equipment will be operated by competent persons.
- Warning signs, barricades or warning devices will be provided and used.

- Necessary safety gear will be worn at all times.
- Fire extinguishing equipment would be readily available and employees will be trained in its use. In general, water-based fire extinguishers would be used.
- Oxygen, acetylene or LPG bottles will not be left free-standing. All welding and cutting will be done in accordance to high safety regulations by experienced personnel.
- First aid kits will be made available on site.
- The construction site will be properly closed to unauthorised personnel.
- Only skilled scuba divers will be used to carryout underwater works.

2.6 Utilities

Water, electricity and sanitation facilities will be provided for workers from the existing facilities on the islands.

2.7 Summary of Project Inputs and Outputs

The types of materials that will go into the development and from where and how this will be obtained are given in Table 2.7 and the type of outputs (products and waste streams) and what is expected to happen to the outputs are given in Table 2.8.

Table 2.7: Major Project Inputs

Input resource(s)	Source/Type	How to obtain resources
Construction workers	Local and foreign	Contractor's employees or by announcement
Site supervisors	Local and foreign	Contractor's employees or by announcement
Drinking Water supply (during construction)	Bottled water	Purchased from local businesses
Power	Existing Generator sets	Existing power supply on each island
Machinery	Excavators, concrete machine, drilling machines, and cranes	Contractor's machinery or hire locally where available
Maintenance material	Maintenance parts and fluids required for the machinery and piping.	Import or purchase locally where available
Food and Accommodation	Existing accommodation	Contractor to provide
Fire fighting equipment	Fire Extinguishers, etc.	Contractor's equipment

Table 2.8: Major Project Outputs

Products and waste materials	**Anticipated quantities**	**Method of disposal**
Noise	Only localised	Excavator operation will be noisy. Restrict operation hours to daytime.
Food waste	Small quantities	Dispose at designated waste disposal site on the island.
Plastic and packaging wastes	Small quantities	Dispose at designated waste disposal site on the island.

2.8 Demobilization

Demobilization in each island will take place once the land cable has been connected to the existing telecom Network.

3 POLICY AND LEGAL FRAMEWORK

These legal and policy provisions have to be fully respected in carrying out the proposed development. All contractors and sub-contractors will be informed of these requirements. This project conforms to all relevant laws and regulations of the Maldives.

3.1 Relevant Legislation

3.1.1 Environmental Protection and Preservation Act (No. 4/93)

The Environmental Protection and Preservation Act (*4/93*) enacted on 19 March 1993 is the framework law related to environment protection in the Maldives. The authority responsible for the Environment Act is the Ministry of Environment and Energy.

Articles 2, 4, 5, 6, 7, and 8 of the law are relevant to the proposed Project.

Article 2 states that the concerned government authorities shall provide the necessary guidelines and advise on environmental protection in accordance with the prevailing conditions and needs of the country. All concerned parties shall take due considerations of the guidelines provided by the government authorities.

The project developers and contractors shall abide by any guidelines or advice given by the concerned Government authorities for the project.

Article 4 states that the Ministry of Environment shall be responsible for identifying protected areas and natural reserves and for drawing up the necessary rules and regulations for their protections and preservation.

The project developers and contractors shall ensure that there is no negative impact from the proposed project on any protected areas.

According to Article 5 (a) of the Act, an Environmental Impact Assessment study shall be submitted to the Ministry of Environment before implementing any development project that may have a potential impact on the environment.

According to Article 5 (b), The Ministry of Environment shall formulate the guidelines for EIA and shall determine the projects that need such assessment as mentioned in paragraph (a) of this clause.

This report is prepared to fulfil this clause.

According to Article 6, the Ministry of Environment has the authority to terminate any project that has any undesirable impact on the environment. A project so terminated shall not receive any compensation.

Project developer and contractors shall be aware of this provision and contractors shall take all practical measures to ensure there is no irreversible and significant negative impact of the projects on the environment

Article 7 of the EPPA (4/93) states that any type of waste, oil, poisonous gases or any substances that may have harmful effects on the environment shall not be disposed within the territory of the Maldives. In cases where the disposal of the substances becomes absolutely necessary, they shall be disposed only within the areas designated for the purpose by the government. If such waste is to be incinerated, appropriate precaution should be taken to avoid any harm to the health of the population.

All project contractors shall comply with the Environmental Management Plan presented in this report, which specifies how the wastes, oil and gases generated by the project will be disposed.

Article 8 of the EPPA (4/93) states that Hazardous/ Toxic or Nuclear Wastes that is harmful to human health and the environment shall not be disposed anywhere within the territory of the country.

Any hazardous wastes that may be generated from this project shall be transferred to the designated waste site in Thilafushi for disposal according to Government regulations and standards. It should not be disposed on the Island, as it does not have the necessary facility.

3.1.2 Maldives Telecommunication Act (No. 43/2015)

The Maldives Telecommunication Act (*43/2015*) enacted on 10 December 2015 is the framework law related to telecommunication service providers, and licensing. The authority responsible for the Maldives Telecommunication Act is the Communication Authority of Maldives.

Communication Authority of Maldives has issued go ahead for this project (see Appendix C).

3.1.3 Fisheries Act (No. 5/8)

The Fisheries Act of Maldives (5/87) enacted on 24 August 1987 is the basis for management and development of fisheries activities in Maldives. The authority responsible for implementing the Fisheries Act is the Ministry of Fisheries and Agriculture (MoFA). ‘Fisheries’, in this law,

refers to fishing, capturing, or the taking of any living resources from the seas of the Exclusive Economic Zone (EEZ) of Maldives, or any activities related thereto.

3.2 Relevant Regulations and Guidelines

3.2.1 Environmental Impact Assessment Regulation 2012

Environmental Impact Assessment regulations were issued by Environment Ministry on 8 May 2012. The first step in environmental assessment process involves screening of the project to be classified as one that requires an EIA or not. Based on this decision, the Ministry then decides the scope of the EIA, which is discussed with the proponent and the EIA consultants in a "scoping meeting". The consultants then undertake the EIA starting with baseline studies, impact prediction and finally reporting the findings with impact mitigation and monitoring programme. This report follows the principles and procedures for EIA outlined in the EIA regulations.

The EIA report is reviewed by MEE following which an EIA Decision Note is given to the proponent who will have to implement the Decision Note accordingly. As a condition of approval, appropriate environmental monitoring may be required and the proponent shall have to report monitoring data at required intervals to the Ministry. The project proponent is committed to implement all impact mitigation measures that are specified in this EIA report. Furthermore, the proponent is committed to environmental monitoring and shall fulfil environmental monitoring requirements that may be specified in the EIA decision note as a condition for project approval.

This report complies with the EIA regulations

3.2.2 Regulation on Dredging and Land Reclamation

The regulation of Dredging and Land Reclamation was published on 2 April 2013 with the aim of minimising environmental impacts associated with dredging activities in islands and reefs across Maldives.

- The regulation defines the rationales acceptable for dredging as those related to approved development activities on inhabited islands and economic islands. It defines that those activities should be if utmost necessity for dredging to be considered.
- All dredging and reclamation activities must be approved by EPA in writing. The process includes the submission of project information to EPA along with a scaled before and after map.

- The regulation defines rationales for reclamation as those absolutely necessary for social, economic or safety purposes.

- Dredging is restricted in the following areas:
    - 500 m from the ocean side reef edge
    - 50 m from any island vegetation line
    - An environmentally sensitive site
- Land reclamation is restricted within 200 m of a sensitive area.
- Land reclamation cannot exceed 30% of the house reef area

No dredging activities will be carried out under this project.

3.2.3 Regulation on Cutting Down, Uprooting, Digging Out and Export of Trees and Palms from One Island to Another

Pursuant to the Environment Protection and Preservation Act of Maldives 1993, the Environment Ministry made a by law with the purpose of educating developers about the importance of trees including best management practices for maintaining trees and provide standards for preservation of trees in the Maldives and set down rules and regulations to be adhered to prior to commencing felling, uprooting, digging out and exporting of trees and palms from one island to another in Maldives.

The by law states that the cutting down, uprooting, digging out and export of trees and palms from one island to another can only be done if it is absolutely necessary and there is no other alternative. It further states that for every tree or palm removed in the Maldives two more should be planted and grown in the island.

The by law prohibits the removal of the following tree types;

- The coastal vegetation growing around the islands extending to about 15 meters into the island
- All the trees and palms growing in mangrove and wetlands spreading to 15 meters of land area;
- All the trees that are in a Government protected areas;
- Trees that are being protected by the Government in order to protect species of animal/organisms that live in such trees; and

– Trees/palms that is abnormal in structure.

This project does not require removal/clearance of significant vegetation.

3.2.4 Waste Management Regulation 2013

Waste Management Regulation (WMR) was published on August 2013 and came into effect in February 2014. It is implemented by EPA. The aim of WMR is to implement the national waste policy, which contains specific provisions to:

- Implement measures to minimize impacts on human health
- Formulate and implement waste management standards
- Implement an integrated framework for sustainable waste management
- Encourage waste minimisation, reuse and recycling
- Implement Polluter-Pays Principle
- Introduce Extended Producer Responsibility

WMR contains four main sections:

- Waste management standards: Defines standards for waste collection, transfer, treatment, storage, waste site management, landfills and managing hazardous waste.
- Waste management Permits: Defines approval procedures for waste sites
- Waster transfer: Standards and permits required for waste transport on land and sea, including trans-boundary movements.
- Reporting requirements: Defines reporting and monitoring requirements and procedures.
- Enforcement: Defines procedures to implement WRM and penalties for non-compliance.

Any waste taken out of the project sites and the receiving waste management site shall be in compliance with this regulation. Thilafushi is the designated waste disposal site for this project.

3.2.5 The Environmental Liability Regulation (Regulation 2011/R-9)

This law is pursuant to Article 22 of national constitution that states that protection, preservation and maintenance of the Maldivian natural environment, the richness of the living species, the natural resources and the beauty of the Maldives for the present generations as well as for the future generations is a basic obligation of the Maldivian government. The government shall enforce that the activities conducted in order to gain economic and social development should be of sustainable nature that protect the environment and such activities shall not deteriorate the

environment, endanger any species, damage the environment, and shall not waste any natural resources.

This regulation is also pursuant to Environment Protection and Preservation Act of Maldives (4/93). The regulation is aimed at maintaining equal standards for reprimanding and enforcing environmental liabilities, fines for those who violate the rules and regulations and give guidance to those who are involved in the implementation process of the regulations pursuant to Preservation Act of Maldives (4/93).

One of the key objectives of the environmental liability regulation is also to practice polluter-pay-principles in the Maldives.

Project developer and contractors shall be aware of this provision and contractors shall take all practical measures to ensure that all relevant laws and regulations, and the EMP proposed in this EIA is followed.

3.2.6 Compliance

In general, the proposed developments are in compliance with the laws and regulations described above. Where there is a special requirement to comply, the EMP identifies measures and mechanisms required to comply.

3.3 Environmental Permits Required for the Project

3.3.1 Approval of the concept and site plan

The Communications Authority of the Maldives will have to approve the proposed project before the EIA could be approved. This project has approval from the Communications Authority of the Maldives (See Appendix C).

3.3.2 Environmental Impact Assessment (EIA) Decision Note

The most important environmental permit to initiate project work would be a decision regarding this EIA. It will be issued by the Environmental Protection Agency. The EIA Decision Note, as it is referred to, shall govern the manner in which the project activities must be undertaken. This EIA report assists decision makers in understanding the existing environment and potential impacts of the project. Therefore, the Decision Note may only be given to the Proponent after a review of this document following which the EPA may request for further information or provide a decision if further information is not required. In some cases, where there are no major environmental impacts associated with the project, the EPA may provide the Decision Note while at the same time requesting for further information.

3.4 Responsible Institutions

The main government institutions that have roles and responsibilities relevant to this project are summarised below.

3.4.1 Communications Authority of Maldives

The Communications Authority of Maldives (CAM) is the main agency responsible for approving and overseeing the development of telecommunications related infrastructure in the Maldives. The proposed project has been approved by CAM.

3.4.2 Ministry of Environment and Energy

The Ministry of Environment is mandated for the effective implementation of the Environmental Protection Act of the country and has the statutory power over issues related to the environment. It has the central control over the environment protection, management, conservation and environmental emergencies. The Ministry operates mainly at a policy level and the more regulatory and technical assessment activities are mandated to EPA.

The Ministry of Environment also seeks the advice of National Commission for the Protection of Environment (NCPE) on all significant environmental matters. The commission is appointed by the president and is mandated to advice the Minister of Environment on environmental matters such as environment assessment, planning and management, and political decisions with regard to the protection of environment.

3.4.3 Atoll Council

The Atoll Council Office is the main focal point of Government Ministries in each Atoll and they co-ordinate and liaises with Government Ministries and elected island councils on all issues relating to the Atoll.

A copy of this EIA will be sent to respective Atoll Councils (see Appendix J).

3.5 Guiding Policies and Documents

3.5.1 National Environmental Action Plan II (NEAP II)

The aim of NEAP II is to protect and preserve the environment of the Maldives and to sustainably manage the country’s natural resources for the collective benefit and enjoyment of present and future generations.

Accordingly, the key strategies of the NEAP II are:

- Continuous assessment of the state of the environment in the Maldives, including impacts of human activities on land, atmosphere, freshwater, lagoons, reefs and the ocean; and the effects of these activities on human well-being
- Development and implementation of management methods suitable for the natural and social environment of the Maldives and maintain or enhance environmental quality and protect human health, while at the same time using resources on a sustainable basis
- Ensure stakeholder participation in the decision making process by consultation and collaboration with all relevant sectors of society
- Preparation and implementation of comprehensive national environmental legislation in order to provide for responsible and effective management of the environment
- Adhering to international and regional environmental conventions and agreements and implementation of commitments embodied in such conventions.

Furthermore, NEAP II specifies priority actions in the following areas:

- Climate change and sea level rise; coastal zone management;
- Biological diversity conservation; integrated reef resources management;
- Integrated water resources management;
- Management of solid waste and sewerage;
- Pollution control and management of hazardous waste;
- Sustainable tourism development;
- Land resources management and sustainable agriculture
- Human settlement and urbanization.

3.5.2 Waste Management Policy

The aim of the waste management policy is to formulate and implement guidelines and means for solid waste management in order to maintain a healthy environment. Accordingly, the key elements of the policy include:

- Ensure safe disposal of solid waste and encourage recycling and reduction of waste generated;
- Develop guidelines on waste management and disposal and advocate to enforce such guidelines through inter-sectoral collaboration;

– Ensure safe disposal of chemical, hazardous and industrial waste.

The proponents of this project must be aware of the policy and all solid and hazardous waste produced in this project should be disposed according to the Environmental Management Plan for the project, which reflects the principles of the Waste Management Policy.

3.6 International Conventions

3.6.1 Convention on Biological Diversity

The Maldives is a party to the United Nations Convention on Biological Diversity. The objective of the convention is "the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding". The proposed development activities outlined in this project does not fall on any areas recognised for its ecological value. Therefore it is unlikely there will be a major loss of biodiversity. The loss is not going to be significant at atoll or national level. Yet, it is recommended that the developer relocated any live corals that occur within the cable route on the reef flat.

3.6.2 UNFCCC and Kyoto Protocol

The Maldives is a party to the United Nations Framework Convention on Climate Change and the Kyoto Protocol to the UNFCCC. The objective of the Convention is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

The IPCC defines mitigation "as an anthropogenic intervention to reduce the sources or enhance the sinks of greenhouse gases." The greenhouse gas inventory of the Maldives forms an integral part of the First National Communication of the Maldives to the UNFCCC. In March 2009, the President of the Maldives has announced the target to make Maldives carbon neutral by 2020. Hence, in the implementation of the project, careful attention needs to be given to ensure energy efficiency and reduce transport related fuel consumption. The project is expected to reduce energy consumption from 25,000 – 30,000 kwh to 10,000 kwh per month.

3.6.3 International Convention for the Prevention of Pollution from Ships (MARPOL)

MARPOL is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes. It is a combination of two treaties adopted in 1973 and 1978 and includes regulations aimed at preventing and minimizing pollution from ships - both accidental pollution and that from routine operations - and currently includes Prevention of Pollution by Oil; Control of Pollution by Noxious Liquid Substances in Bulk; Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form; Prevention of Pollution by Sewage from Ships; Prevention of Pollution by Garbage from Ships; and Prevention of Air Pollution from Ships.

Cable laying ship and all marine vessels used in this project will follow this convention.

4 EXISTING ENVIRONMENT

4.1 Physical Environment

4.1.1 Meteorology

4.1.1.1 Climate

The climate in Maldives is warm and humid, typical of the tropics. The average temperature ranges between 25°C to 30°C and relative humidity varies from 73 percent to 85 percent. The annual average rainfall is approximately 1,948 mm. As Maldives lies on the equator, Maldives receives plenty of sunshine throughout the year. Significant variation is observed in the climate between the northern and the southern atolls. The annual average rainfall in the southern atolls is higher than the northern atolls. In addition, greater extremes of temperature are also recorded in the southern atolls. On average southern atolls receive 2704 hours of sunshine each year. Table 4.1 provides a summary of key meteorological findings for Maldives.

Table 4.1: Key Meteorological Information of the Maldives

Parameter	Data
Average Rainfall	9.1mm/day in May, November; 1.1mm/day in February
Maximum Rainfall	184.5 mm/day in October 1994
Average air temperature	30.0 °C in November 1973; 31.7 C in April
Extreme Air Temperature	34.1 °C in April 1973;17.2 C in April 1978
Average wind speed	3.7 m/s in March; 5.7 m/s in January, June
Maximum wind speed	W 31.9 m/s in November 1978
Average air pressure	1012 mb in December; 1010 mb in April

4.1.1.2 Monsoons

The climate of Maldives is characterised by the monsoons of the Indian Ocean. Monsoon wind reversal significantly affects weather patterns. Two monsoon seasons are observed in Maldives: the Northeast (Iruvai) and the Southwest (Hulhangu) monsoon. The parameters that best distinguish the two monsoons are wind and rainfall patterns. The southwest monsoon is the rainy season while the northeast monsoon is the dry season. The southwest monsoon occurs from May to September and the northeast monsoon is from December to February. The transition period of

southwest monsoon occurs between March and April while that of northeast monsoon occurs from October to November.

4.1.1.3 Winds

The winds that occur across Maldives are mostly determined by the monsoon seasons. The two monsoons are considered mild given that Maldives is located close to the equator. As a result, strong winds and gales are infrequent although storms and line squalls can occur, usually in the period May to July. During stormy conditions gusts of up to 60 knots have been recorded at Male'.

Wind has been uniform in speed and direction over the past twenty-plus monsoon seasons in the Maldives (Naseer, 2003). Wind speed is usually higher in central region of Maldives during both monsoons, with a maximum wind speed recorded at 18 ms-1 for the period 1975 to 2001. Mean wind speed as highest during the months May and October in the central region. Wind analysis indicates that the monsoon is considerably stronger in central and northern region of Maldives compared to the south (Naseer, 2003).

Besides the annual monsoonal wind variations there are occasional tropical climatic disturbances (tropical storms or low intensity tropical cyclones) in the central region which increases wind speeds up to 110 km/h, precipitation to 30 to 40 cm over a 24 hour period and storm surges up to 3 m in open ocean (UNDP, 2006).

Table 4.2 – Table 4.4 summarises the wind conditions in northern, central and southern regions of Maldives throughout a year. Medium term meteorological data from Hulhule meteorological centre (see Figure 4.1, Figure 4.2 and Figure 4.3) and findings from long-term Comprehensive Ocean-Atmosphere Data Set (COADS) are used in this analysis.

Table 4.2: Summary of General Wind Conditions from National Meteorological Centre

Season	**Month**	**Wind**
NE - Monsoon	December	Predominantly from NW-NE. High Speeds from W
	January	
	February	
Transition Period 1	March	From all directions. Mainly W. High Speeds from W.
	April	
SW - Monsoon	May	Mainly from W. High Speeds from W.
	June	
	July	
	August	
	September	
Transition Period 2	October	Mainly from W. High Speeds from W
	November	

Table 4.3: Summary of General Wind Conditions from National Meteorological Centre

Season	**Month**	**Wind**
NE - Monsoon	December	Predominantly from NW-NE. High Speeds from W
	January	
	February	
Transition Period 1	March	From all directions. Mainly W. High Speeds from W.
	April	
SW - Monsoon	May	Mainly from W. High Speeds from W.
	June	
	July	
	August	
	September	
Transition Period 2	October	Mainly from W. High Speeds from W
	November	

Table 4.4: Summary of General Wind Conditions from Gan Meteorological Centre

Season	Month	Wind
NE - Monsoon	December	Predominantly from NW-NE. High Speeds from W
	January	
	February	
Transition Period 1	March	From all directions. Mainly W. High Speeds from W.
	April	
SW - Monsoon	May	Mainly from W. High Speeds from W.
	June	
	July	
	August	
	September	
Transition Period 2	October	Mainly from W. High Speeds from W
	November	

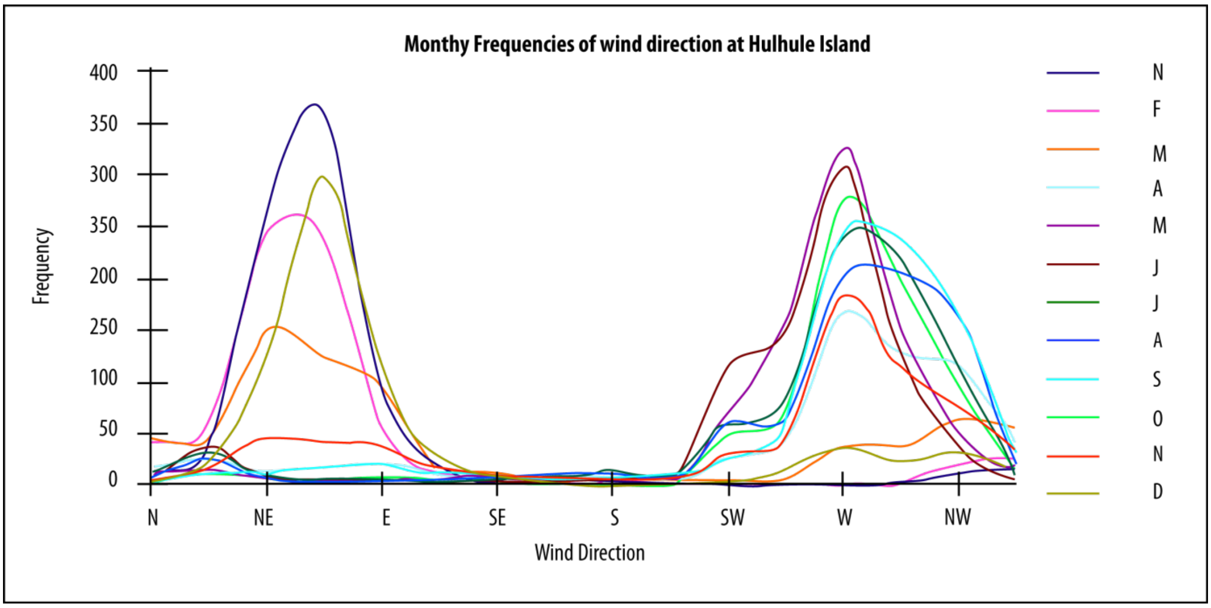


Figure 4.1: Monthly Frequencies of Wind Direction in Central Maldives based on National Meteorological Center 10 year Data (adapted from Naseer, 2003).

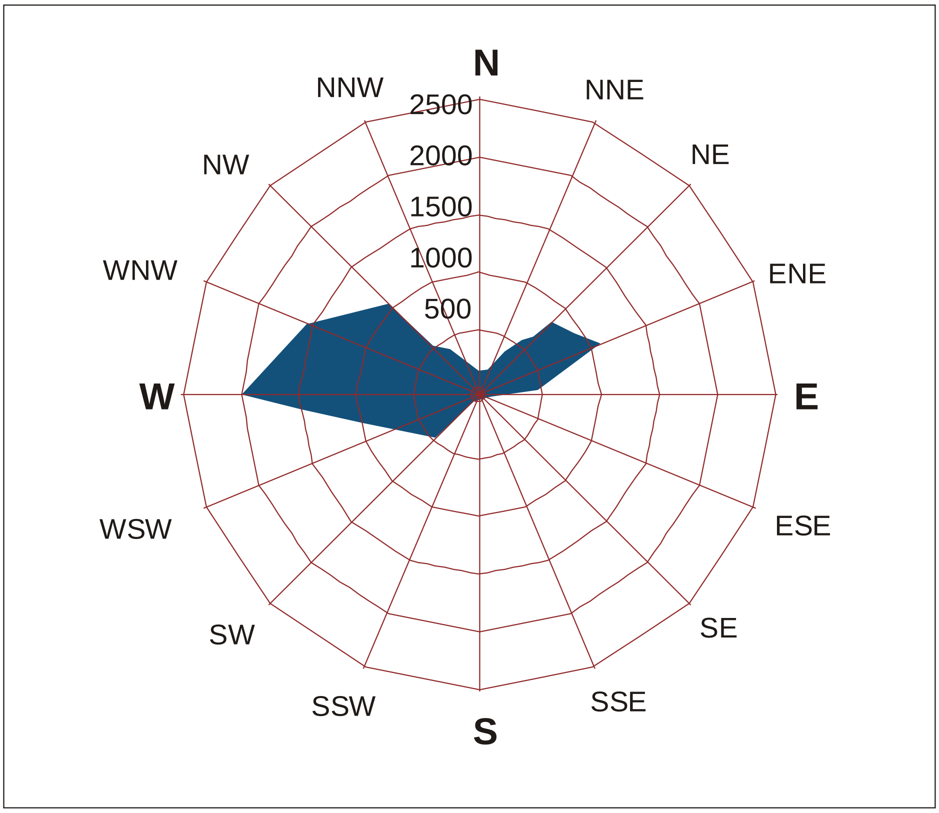


Figure 4.2: 24 Year Wind Frequency Recorded at National Meteorological Center.

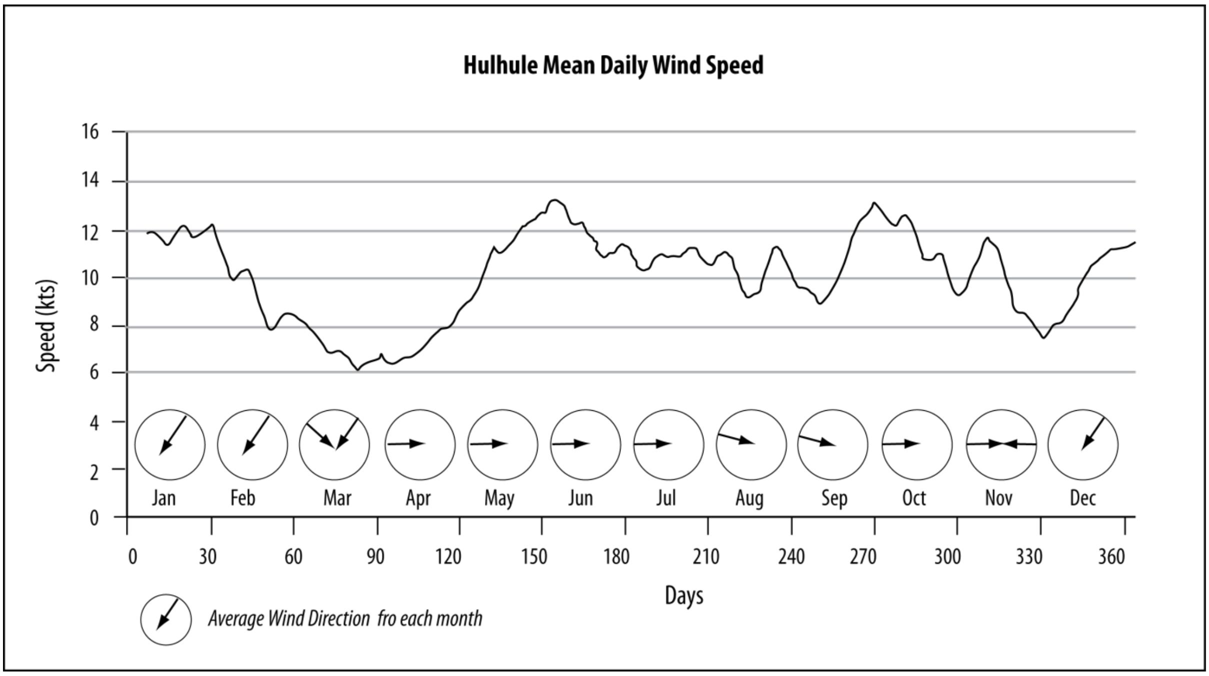


Figure 4.3: Mean Daily Wind Speed and Direction Recorded at National Meteorological Centre (1978 – 2004)

4.1.1.4 Rainfall

The average annual rainfall for the archipelago is 2,124 mm. There are regional variations in average annual rainfall: southern atolls receive approximately 2,280 mm, and northern atolls receive approximately 1,790 mm annually (MEC, 2004). Mean monthly rainfall also varies substantially throughout the year with the dry season getting considerably less rainfall. This pattern is less prominent in the southern half, however. The proportions of flood and drought years are relatively small throughout the archipelago, and the southern half is less prone to drought (UNDP, 2006).

The nearest meteorological station to Kolhufushi, Hulhumale' and Eydhafushi is the National Meteorological Centre in Hulhule' Island. The mean annual rainfall in Hulhule' is 1991.5 mm with a Standard Deviation of 316.4 mm and the mean monthly rainfall is 191.6 mm. Rainfall varies throughout the year with mean highest rainfall during October, December and May and lowest between February and April (See Figure 4.4).

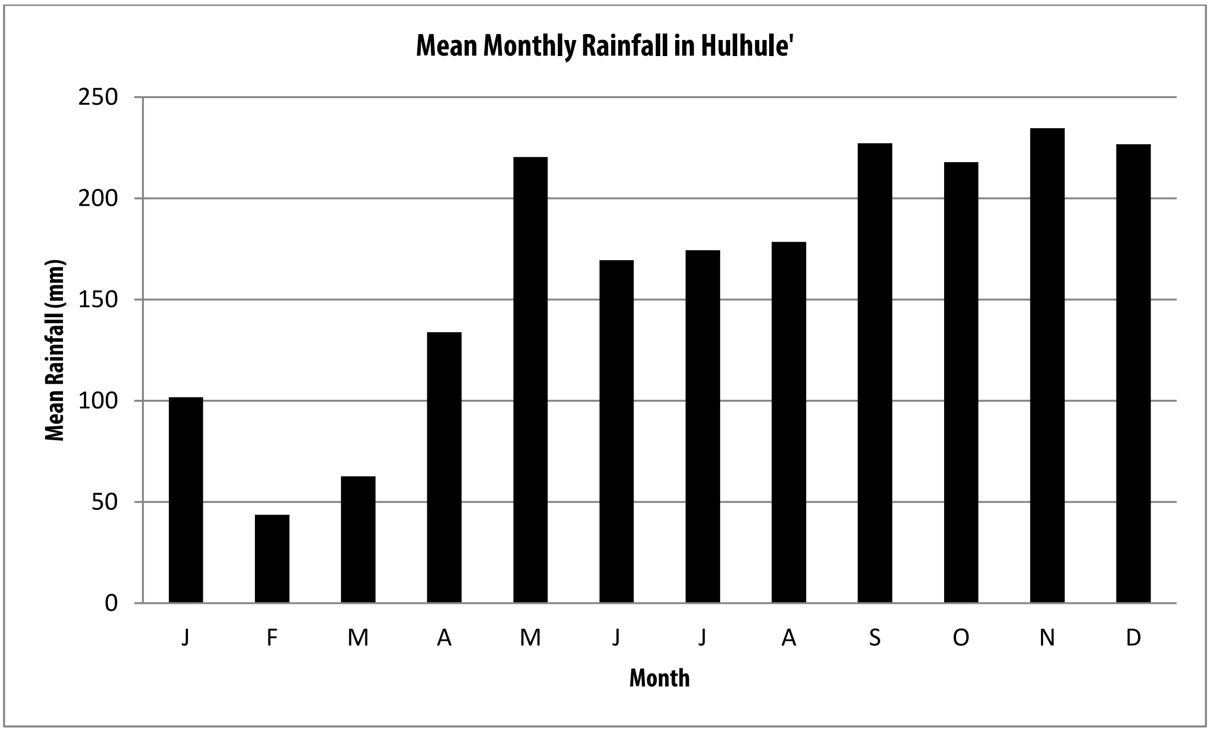


Figure 4.4: Mean Monthly Rainfall in Hulhule' (1975-2004)

Analysis of daily maximum annual rainfall data shows high variability, including extremes (see Figure 4.5 below). However, no significant long term trends are evident in the Hulhule data.

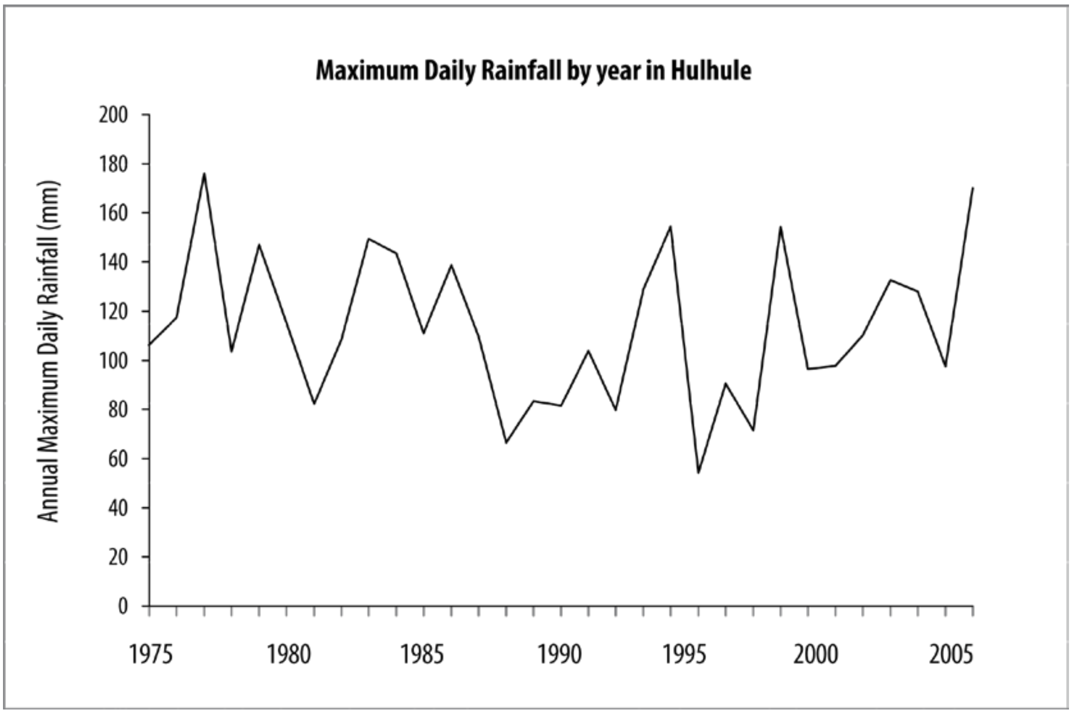


Figure 4.5: Maximum daily rainfall by year in Hulhule' (1975-2005) - (Source: Hay, 2006)

The probable maximum precipitations predicted for Hulhule' by UNDP (2006) are shown in Table 4.5.

Table 4.5 Probable Maximum Precipitation for various Return periods in Hulhule'

Station	**Return Period**			
	50 year	100 year	200 year	500 year
Hulhule'	187.4	203.6	219.8	241.1

Source (UNDP, 2006)

The nearest Meteorological centre to S.Hithadhoo and GDh.Thinadhoo is Gan Meteorological Centre. The mean annual rainfall in Gan Meteorological Station, as noted above, is 2299.3 mm with a Standard Deviation of 364.8mm and a mean monthly rainfall of 191.6mm. Rainfall varies throughout the year with mean highest rainfall during October, December and May and lowest between February and April (See Figure 4.6).

Year to year variation in Gan is very large and it varies from +38.5% in 1978 to –32.6% in 1999 as shown in Figure 4.5 below. There have been 4 specific years in the recorded meteorological data where rainfall has deviated over 20% of the mean values. These variations are often caused by significant rainfall events rather than an equally distributed increase in monthly rainfall. Fluctuation of rainfall in Maldives mostly depends upon general monsoon conditions and

movements of the Inter Tropical Convergence Zone (ITCZ) with embedded disturbances and frequency of thunderstorms (UNDP, 2006).

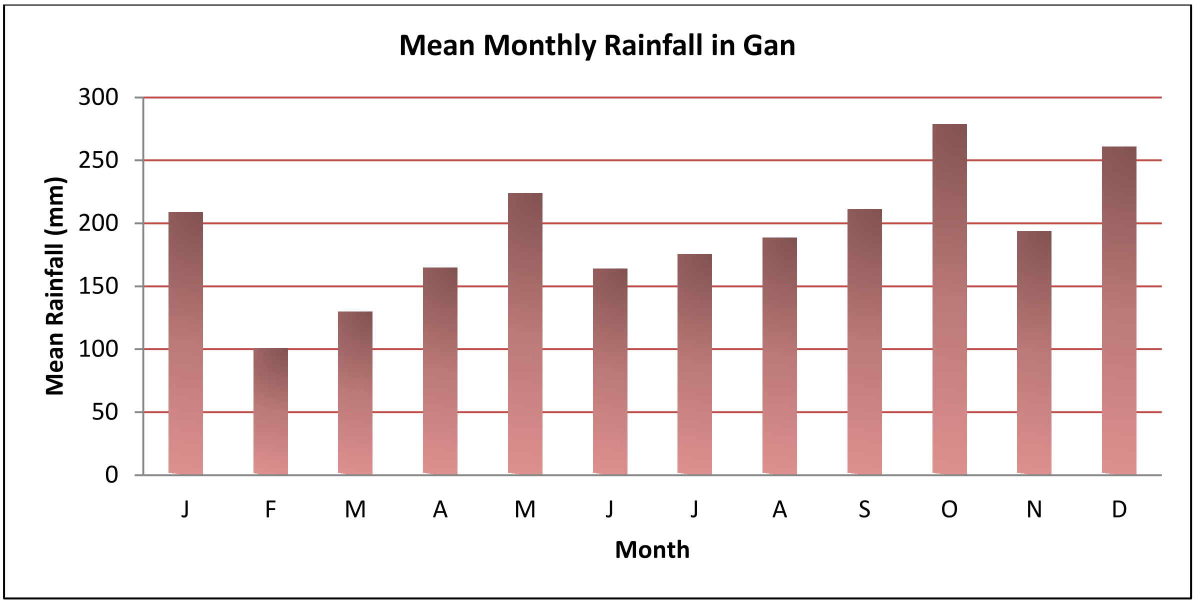


Figure 4.6: Mean Monthly Rainfall in Gan (1978-2004)

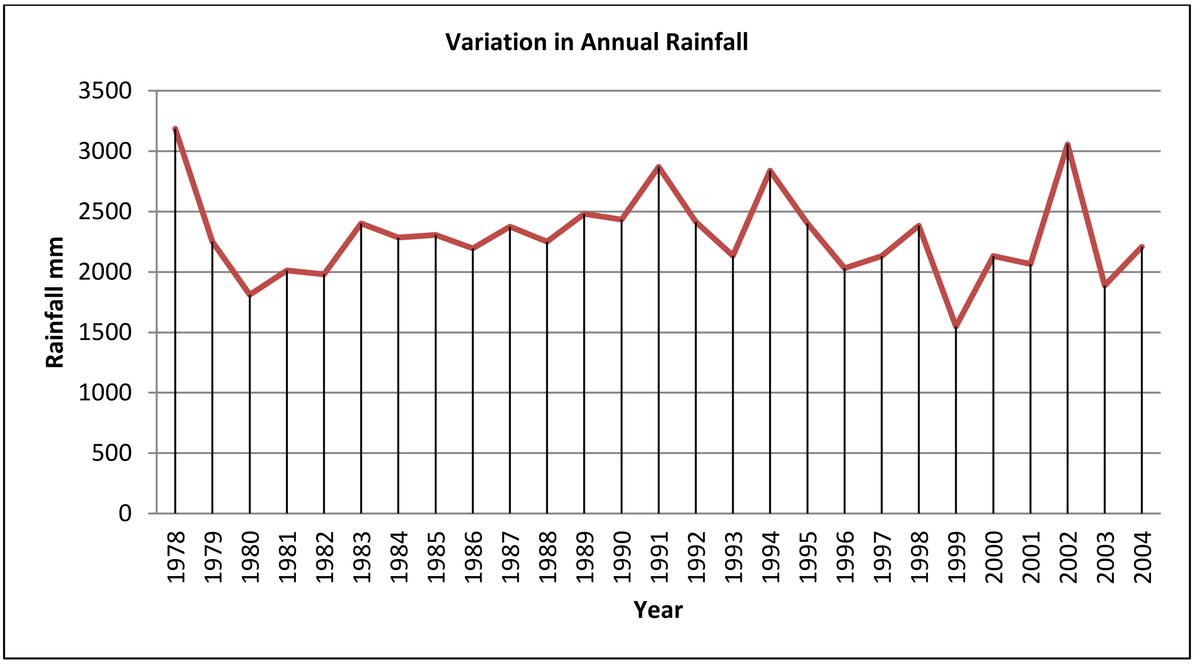


Figure 4.7: Variations in Annual Rainfall – Gan Island

The Disaster Risk profile of Maldives (UNDP, 2006) gives the Probable Maximum Precipitation values for Gan as provided in Table 4.6, which is the highest for any part of Maldives.

The Disaster Risk Profile Report calculates the PMP by fitting a theoretical distribution to the extreme daily rainfall for three stations using Gumbel's type I extreme value distribution (EVD)

function. The EVD is then used to estimate the probabilities and the return period of rainfall for 50-, 100-, 200- and 500-years.

Table 4.6: Probable Maximum Precipitation for various Return periods in Gan

Station Name	**Return Period**			
	50 year	100 year	200 year	500 year
Gan	218.1	238.1	258.1	284.4

Source (UNDP, 2006)

4.1.1.5 Temperature

Daily temperatures of Maldives vary little throughout the year with a mean annual temperature of 28°C. The annual mean maximum temperature recorded for Male' during the period 1967-1995 was 30.4°C and the annual mean minimum temperature for the same period was 25.7°C. The highest recorded temperature for Male' was 34.1°C on 16th and 28th of April 1973. The hottest month recorded was April 1975 with a maximum monthly average temperature of 32.7°C, the next highest being 32.6°C in April 1998. The lowest minimum average temperature of 23.7°C was recorded in July 1992.

There is considerable inter annual variability in extreme temperatures for Hulhule as shown in Figure 4.8. A maximum temperature of at least 33.5°C is rare at Hulhule and has a return period of 20 years (Hay, 2006).

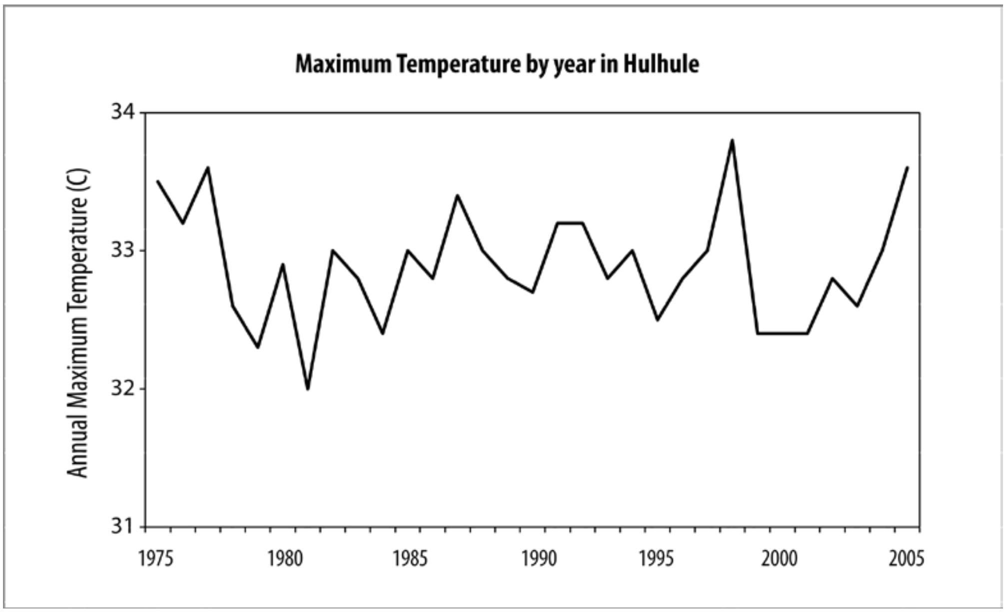


Figure 4.8: Maximum Temperature by year in Hulhule'- 1975-2005 (Source: Hay, 2006)

4.1.2 Hydrology

4.1.2.1 Tidal Pattern

Water levels at the site vary mainly in response to tides, storm surge or tsunamis. Tides in the Maldives are mixed and semi-diurnal/diurnal.

Tidal variations are referred to the standard station in at Hulhulé Island. Typical spring and neap tidal ranges are approximately 1.0m and 0.3m, respectively (MEC, 2004). Maximum spring tidal range in Hulhulé is approximately 1.1m. There is also a 0.2m seasonal fluctuation in regional mean sea level, with an increase of about 0.1m during February to April and a decrease of 0.1m during September to November. Table 4.7 summarizes the tidal elevations reported at Hulhulé, which is representative of tidal conditions at the project site.

Table 4.7: Tidal Variations at Hulhule International Airport

Tide Level	Referred to Mean Sea level
Highest Astronomical Tide (HAT)	+0.64
Mean Higher High Water (MHHW)	+0.34
Mean Lower High Water (MLHW)	+0.14
Mean Sea Level (MSL)	0.00
Mean Higher Low Water (MHLW)	-0.16
Mean Lower Low Water (MHLW)	-0.36
Lowest Astronomical Tide (LAT)	-0.56

The predicted tide curve for the period between 02 March and 1st May 2011 is presented in Figure 4.9 below. Details of the two months are presented in Figure 4.10 and the details for the month of April are presented in Figure 4.11. The largest measured tide during the short monitoring period had a range of about 1.05 m.

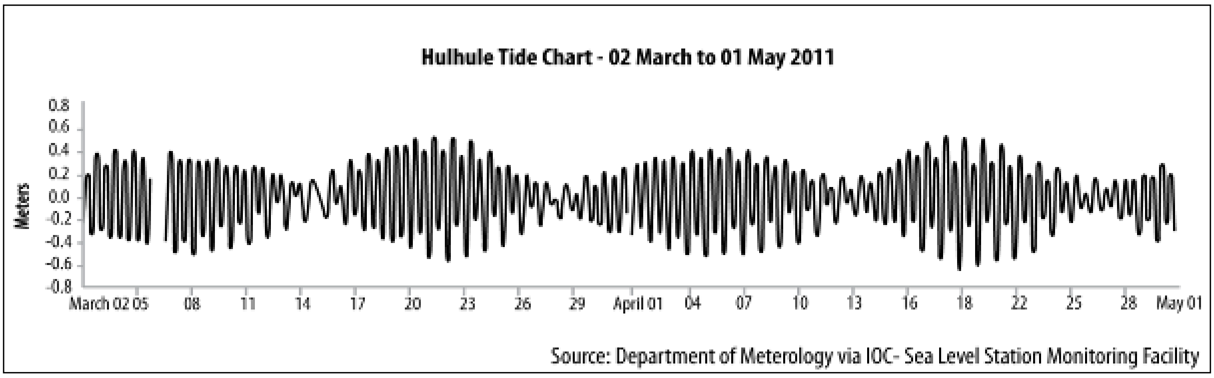


Figure 4.9: Predicted tides for March and April 2011, based on data supplied by Department of Meteorology, Maldives

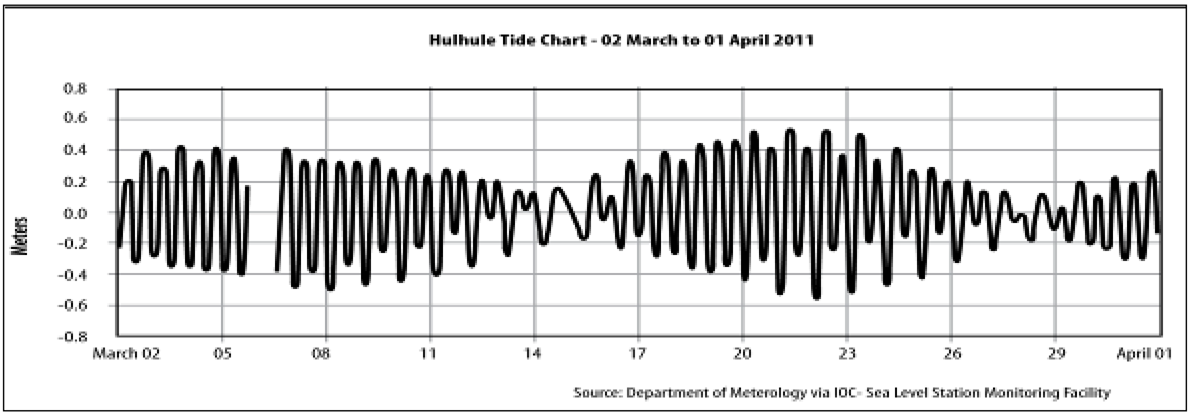


Figure 4.10: Predicted tides for March 2011, based on data supplied by Department of Meteorology, Maldives

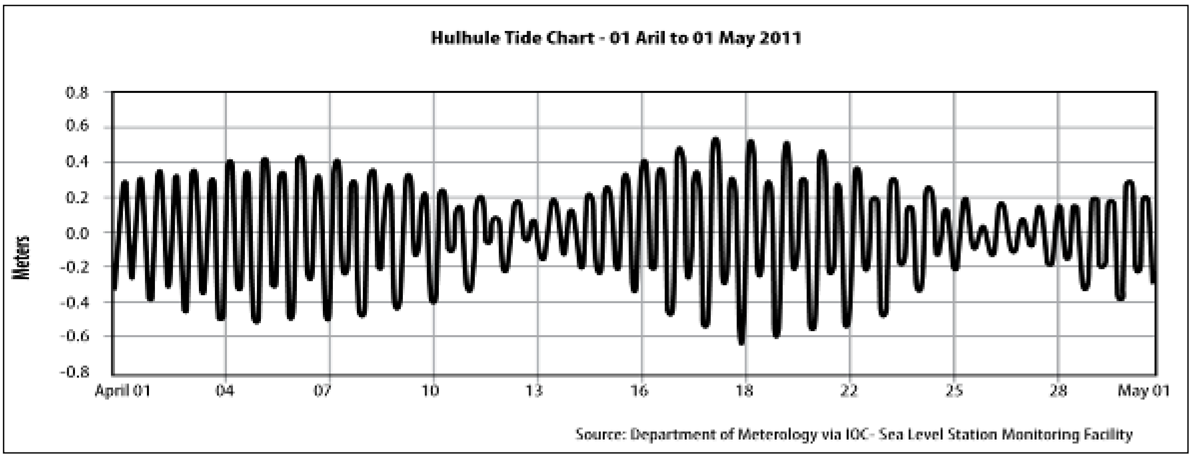


Figure 4.11: Predicted tides for April 2011, based on data supplied by Department of Meteorology, Maldives

4.1.2.2 Waves

There are two major types of waves observed along the islands of Maldives. The first type is wave generated by local monsoon wind with a period of 3-8 seconds and the second type is swells generated by distance storms with a period of 14-20 seconds [Kench et. al (2006), DHI (1999), Binnie Black & Veatch (2000), Lanka Hydraulics (1988a & 1998b)]. The local monsoon predominantly generates wind waves, which are typically strongest during April-July in the southwest monsoon period. Wave data for Male and Hulhulé' between June 1988 and January 1990 (Lanka Hydraulics 1988a & 1998b) shows that the maximum significant wave height (Hs) recorded for June was 1.23 m with a mean period (Tm) of 7.53s. The maximum recorded Hs for July was 1.51 m with a Tm of 7.74s. The mean wave periods were 5.0 – 9.0s and the peak wave periods were within 8.0 – 13.0s.

Maldives experiences occasional flooding caused by long distance swell waves that are generated by South Indian Ocean storms (Goda 1988). The swell waves of height 3 meters that flooded Male' and Hulhulé' in 1987 are said to have originated from a low pressure system off

west coast of Australia (refer the next section for more detail). In addition, Maldives has recently been subject to an earthquake-generated tsunami reaching heights of 4.0m on land (UNEP, 2005). Historical wave data from Indian Ocean countries show that tsunamis have occurred in more than 1 occasion, most notable has been the 1883 tsunami resulting from the volcanic explosion of Karakatoa (Choi et al., 2003).

The wave conditions expected in the proposed project sites are ocean side conditions, except for Eydhafushi Island. There are three islands (Kulhudhuffushi, Hulhumale' and Kolhufushi) facing east and exposed to SE Indian Ocean swell waves and NE monsoon swells. Very strong waves are expected during period of NE monsoon and between June and July due to swells. Work on these sites may be hampered during bad weather in NE monsoon and between June and July.

Hithadhoo and Thinadhoo Island face the western Indian Ocean. SW swells and wind waves will be very strong between May and August, and during bad weather in SW monsoon. Work will be hampered during this period.

4.2 Beach Environment

4.2.1.1 HDh. Kulhudhuffushi

Cable landing site at HDh. Kulhudhuffushi is located on the ocean ward side of the island. Beach on this side of the island receives high energy waves throughout the year, with strongest wave activity during NE monsoon.

Beach material on the cable landing site of Kulhudhuffushi is characterised by two sections of beach material; fine sediment dominated section and a gravel-dominated section. Small, fine sediments are found between the low tide line and the high tide berm. Few scattered rocks are observed in this section. The area of beach between the high tide berm and the vegetation line is dominated by gravel. Gravels found on this site are a mix of different sizes ranging from boulders to small pebbles. These are fragments of broken corals washed onshore and deposited by high energy waves. The high percentage of large pieces are related to the presence of table corals on the reef slope.

Beach slope at the cable landing site of Kulhudhuffushi is steep and characterised by a distinct high tide berm. Presence of a steep slope indicates that the site is subjected to strong wave activity. No significant beach erosion scarps have been observed on this site. High tide line is located below the vegetation line; hence coastal vegetation at the footprint of the land cable does not seem affected by erosion.

Figure 4.12 below shows the beach condition at the cable landing site at HDh. Kulhudhuffushi.

Figure 4.12: Beach at the cable landing site at HDh.Kulhudhuffushi

4.2.1.2 B. Eydhafushi

Beach at the cable-landing site of B. Eydhafushi is a newly reclaimed area on the southern side of the island. The new shoreline of the island is protected by armour rock revetment. Proponent has installed a 15m long precast concrete trench underneath the rock revetment prior to the construction of the revetment. This is because the revetments works had to be completed on time. This work was carried out under the shore protection project.

Figure 4.13 below shows the beach condition at the cable landing site at B.Eydhafushi.

Figure 4.13: Beach at the cable landing site at B.Eydhafushi

4.2.1.3 Hulhumale’

Beach at the cable landing site of Hulhumale’ is an area that had previously been protected by concrete bag revetment to prevent beach erosion. However, shoreline at the proposed site has receded beyond these bags due to severe erosion. Concrete blocks are currently observed in the lagoon. Severe erosion has removed areas of coastal pioneer vegetation, leaving erosion scarps.

Beach material at the cable landing site of Hulhumale’ is mainly fine sand. In addition there are pieces of concrete blocks deposited due to the breakdown of the concrete block revetment.

Figures 4.14- 4.15 shows beach photos from the cable landing site at Hulhumale’.

Figure 4.14: Beach at the cable landing site at Hulhumale’

Figure 4.15: Beach at the cable landing site at Hulhumale'

4.2.1.4 M. Kolhufushi

Cable landing site of M.Kolhufushi is located on the East side of the island. Beach profile at this site is a gentle slope. High tide berm is located below the vegetation line. No significant beach erosion is observed at this site.

Beach material is comprised of very fine sand. Algal growth is observed at the beach face. Since the lagoon at the proposed location is shallow and covered by sea grass for the most part, waves reaching the beach are low energy waves, providing suitable conditions for beach accretion.

Figure 4.16 below shows the beach condition at the cable landing site at M.Kolhufushi.

Figure 4.16: Beach at the cable landing site at M.Kolhufushi

4.2.1.5 GDh. Thinadhoo

Proposed site for cable landing at GDh.Thinadhoo has been recently reclaimed. The new shoreline has been protected by geobags filled with sand. These geobags have been backfilled with fine sand. Current profile of the beach is a gentle slope.

Beach material is mainly comprised of fine sediment. Smaller rocks and debris have been washed ashore by the waves.

Figure 4.17 below shows the beach condition at the cable landing site at GDh.Thinadhoo

Figure 4.17: Beach at the cable landing site at GDh.Thinadhoo

4.2.1.6 S. Hithadhoo

The proposed location for cable landing at S.Hithadhoo is the oceanward side of the island, which is exposed to strong waves coming from the ocean. Beach at this site has a very gentle slope. Sediment budget is observed to be low, possibly as a result of gradual erosion due to strong wave activity. High tide line reaches up to the coastal vegetation line, indicating ongoing erosion. An old erosion scarp of about 1m high is observed at the backshore area, most likely formed during a period of more sever erosion.

Beach material at the cable landing site of Hithadhoo is comprised of fine sand and small to medium sized rocks. A layer of medium sized rocks form the high tide berm along the vegetation line. Smaller rocks are seen sparsely distributed over the beach.

Figure 4.18 below shows the beach condition at the cable landing site at S.Hithadhoo.

Figure 4.18: Beach at the cable landing site at S.Hithadhoo

4.2.2 Marine Water Quality Assessment

The primary objective of the lagoon water quality sampling was to determine the baseline conditions of the marine water in around the project sites. Water samples were collected in 500ml PET bottles from each of the project locations. All water quality tests were done at the MWSC laboratory (see Appendix G). Results of the water tests from each island are presented in the following subsections.

4.2.2.1 S. Hithadhoo

The following table shows (see Table 4.8) the test results of the marine water samples collected from S.Hithadhoo on 24 April 2016.

Table 4.8: Marine water quality assessment results from MWSC laboratory

Parameter	Optimal Range (EPA)	Results	
		SW1	SW2
Physical appearance		Clear	Clear
pH	8.0 – 8.3	8.10	8.09
Nitrate (mg/L)	<5	4.1	2.3
Total Suspended Solids (TSS)	-	17	<5 (LoQ 5mg/L)
Total Petroleum Hydrocarbon	<2	0.42	0.17

Parameter	Optimal Range (EPA)	Results	
		SW1	SW2
(TPH)			
Turbidity (NTU)	<1	1.49	1.10

All of the parameters (See Table 4.8 above) tested except turbidity appear to be within acceptable ranges at all sites indicating that the water quality at the sample site were generally in good condition. Turbidity was found to be slightly higher than the optimum range, but not significantly high. This could be due to disturbance of sediment from high wave activity in the sample site.

4.2.2.2 GDh. Thinadhoo

The following table shows (see Table 4.9) the test results of the marine water samples collected from GDh.Thinadhoo on 23 April 2016.

Table 4.9: Marine water quality assessment results from MWSC laboratory

Parameter	Optimal Range (EPA)	Results
		SW1
Physical appearance		Clear
pH	8.0 – 8.3	8.08
Nitrate (mg/L)	<5	3.3
Total Suspended Solids (TSS)	-	<5 (LoQ 5mg/L)
Total Petroleum Hydrocarbon (TPH)	<2	0.16
Turbidity (NTU)	<1	0.255

All of the parameters tested appear to be within acceptable ranges at all sites indicating that the water quality at the sample site were generally in good condition.

4.2.2.3 M. Kolhufushi

The following table shows (see Table 4.10) the test results of the marine water samples collected from M.Kolhufushi on 26 April 2016.

Table 4.10: Marine water quality assessment results from MWSC laboratory

Parameter	Optimal Range (EPA)	Results
		SW1
Physical appearance		Clear
pH	8.0 – 8.3	8.48
Nitrate (mg/L)	<5	2.7
Total Suspended Solids (TSS)	-	<5 (LoQ 5mg/L)
Total Petroleum Hydrocarbon (TPH)	<2	0.10
Turbidity (NTU)	<1	0.966

Majority of the parameters tested were within the optimum range of EPA. pH was slightly higher than the normal range. Water quality of the sample location is within acceptable limit.

4.2.2.4 B. Eydhafushi

The following table shows (see Table 4.11) the test results of the marine water samples collected from B.Eydhafushi on 31 March 2016.

Table 4.11: Marine water quality assessment results from MWSC laboratory

Parameter	Optimal Range (EPA)	Results
		SW1
Physical appearance		Clear
pH	8.0 – 8.3	8.06
Nitrate (mg/L)	<5	5.6
Total Suspended Solids (TSS)	-	5
Total Petroleum Hydrocarbon (TPH)	<2	0.09
Turbidity (NTU)	<1	0.916

All the samples collected from the sample site at B.Eydhafushi are within acceptable limits except nitrates, which have been slightly raised above the limit. Nitrate level is not significantly higher than the optimum range, hence the water quality of the site appears to be generally in good condition.

4.2.2.5 Hulhumale'

Water sample testing has not been undertaken for this site as trenching work is not required since there is an existing trench at this site.

4.2.2.6 HDh. Kulhudhuffushi

The following table shows (see Table 4.12) the test results of the marine water samples collected from HDh.Kulhudhuffushi on 14 April 2016.

Table 4.12: Marine water quality assessment results from MWSC laboratory

Parameter	**Optimal Range (EPA)**	**Results**
		SW1
Physical appearance		Clear
pH	8.0 – 8.3	8.14
Nitrate (mg/L)	<5	3.7
Total Suspended Solids (TSS)	-	4
Total Petroleum Hydrocarbon (TPH)	<2	0.10
Turbidity (NTU)	<1	0.176

Marine water quality for all the parameters tested appears to be within acceptable limit for the sample collected indicating that the water quality of the sample site is good.

4.3 Marine Environment

Photo quadrat survey and fish census surveys were conducted on the top reef of cable deployment site at each island. The following table summarizes the findings of the photo quadrat and fish census surveys conducted at respective sites.

Table 4.13: Summary of Photo Quadrat and Fish census surveys

Cable Deployment Sites	Family	Fish Species	Density (Fish m^{-2})	Live Coral Cover (% ± SE)
HDh. Kulhudhuffushi	16	31	1.0	19 ± 4.27
B. Eydhafushi	13	37	6.0	24.5 ± 3.11
K. Hulhumale'	14	28	3.4	10 ± 2.98
M. Kolhufushi	12	33	3.0	20 ± 4.59
GDh. Thinadhoo	13	35	3.9	30.5 ± 4.97
S. Hithadhoo	NS*	NS*	NS*	NS*

**Not surveyed due to strong current, and murky water condition at site*

4.3.1 HDh. Kulhudhuffushi - Cable Deployment Site

Cable deployment site at Kulhudhuffushi is located on the south eastern section of the island. The beach at this site is mainly composed of coarse and rocky material typical of beaches that experiences strong wave action. The beach terminates to a rocky reef flat, covered in sand and rock covered in turf algae. No large live coral colonies occur within the reef flat.

The reef flat terminates to reef edge, where large spur and groove formations occur. The key zones are shown in figure 4.27. Small hardy coral colonies (mainly digitate, and massive type corals) occur on the spurs. The reef edge terminates to a gentle reef slope.

The main sewage outfall of the island is also placed near the proposed cable deployment site. The following figures summarize the condition of the site at the time of baseline survey.

Figure 4.19: View of cable landing site from beach in Kulhudhuffushi Island, sewage outfall pipe occurs at this site

Figure 4.20: Strong wave action observed reef flat at south eastern reef flat of Kulhuddhufushi Island

Figure 4.21: Reef flat bottom is mainly made up of a rocky pavement, covered in turf algae

Figure 4.22: Large spurs and groove formation typical of strong wave action area observed on reef edge, at cable deployment site in Kulhudhuffushi

Figure 4.23: Hardy coral colonies (digitate type corals) observed growing on the spurs at the reef edge

Figure 4.24: Sewage outfall pipe anchored near the cable deployment site

Photo quadrat survey was conducted along the reef edge at 5 m depth; showed that live coral cover made up about 19% ± 4.27 SE of the survey area. The dominant coral types observed were either massive type, digitate type corals. Approximately 5.5% ± 1.89 SE of the survey area was made up of recently killed corals (bleached possibly due to heat stress).

A total of 31 fish species belonging to 16 different fish families were observed at this site. The most abundant fish species recorded at this site belonged was Two-Tone Wrasse (*Thalassoma amblycephalum*), which feeds on small invertebrates and zooplanktons in the water column.

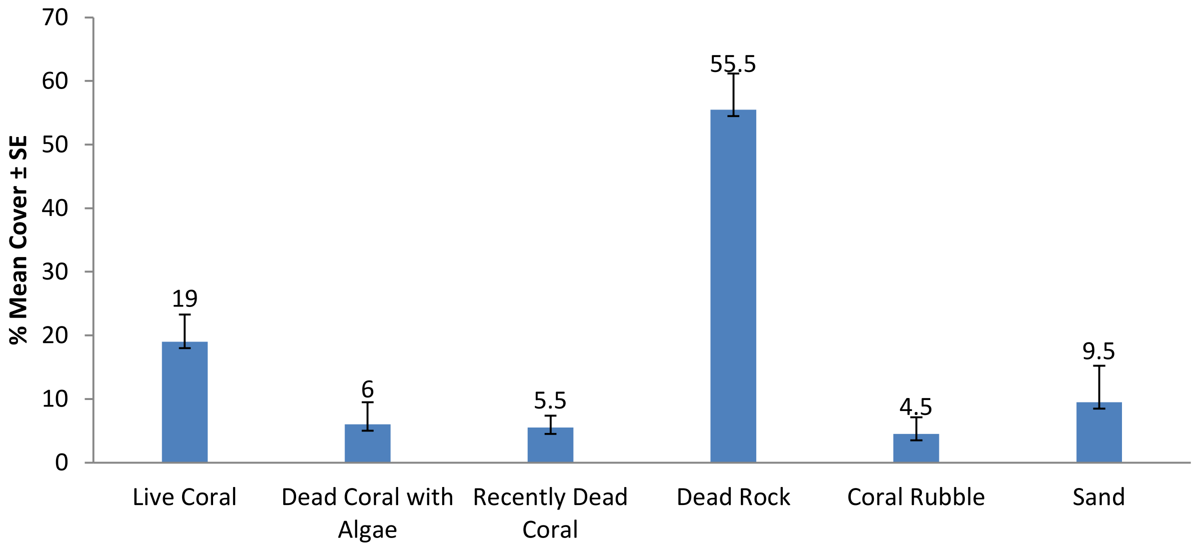


Figure 4.25: Benthic composition along the reef edge at cable deployment site in Kulhudhuffushi Island

Figure 4.26: Bleached short-thick branched type coral colony (Pocillopora sp.), digitate and sub-massive type corals observed along the transect

Figure 4.27: Dgitate type corals, and partially bleached sub-massive corals observed along the transect

Table 4.14: Fish census survey at Kulhudhuffushi (18 April 2016)

Family	**Species**	**Abundance Category**
Holocentridae	*Myripristis violacea*	2
Serranidae (Groupers)	*Cephalopholis argus*	2
Lethrinidae	*Monotaxis grandoculis*	2
Nemipteridae	*Scolopsis aurata*	2
	Scolopsis bilineata	2
Lutjanidae	*Lutjanus monostigma*	3
Mullidae	*Parupeneus macronema*	2
Kyphosidae	*Kyphosus cinerascens*	2
Chaetodontidae	*Chaetodon meyeri*	2
	Chaetodon collare	2
	Heniochus singularius	2
Pomacentridae	*Pomacentrus nagasakiensis*	2
	Pomacentrus chrysurus	2
	Abudefduf vaigiensis	2
	Plectroglyphidodon lacrymatus	2
Labridae	*Halichoeres hortulanus*	2
	Gomphosus caeruleus	2
	Thalassoma amblycephalum	5
	Thalassoma janseni	2
	Cheilinus trilobatus	2
Scaridae	*Scarus strongylocephalus*	2
	Scarus sordidus	2
Pinguipedidae	*Parapercis millipunctata*	2
Acanthuridae	*Acanthurus leucosternon*	2
	Acanthurus lineatus	2
	Ctenochaetus striatus	2
	Acanthurus nigrofuscus	2
Siganidae	*Siganus corallinus*	2
Balistidae	*Melichthys indicus*	2
	Cantherhines dumerilii	2
Tetraodontidae	*Canthigaster janthinoptera*	2

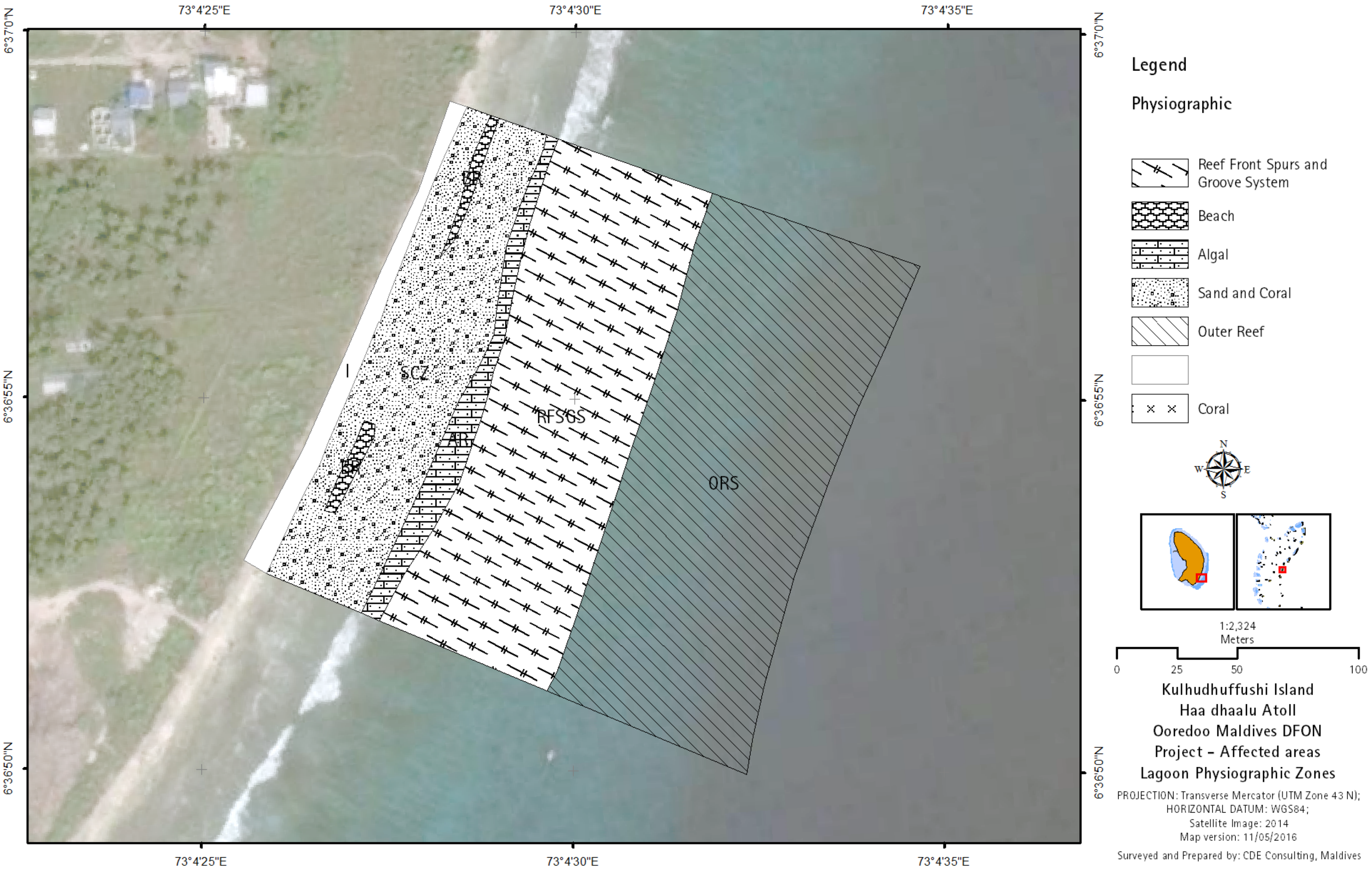


Figure 4.27: Kulhudhuffushi Island affected site lagoon physiographic conditions

4.3.2 Baa Eydhafushi – Cable Deployment Site

The proposed site for cable deployment for Eydhafushi, is on the south western section of the island. The reef flat at this site has been extensively reclaimed, and rock boulders are placed at this area for shore protection. The remaining reef flat area is mainly made up of rock and dead corals, and coral rubble. Rocks and old dead corals at the site are covered in a layer of sediment and turf algae. Physiographic zonation of this site is presented in figure 4.37.

However many coral recruits were observed on the rocks moving towards the reef edge. The reef edge is mainly made up of a rocky bottom. Main coral types observed were massive and short-thick branched corals. Two outfall pipes clamped to the sea bed were observed running from reef flat down the steep reef slope.

Figure 4.28: Rock boulders protecting the shoreline at the site

Figure 4.29: Sea bed at the reef flat is mainly made up of dead rock and coral rubble

Figure 4.30: Coral recruits observed on rocks closer to the reef edge

Figure 4.31: Outfall pipeline observed at the site

Figure 4.32: Outfall pipe clamped to the reef slope

Figure 4.33: Reef slopes to a steep wall a this site

Photo quadrat survey was conducted at the reef edge at 3 m depth, showed that live coral coverage was approximately 24.5% ± 3.11 SE of the survey area. The dominant substrate type was abiotic (rock, coral rubble and sand).

A total of 37 fish species belonging to 13 different fish families were recorded at this site. Fish abundance was very high, with Blue Triggerfishes and Silver Sprats making up most abundant fish species at the site.

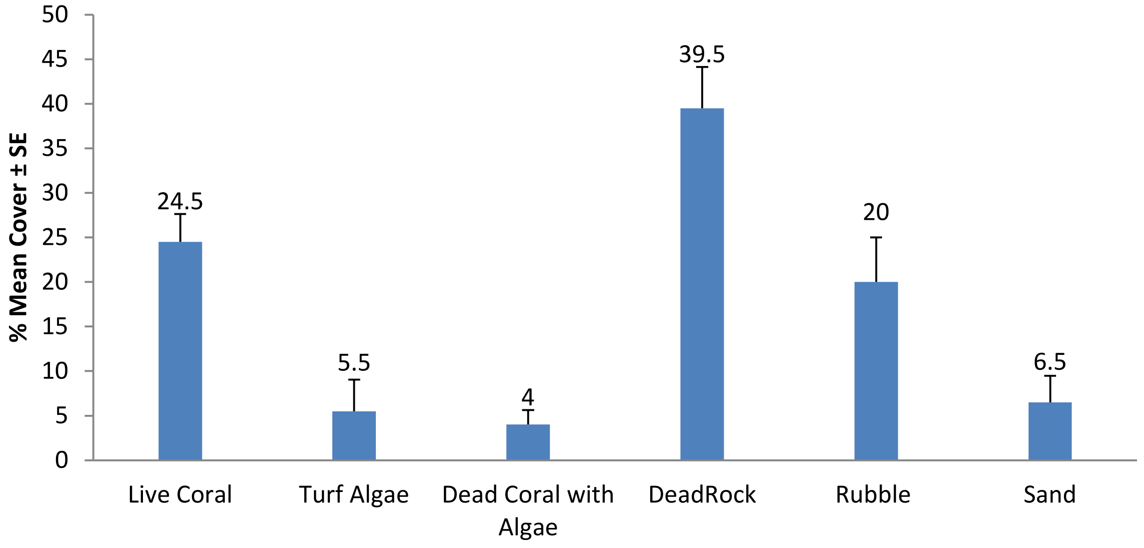


Figure 4.34: Benthic composition at reef edge at Eydhafushi cable deployment site

Figure 4.35: Massive type corals dominated the survey area in Eydhafushi

Figure 4.36: Massive type corals dominated the survey area in Eydhafushi

Table 4.15: Fish census summary at Eydhafushi (30 March 2016)

Family	Species	Abundance Category
Serranidae (Groupers)	*Cephalopholis argus*	2
	Epinephelus merra	2
Lethrinidae	*Gnathodentex aurolineatus*	2
Nemipteridae	*Scolopsis bilineata*	2
Lutjanidae	*Lutjanus gibbus*	2
Mullidae	*Parupeneus trifasciatus*	2
	Parupeneus barberinus	2
Chaetodontidae	*Hemitaurichthys zoster*	3
	Chaetodon trifasciatus	2
	Chaetodon kleinii	2
	Chaetodon guttatissimus	2
	Forcipiger flavissimus	2
	Heniochus pleurotaenia	2
	Chaetodon oxycephalus	2
Pomacentridae	*Dascyllus aruanus*	3
	Dascyllus trimaculatus	2
	Abudefduf vaigiensis	4
	Stegastes nigricans	2
Labridae	*Halichoeres hortulanus*	2
	Labrichthys unilineatus	2
	Thalassoma hardwicke	3
	Cheilinus fasciatus	2
	Hemigymnus melapterus	2
Scaridae	*Cetoscarus bicolor*	2
	Scarus sordidus	2
Zanclidae	*Zanclus cornutus*	2
Acanthuridae	*Acanthurus leucosternon*	2
	Acanthurus nigricauda	2
	Acanthurus lineatus	2
	Acanthurus blochii	2
	Ctenochaetus striatus	3
	Naso lituratus	2
	Naso hexacanthus	3
Balistidae	*Melichthys indicus*	2
	Pseudobalistes flavimarginatus	2
	Odonus niger	6
Clupeidae	*Spratelloides gracilis*	6
Asteroidea	*Culcita schmedeliana*	2

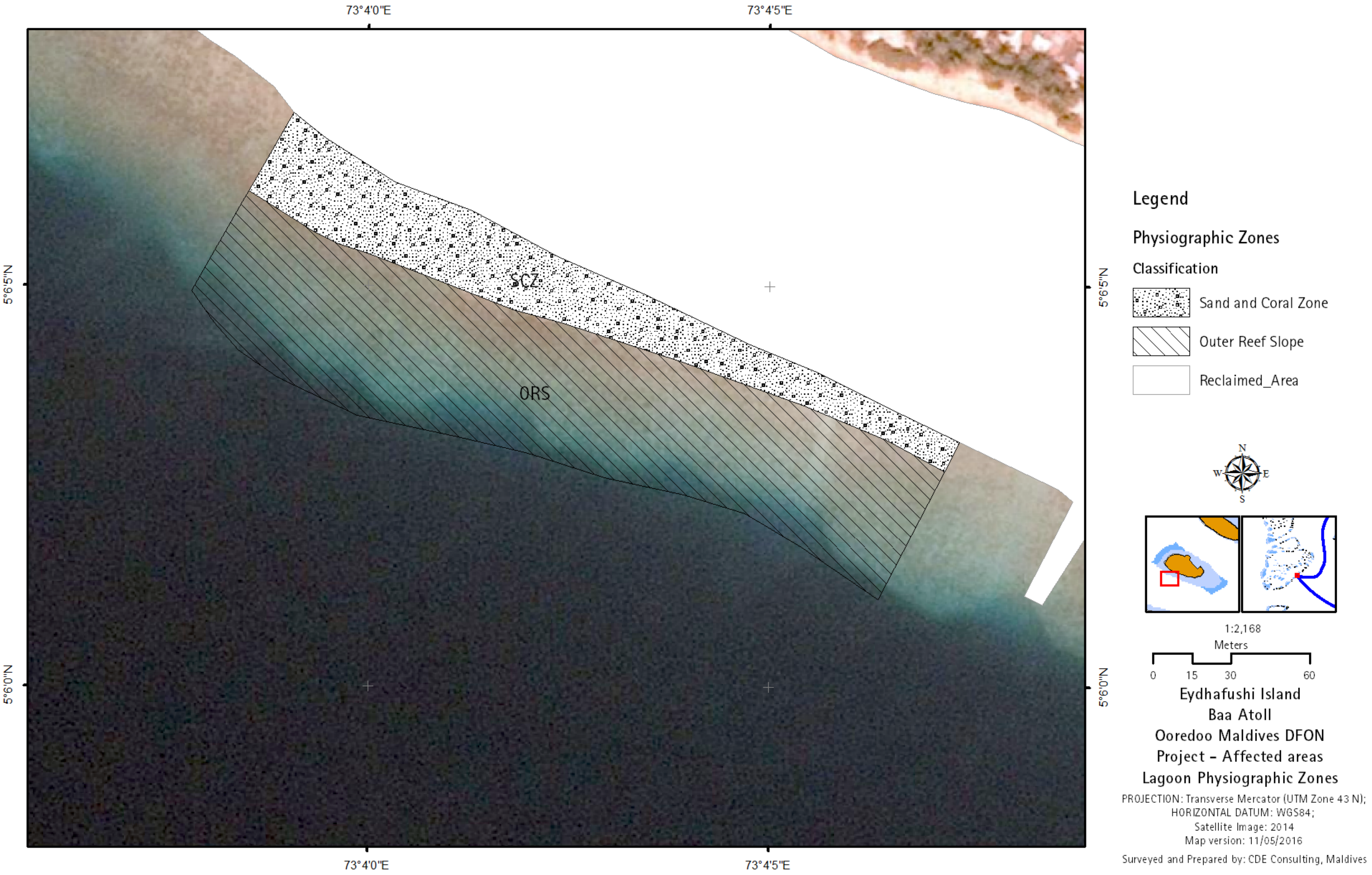


Figure 4.37: Eydhafushi Island affected site lagoon physiographic conditions

4.3.3 Kaafu Hulhumale' – Cable Deployment Site

The proposed site for cable deployment for Hulhumale', is on the north eastern section of the island. Marine environment at this site can be divided into 4 main zones starting from near shore towards the ocean; sand and coral zone, algal rim, reef front spur and grooves and the outer reef slope (figure 4.47).

The reef flat at this site has been extensively reclaimed. The remaining reef flat area is mainly made up of rock and dead corals, and coral rubble. Rocks and old dead corals at the site are covered in a layer of sediment and turf algae.

The reef edge is mainly made up of a rocky bottom. Main coral type observed was short-thick branched corals. Sewage outfall pipe clamped to the sea bed were observed running from reef flat to the reef edge at this area.

Figure 4.38: View of cable landing site from beach at Hulhumale'

Figure 4.39: Sea bed at the reef flat is mainly made up of sand and rock

Figure 4.40: Reef flat is murky

Figure 4.41: Dead massive coral observed on the reef flat

Figure 4.42: Sewage Outfall pipe anchored to the reef slope

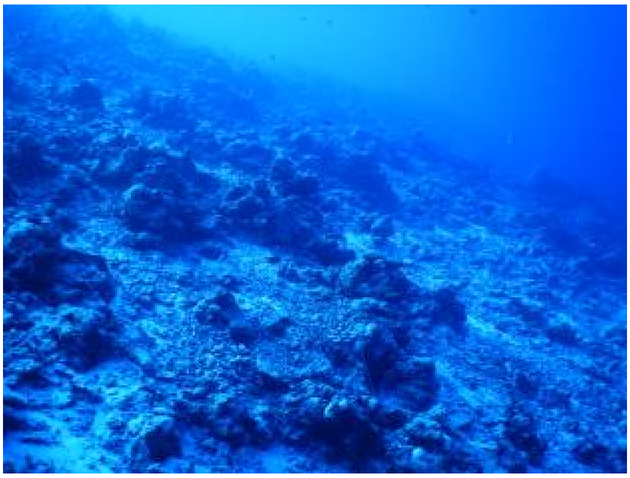


Figure 4.43: Reef slopes is mainly a dead rocky habitat

Photo quadrat survey at Hulhumale' showed that the dominant benthic substrate types are rock, dead coral covered in algae and coral rubble. Live coral only made up about 10% ± 2.98 SE of the survey area; the dominant coral type was short-thick branched corals (*Pocillopora* species). A total of 28 fish species, belonging to 14 different fish families were recorded at this site. The most abundant fish species recorded at this site was Blue Triggerfishes, which feeds on zooplanktons in the water column.

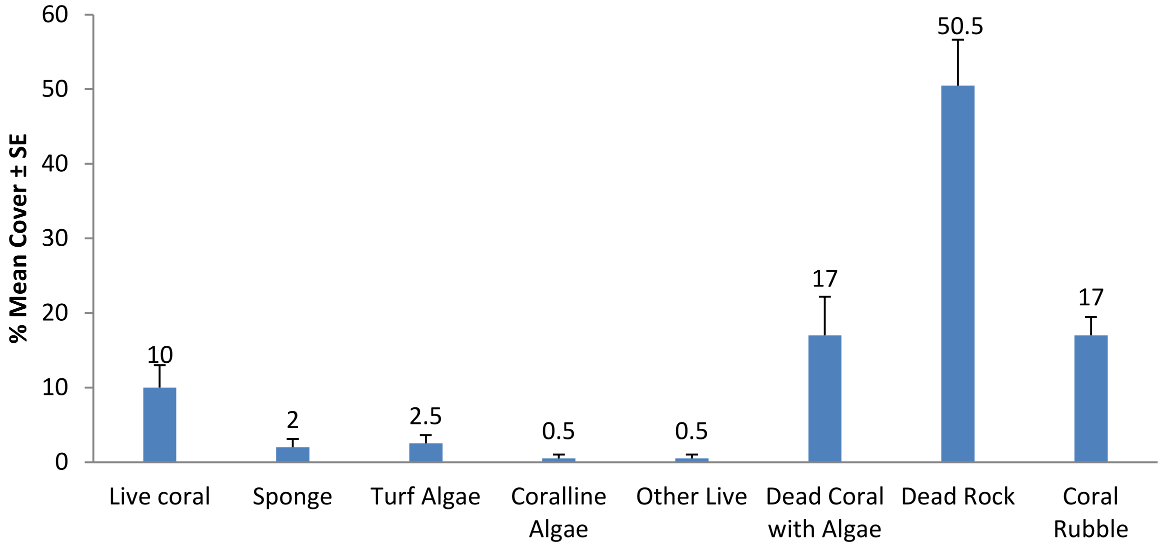


Figure 4.44: Benthic composition at the reef edge Hulhumale' cable deployment site

Figure 4.45: DCA and Rock made up dominant substrate types at Hulhumale' reef edge

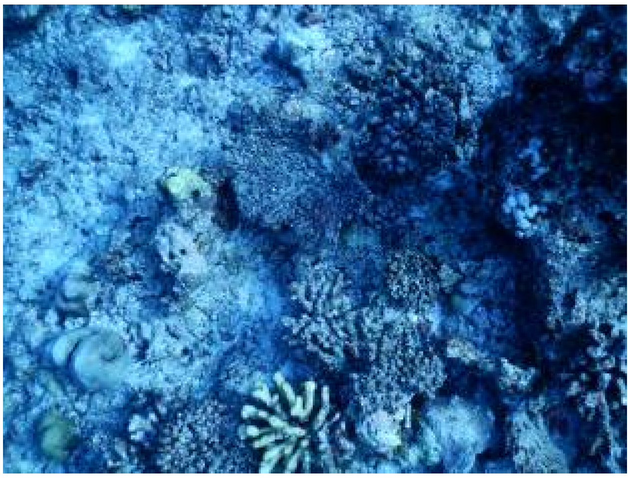


Figure 4.46: Short-thick branched corals were dominant coral type observed at Hulhumale' reef edge

Table 4.16: Fish census survey at Hulhumale' (28 March 2016)

Family	Species	Abundance Category
Holocentridae	*Sargocentron caudimaculatum*	3
	Myripristis pralinia	2
Serranidae (Groupers)	*Cephalopholis argus*	3
Serranidae (Basslets)	*Pseudanthias squamipinnis*	4
Lethrinidae	*Gnathodentex aurolineatus*	2
Nemipteridae	*Scolopsis bilineata*	2
Lutjanidae	*Lutjanus monostigma*	2
Chaetodontidae	*Hemitaurichthys zoster*	3
	Chaetodon trifasciatus	2
	Chaetodon guttatissimus	2
	Forcipiger flavissimus	3
Cirrhitidae	*Paracirrhites forsteri*	2
Pomacentridae	*Dascyllus carneus*	2
	Dascyllus trimaculatus	3
	Chromis dimidiata	2
	Pomacentrus caeruleus	3
Labridae	*Labroides dimidiatus*	2
	Gomphosus caeruleus	2
	Thalassoma hardwicke	3
Scaridae	*Scarus sordidus*	3
Zanclidae	*Zanclus cornutus*	2
Acanthuridae	*Acanthurus leucosternon*	3
	Ctenochaetus striatus	3
	Zebrasoma scopas	2
	Naso hexacanthus	3
	Acanthurus dussumieri	2
Balistidae	*Pseudobalistes flavimarginatus*	2
	Odonus niger	6

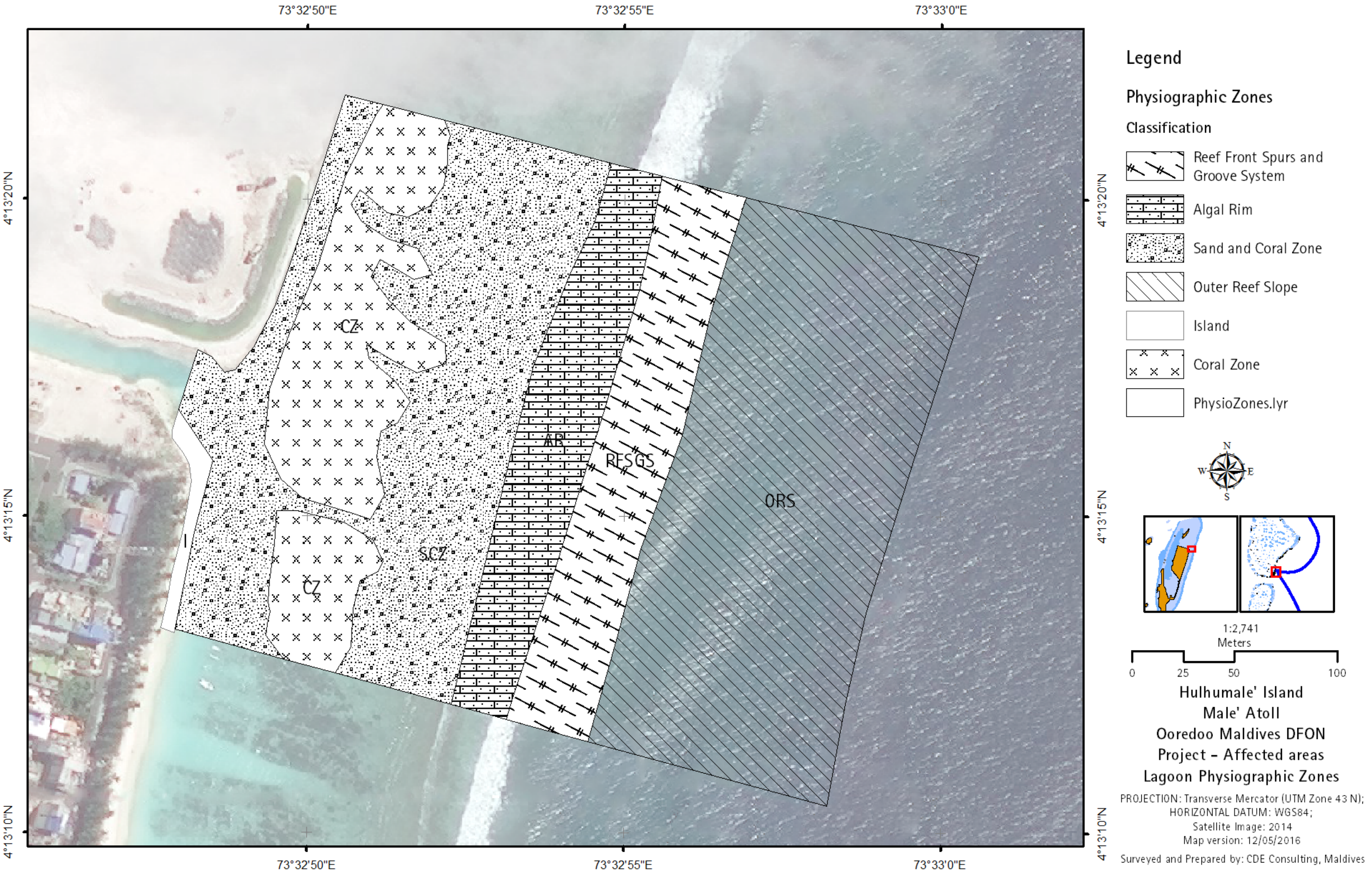


Figure 4.47: Hulhumale' Island affected site lagoon physiographic conditions

4.3.4 Meemu Kolhufushi – Cable Deployment Site

The reef flat at Kolhufushi extends about half a kilometre from the shoreline towards the reef edge. Dense bed of seagrass is observed to occur near the island. Followed by a seabed predominantly made up of a rocky bottom covered in algae (e.g. clumps of *Halimedia* sp., turf algae), sand and sparsely distributed seagrass colonies. Occurrence of live coral colonies were observed increasing towards the reef edge, and were mainly short-thick branched and digitate type corals. Approximately 10% of the corals that were observed snorkelling survey area were bleached. The reef flat terminates to reef edge where spur and groove formations occur. Physiographic zonation of this site is presented in figure 4.56.

Figure 4.48: View of cable landing site near shore, thick seagrass bed

Figure 4.49: Reef flat closer to shore is mainly made up of a rocky bottom covered in algae

Figure 4.50: Bleached corals observed along the reef flat

Figure 4.51: Rocky bottom covered in algae and sand

Figure 4.52: Spur and groove formations observed at reef edge

Figure 4.52: Reef slope rocky habitat bottom

Transect was deployed at 6 m depth, on the reef edge that occurs on the north eastern side of *Kolhufushi* (perpendicular to the proposed cable deployment path). Live coral made up about 20% ± 4.59 SE of the survey, the dominant coral type observed was digitate and short-thick branched corals (*Pocillopora sp.*). Approximately 9% ± 2.21 SE was made up of corals that were bleached, possibly due to increased sea surface temperature. Rock was the dominant substrate type recorded (48% ± 2.81 SE).

A total of 22 fish species belonging to 12 different fish families were recorded during the fish census. Highest number of species was recorded from Wrasse family (8 species). Large school of Humpback Snappers (*Lutjanus gibbus*) was recorded during the survey.

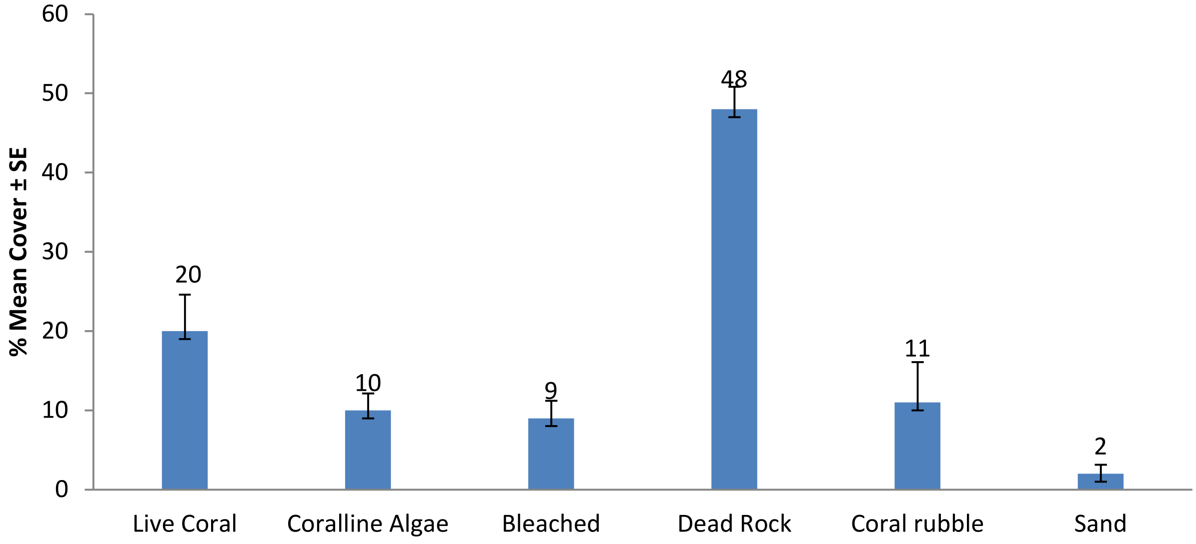


Figure 4.53: Benthic composition at the reef edge of kolhufushi cable deployment site

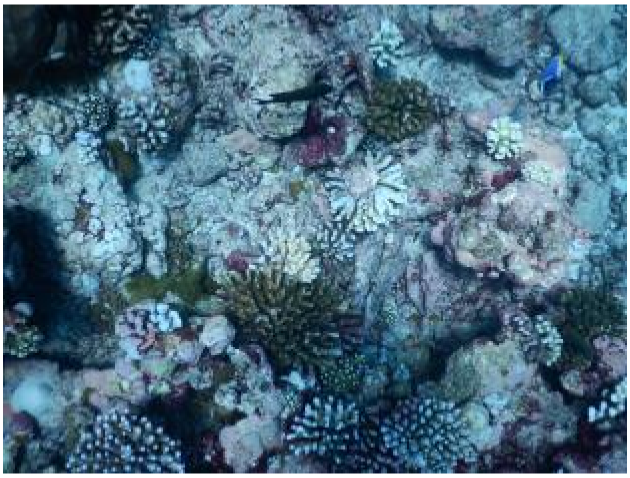


Figure 4.54: Digitate and short-thick branched corals were dominant at the reef edge at NE section of Kolhufushi

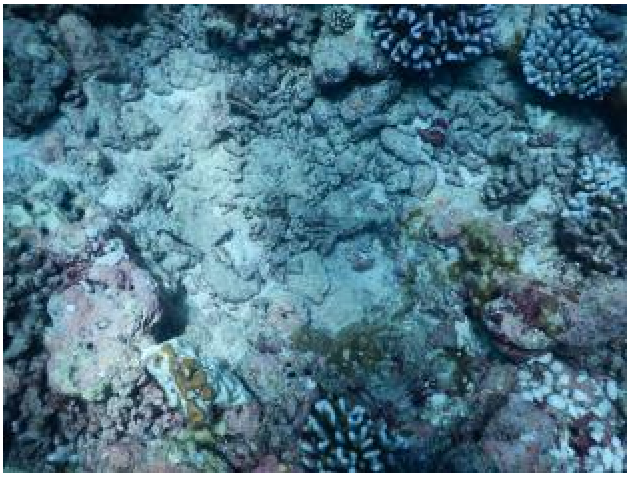


Figure 4.55: Reef edge is mainly made up of rocky bottom

Table 4.17: Summary of fish census at transect deployed at Kolhufushi survey site (25 April 2016)

Family	Species	Abundance category
Holocentridae	*Sargocentron spiniferum*	2
	Neoniphon sammara	2
	Myripristis violacea	2
Serranidae (Groupers)	*Cephalopholis argus*	2
	Cephalopholis nigripinnis	2
Nemipteridae	*Scolopsis aurata*	3
Lutjanidae	*Lutjanus gibbus*	6
	Aphareus virescens	2
Chaetodontidae	*Chaetodon trifasciatus*	2
	Chaetodon citrinellus	2
	Chaetodon falcula	2
Pomacanthidae	*Apolomichthys trimaculatus*	2
	Centropyge multispinis	2
Cirrhitidae	*Paracirrhites forsteri*	2
Pomacentridae	*Chromis dimidiata*	3
	Pomacentrus caeruleus	2
	Pomacentrus nagasakiensis	2
	Pomacentrus chrysurus	2
	Abudefduf vaigiensis	2
Labridae	*Halichoeres hortulanus*	2
	Gomphosus caeruleus	2
	Thalassoma amblycephalum	2
	Thalassoma hardwicke	2

Family	**Species**	**Abundance category**
	Thalassoma janseni	2
	Epibulus insidiator	2
	Cheilinus fasciatus	2
	Cheilinus trilobatus	2
Scaridae	*Cetoscarus bicolor*	2
	Scarus frenatus	2
Acanthuridae	*Acanthurus leucosternon*	2
	Ctenochaetus striatus	3
Balistidae	*Melichthys indicus*	2
	Sufflamen bursa	2

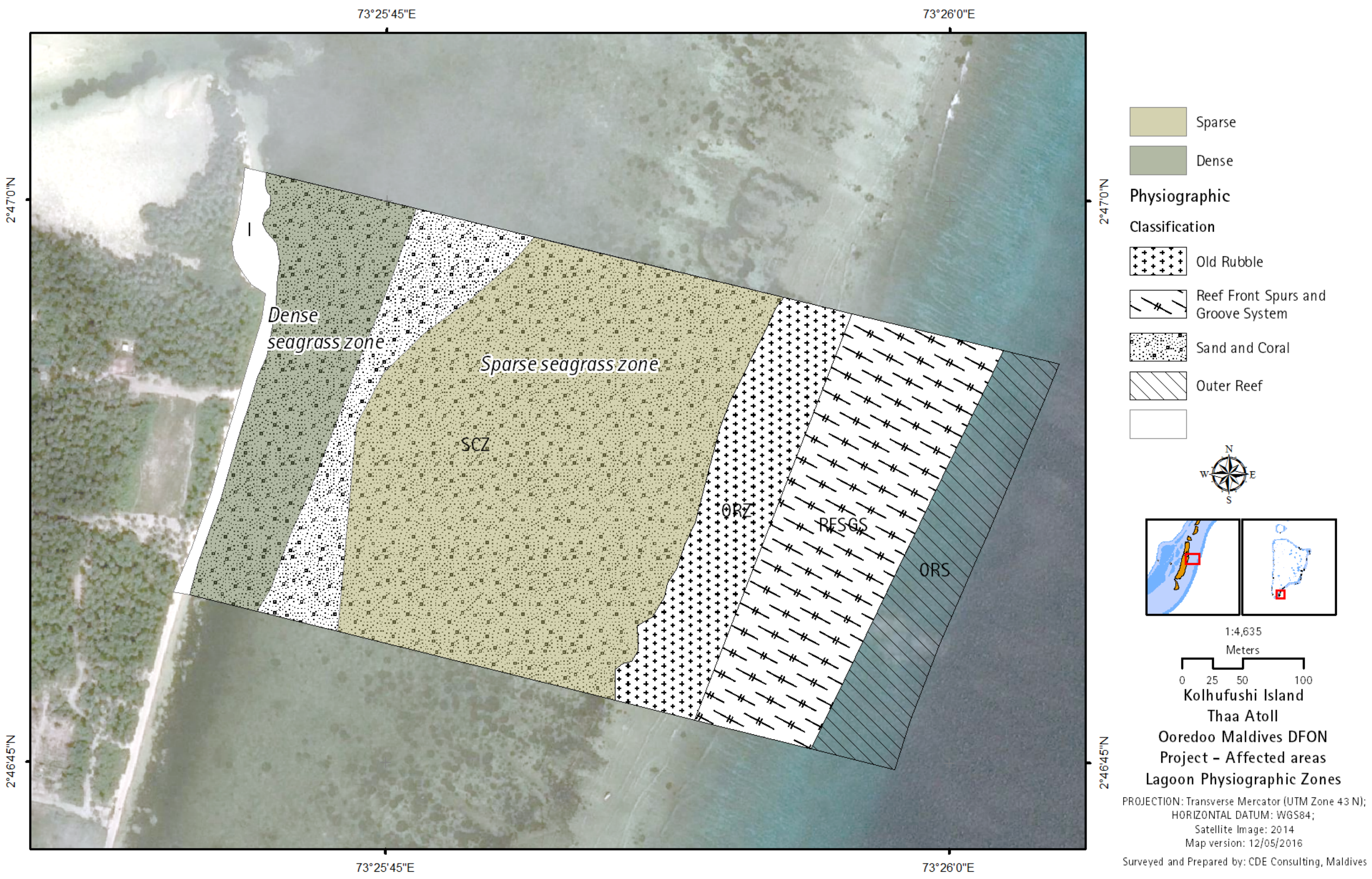


Figure 4.56: Kolhufushi Island affected site lagoon physiographic conditions

4.3.5 Gaafu Dhaalu Thinadhoo – Cable Deployment Site

The proposed cable deployment site at Thinadhoo is on the eastern side of the island. The reef flat at this site is mainly made up of rocky bottom covered in sand and turf algae. Live coral colonies observed near shore is low, and occurrence of live corals increased towards the reef edge. Dominant coral types observed was digitate type corals. Sparsely distributed seagrass patches occur further way from the shoreline. Fish life was very good along the reef flat. Spur and groove formations occur at the reef edge area. Occurrence of live corals increased towards the reef edge. Physiographic zonation of this site is presented in figure 4.62.

Figure 4.57: Typical coral types observed on the reef flat

Figure 4.58: Large school of Parrotfishes observed during the visual snorkeling survey

Figure 4.59: Spur and groove formation occurs near the reef edge

Figure 4.60: Corals occurs on the spurs

Transect was deployed at 5 m depth, on the reef edge that occurs on the eastern side of *Thinadhoo* (perpendicular to the proposed cable deployment path). Live coral made up about 30.5% ± 4.97 SE of the survey, the dominant coral type observed was digitate type corals (*Acropora sp.*). Approximately 6.5% ± 1.83 SE was made up of corals that were bleached,

possibly due to increased sea surface temperature. Rock was the dominant substrate type recorded (37% ± 5.54 SE).

A total of 35 fish species, belonging to 13 different fish families were recorded during the fish census. The most abundant fish species recorded was Green Pullers (*Chromis virdis*), which is a common baitfish and a known zooplanktivore.

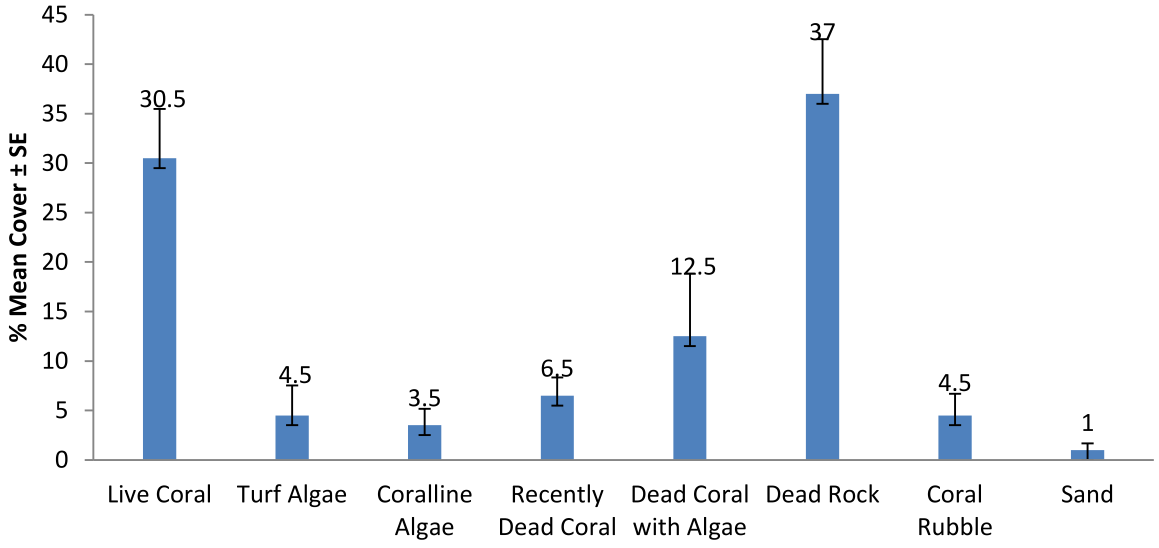


Figure 4.61: Benthic composition at the reef edge of Thinadhoo cable deployment site

Table 4.18: Summary of fish census at Thinadhoo(24 April 2016)

Family	**Species**	**Abundance category**
Holocentridae	*Sargocentron caudimaculatum*	2
Serranidae (Groupers)	*Cephalopholis argus*	2
Apogonidae	*Apogon angustatus*	2
Carangidae	*Caranx melampygus*	2
Nemipteridae	*Scolopsis aurata*	2
Mullidae	*Parupeneus cyclostomus*	2
Chaetodontidae	*Chaetodon lunula*	2
	Chaetodon guttatissimus	2
	Chaetodon xanthocephalus	2
	Chaetodon auriga	2
Pomacentridae	*Dascyllus trimaculatus*	4
	Chromis virdis	6
	Chromis dimidiata	5
	Abudefduf vaigiensis	4
	Amblyglyphlyphidon batunai	2
	Plectroglyphidodon lacrymatus	2
Labridae	*Gomphosus caeruleus*	2
	Thalassoma amblycephalum	2
	Thalassoma quinquevittatum	2
	Stethojulis strigiventer	2
	Hemigymnus melapterus	2
Scaridae	*Scarus strongylocephalus*	2
	Scarus sordidus	2
	Scarus scaber	2
	Scarus rubroviolaceus	2
	Scarus tricolor	2
Zanclidae	*Zanclus cornutus*	2
Acanthuridae	*Acanthurus leucosternon*	2
	Acanthurus lineatus	2
	Ctenochaetus striatus	2
	Zebrasoma scopas	3
	Naso lituratus	2
	Acanthurus nigrofuscus	2
Balistidae	*Melichthys indicus*	2
	Sufflamen bursa	2

Figure 4.62: Thinadhoo Island affected site lagoon physiographic conditions

4.3.6 Seenu Hithadhoo – Cable Deployment Site

Cable deployment site at Hithadhoo is located on the ocean wards of the island. The marine environment associated with the island on the ocean wards is composed of four distinct areas; reef flat made up of sand and coral rubble, algal rim, followed by a reef front spurs and grooves and, the outer reef slope (Figure 4.69). The reef flat area begins from the low tide line of the shore and extends till the reef edge. The length of the reef flat is approximately 250 m. Spur and groove formations are observed near the surf break zone, and a variety of corals (laminar, plate, digitate) occur on the spurs.

The reef edge measures about 15 m, and terminates to a gradual reef slope. Massive corals and table type corals were observed to occur on the reef edge. However due to strong current, and murky water conditions quantitative survey could not be carried out at this site.

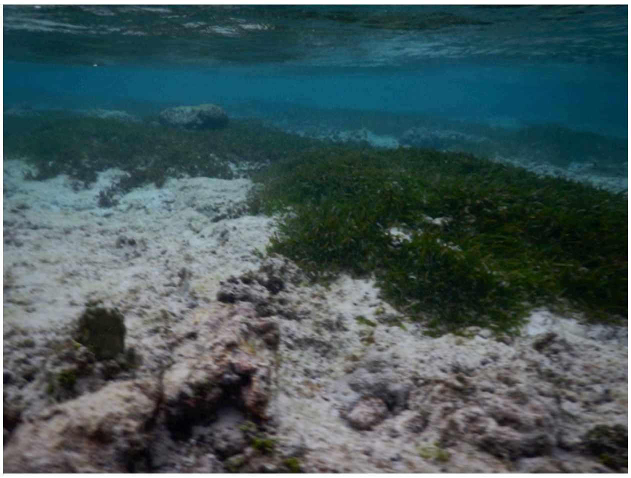


Figure 4.63: Seagrass patches observed on the reef flat close to the island

Figure 4.64: Bleached corals observed on the reef flat

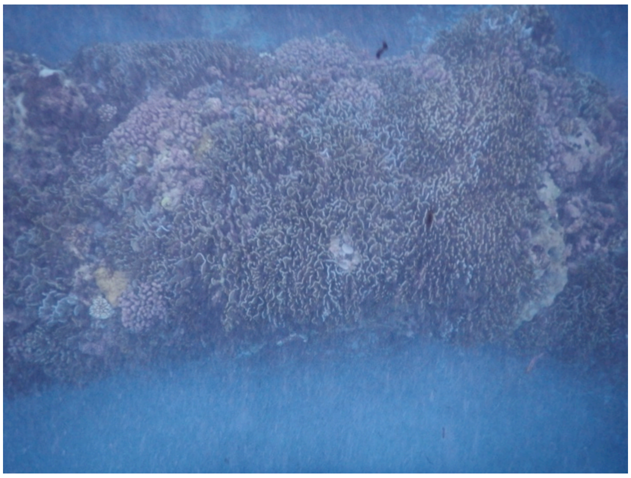


Figure 4.65: Bleached corals observed along the reef flat

Figure 4.66: Rocky bottom covered in algae and sand

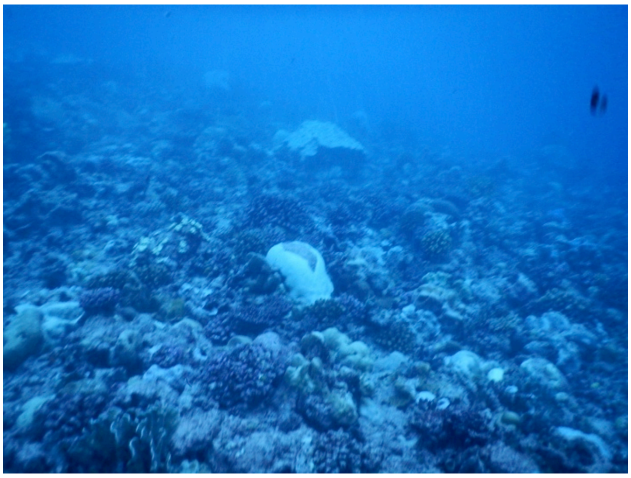


Figure 4.67: Variety of coral types observed at the reef edge

Figure 4.68: Partially bleached massive coral observed at the reef edge

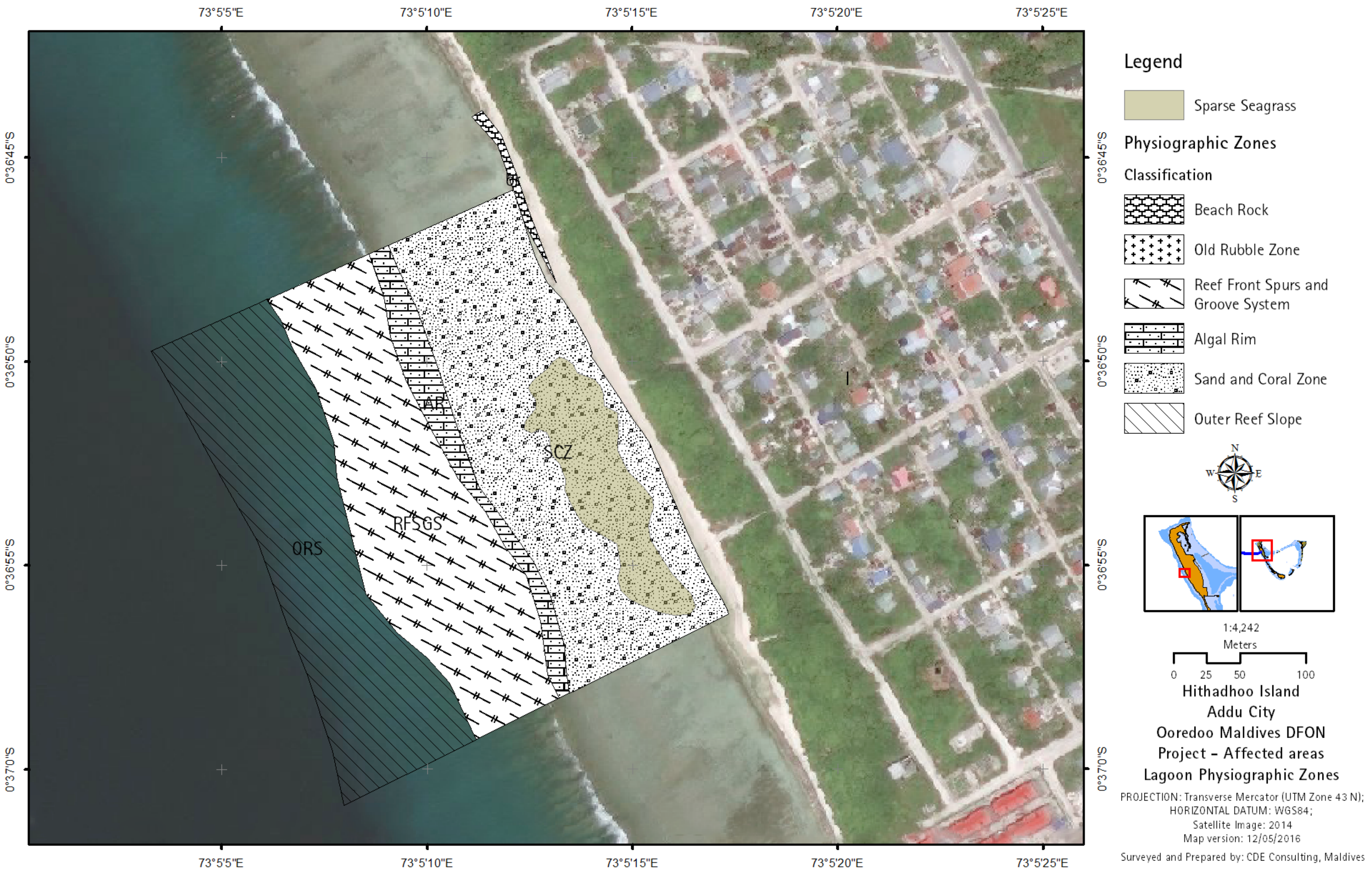


Figure 4.69: Hithadhoo Island affected site lagoon physiographic conditions

4.4 Terrestrial Ecology

4.4.1 Flora

4.4.1.1 General Characteristics

This project involves laying of submarine communication cable across the Maldives, with the following six islands identified as landing stations; S.Hithadhoo, Gdh.Thinadhoo, M.Kolhufushi, Hulhumale, B.Eydhafushi and Hdh.Kulhudhuffushi.

The cable landing sites for all the proposed islands are existing Ooredoo Antenna Stations and does not require the removal of any vegetation from these areas. The cable laying route (on land) up to the cable landing site in each of the islands follow an existing road or pathway from the beach with the exception of Hdh.Kulhudhuffushi and S.Hithadhoo.

In **Kulhudhuffushi**, the first 180m of the route from the shoreline is a vegetated area with mostly coastal vegetation species such as; Dhiggaa (*Hibiscus tiliaceus*), Magoo (*Scaevola taccada*) and Ipili Ipili (*Leucaena leucocephala*). Several palm trees (*Cocos nucifera*) were also observed along the sides of the route, however none of the palm trees fall within the immediate footprint of the project route. An additional 170m of the route follows an existing road of the island, with no vegetation observed on the project route. It is also important to note that the first 50m of vegetation from the shoreline was a burnt up area. The reasons for the fire were not identified during the field visit.

In **Hithadhoo**, the first 45m of the route from the shoreline is a densely vegetated area with mostly coastal vegetation species such as; Dhigga (*Hibiscus tiliaceus*), Magoo (*Scaevola taccada*) Ahi (*Morinda citrifolia*) and Aamanaka (*Ricinus communis*). However, there is an existing pathway through the vegetation that allows easy access to the beach and shrub vegetation of only ~2m width will be required for removal.

No notable species of importance or unique trees (very old trees or vegetation groups) were observed in the vicinity of any of the project sites.

4.4.1.2 Terrestrial Environment Photos

Figure 4.70: B.Eydhafushi – Ooredoo tower on the left (left), view from the beach for cable route (right)

Figure 4.71: S.Hithadhoo – Vegetation near cable landing site (left), view from the vegetation to the tower (right)

Figure 4.72: Hulhumale – Cable route towards the beach (left), Cable landing station (right)

Figure 4.73: M.Kolhufushi – Cable route from the beach (left), Mid-way through the route, with tower in sight (right)

Figure 4.74: Hdh.Kulhudhuffushi – Burnt-up area near the beach (left), cable route to the landing station (right)

Figure 4.75: Gdh.Thinadhoo – Cable route from tower to beach (left), cable route from beach to tower (right)

4.5 Bathymetry

A detailed bathymetric survey of the proposed channel sites was undertaken during April 2016. Survey results have been summarised in bathy charts Appendix H. The depth figures presented are in meters below MSL.

4.6 Socio-Economic Setting

4.6.1 HDh.Kulhudhuffushi

4.6.1.1 Population Characteristics

Total Population

According to Preliminary results of Census 2014, Kulhudhuffushi has a total population of 8224. Out of the total enumerated population in 2014, 3880 were males and 4344 were females. The population in 2014 was comprised of 8,011 Maldivians (3712 males and 4299 females) and 213 foreigners (168 males and 45 females). Kulhudhuffushi has the highest population in Haa Dhaalu Atoll and makes up 43.78 per cent of the atoll population. Figure 4.76 below represents population sizes for the all administered islands in the atoll.

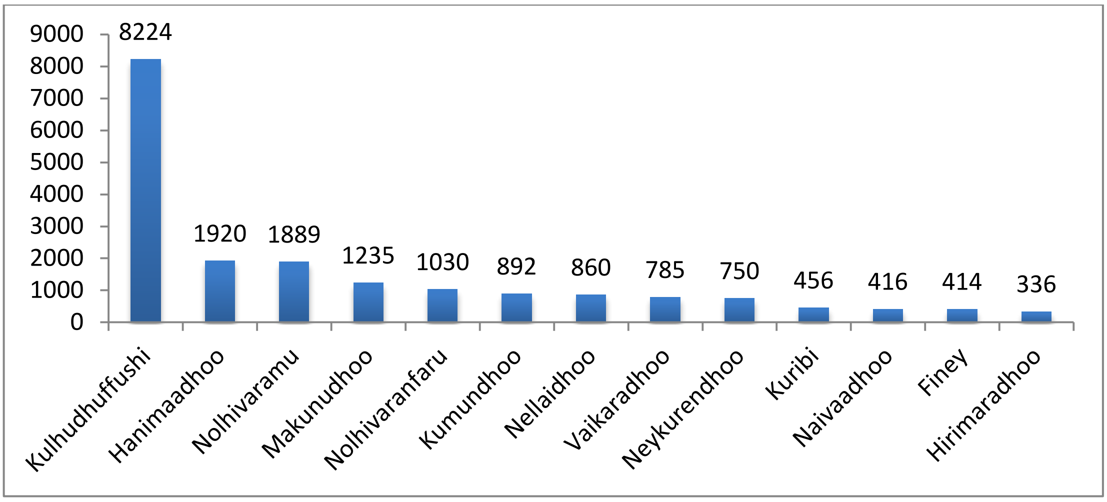


Figure 4.76: Population Size by locality, HDh. Atoll, Census 2014

Source: National Bureau of Statistics, 2014

Sex Ratio

According to census 2006, there were more females than males in Kulhudhuffushi with a sex ratio of 86 males per 100 females. The low number of men on the island provides an indication that a significant number of men have to find work away from the island in the resort industry and elsewhere.

Annual Growth Rate

According to census 2006 and 2014, the population of Haa Dhaalu atoll experienced a positive population growth with an average annual growth rate of 1.41. A similar trend is observed in Kulhudhuffushi for the period between 2006 and 2014, with an average annual growth of 1.68. Table 4.20 below shows the population figures for Kulhudhuffushi during census 2000 and 2006.

	Census 2006	Census 2014
Total Population	6998	8224
Male	3299	3880
Female	3699	4344

Table 4.20: Population figures for Census 2000 and 2006 for HDh.Kulhudhuffushi

Source: Ministry of Planning and National Development, 2008 and National Bureau of Statistics, 2014

Population Structure

The general structure of Kulhudhuffushi population is shown in Figure 4.77 below. The dependent population is 36%, which comprises of 31% children and 5% elderly. The working age population comprises 48% of the total population of the island. According to this pyramid, the most dominant age group for HDh.Kulhudhuffushi is age group 10-14.

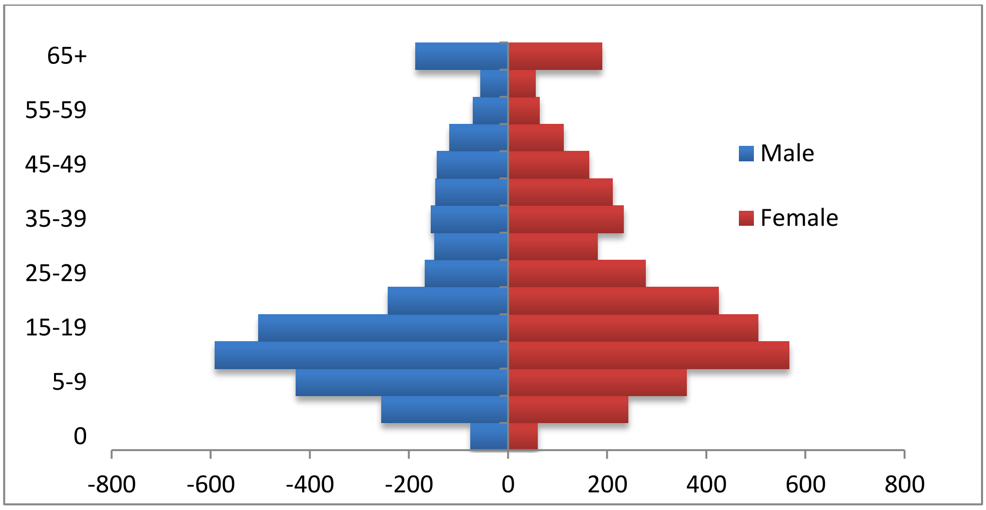


Figure 4.77: Population Pyramid for HDh.Kulhudhuffushi, Census 2006

Source: Ministry of Planning and National Development, 2008

Island Sizes and Population density

According to Maldives Population and Housing Census 2006, Hanimadhoo is the biggest administered island in South Thiladhunmathi atoll with an area of 260 hectares. The smallest administered island in the atoll is Faridhoo with an area of 23 hectares. Kulhudhuffushi has an area of 172.2 hactares according to census 2006.

Kulhudhuffushi is the most densely populated island in the atoll with a population density of 40 persons per hectare. The most populous island is Kulhudhuffushi as well. The least populous island is Kuburudhoo with a population density of 2.03 persons per hectare. Figure 4.78 below shows population densities for all administered islands in the atoll. The density is given in persons per Hectare.

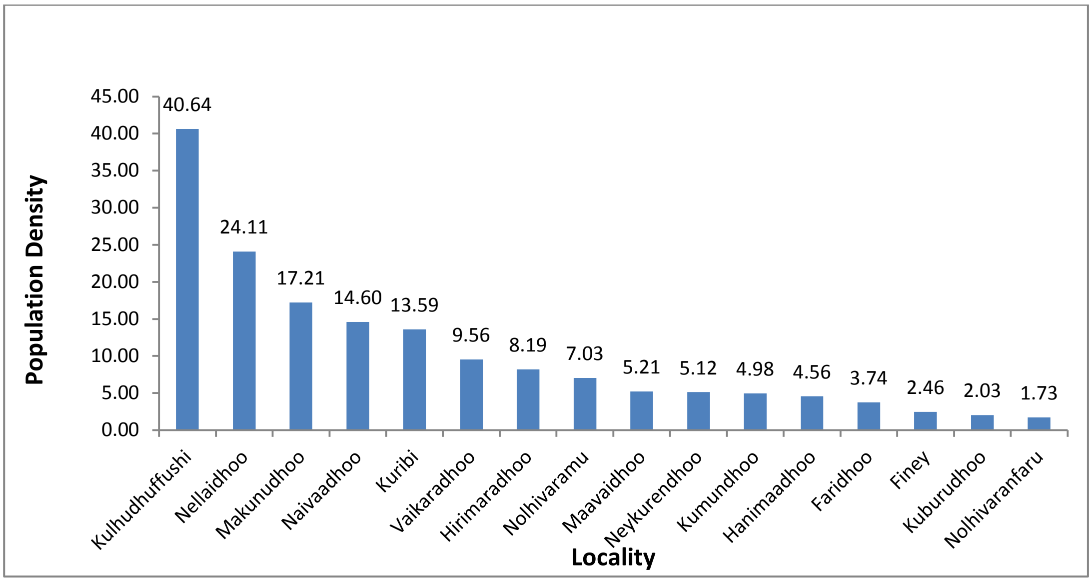


Figure 4.78: Population density for HDh.Atoll, Census 2006

Source: Ministry of Planning and National Development, 2008

4.6.1.2 Education

According to School Statistics report published by the Ministry of Education in 2014, there were a total of 2376 students in Kulhudhuffushi enrolled in different levels of studies. Out of the total student population, 1250 were males and 1126 were female students. Figure 4.79 below shows the number of students enrolled in different levels of education by gender in March 2014 in Kulhudhuffushi.

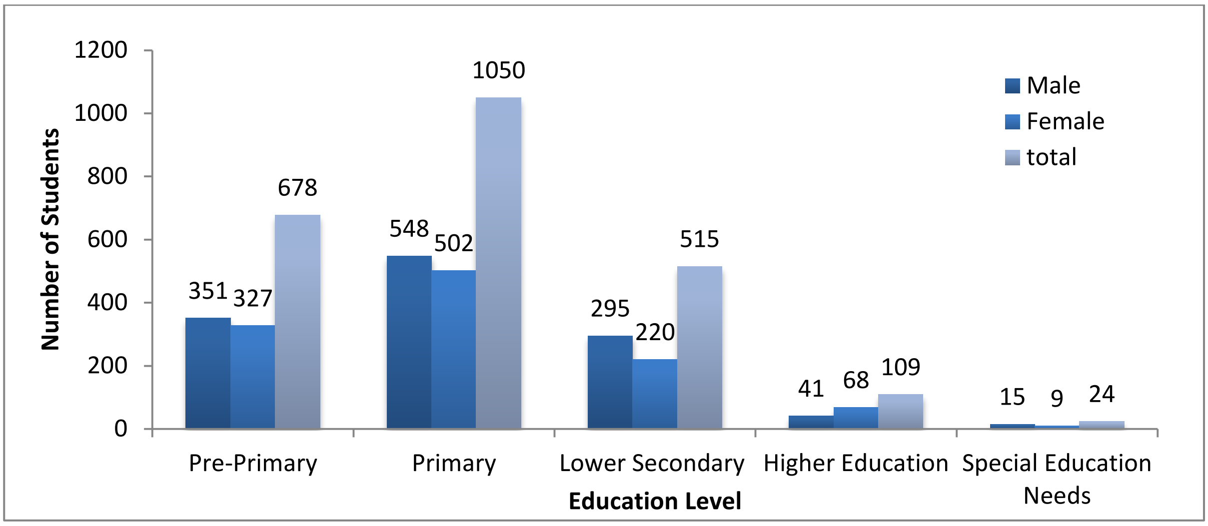


Figure 4.79: Number of students in Kulhudhuffushi by level of education and by gender in March 2014

Source: Ministry of Education, 2014

There are 3 Government schools in Kulhudhuffushi; HDh. Atoll Education Center, Afeefuddeen School and Jalaaludheen School. HDh. Atoll Education centre has grades from1-7, while Afeefuddeen teaches for grades from 1-10. Jalaaluddeen School has classes starting from grade 8 to offering education up to grade 12. Afeefuddeen School offers a special education needs program to the students who are in need of such education. In March 2014, there were a total of 24 students enrolled in this program 15 of whom were male students and 9 were female students. Additionally there are two pre-schools in the island, Ameeru Ameen School and Irumathi Avashu Pre-School, both run by the community. Figure 4.80 shows the number of students enrolled in in each school of Kulhudhuffushi by gender in March 2014.

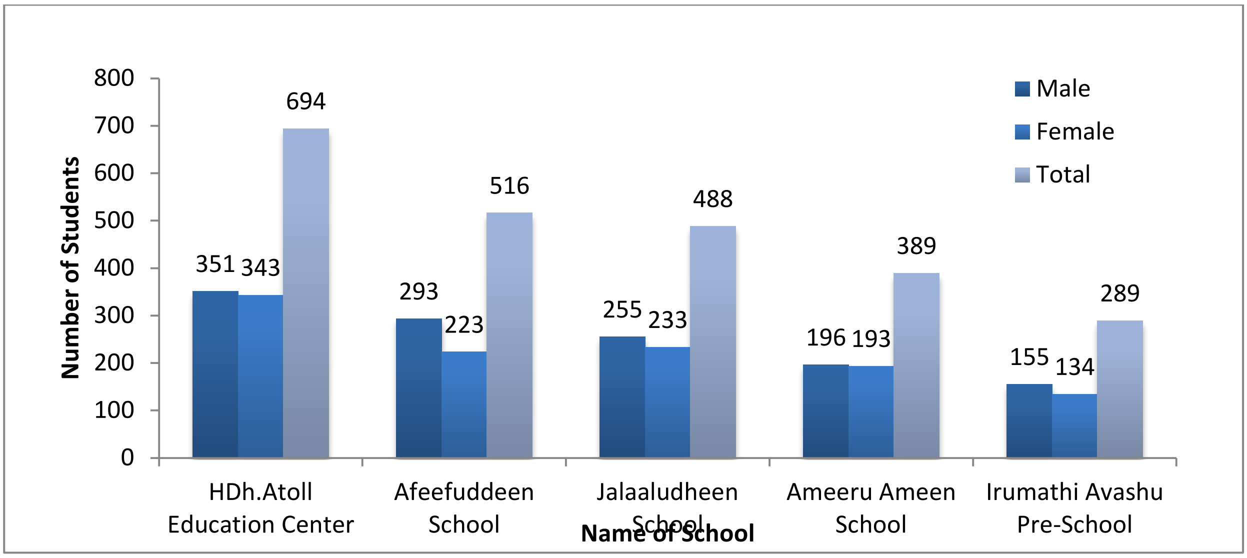


Figure 4.80: Number of students enrolled in schools of Kulhudhuffushi by gender in March 2014
Source: Ministry of Education, 2014

Three out of the five schools in Kulhudhuffushi had only local teachers in March 2014. These schools are HDh. Atoll Education Centre, Ameeru Ameen School and Irumathi Avashu Pre-School. However, the number of local teachers outnumbers the expatriate teachers in both Afeefuddeen School and Jalaaludheen School as well. Figure 4.81 displays the number of teacher in the five schools of Kulhudhuffushi in March 2014.

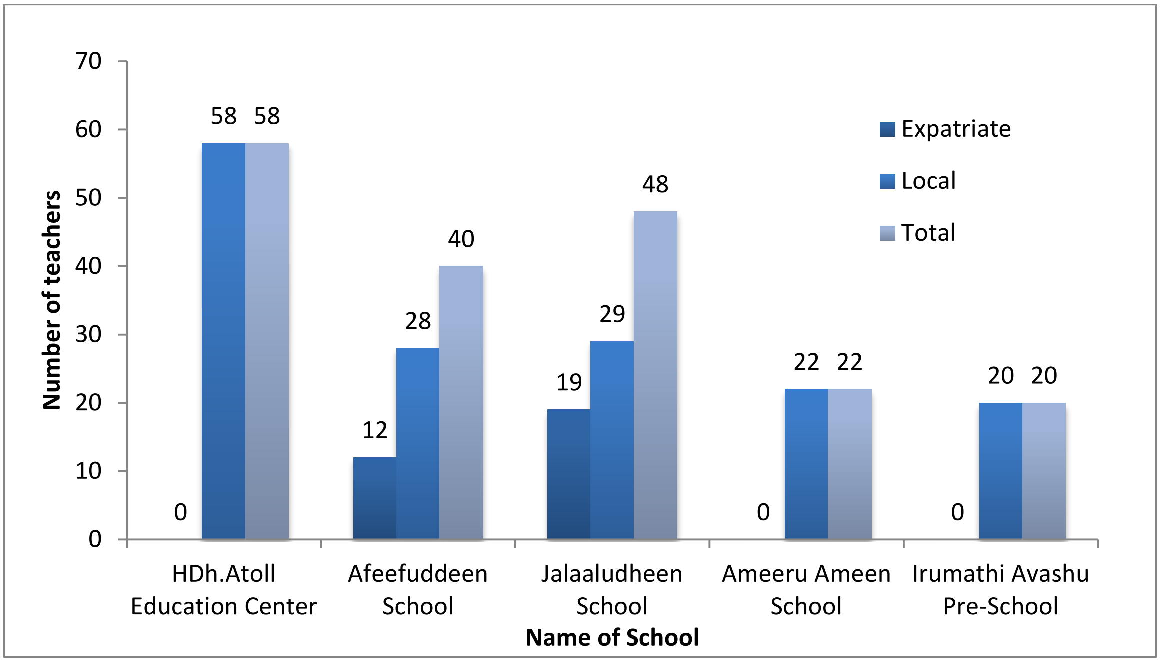


Figure 4.81: Number of teachers in the schools of Kulhudhuffushi in March 2014

Source: Ministry of Education, 2014

4.6.1.3 Heath Sector

There is a 50 bed hospital regional hospital in Kulhudhuffushi, which is the highest tier of health service provided in the atolls. It was not possible to get the detailed data on the hospital due to lack of island level information published by the Ministry of Health. The main services provided include general medical services, specialist care, surgery, emergency services, intensive care unit, delivery, dialysis, physiotherapy and dental services.

4.6.1.4 Employment

Employment and Unemployment Rates

According to census 2006, the total number of economically active population in Kulhudhuffushi was 2544. Amongst them 2176 are employed and 368 are unemployed. The economically not active population is reported as 1781 people. Labour force participation rate is 57.6% and

unemployment rate is reported as 14.5%. Much of the unemployment is among the female population, with 20.3. % of females unemployed compare to 9.3% males.

Main Employment Sectors

The four main employment sectors in Kulhudhuffushi according to census 2006 are manufacturing (25.18%), wholesale and retail trade (13.05%), Education (11.49%) and public administration and defence (8.73%). Other economic activities practiced in the atoll include construction, fishing, wholesale and retail trade and other community, social and personal services activities. Figure 4.82 below shows the main employment sectors in Kulhudhuffushi based on census 2006.

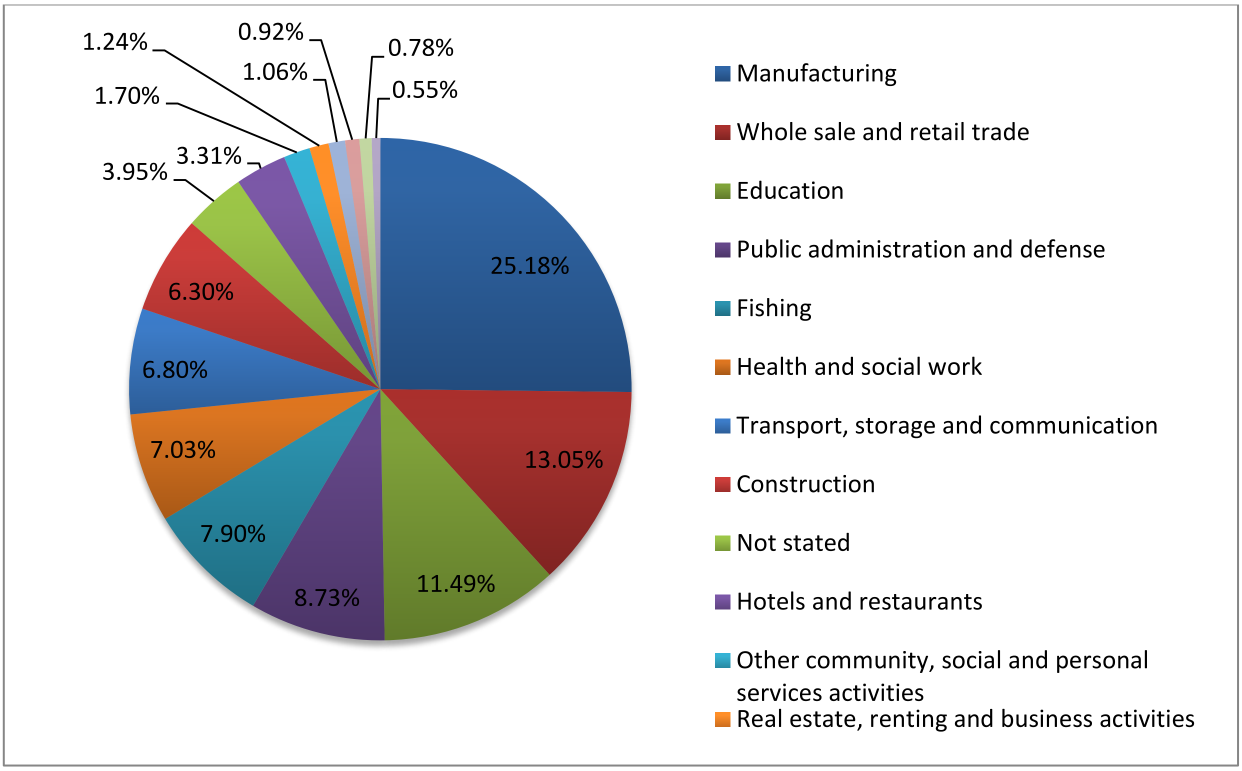


Figure 4.82: Employment sectors in Kulhudhuffushi in 2006

Source: Ministry of Planning and National Development, 2008

4.6.2 B. Eydhafushi

4.6.2.1 Population Characteristics

Total Population

According to Preliminary results of Census 2014, Eydhafushi had a total population of 2,626. Out of the total enumerated population in 2014, 1,255 were males and 1,371 were females. The population in 2014 was comprised of 2,513 Maldivians (1,165 males and 1,348 females) and 113 foreigners (90 males and 23 females). Eydhafushi has the highest population in Baa Atoll and makes up 28 per cent of the atoll population. Figure 4.83 below represents population sizes for the all administered islands in the atoll.

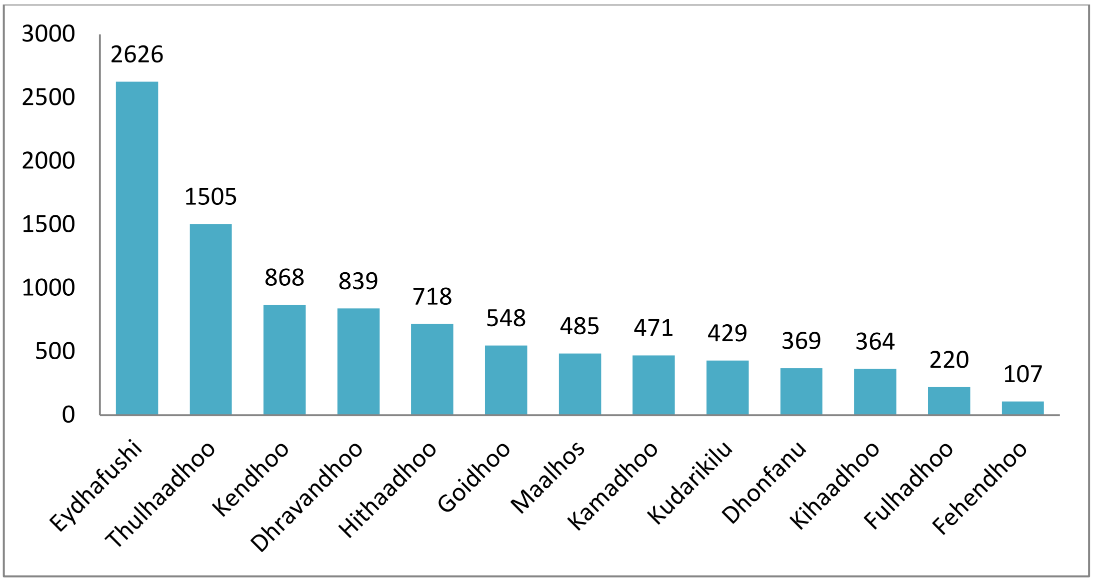


Figure 4.83: Population Size by locality, B Atoll, Census 2014

Source: National Bureau of Statistics, 2014

Sex Ratio

According to census 2006, there were more females than males in *Eydhafushi* with a sex ratio of 93 males per 100 females. The current population of *Eydhafushi* also shows that there are more females than males in *Eydhafushi*, however, the difference in the number of males and females have increased. The current sex ratio of *Eydhafushi*, according to the census 2014, is 86 males per 100 females.

Annual Growth Rate

According to census 2006 and 2014, the population of Baa atoll experienced a positive population growth with an average annual growth rate of 0.50. A similar trend is observed in

Eydhafushi for the period between 2006 and 2014, with an average annual growth of 0.50. Table 4.13 below shows the population figures for Eydhafushi during census 2000 and 2006.

Table 4.13: Population figures for Census 2000 and 2006 for B.Eydhafushi

	Census 2006	Census 2014
Total Population	2409	2626
Male	1160	1255
Female	1249	1371

Source: Ministry of Planning and National Development, 2008 and National Bureau of Statistics, 2014

Population Structure

The general structure of Eydhafushi population is shown in Figure 4.84 below. The dependent population is 40%, which comprises of 34% children and 6% elderly. The working age population comprises 60% of the total population of the island. According to this pyramid, the most dominant age group for B. Eydhafushi is age group 15-19.

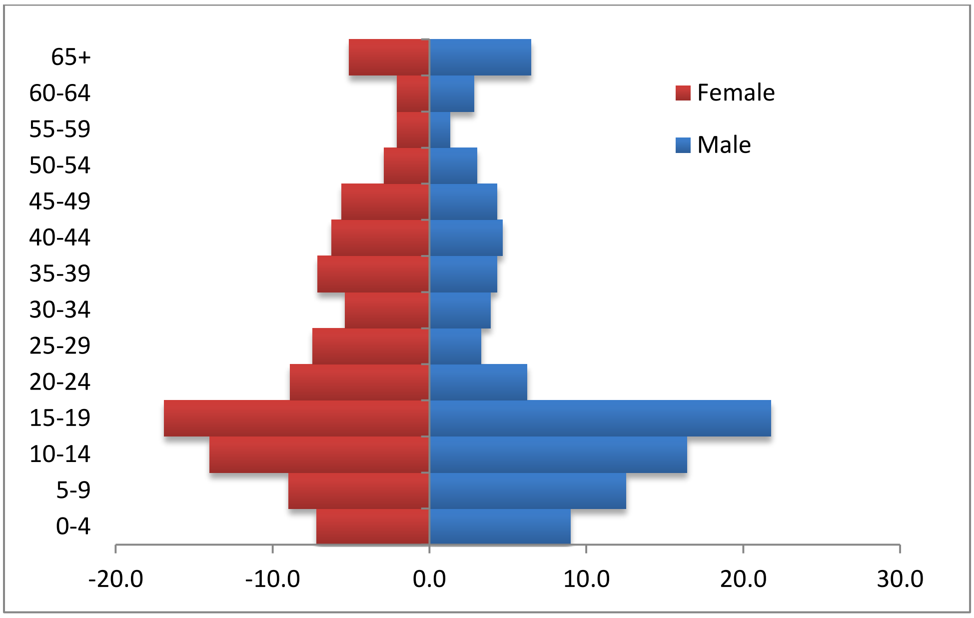


Figure 4.84: Population Pyramid for HDh.Kulhudhuffushi, Census 2006

Source: Ministry of Planning and National Development, 2008

Island Sizes and Population density

According to Maldives Population and Housing Census 2006, Goidhoo the biggest administered island in Baa atoll with an area of 114 hectares. The smallest administered island in the atoll is Thulhaadhoo with an area of 5 hectares. Eydhafushi has an area of 22 hactares according to census 2006.

Thulhaadhoo is the most densely populated island in the atoll with a population density of 354 persons per hectare. The most populous island is also Thulhaadhoo. The least populous island is Goidhoo with a population density of 4 persons per hectare. Figure 4.85 below shows population densities for all administered islands in the atoll. The density is given in persons per Hectare.

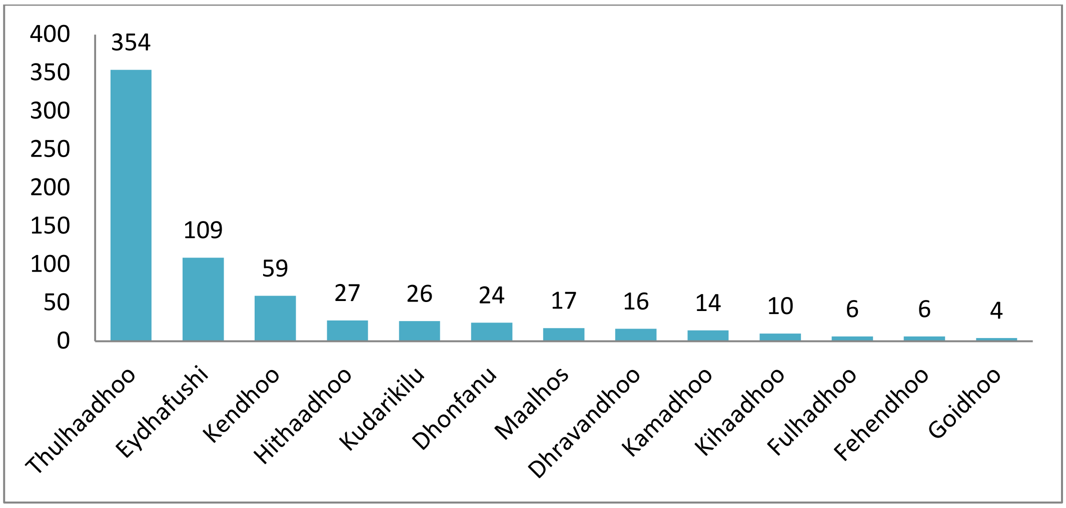


Figure 4.85: Population density for B Atoll, Census 2006

Source: Ministry of Planning and National Development, 2008

4.6.2.2 Education

According to School Statistics report published by the Ministry of Education in 2015, there were a total of 884 students in Eydhafushi enrolled in different levels of studies. Out of the total student population, 465 were males and 419 were female students. Figure 4.86 below shows the number of students enrolled in different levels of education by gender in March 2015 in Eydhafushi.

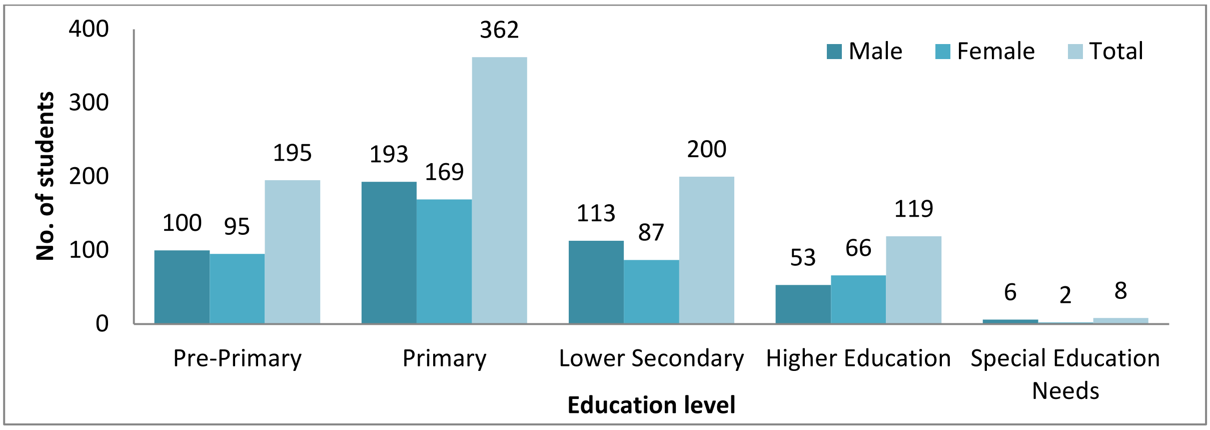


Figure 4.86: Number of students in Eydhafushi by level of education and by gender in March 2015

Source: Ministry of Education, 2015

There is 1 Government school in Eydhafushi; B. Atholhu Thauleemee Marukazu, that teaches from grade 1 to 12 and they offer a special education needs program to students who are in need of such education. In March 2015, there were a total of 8 students enrolled in this program 6 of whom were male students and 2 were female students. Additionally there is one pre-school in the island, Bahiyya Preschool that is run by the community. Figure 4.87 shows the number of students enrolled in each school of Eydhafushi by gender in March 2015.

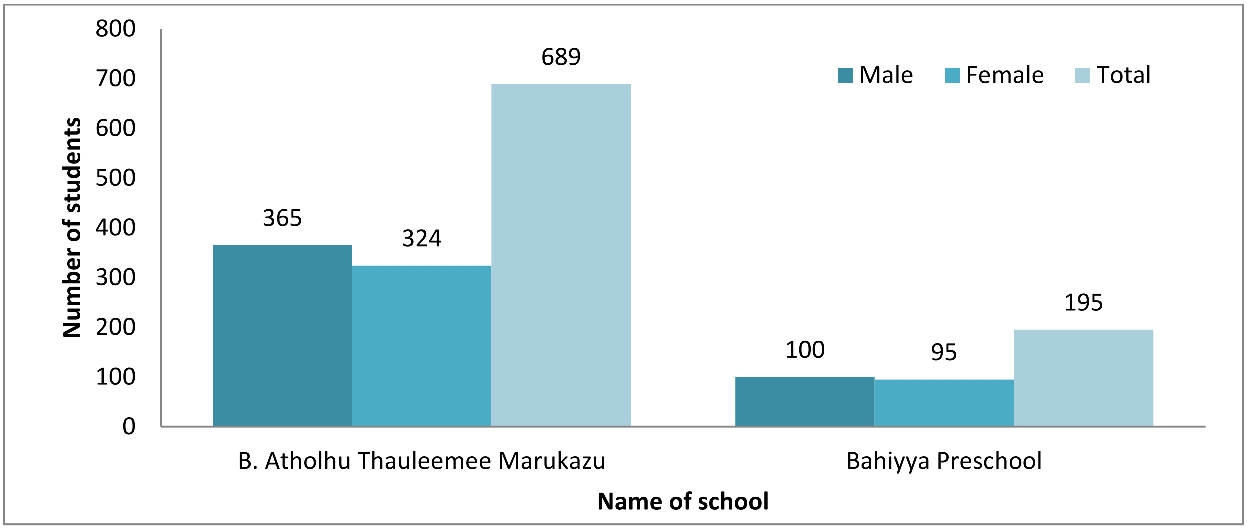


Figure 4.87: Number of students enrolled in schools of Eydhafushi by gender in March 2015

Source: Ministry of Education, 2015

Bahiyya School had only local teachers in March 2015 while the number of local teachers outnumbers the expatriate teachers in B. Atholhu Thauleemee Marukazu. Figure 4.88 displays the number of teacher in the five schools of Eydhafushi in March 2015.

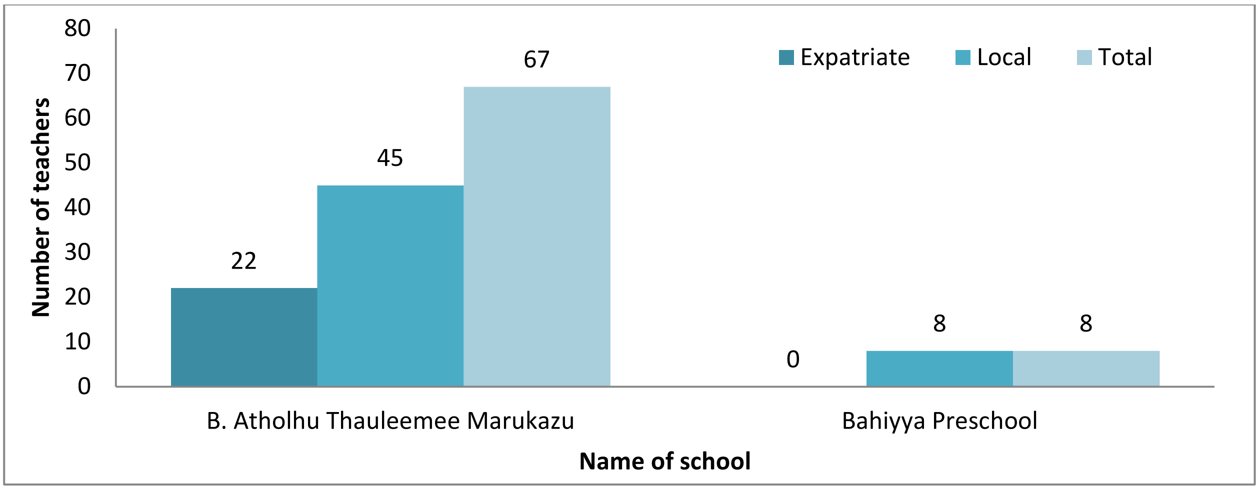


Figure 4.88: Number of teachers in the schools of Kulhudhuffushi in March 2015

Source: Ministry of Education, 2014

4.6.2.3 Employment

Employment and Unemployment Rates

According to census 2006, the total number of economically active population in Eydhafushi was 903. Amongst them 742 are employed and 161 are unemployed. The economically not active population is reported as 659 people. Labour force participation rate is 56.7% and unemployment rate is reported as 17.8%. Much of the unemployment is among the female population, with 27.8% of females unemployed compare to 6.2% males.

Main Employment Sectors

The four main employment sectors in Eydhafushi according to census 2006 are manufacturing (22.9%), Education (12.4%), wholesale and retail trade (10.2%) and public administration and defence (10.1%). Other economic activities practiced in the atoll include construction, fishing, wholesale and retail trade and other community, social and personal services activities. Figure 4.89 below shows the main employment sectors in Eydhafushi based on census 2006.

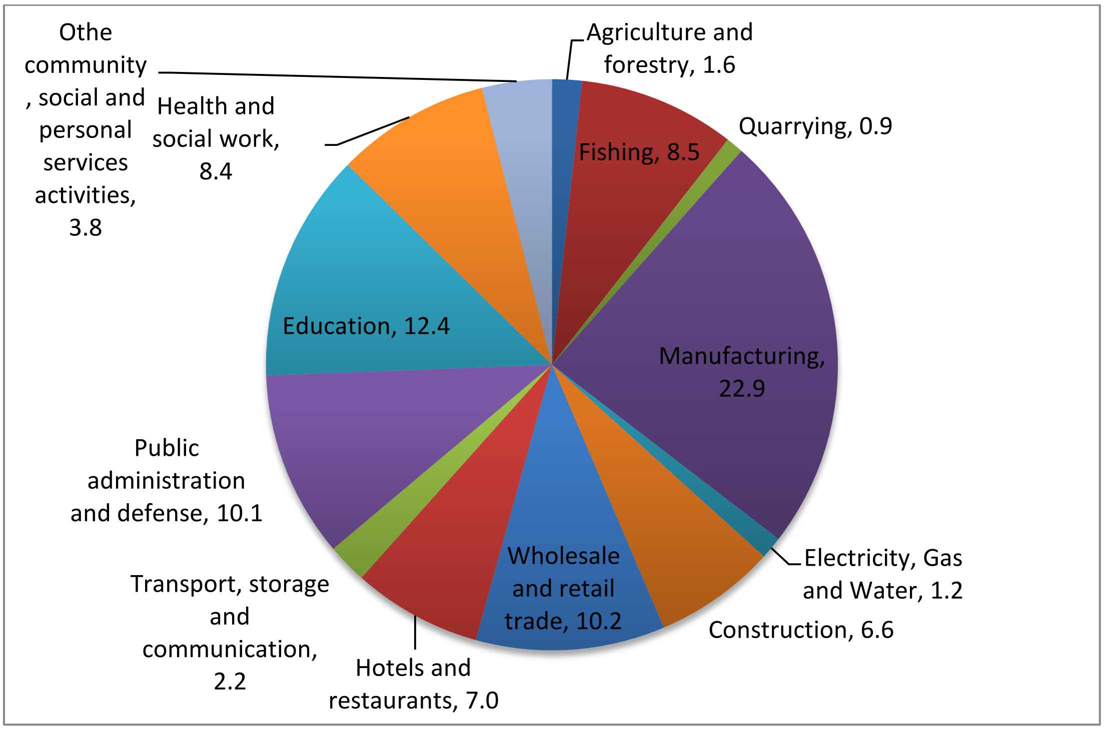


Figure 4.89: Employment sectors in Eydhafushi in 2006

Source: Ministry of Planning and National Development, 2008

4.6.3 Hulhumale'

4.6.3.1 Population

Total Population

Hulhumale' is a reclaimed island located in the south of North Male Atoll, Maldives. The artificial island was reclaimed to establish a new land mass required to meet the existing and future housing, industrial and commercial development demands of the Malé region.

Reclamation of the 188 hectares of land that comprises Hulhumalé commenced in 1997 and was completed in 2002. Primary developments in terms of the required physical and social infrastructure and residential developments were completed in 2004 and the very first settlement of Hulhumalé began in the middle of 2004 with a resident population of just over 1000 people.

According to Census 2006, the population of Hulhumale was at 2,866 with 1,620 males and 1,246 females. The total estimated population from Hulhumale' residential survey conducted in 2010 reported 4,807 people with 2,286 males and 2,399 females. The number of foreigners as of December 2010 was 122 people.

According to Housing Development Corporation (HDC) the current estimated population of Hulhumale' is around 35,000. The target population of Hulhumale is 60,000 people by the year 2020.

Sex Ratio and Population Density

According to Census 2006, there were more males than females in Hulhumale' with a sex ratio of 130 males per 100 females. The 2010 survey results showed a sex ratio 105 males per 100 females.

School age and working age population

According to School Statistics 2010 compiled by the Ministry of Education, a total of 413 students were enrolled in Hulhumalé Preschool and Ladle' Youth International School.

According to Hulhumale' residential survey conducted in 2010, it is estimated the number of students enrolled in primary education is 731 while 427 students were enrolled in secondary level education.

Currently there are 3 secondary schools (Lale' Youth International School, Ghazee School and Rehendhi School) and 2 Preschools (Hulhumale' Preschool and Glow Preschool). Rehendhi

School was opened on January 2015 and is the biggest and most the accommodated school in the Maldives.

Furthermore, according to Hulhumale' residential survey conducted in 2010, a total of 1,665 residents in Hulhumale' are employed while 2,731 people are unemployed.

4.6.3.2 Health

The main health service facility in the island is Hulhumale Hospital. The hospital is a 50 bed government owned hospital. Hulhumale' Hospital is the only health facility available on the island at the moment. There are 8 specialty doctors available in this hospital including Gynaecology, Paediatrics, Internal Medicine, Orthopaedics Surgery, Dermatology, Psychiatry and Ophthalmology.

Hulhumale' hospital's sewage system is connected to Hulhumale's sewage network. The medical waste, general waste and sharps are segregated at the point of collection. The medical waste and sharps are incinerated inside the hospital premises and the general waste is disposed by the outsourced party who is responsible for cleaning the hospital. The liquid chemical wastes are flushed into the drains.

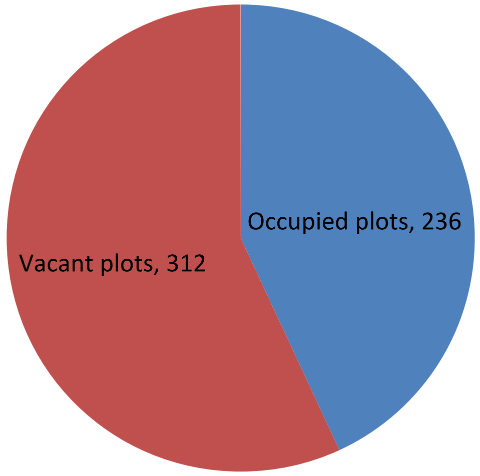
4.6.3.3 Sports and Recreation

There are two allocated sports and recreation zones. The larger, audience oriented space is located at the south eastern foreclosure and acts as a buffer between the residential neighbourhoods and the municipal services area, blocking the noise, smell and views of municipal activity from the residencies.

The smaller scale sports field and sports complex are situated within the Academic district at the northern end of Hulhumalé.

4.6.3.4 Housing

According to Hulhumale' residential survey conducted in 2010, out of 550 plots 312 were vacant while 236 were occupied.



Source: Hulhumale Development Cooperation, 2010

Figure 4.90: Estimated number of plots occupied and vacant, 2010

4.6.3.5 Infrastructure

Transport

a. Ferry and Bus services

The capital city Male' is connected by ferries to the main airport in Hulhule' and residential satellite wards of Hulhumale' and Villimale'. For Hulhumale', the ferry and bus services is operated by Maldives Transport and Contracting Company (MTCC).

MTCC have 12 vessels in their total fleet for dhoni ferry transport between Male' and Hulhumale'. Of them 6 are owned by MTCC and 6 are rented. At a given time 10-11 ferries are operational. And number of ferries has to be increased to around 14 during the month of Ramadan. In addition, MTCC has one express ferry operating between Male' – Hulhumale'. Apart from ferries, MTCC also operates buses within Hulhumale' and between Hulhumale' and Hulhule'. Presently two buses are operational within Hulhumale' and two between Hulhumale' and Hulhule'. There are four designated routes, including school routes for bus operations.

The seating capacity of each ferry is 120 passengers. The passenger fare for dhoni ferries is MVR 5.5 each way and takes about 20 minutes to reach the destination. On weekdays, rush hours start in the morning from 5:30am and continue till 9:00am; when the school hours and work hours for the government and private sector begins for the day. The second peak would be between 11:30am and 1:00pm in the afternoon. The time varies according to school student schedules for those attending schools in Male'. In the evening, the peak hours fall between 4:00pm and 7:00pm. The flow of passengers are mostly towards Male' from Hulhumale' for work and education purposes. In weekends, the peak is observed in the afternoon from 2:30pm

onwards and between 9:00pm and 10:00pm from Male' – Hulhumale' sector and 7pm to 11pm in the Hulhumale' - Male' sector.

There is also an express ferry operational every thirty minutes between Male' and Hulhumale'. The fare for express ferries is MVR 25.00 and takes about seven minutes to reach the destination. A separate cargo ferry operates between Male' and Hulhumale'. The cargo ferry makes three return trips every day except Fridays. On Fridays, the cargo ferry makes one return trip.

On the human resource side, MTCC employs total 320 staff in the transport operations of Hulhule', Hulhumale' and Villimale' ferries and busses. Staffs are under MTCC for MTCC owned ferries and under the owner for rented ferries. Both locals and foreign workers, mostly Bangladeshi men are in employment as crews.

It is estimated that approximate annual revenue of MVR 56 million is generated from commuters between Male' and Hulhumale'.

b. Taxi services

There is only one taxi centre in Hulhumale'. The Hulhumale' taxi centre is regulated by Hulhumale' Development Corporation (HDC).

4.6.3.6 Utilities

Power

There are 8 running Gensets and 1 engine overhauling Genset, with an installed capacity of 10.2 MW. The available capacity is 8 MW. The brand of these Gensets is Cummins.

Based on the consumption pattern for August 2015, a total of 702164 litres of fuel oil, 3059 litres of lubricating oil and 59 litres for other vehicles was consumed. The minimum demand was 2170 KW and the maximum demand was 4370 KW for the month of August 2015.

Water

Water facilities are provided by MWSC. Their plans are intended to cater for 240,000 population over a 35 year period. Hulhumale' has an installed capacity of 2500cbm water plant and the demand is at 2200cbm per day. Peak load is observed on Fridays between 1130hrs and 1230 hrs at 320cbm per hour. Table below highlights this data.

In relation to water services, Hulhumale' developments and demand are reviewed yearly and RO systems are updated to increase capacity and expand water network. For any new projects and

Developments are to inform MWSC to add provision.

Table 4.14: water capacity and demand at Hulhumale'

Location	Installed Capacity/cbm	Peak Load/ cbm per hr	Demand/ cbm per day
Hulhumale’	2500	320 Fri 1130 - 1230hrs	2200

Sewarage system

Sewerage network in Hulhumale’ is managed MWSC. Hulhumale’ sewerage systems is a gravity system, managed through pumping systems which pumps out waste water through sea outfalls.

MWSC is currently developing a plan to take industrial waste discharge as a service for industrial customers who wish to discharge their waste to MWSC sewerage network.

Under the MWSC’s exclusive water and sewerage service provision to Hulhumale’, Hulhumale’ Development plans are reviewed yearly. The Company undertakes water and sewerage expansions and capacity development accordingly.

4.6.4 M. Kolhufushi

4.6.4.1 Population Characteristics

Total Population

According to Preliminary results of Census 2014, Kolhufushi had a total population of 748. Out of the total enumerated population in 2014, 371 were males and 377 were females. The population in 2014 was comprised of 714 Maldivians (343 males and 371 females) and 34 foreigners (28 males and 6 females). Kolhufushi has the fourth highest population in Meemu Atoll and makes up 15 per cent of the atoll population. Figure 4.91 below represents population sizes for the all administered islands in the atoll.

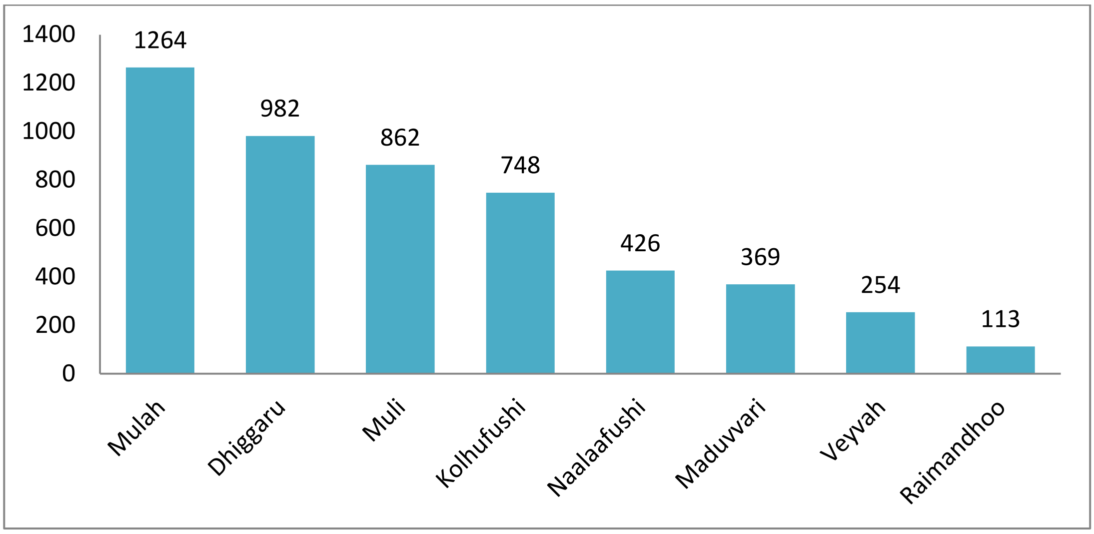


Figure 4.91: Population Size by locality, M. Atoll, Census 2014

Source: National Bureau of Statistics, 2014

Sex Ratio

According to census 2006, there were more males than females in *Kolhufushi* with a sex ratio of 103 males per 100 females. The current population of *Kolhufushi* shows that there are more females than males in *Kolhufushi*. The current sex ratio of *Kolhufushi*, according to the census 2014, is 92 males per 100 females.

Annual Growth Rate

According to census 2006 and 2014, the population of Meemu atoll experienced a positive population growth with an average annual growth rate of 0.26. A similar trend is observed in Kolhufushi for the period between 2006 and 2014, with an average annual growth of 1.50. Table 4.15 below shows the population figures for Kolhufushi during census 2000 and 2006.

Table 4.15: Population figures for Census 2000 and 2006 for M. Kolhufushi

	Census 2006	**Census 2014**
Total Population	811	748
Male	405	371
Female	406	377

Source: Ministry of Planning and National Development, 2008 and National Bureau of Statistics, 2014

Population Structure

The general structure of Kolhufushi population is shown in Figure 4.92 below. The dependent population is 39%, which comprises of 34% children and 5% elderly. The working age

population comprises 61% of the total population of the island. According to this pyramid, the most dominant age group for M. Kolhufushi is age group 15-19.

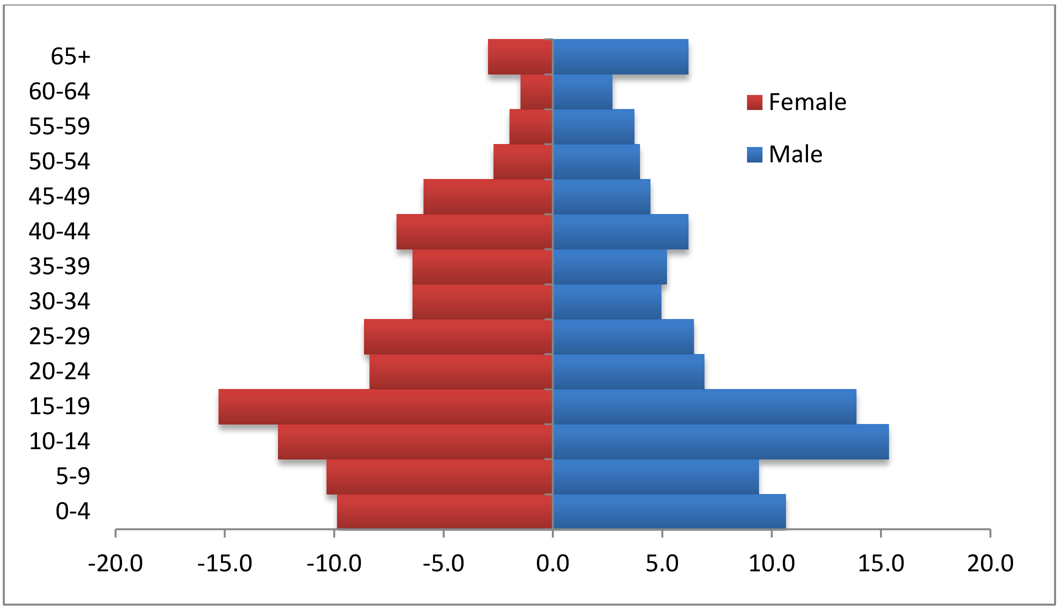


Figure 4.92: Population Pyramid for M. kolhufushii, Census 2006

Source: Ministry of Planning and National Development, 2008

Island Sizes and Population density

According to Maldives Population and Housing Census 2006, Kolhufushi is the biggest administered island in Meemu atoll with an area of 75.60 hectares. The smallest administered island in the atoll is Maduvvari with an area of 3.71 hectares.

Dhiggaru is the most densely populated island in the atoll with a population density of 125 persons per hectare. The most populous island is Dhiggaru as well. The least populous island is Veyvah with a population density of 5.04 persons per hectare. Figure 4.93 below shows population densities for all administered islands in the atoll. The density is given in persons per Hectare.

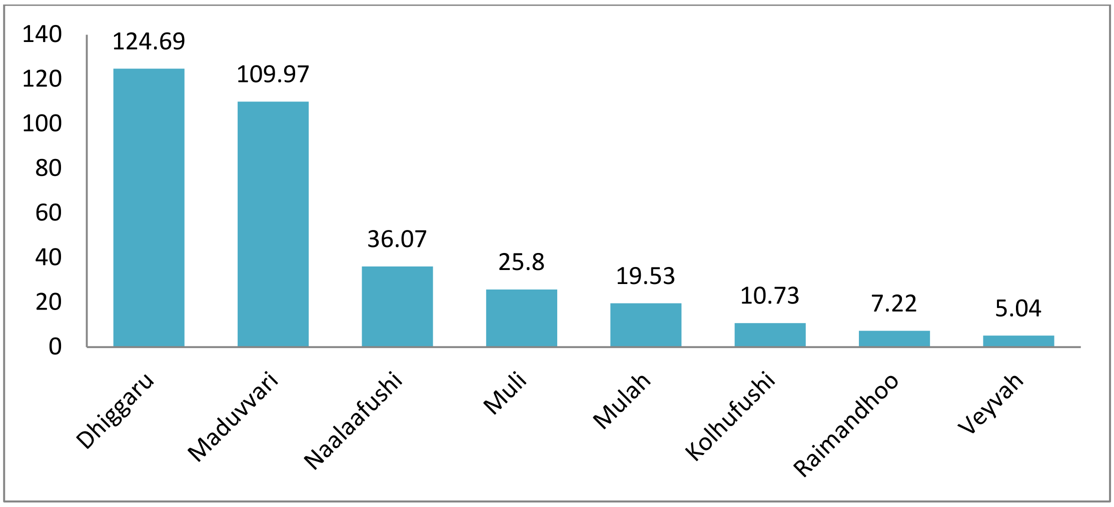


Figure 4.93: Population density for M.Atoll, Census 2006

Source: Ministry of Planning and National Development, 2008

4.6.4.2 Education

According to School Statistics report published by the Ministry of Education in 2015, there were a total of 210 students in Kolhufushi enrolled in different levels of studies. Out of the total student population, 114 were males and 96 were female students. Figure 4.94 below shows the number of students enrolled in different levels of education by gender in March 2015 in Kolhufushi.

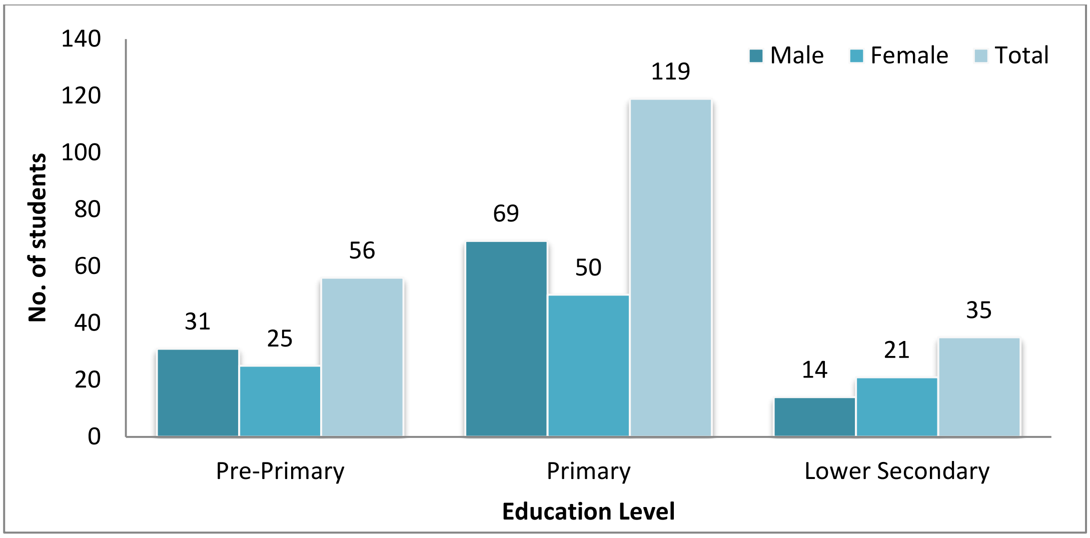


Figure 4.94: Number of students in Kolhufushi by level of education and by gender in March 2015

There is 1 Government school in Kolhufushi; which is the M. Atholhu Madharusa. that has grades from 1-10. Kolhufushi Pre-School, a community run school, teaches from nursery to UKG. There are no higher secondary or special education needs school in M. Kolhufushi.

Figure 4.95 shows the number of students enrolled in each school of Kolhufushi by gender in March 2015.

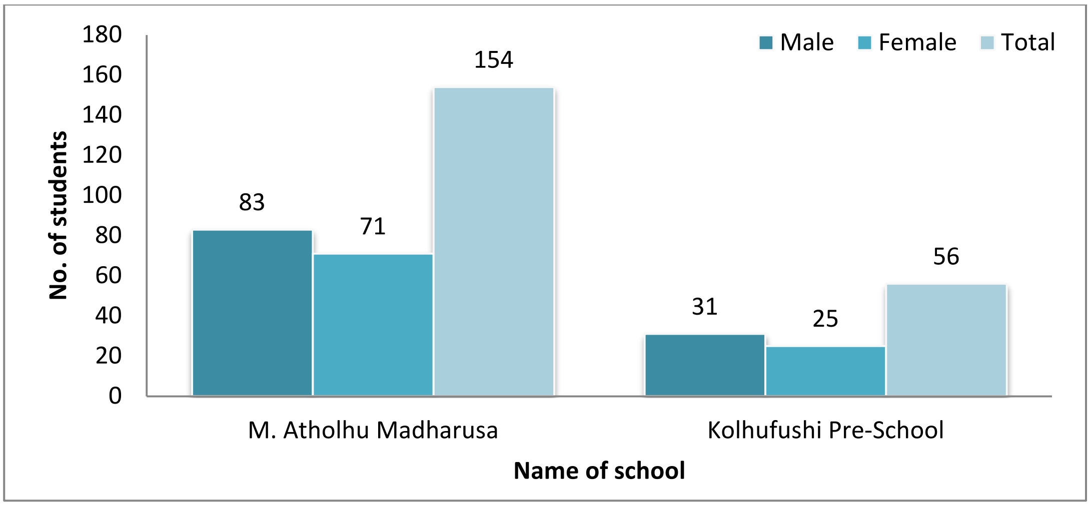


Figure 4.95: Number of students enrolled in schools of Kolhufushi by gender in March 2015

Source: Ministry of Education, 2014

One out of two schools in Kolhufushi had only local teachers in March 2015. Kolhufushi Pre-School had only local teachers, while the local teachers in M. Atholhu Madharusa outnumber the expatriate teachers. Figure 4.96 displays the number of teacher in the two schools of Kolhufushi in March 2015.

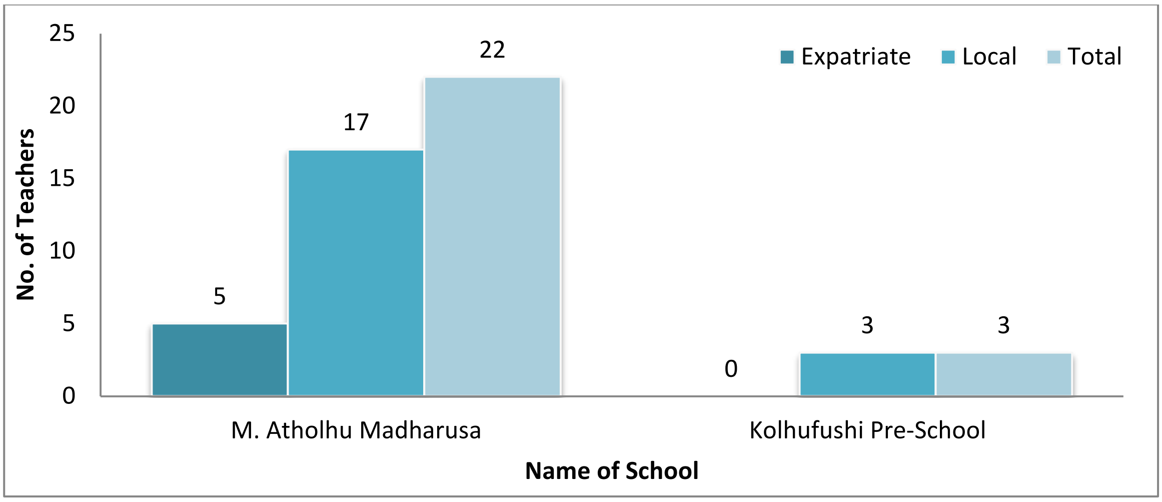


Figure 4.96: Number of teachers in the schools of Kolhufushi in March 2015

Source: Ministry of Education, 2014

4.6.4.3 Employment

Employment and Unemployment Rates

According to census 2006, the total number of economically active population in Kolhufushi was 362. Amongst them 292 are employed and 70 are unemployed. The economically not active population is reported as 169 people. Labour force participation rate is 67.7% and unemployment rate is reported as 19.3%. Much of the unemployment is among the female population, with 34.8% of females unemployed compare to 6.6% males.

Main Employment Sectors

The four main employment sectors in Kolhufushi according to census 2006 are fishing (20.5%), Agriculture and forestry (16.1%), Education (12.7%) and manufacturing (8.6%). Other economic activities practiced in the atoll include construction, transport, storage and communication, wholesale and retail trade and other community, social and personal services activities. Figure 4.97 below shows the main employment sectors in Kolhufushi based on census 2006.

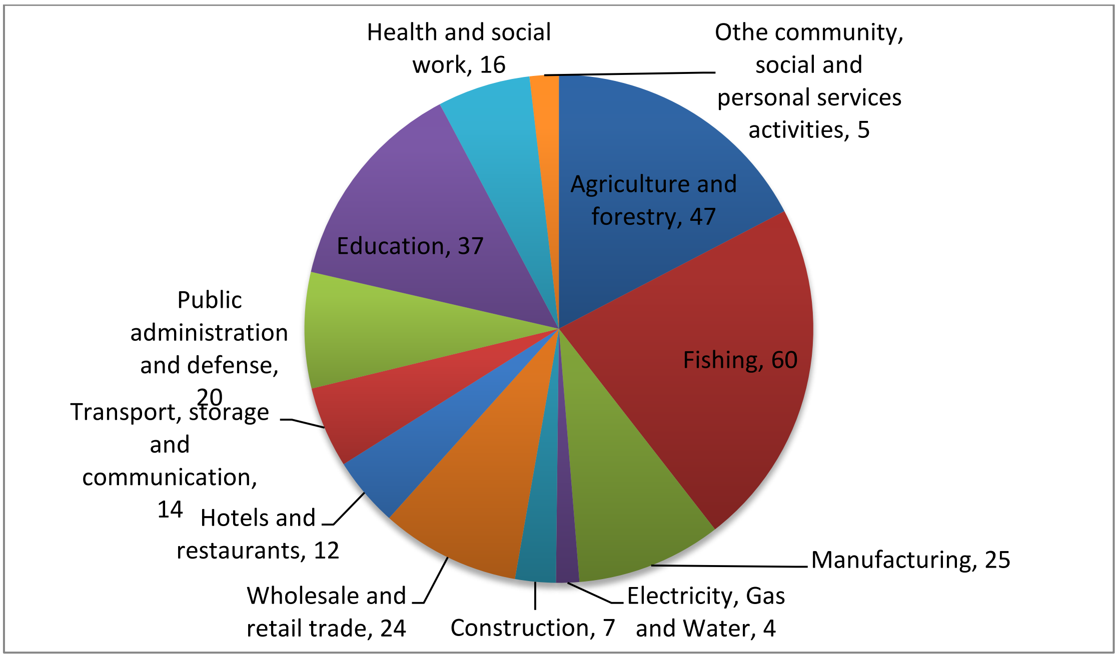


Figure 4.97: Employment sectors in Kolhufushi in 2006

Source: Ministry of Planning and National Development, 2008

4.6.5 GDh. Thinadhoo

4.6.5.1 Population Characteristics

Total Population

According to Preliminary results of Census 2014, Thinadhoo had a total population of 5,268. Out of the total enumerated population in 2014, 2,889 were males and 2,379 were females. The population in 2014 was comprised of 4,707 Maldivians (2,379 males and 2,328 females) and 561 foreigners (510 males and 51 females). Thinadhoo has the highest population in South Huvadhu Atoll and makes up 41.4 per cent of the atoll population. Figure 4.98 below represents population sizes for the all administered islands in the atoll.

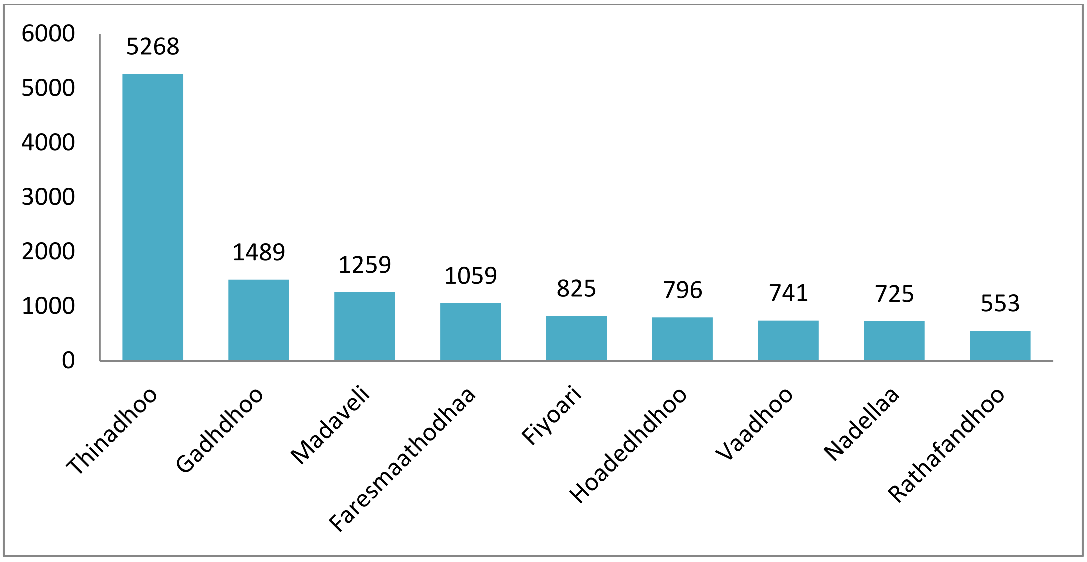


Figure 4.98: Population Size by locality, GDh. Atoll, Census 2014

Source: National Bureau of Statistics, 2014

Sex Ratio

According to census 2006, there were more females than males in *Thinadhoo* with a sex ratio of 95 males per 100 females. The current population of *Thinadhoo* shows that there are more males than females in *Thinadhoo*. The current sex ratio of *Thinadhoo,* according to the census 2014, is 102 males per 100 females.

Annual Growth Rate

According to census 2006 and 2014, the population of South Huvadhu atoll experienced a positive population growth with an average annual growth rate of 0.78. A similar trend is observed in Thinadhoo for the period between 2006 and 2014, with an average annual growth of

0.68. Table 4.16 below shows the population figures for Thinadhoo during census 2000 and 2006.

Table 4.16: Population figures for Census 2000 and 2006 for GDh. Thinadhoo

	Census 2006	**Census 2014**
Total Population	10,991	12,715
Male	5,373	6,874
Female	5,618	5,841

Source: Ministry of Planning and National Development, 2008 and National Bureau of Statistics, 2014

Population Structure

The general structure of Thinadhoo population is shown in Figure 4.99 below. The dependent population is 42%, which comprises of 35% children and 6% elderly. The working age population comprises 58% of the total population of the island. According to this pyramid, the most dominant age group for GDh Thinadhoo is age group 10-14.

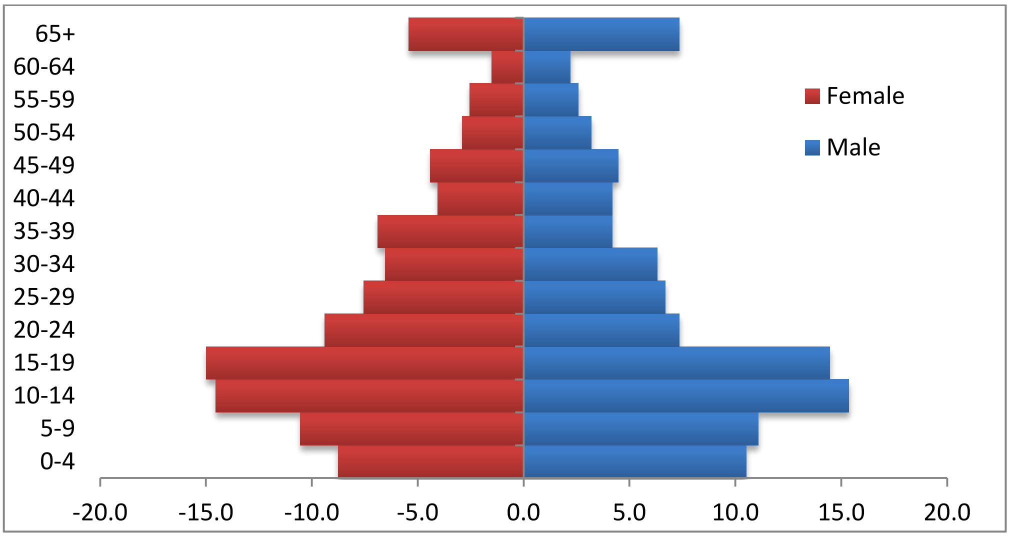


Figure 4.99: Population Pyramid for GDh. Thinadhoo, Census 2006

Source: Ministry of Planning and National Development, 2008

Island Sizes and Population density

According to Maldives Population and Housing Census 2006, Vaadhoo is the biggest administered island in South Huvadhu atoll with an area of 167 hectares. The smallest administered island in the atoll is Madaveli with an area of 34 hectares. Thinadhoo has an area of 104 hectares according to census 2006.

Gadhdhoo is the most densely populated island in the atoll with a population density of 65 persons per hectare. The most populous island is Gadhdhoo as well. The least populous island is Vaadhoo with a population density of 4 persons per hectare. Figure 4.100 below shows population densities for all administered islands in the atoll. The density is given in persons per Hectare.

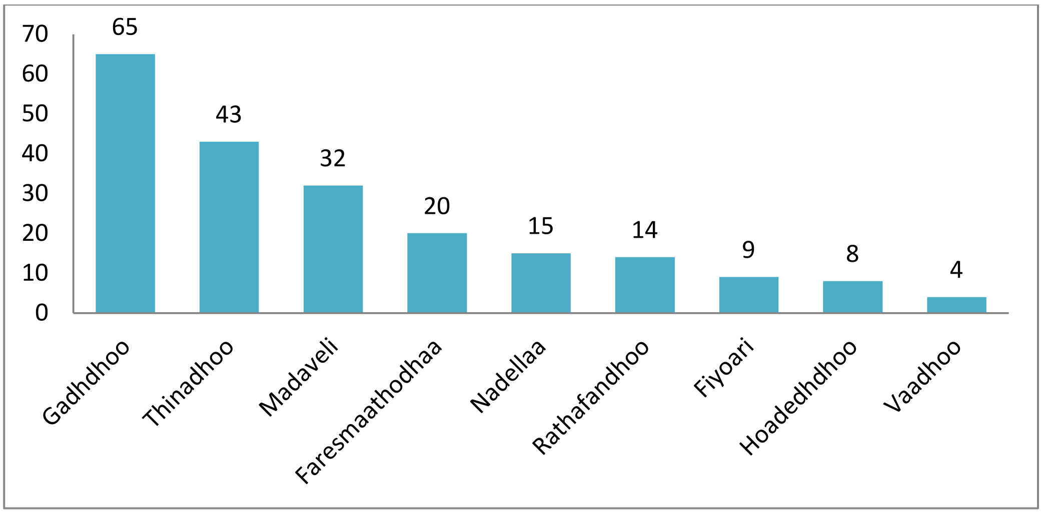


Figure 4.100: Population density for GDh.Atoll, Census 2006

Source: Ministry of Planning and National Development, 2008

4.6.5.2 Education

According to School Statistics report published by the Ministry of Education in 2015, there were a total of 1,339 students in Thinadhoo enrolled in different levels of studies. Out of the total student population, 671 were males and 668 were female students. Figure 4.101 below shows the number of students enrolled in different levels of education by gender in March 2015 in Thinadhoo.

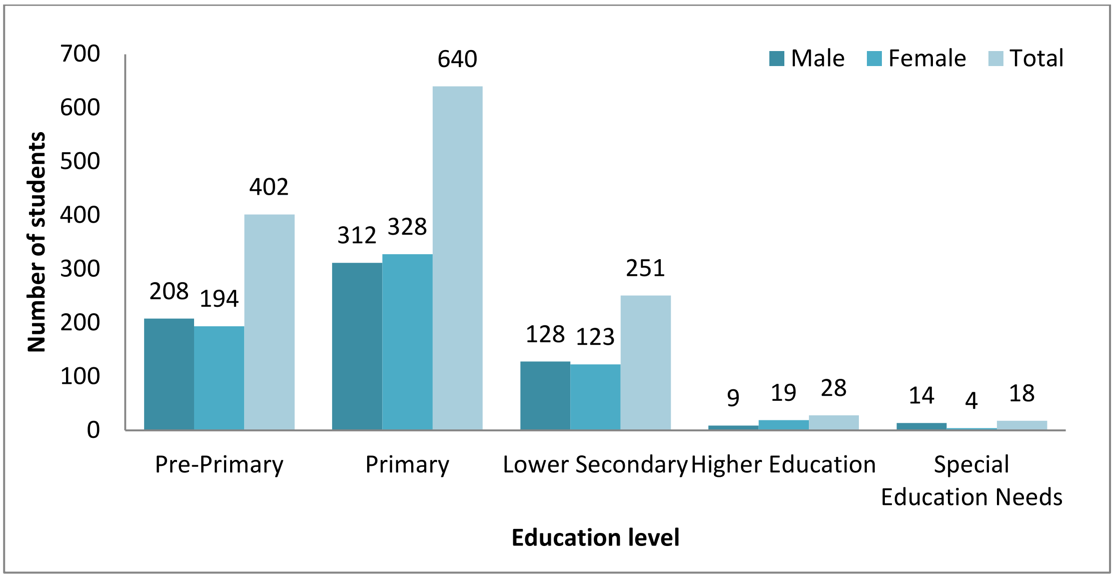


Figure 4.101: Number of students in Thinadhoo by level of education and by gender in March 2015

Source: Ministry of Education 2015

There are 3 Government schools in Thinadhoo; Gdh. Atholhu Thauleemee Marukazu, Thinadhoo School and Aboobakuru School. Gdh. Atholhu Thauleemee Marukazu has grades from 1-12, while Thinadhoo School teaches for grades from 1-7. Aboobakuru School has classes starting from grade 1 to offering education up to grade 7. Aboobakuru School offers a special education needs program to the students who are in need of such education. In March 2015, there were a total of 18 students enrolled in this program 14 of whom were male students and 4 were female students. Additionally there are five pre-schools in the island, Raula Preschool, Tutorial Preschool, Uloomiyya, M.M. Preschool and Ameer Ibrahim, all run private. Figure 4.102 shows the number of students enrolled in in each school of Thinadhoo by gender in March 2015.

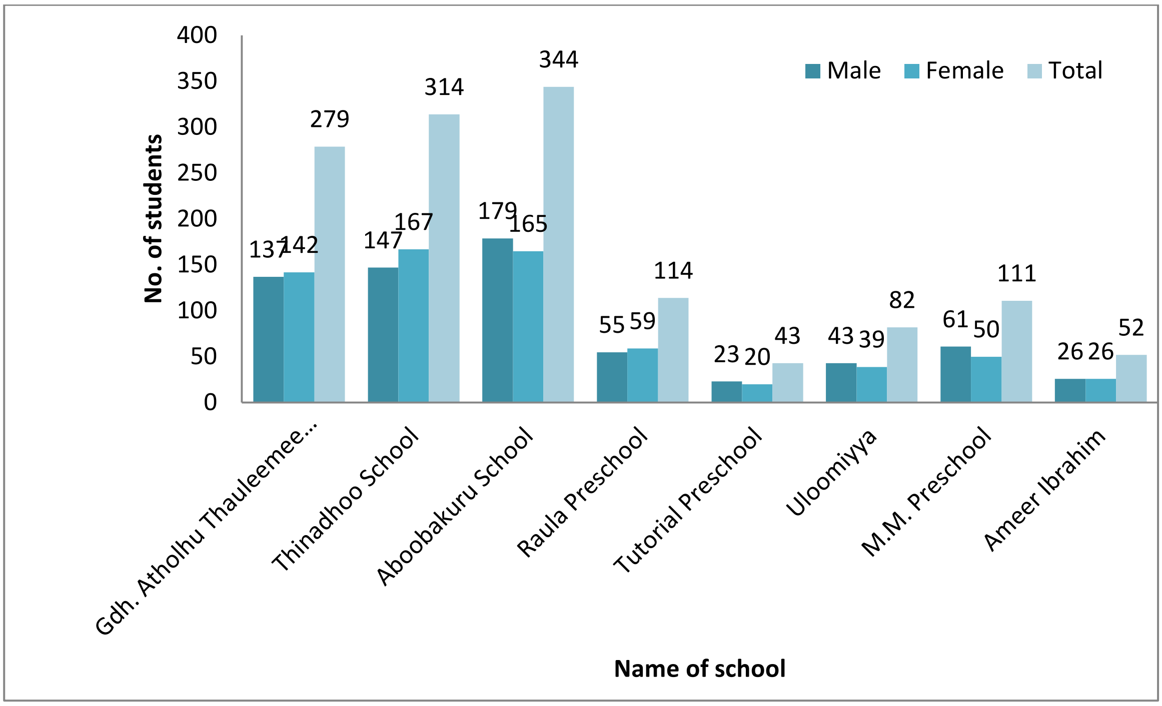


Figure 4.102: Number of students enrolled in schools Thinadhoo by gender in March 2015

Source: Ministry of Education, 2015

Six out of the eight schools in Thinadhoo had only local teachers in March 2015. These schools are Aboobakuru School, Raula Preschool, Tutorial Preschool, Uloomiyya, M.M. Preschool and Ameer Ibrahim. However, the number of local teachers outnumbers the expatriate teachers in Thinadhoo School. Figure 4.103 displays the number of teacher in the five schools of Thinadhoo March 2015.

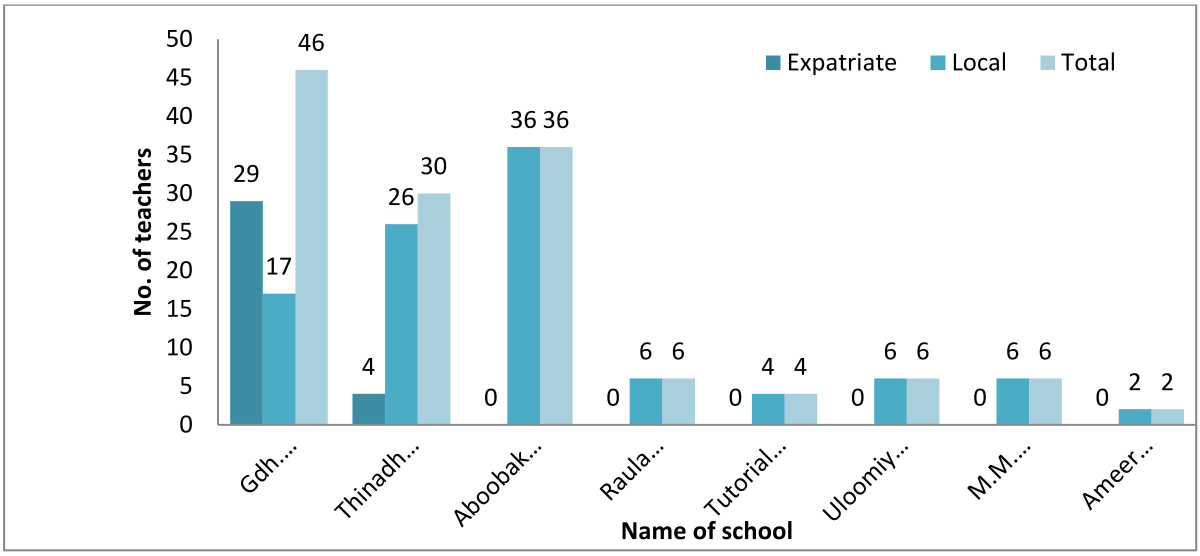


Figure 4.103: Number of teachers in the schools of Thinadhoo in March 2015

Source: Ministry of Education, 2015

4.6.5.3 Employment

Employment and Unemployment Rates

According to census 2006, the total number of economically active population in Thinadhoo was 1,755. Amongst them 1,406 are employed and 349 are unemployed. The economically not active population is reported as 965 people. Labour force participation rate is 60.6% and unemployment rate is reported as 19.9%. Much of the unemployment is among the female population, with 27% of females unemployed compare to 14%% males.

Main Employment Sectors

The four main employment sectors in Thinadhoo according to census 2006 are manufacturing (17.6%), wholesale and retail trade (12.2%), Education (12%) and fishing (11.8%). Other economic activities practiced in the atoll include construction, public administration and defence, health and social work and other community, social and personal services activities. Figure 4.104 below shows the main employment sectors in Thinadhoo based on census 2006.

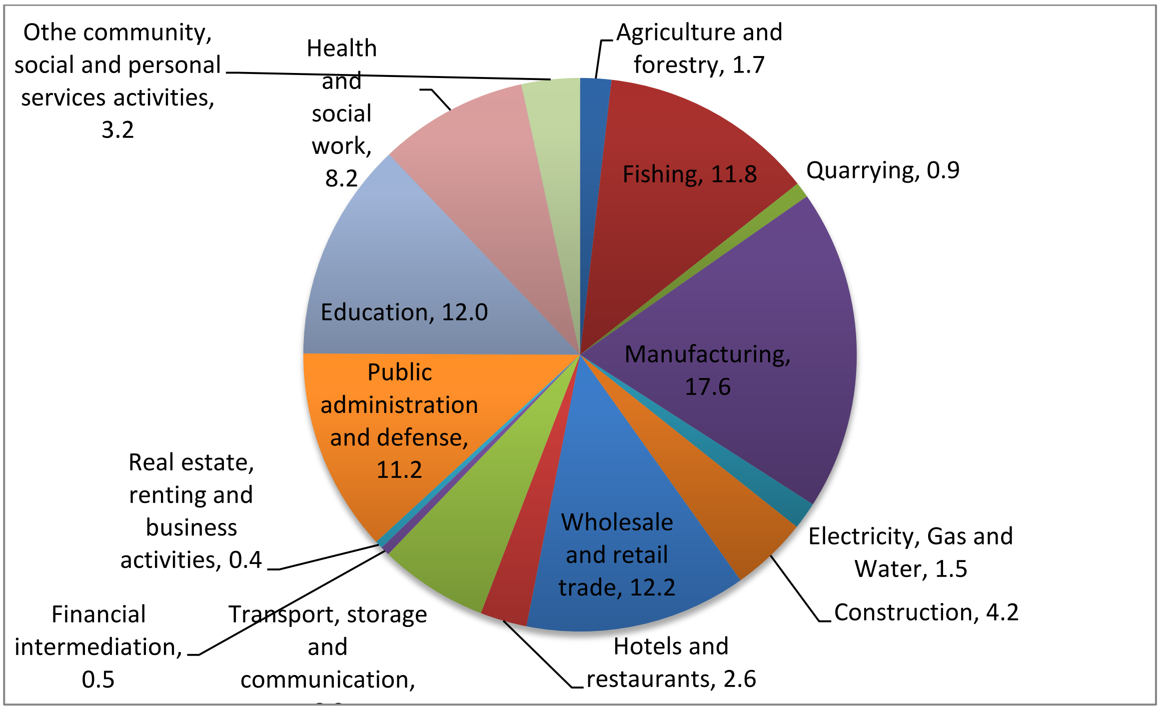


Figure 4.104: Employment sectors in S.Hithadhoo in 2006

Source: Ministry of Planning and National Development, 2008

4.6.6 S.Hithadhoo

4.6.6.1 Population Structure

Total Population

According to Preliminary results of Census 2014, Hithadhoo had a total population of 10, 575. Out of the total enumerated population in 2014, 5,302 were males and 5,273 were females. The population in 2014 was comprised of 9.894 Maldivians (4,683 males and 5,211 females) and 681 foreigners (619 males and 62 females). Hithadhoo has the highest population in Seenu Atoll and makes up 49 per cent of the atoll population. Hithadhoo is the capital island of Addu City. Figure 4.105 below represents population sizes for the all administered islands in the atoll.

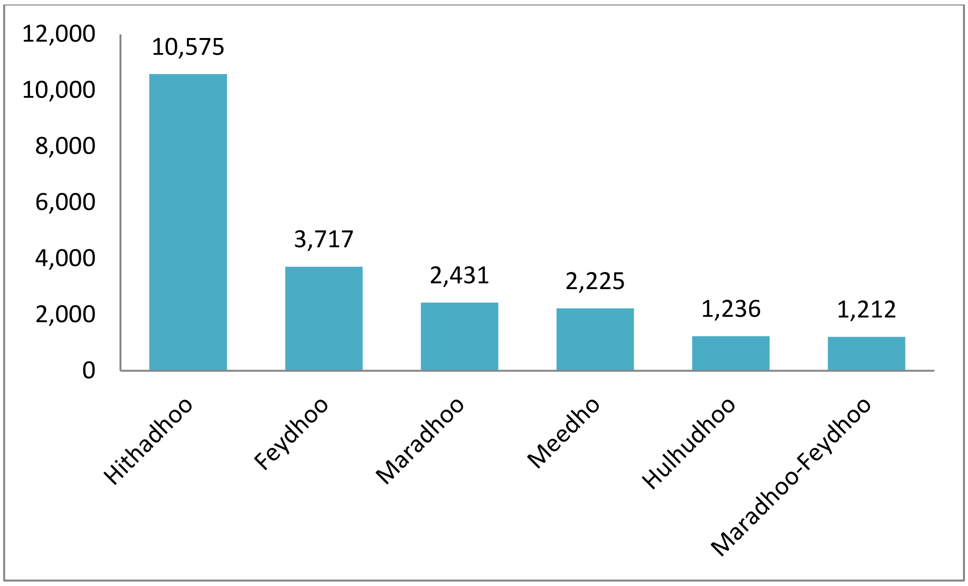


Figure 4.105: Population Size by locality, Seenu atoll, Census 2014

Source: Ministry of Planning and National Development, 2008

Sex Ratio

According to census 2006, there were more females than males in *Hithadhoo* with a sex ratio of 86 males per 100 females. The current population of *Hithadhoo* also shows that there are more females than males in *Hithadhoo*, however, the difference in the number of males and females have decreased. The current sex ratio of *Hithadhoo*, according to the census 2014, is 90 males per 100 females.

Annual Growth Rate

According to census 2006 and 2014, the population of Seenu atoll experienced a positive population growth with an average annual growth rate of 1.10. A similar trend is observed in

Hithadhoo for the period between 2006 and 2014, with an average annual growth of 0.52. Table 4.17 below shows the population figures for Hithadhoo during census 2000 and 2006

Table 4.17: Hithadhoo population census figures of for 2006 and 2014

	Census 2006	Census 2014
Total Population	9,465	10,575
Male	4,365	5,302
Female	5,100	5,273

Source: Ministry of Planning and National Development, 2000 and 2008

Dependency Ratio

The general structure of the population is shown in figure 4.106 below. The dependent population is at 43% of the population, which comprises of 37% children and 7% elderly. The working age population comprises of more than half of the population with 56%.

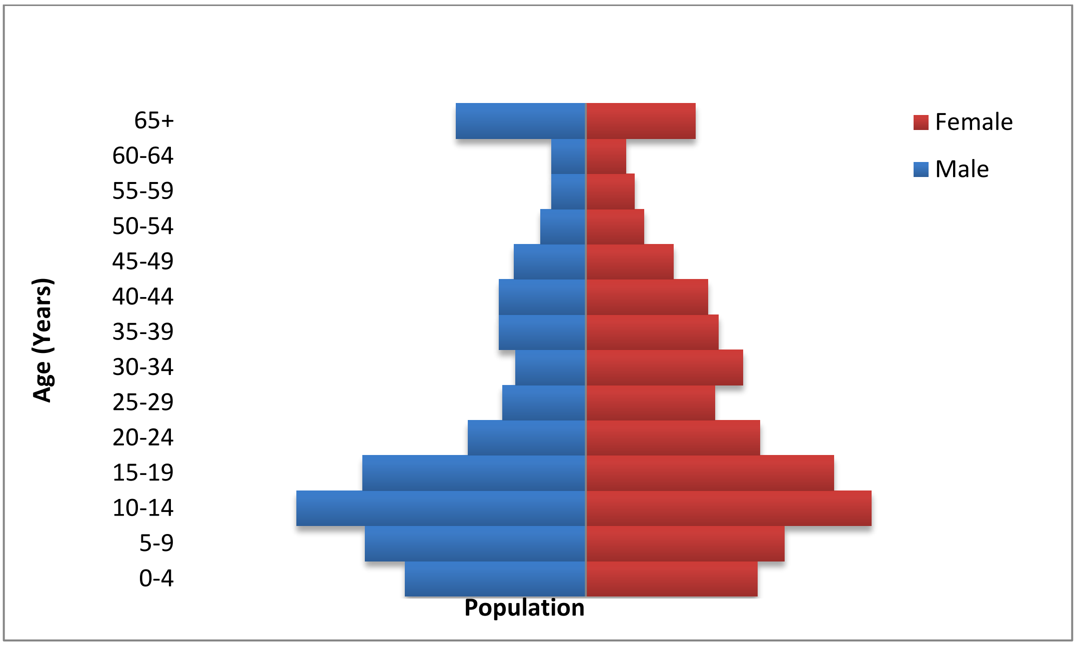


Figure 4.106: Population Pyramid for S.Hithadhoo, Census 2006

Source: Ministry of Planning and National Development, 2008

Population Density

The total area of *Hithadhoo* as of 2003 is 467.30 hectares. It is the third least populous island in *Addu* with a population density of 20. Figure 4.107 below represents population density for all six administered islands of *Addu*.

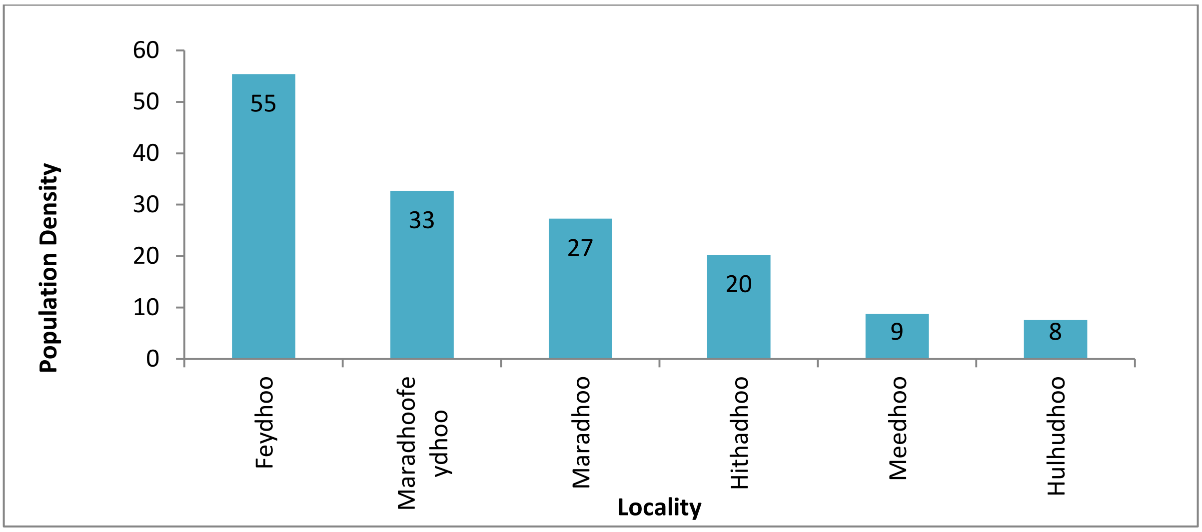


Figure 4.107: Population Pyramid for S.Hithadhoo, Census 2006

Source: Ministry of Planning and National Development, 2008

Migration

According to census 2006, 26% of *Addu* registered population resides in Male' and 36% of the total *Addu* population living in Male' is from *Hithadhoo*. Figure 4.108 below shows the percentage distribution of *Addu* population living in Male' by registered locality.

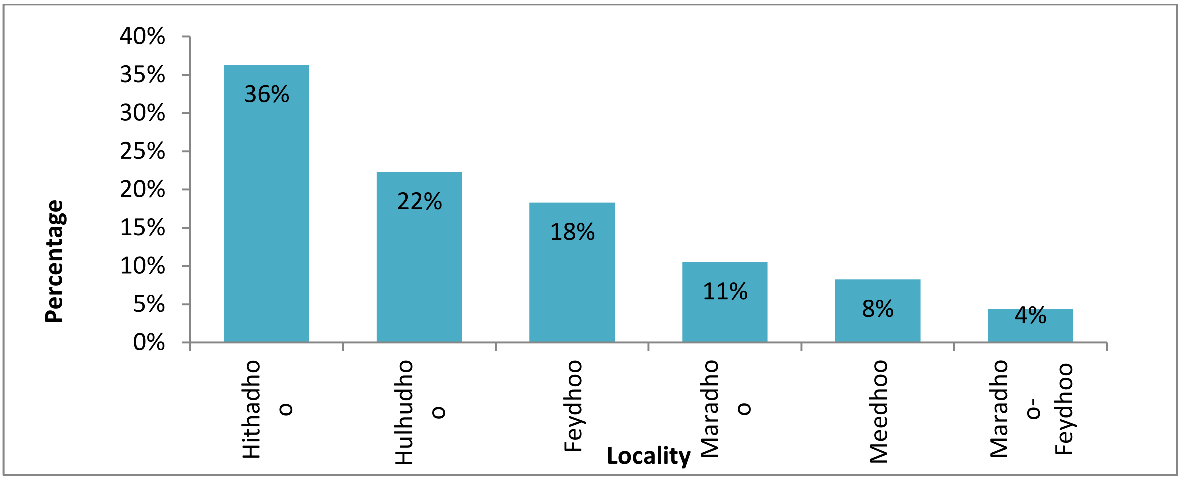


Figure 4.108: Registered population of Seenu Atoll population enumerated in Male', Census 2006

Source: Ministry of Planning and National Development, 2008

Currently, there are a total of 278 foreigners living in *Hithadhoo* including 216 males and 62 females. Out of the 278 foreigners, 120 works in construction, 91 works in education, 42 in health sector, 15 in agriculture and 9 are engaged in other economic activities.

4.6.6.2 Administrative and Institutional Capacity

Heath Sector

There are a total of 4 health service providers including 1 regional hospital and 3 private health clinics and 8 pharmacies in *Hithadhoo.*

At the moment, there are plans to construct a new hospital in *Hithadhoo* with assistance from Islamic Development Bank (IDB). Also the government is currently planning to renovate the *Addu* rehabilitation center with assistance from the government of Pakistan.

4.6.6.3 Education Attainment

According to School Statistics report published by the Ministry of Education in 2015, there were a total of 3,294 students in Hithadhoo enrolled in different levels of studies. Out of the total student population, 1,653 were males and 1,641 were female students. Figure 4.105 below shows the number of students enrolled in different levels of education by gender in March 2015 in Hithadhoo.

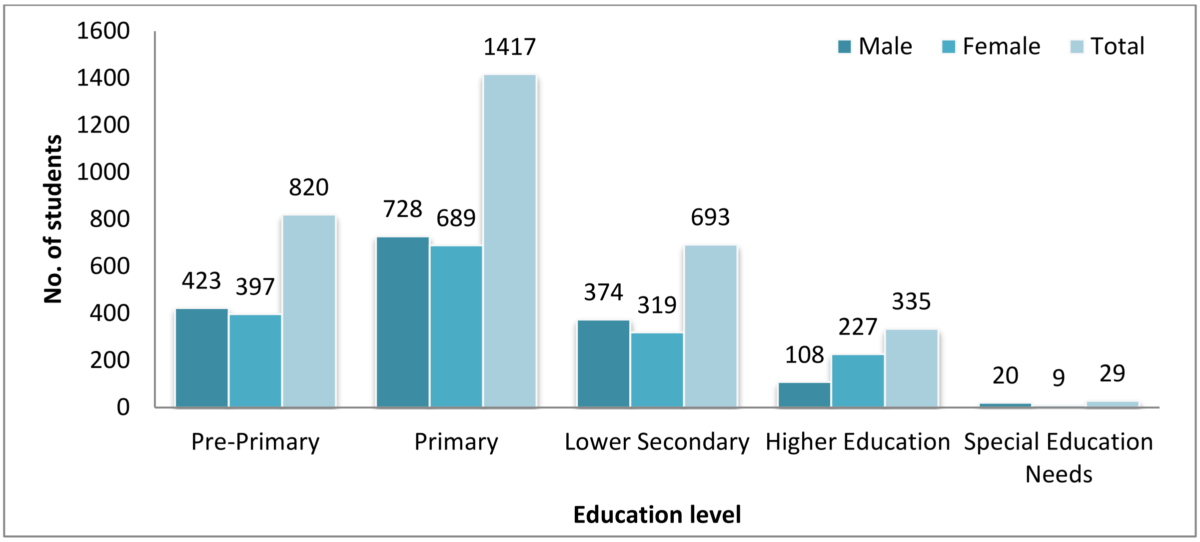


Figure 4.109: Number of students in Hithadhoo by level of education and by gender in March 2015

There are 4 Government schools in Hithadhoo; Addu High School, Hithadhoo School, Sharafuddin School and Nooranee School. Addu High School has grades from 11-12, while Hithadhoo School and Sharafuddin School teaches from grade 1 to 10, and Nooranee School has grades from 1 to 7. Additionally, there are 5 more schools that are private.

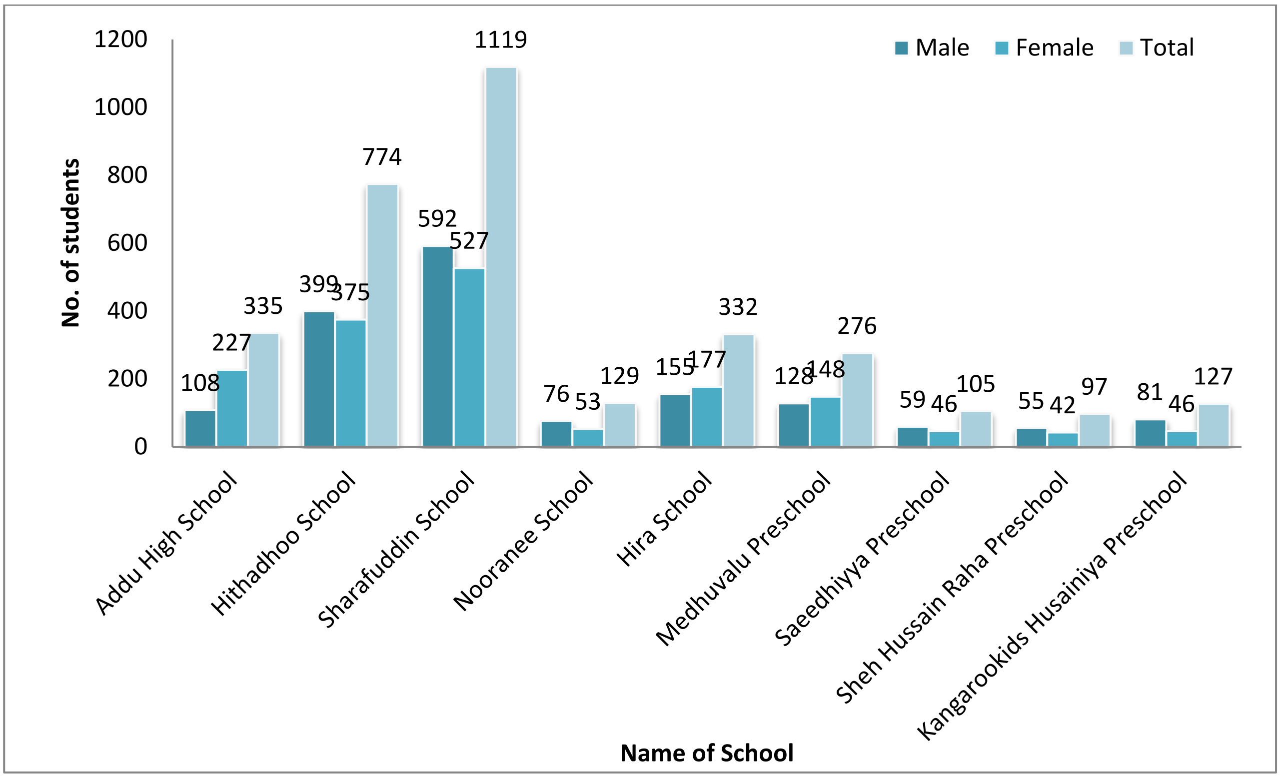


Figure 4.110: Number of students enrolled in schools of Hithadhoo by gender in March 2015

Source: Ministry of Education, 2015

Four out of nine schools in Hithadhoo had only local teachers in March 2015. Medhuvalu Preschool, Saeedhiyya Preschool, Sheh Hussain Raha Preschool and Kangarookids Husainiya Preschool had only local teachers, while the local teachers in the remaining five schools outnumber the expatriate teachers. Sharafuddin School teaches ufrom grade 1 to 10 and they offer a special education needs program to students who are in need of such education. In March 2014, there were a total of 29 students enrolled in this program 20 of whom were male students and 9 were female students. Figure 4.107 displays the number of teacher in the nine schools of Hithadhoo in March 2015.

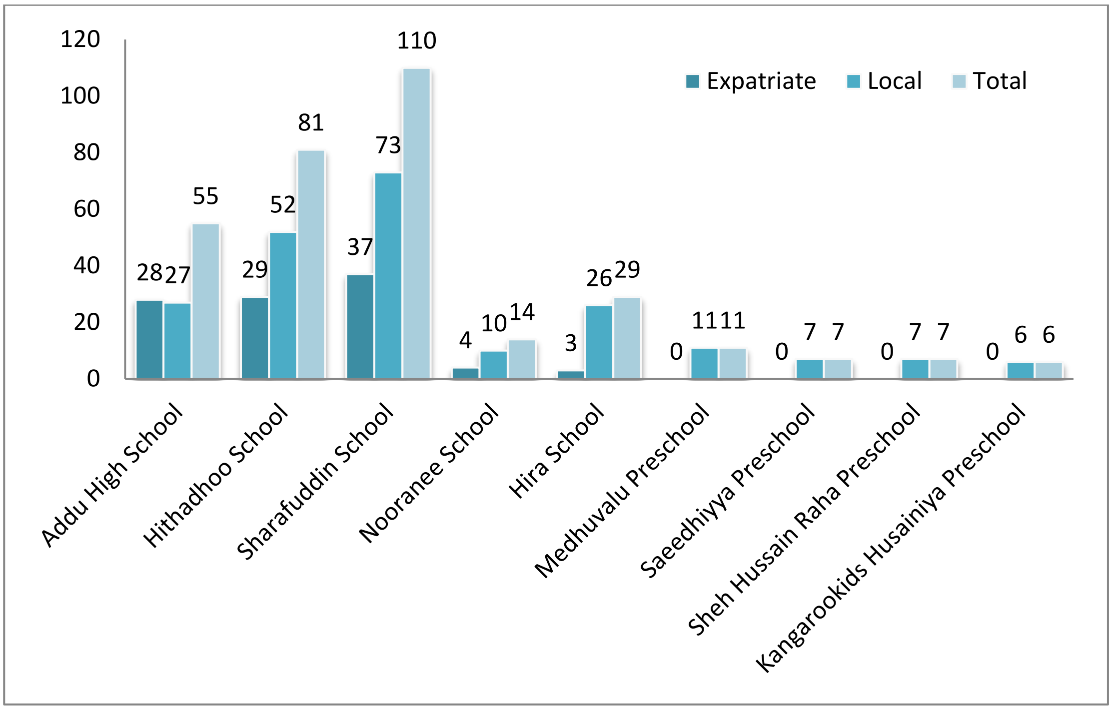


Figure 4.111: Number of teachers in the schools of Hithadhoo in March 2015

Source: Ministry of Education, 2014

4.6.6.4 Employment

Employment and Unemployment Rates

According to census 2006, the total number of economically active population in *Hithadhoo* is 3,300. Among these 2,367 are employed and 933 are unemployed. The economically not active population is reported as 2,550 people. Labor force participation rate is 55.1% and the unemployment rate is reported as 28.3%. Much of the unemployment rate is among female population with 42% of females unemployed compare to 16.6% males.

Main Employment Sectors

The three main employment sectors in *Hithadhoo* include public administration (40%), whole sale and retail trade (16%) and manufacturing (15%). Other main economic activities include transport, storage and communication (8%), fishing (7%) and construction (7%). Figure 4.108 below shows the main employment sectors in S. *Hithadhoo* based on census 2006.

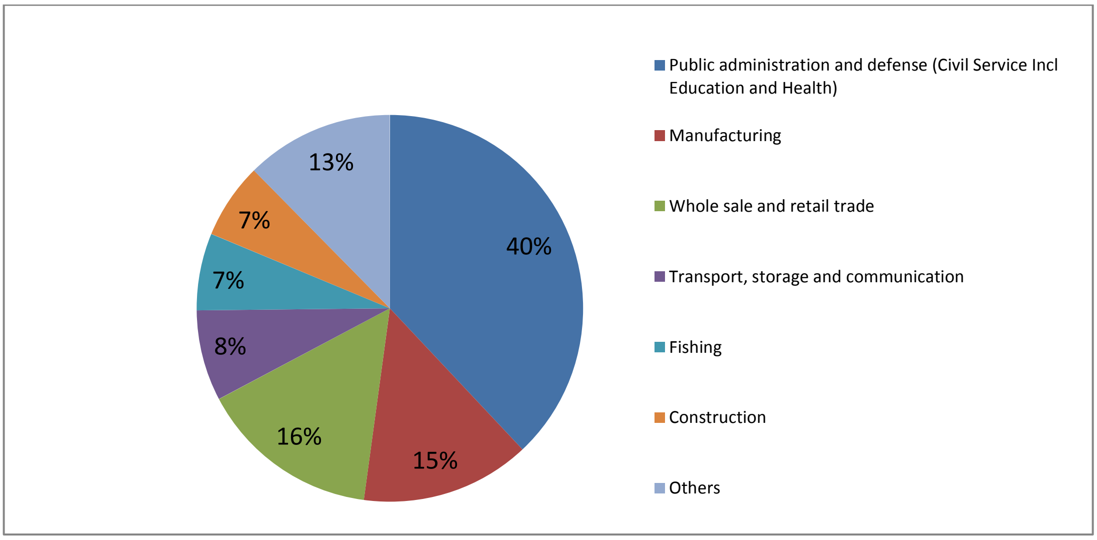


Figure 4.112: Employed Population by Industry in S,Hithadhoo, Census 2006

Source: Ministry of Planning and National Development, 2008

There are noticeable differences in employment with regard to gender. The total employed male population is 3,107 and female population is 1,862. There are also gender variations in employment based on the type of economic activity. Industries such as fishing and construction are completely dominated by working male population. Other sectors including transport, storage and communication, public administration and defense, and whole sale retail and trade are also dominated male working population. On the other hand, education, manufacturing and health and social work are dominated by female work force. Figure 4.109 below shows the main economic sectors in *Hithadhoo* by gender.

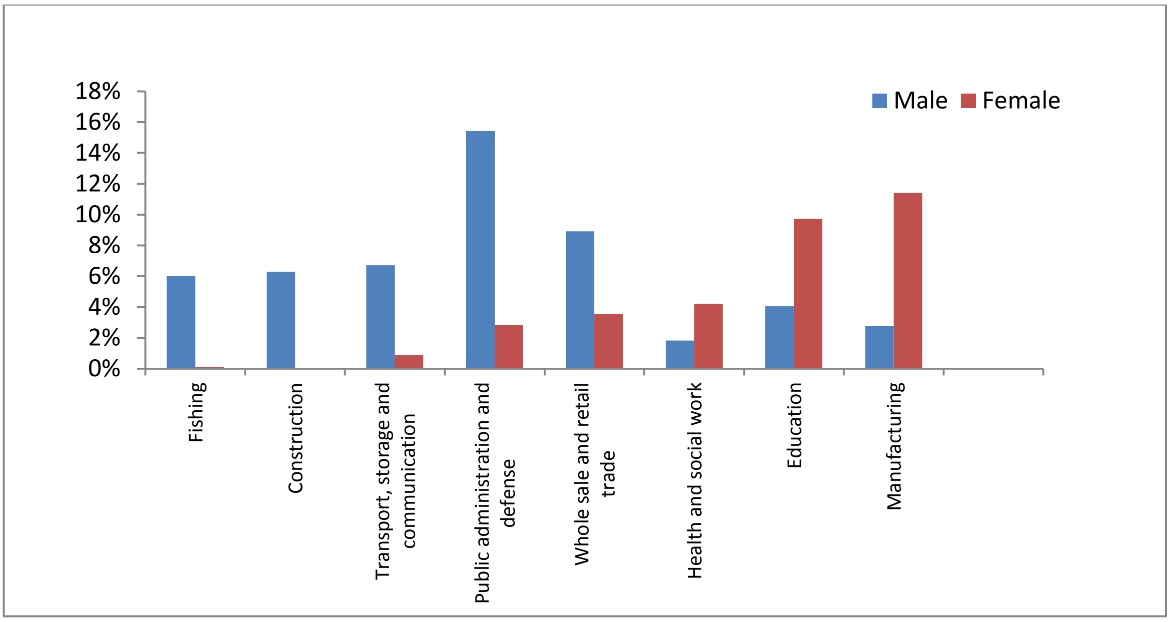


Figure 4.113 Economic Sectors by sex in S.Hithadhoo, Census 2006

Source: Ministry of Planning and National Development, 2008

4.6.6.5 Law and Order

Overall, criminal records are high in *Hithadhoo* compare to the other islands in the city, as *Hithadhoo* had the second highest number of cases reported between 2008 and 2009. The number of cases reported in *Hithadhoo* also increased during this period from 102 cases in 2008 to 117 cases in 2009. Figure 4.110 below presents the number of cases reported to *Hithadhoo* magistrate court in 2008 and 2009 by type of cases. According to the figure, number of cases reported on juvenile offends increased from 2 in 2008 to 4 in 2009 and cases on civil rights violation increased from 47 in 2008 to 75 in 2009. However, the number of cases reported on family related issues decreased from 53 in 2008 to 38 in 2009.

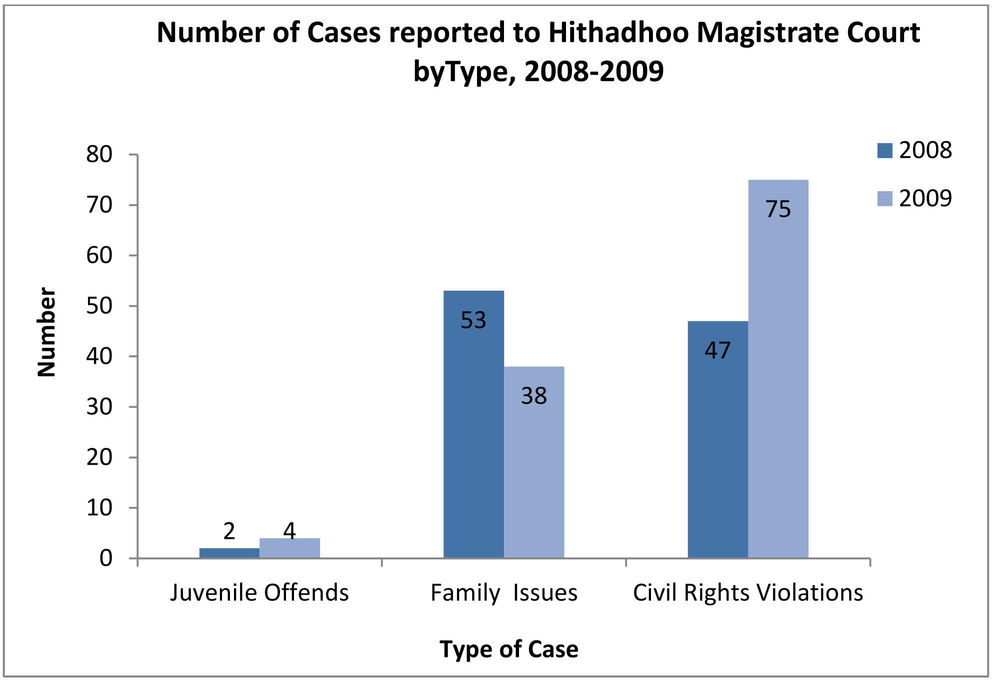


Figure 4.114: Number of cases reported to Hithadhoo Magistrate Court by type

Source: Department of Judicial Administration, 2011

4.6.6.6 Infra-Structure and Services

Households: The total number of houses in *Hithadhoo* at the time of census 2006 is 1,493. However, the total number of households counted in April 2011 is 2,216 and a further 1781 land plots have been given for housing.

Currently there are plans to construct 250 housing units in *Hithadhoo* under the governments' 10,000 Housing Units Program.

Power: Electricity is currently generated using 6 engines and provides electricity for all households in the island for 24 hours a day. Electricity is provided by the utility company.

Toilet Facility: According to census 2006, majority of the households in *Hithadhoo* have toilets connected to septic tank (87%). 10% of the households use reserved compound of the house (*gifili*) and 1% of the households use toilets connected to sea.

Currently there are plans to develop a water and sewerage system in S. atoll with assistance from the Islamic Development Bank (IDB).

Water Supply: At the time of census 2006, 87% of the households use rain water as the main source of drinking water and 12% of the households use well water for drinking. However, only 6% of households use treated water for drinking and 92% stated that they use untreated water for drinking.

- Installation of a desalination plant in *Hithadhoo* is currently ongoing.
- **Waste Management:** According to census 2006, 56.5% of the households have proper ways of garbage disposal in *Hithadhoo.*
- **Cooking:** According to census 2006, 81% of the households use gas for cooking while 11% of households use firewood and 7% use oil as the main source of fuel for cooking.
- **Transport and Communication:**
- The island is linked to *Gan* International Airport and 3 other islands of the city by *Addu* link road. There is a regional harbor and a jetty for travel to and from the island. A total of 104 transport vehicles are registered in *Hithadhoo.*
- Currently there are plans of a road development project in *Hithadhoo* and *Hithadhoo* harbor construction is currently ongoing.
- *Wataniyya* and *Dhiraagu* service offices in *Hithadhoo* are the main communication providers in the island. In addition there is also a post office established for communication in *Hithadhoo.*

4.6.6.7 Sports and Recreation

- Sports and recreational facilities in *Hithadhoo* include 4 football grounds and a children's park.

- Currently there are plans to construct a Youth Center, a cricket stadium and the SAARC convention center in *Hithadhoo.*

5 IMPACT IDENTIFICATION

5.1 Introduction

Potential adverse and beneficial impacts of construction and operation phase of the proposed development are identified and evaluated in this section. Significant impacts are identified and evaluated in two stages. The first stage identifies the environmental and socio-economic components that may be impacted from key project activities. The second stage determines the significance of impacts of each component. The following sections provide details of the evaluation of impacts.

Nature of potential impacts is defined here as No Impact, Adverse Impact or Beneficial Impact. Table 5.1 below provides the nature of potential impacts from the proposed project on environmental and socio-economic aspects by the project components. Where impacts are not applicable to different components, this is indicated as 'X'. Some aspects may be affected both adversely (indicated as [-]) and beneficially (indicated as [+]) from the project.

5.2 Impact Identification and Evaluation

Environmental and socio-economic aspects that may be impacted by the project as identified in Table 5.1 are further evaluated to identify significant impacts. Assessments of the impacts are conducted using the four criteria of Magnitude, Reversibility, Duration and Distribution as described below. Evaluation of key impacts is provided in Table 5.2.

1. **Magnitude**: Refers to the quantum of change that will be experienced as a consequence of the impact.
2. **Reversibility:** Refers to the degree of reversibility of an impact (i.e. ease of reversing the conditions).
3. **Duration:** Refers to the temporal scale (i.e. duration, frequency) of the impact. It does not take into account the duration of the impact's effects.
4. **Distribution:** Refers to the spatial scale of the area impacted (e.g. a small portion of a reef or an entire lagoon)

Estimates for negative impacts represent a 'worst case scenario' based on the assumption that the project will undergo full-scale development with no consideration for its environmental and social consequences, i.e. significance is assessed prior to implementation of mitigation measures. Values are attributed by the EIA team on the basis of direct observation of surveyed sites, professional judgment and pre-existing experience in development projects of similar nature.

5.3 Evaluation of Cumulative Impacts

While direct primary impacts are relatively easy to identify and evaluate, special consideration needs to be afforded to evaluating cumulative impacts. While it is relatively simple to identify and evaluate direct primary impacts, the complex nature of natural systems makes it difficult to accurately predict synergistic and interactive impacts of a particular development project. On the other hand, it is relatively simple to identify potential additive impacts.

The following sources of cumulative impacts were considered in evaluating the potential impacts of deploying a nationwide submarine cable.

- Time crowding: overall impacts of many similar concurrent developments. E.g. While many marine species and birds are relatively versatile and can relocate to other similar habitats following disturbances, concurrent developments in nearby habitats will reduce their chances of relocation and survival.
- Space crowding: high density of impacts on a single environmental medium. E.g. release of effluent from different sources into the same area.
- Indirect impacts: secondary and tertiary impacts resulting from an activity. E.g. groundwater contamination can affect the growth of terrestrial plants, which result in loss of habitat for terrestrial fauna.

Triggers and thresholds: ecological systems can undergo fundamental changes beyond certain thresholds. Standards and guidelines have been developed based on anticipated threshold levels, for instance, in determining water quality. Such standards have been considered, where available.

Table 5.1: Impact Identification Matrix

STAGE	Project activities	Environmental Factors														
		Ambient noise level	Ambient air quality	GHG emissions	Hydro-dynamics	Ground water	Coastal Processes	Marine water	Terrestrial Flora & fauna	Soil Condition	Marine Flora and Fauna	Reef Integrity	Landscape Integrity/ Scenery	Natural Hazard Risk	Social cohesion	Local Economy
Construction	Site setup and equipment mobilization	-	X	-	X	X	X	-	-	-	X	X	-	X	X	+
	Construction of beach manholes and manholes	-	X	X	X	-	X	X	X	X	X	X	X	X	X	+
	Cable deployment offshore	-	-	-	X	X	X	-	X	X	-	X	-	+/-	+/-	+
	Cable deployment on land	-	-	-	X	-	X	X	X	-	X	X	X	X	+/-	+
	Worker accommodation and activities	X	X	X	X	X	X	X	X	X	X	X	X	X	+/-	+
	Waste disposal	X	X	X	X	X	X	-	X	X	X	X	X	X	X	X
	Demobilization	-	X	-	X	X	X	X	X	X	X	X	X	X	X	X
Operation	General operation	X	X	X	X	X	X	X	X	X	X	X	X	X	X	+
	Maintenance	X	X	X	X	X	X	X	X	X	X	X	X	X	X	+

X (no impact), - (negative impact), + (positive impact)

Table 5.2: Evaluation of key impacts on the natural and socio-economic environment

Impact area	Potential impacts	Magnitude	Reversibility	Duration	Distribution	Significance
Ambient noise level	**Noise pollution:** Operation of cable laying ship, vehicles, and machineries during construction phase is expected to generate high noise. However these will not be operated continuously for a long period of time, and operation hours will be limited to daytime. Noise is not expected to be generated during operation phase.	Minor negative	Easily reversible	Short term	Vicinity of project sites (all islands)	Minor
Ambient air quality	**Air quality degradation:** Negligible level of dust and air emissions during transport of equipment to the project site, and operation of equipment during the construction stage. As equipment will not be operated continuously for a long time, the level of degradation will be minimal	Minor negative	Easily reversible	Short term	Island-level (all islands)	Minor
GHG emissions	**Increase in GHG in atmosphere**; Transport of equipment, and operation of equipment and vehicles during the construction stage will result in the emission of GHGs. The increase in GHG emissions due	Minor negative	Reversible in the long term	Short term	Island level	Minor

Impact area	Potential impacts	Magnitude	Reversibility	Duration	Distribution	Significance
	to the project will be negligible.				(all islands)	
Groundwater	**Groundwater contamination:** Accidental spillage/leakage of fuel from vehicles, and equipment used in construction to ground can contaminate groundwater.	Moderate negative	Reversible in the long term	Short term	Site level (all islands)	Moderate
Marine water	**Pollution of marine environment**: Accidental spillage of waste, fuel and lubricants into the marine environment during construction works, and waste disposal can contaminate marine water. Accidental spillage from the cable laying ship	Moderate negative	Reversible in the long term	Short term	Site level (all islands)	Moderate
	Temporary sedimentation and turbidity The manual clearing activities on the reef flat to place the cables and the pre-cast trench will cause some disturbance to the lagoon bottom and temporary turbidity within a 50 m radius	Moderate negative	Reversible as soon as work finishes	Work period only	Site level (all islands, except Hulhumale’)	Minor
Terrestrial Flora and Fauna	**Loss of terrestrial flora and fauna:** Few trees and shrubs that occur within on-shore cable deployment sites may need to be removed during the site preparation phase.	Minor negative	Reversible in the long term	Long term	Site level (Hithadhoo and Kulhudhuffu	Minor

Impact area	Potential impacts	Magnitude	Reversibility	Duration	Distribution	Significance
					shi)	
Coastal Environment	**Coastline Changes** Construction of trench close to the beach can have negative impacts on the coastal processes. However, the proposed trenches are below water level during most of the tides and given that they will be located on high energy ocean side environment, their impact on coastal processes are expected to be negligible. This patter is observed in existing structures in Kulhudhuffushi.	Moderate negative	Reversible in the long term	Short term	Site level (Kulhudhuffushi, Hulhumale, Kolhufushi, Hithadhoo)	Minor
Soil Condition	**Soil contamination**: Accidental spillage/ leakage of fuel, lubricants, etc. from vehicles and equipment can contaminate soil in the area.	Minor negative	Reversible in the long term	Short term	Site level (all islands)	Minor
Marine Flora and Fauna	**Loss of sessile life forms**: Sessile marine life within the footprint of the cable deployment sites offshore will be lost. Workers may unknowingly damage corals and other marine life if proper care is not given during offshore cable deployment. Dragging the cables on the reef flat and slope will also	Moderate negative	Moderate negative	Moderate negative	Site level (all islands)	Moderate

Impact area	Potential impacts	Magnitude	Reversibility	Duration	Distribution	Significance
	damage the corals within the foot print					
	Loss of seagrass Sea grass colonies that occur within the proposed cable route will be lost, either by clearance or placement of cable and precast concrete trench.	Moderate negative	Moderate negative	Moderate negative	Site level (Kolhufushi and Hithadhoo)	Minor
Landscape Integrity/ Scenery	**Loss of visual amenity**: Mobilization and operation of cable laying ship, vehicles and machineries will have a negative impact on landscape. However this will be for a short duration.	Minor	Easily reversible	Short term	Site level (all islands)	Minor
Health and Safety	**Risks to health and safety**: Cable deployment and trenching work underwater pose a significant risk to the health and safety of the workers as cable deployment sites in most islands are the ocean ward side where wave activity is the strongest. This risk	Major	Possibly irreversible	Long term	Island level (all islands)	Major

Impact area	Potential impacts	Magnitude	Reversibility	Duration	Distribution	Significance
	will be higher if work is undertaken during the SW monsoon. Trenching and excavation work on land poses risks to the health and safety of workers (e.g. accidental falls, cave-ins). In addition, accidents related to equipment handling can occur during construction.					
Demand for Resources and Services	**Increased Demand:** Demand for, energy and waste disposal will increase slightly during construction, both for construction activities and construction workforce. The existing facilities on the island are expected to be sufficient to meet the slight increase in demand, which will not last beyond the construction period.	Negligible	Reversible	Short term	Island level (all islands)	Insignificant
Local Economy	**Economic growth:** Temporary employment opportunities will be created for construction related activities.	Minor positive	Reversible	Short term	Island level (all islands)	Minor

Impact area	Potential impacts	Magnitude	Reversibility	Duration	Distribution	Significance
	Improved telecommunication services are expected to significantly contribute to the enhancement all economic activities throughout Maldives. In addition, reduction in cost of telecommunication services is expected to contribute to the positive growth of the local economy.	Major positive	Reversible with costly implications	Long term	Nation wide	Major

6 SIGNIFICANT IMPACTS AND MITIGATION MEASURES

This section describes significant adverse impacts of the project, and key measures proposed to mitigate these impacts. A complete list of mitigation measures is presented in section 6.2.

6.1 Description of significant impacts on Natural Environment during Construction Phase

6.1.1 Marine Flora and Fauna

Marine life, particularly sessile life forms such as corals, seagrass/seaweed that occurs within the footprint of the cable line will be manually cleared during the cable deployment, and trenching works offshore. Coral colonies that occur outside the cable route may be damaged either through standing, trampling, or hitting with fins by scuba divers or snorkelers involved in the project. To minimize impact on marine flora and fauna the following measures are proposed.

Mitigation Measures:

- Identify and mark the exact cable route
- Brief all workers to avoid live corals in the area, and on proper behaviour in water to avoid damage to corals and marine life
- Relocate coral colonies that occur within the cable route

6.1.2 Health and Safety

Health and safety risks may arise during cable deployment and trenching works. Cable deployment sites in most islands are on the ocean wards where the wave activity is the strongest. Proper care must be taken to minimize health and safety risks of all involved. The following measures are proposed to mitigate these risks:

Mitigation Measures

– Use all necessary health and safety measures at all times of the project
– Competent and skilled swimmers, snorkelers/scuba divers will be involved in all underwater works
– Buddy system will be followed for all underwater works
– All necessary safety gear will be worn at all times.
– First aid kits will be made available on site

In addition, trenching and excavation work on land also poses risks to the health and safety of workers and general public of the respective islands. The main risks associated with works on

land include road accidents from falling into the trench or from operation of excavator and accidents from handling work equipment. Following measures can be taken to mitigate these risks:

Mitigation Measures

- Mark the worksite using large and clear signboards
- Inform public about the work and warn about health and safety risks
- Fence off work area using tapes or other appropriate method
- Temporarily close off the road where work is on going
- Keep a site supervisor on site at all times
- Wear proper safety gear at all times during construction work
- Keep first aid kits available on site

6.1.3 Increased Turbidity levels in Marine Water

Manual clearing activities on the reef flat to place the cables and pre-cast trench is expected to cause some disturbance to the seabed, and elevate the level of turbidity with a 50 m radius of the site. But it is expected to subside shortly, without any significant damage and disturbance to biodiversity in this area. To reduce turbidity and sedimentation that might be incurred during this process, the following measures are proposed.

Mitigation Measures

- Complete works in shortest time period possible
- Carry out work in low tide hours and in calm condition

6.1.4 Contamination of Marine Water

During offshore works, any accidental spill of oil and toxic substances will contaminate the marine. Refuelling and fuel handling is the most likely source of pollution.

Mitigation Measures

- In case of accidental oil spillage, identify oil leakage source and stop the leakage. Contain the oil within booms and collect oil using a skimmer
- Carryout construction activities in low tide, and calm sea conditions to reduce the risk of accidental spillages.

6.2 Suggested Mitigation Measures for Adverse Impacts

Table 6.1: Suggested mitigation measures for potential adverse impacts

Environmental Aspect	Mitigation Measures	Mitigation Cost	Responsible Party
Noise and Vibrations Level	• Complete all construction activities in the shortest possible duration, • Carryout all construction activities during the day • Tune and maintain all vehicles, and equipment	• N/A • N/A • Included in contract value	Contractor/ proponent
Air Quality	• Complete all construction activities in the shortest possible duration • Tune and maintain all vehicles and equipment	• N/A • Included in contract value	Contractor/ proponent
GHG emissions	• Tune and maintain all vehicles, and equipment • Complete all construction activities in the shortest possible duration	• N/A • Included in contract value	Contractor/ proponent
Land and Groundwater	• Proper maintenance of vehicles and equipment • Close supervision of construction activities • Use the smallest foot print possible to deployment of cable • Use designated routes to transport construction vehicles	• Included in contract value • Included in contract value • N/A • N/A	Contractor/ proponent

Environmental Aspect	Mitigation Measures	Mitigation Cost	Responsible Party
Terrestrial flora & fauna	• Clear instructions to all construction workers and those involved in the project regarding care for biodiversity • Close supervision of construction activities • Only clear shrubs and trees that falls into the boundary. • Where possible relocate the trees/shrubs that require removal	• Included in contract value • Included in contract value • Included in contract value • Included in contract value	Contractor/ Proponent
Marine water	• Close supervision of construction activities and monitoring for littering and oil contamination • Oil spill handling kits on site • In case of accidental oil spillage, identify oil leakage source and stop the leakage. Contain the oil within booms and collect oil using a skimmer. • Carryout all construction works during low tide and Calm Sea conditions. Avoid working during strong wave activity on the ocean side.	• Included in contract value • Included in contract value • Included in contract value • N/A	Proponent/ contractor
Marine flora & fauna	• Monitoring to identify population and community level changes	• US$ 200 per survey	Proponent/ Contractor /

Environmental Aspect	Mitigation Measures	Mitigation Cost	Responsible Party
	• Carryout all construction works during low tide, and calm sea conditions to minimize adverse impact on marine life • During site clearance relocate coral colonies that occur within the designated footprint of the cable route to near by areas with similar depth contour and substrate composition o Use chisel and hammer to carefully remove the coral colony where appropriate o Place the coral colony in flow through boxes o Tow the flow through boxes under water to the relocation site using the shortest route and time possible o Use epoxy glue or cement to attach coral colony onto hard substrate at site • Instruct all workers involved to avoid live coral in the area, and on proper behavior in water to avoid damage to corals and marine life in the area • Restrict all project activities to the cable route.	• N/A • US$ 2000 per site • NA • NA	Consultant
Health and safety	• The contractor would ensure that Health and Safety procedures are complied with at all times. • All construction activities would be carried out under the supervision of a suitably experienced person. • All reasonable precautions will be taken for the safety of employees, and only competent persons will operate specialized equipment. • Skilled swimmers, snorkelers/scuba divers will be involved in		

Environmental Aspect	Mitigation Measures	Mitigation Cost	Responsible Party
	all underwater works • Buddy system will be followed for all underwater works • Health checks will be administered before work commences • Warning signs, barricades or warning devices will be provided and used. Especially at the earth trenching sites on the islands. • Necessary safety gear will be worn at all times. • Fire extinguishing equipment would be readily available and employees will be trained in its use. • Oxygen, acetylene or LPG bottles will not be left free-standing. • First aid kits will be made available on site • Ladder should be kept on site at where excavation and trenching works are being conducted	Included in contract value, estimated at MVR 7500 to 10,000	Proponent/ contractor

7 ALTERNATIVES

7.1 "No-Project" Alternative

The comparison of advantages and disadvantages of No Project option is provided in Table 7.1 below.

Table 7.1: Summary of no project alternative

Advantages	Disadvantages
Potential environmental and health problems related to the proposed development can be avoided.	The proponent will not be able to cater for increasing demand for telecommunication services across Maldives. Opportunity to improve the quality of telecommunication services across Maldives is lost. Lost opportunity to enhance local economy via improvement of telecommunication services. National security in terms of having a secondary cable network will not be achieved.

Environmental and health concerns related to the project can be avoided or minimized with proper mitigation measures. The project offers a significant improvement in telecommunication services across the Maldives that will benefit the nations economy immensely as well as provide additional security. Benefits of this project outweigh the potential disadvantages; hence it is recommended to go ahead with the project with the proposed mitigation measures.

7.2 Alternative Earth Trenching Method

Use of excavators for earth trenching carry a significant risk of damaging the existing utility and telecommunication networks. As highlighted in stakeholder consultations, manual excavation is expected to reduce the potential risk of damages to existing cables/pipelines. The following table summarizes the advantages and disadvantages of manually excavating earth trench.

Table 7.2: Summary of no project alternative

Earth Trenching Method	Advantages	Disadvantages
Manually excavate earth using shovel	- Potential damage to existing pipelines, and cables will be reduced - Inexpensive - No emission - Potential for groundwater contamination will be lower - Noise pollution will be reduced	-Very slow compared to proposed method -Labour intensive -Project duration will be longer

Where practical it is recommended to use manual excavation on sites where risk of damages to cables/pipelines is significantly high.

8 ENVIRONMENTAL MANAGEMENT PLAN

The Environmental Management Plan (EMP) is an important component of the EIA process, needed to determine the accuracy of impact prediction, the adequacy of mitigation measures, and level of compliance with commitments regarding implementation of mitigation measures and monitoring of relevant environmental aspects.

The main objectives of the environmental management plan are to:

– Produce a framework for managing anticipated impacts, including practicable and achievable performance requirements and systems for monitoring, reporting and implementing corrective actions.
– Provide evidence of compliance to legislation, policies, guidelines and requirements of relevant authorities.

8.1 Environmental Management System

The environmental management framework for the proposed project is based on applicable standards and policies set out by the Ministry of Tourism of the Maldives.

- **Environmental Management Planning and establishment of key performance indicators:** The EMP specifies environmental management measures and required performance standards.
- **Monitoring and corrective action**: The implementation of EMP measures will be monitored. Any inconsistencies between the EMP and its on-site implementation will be identified and addressed through corrective actions.
- **Auditing, reviews and improvement**: The EMP will be reviewed. Improvements to the EMP will be made as necessary to achieve desired environmental outcomes.

The environmental management strategy is demonstrated in the following figure.

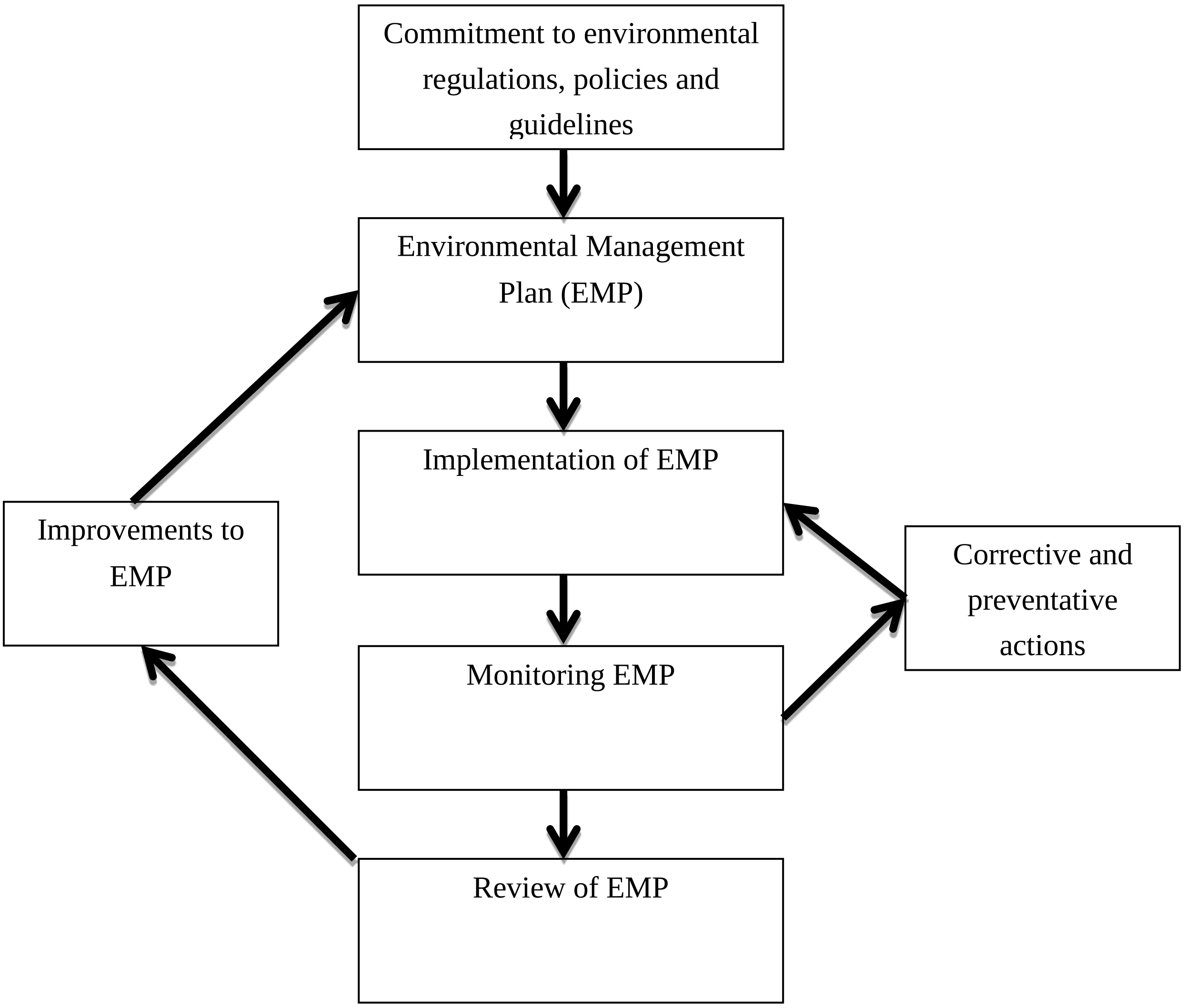


Figure 8.1: Environmental Management Strategy flow diagram

8.2 Management Structure and Responsibilities

The following parties are involved in the EMP of this project:

- Project proponent
- Environmental consultant
- Environmental Protection Agency

The roles and responsibilities of the parties involved are as follows.

8.2.1 Project proponent

- Execution of all project activities
- Preparation of EMP

- Monitoring of the project activities
- Submission of annual environmental monitoring reports as required by the EPA

8.2.2 Environmental Consultant

- Preparation of EMP
- Monitoring of performance of project activities according to the EMP
- Auditing the EMP to ensure desired outcomes are achieved
- Making amendments to the EMP according to the results of the audits
- Preparation of environmental monitoring report as required by the EPA (detailed in Chapter 9 of this report)

8.2.3 Environmental Protection Agency

- Approval for construction
- Review environmental monitoring reports
- Intervention in the event of a breach in environmental permit conditions
- Site visit and inspection

Figure 8.2: Environmental Management Plan for construction and operation phase

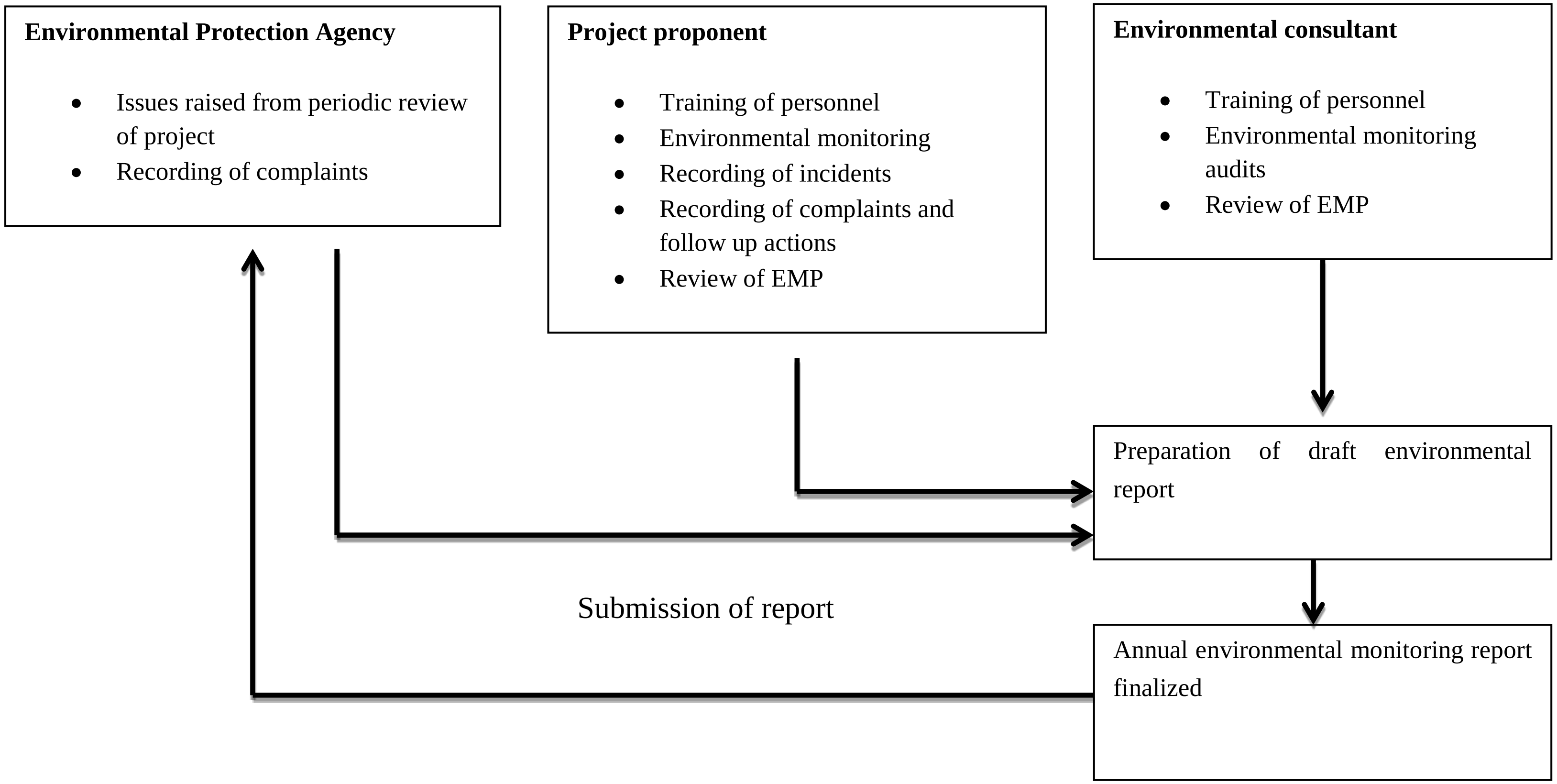


Table 8.1: Summary of Environmental Management Measures for the Project

Management Objective	Key management measures	Performance measure/Target	Responsibility
Ensure all involved in the project are informed and aware of proposed mitigation measures in this document, and best practices to minimize damage to environment.	Technically competent personnel would be employed to brief and/or conduct training sessions for all contractors and their employees, specifying the desired practices and consequences of non-compliance.	Number of workers attends awareness sessions	Proponent/ contractor
Ensure all mitigation measures proposed in the EIA document are followed during the construction phases of the project.	Technically competent and experienced personnel would be employed to supervise and record the activities of the workforce throughout the construction phase, and ensure that the mitigation measures proposed in the EIA (section 6.2) are strictly followed.	Record of mitigation measures that are followed during the construction activities.	Proponent/ contractor

Management Objective	**Key management measures**	**Performance measure/Target**	**Responsibility**
Ensure Environmental Monitoring outlined in section 9 in this document is undertaken.	Hire a licensed environmental consultant to undertake Environmental Monitoring outlined in section 9 of this document, and is submit the report for evaluation to the relevant authorities. Record all findings, and recommendations of the report.	Environmental Monitoring Report(s)	Proponent/ Environmental Consultant
Ensure public and all relevant stakeholders at each project site is informed about project activities	Assign a co-ordinator at each project site to liaise with public, utilities companies, cable TV, and telecommunication providers. Record all communications with stakeholders.	Record of communications with stakeholders	Proponent and Contractor
Conflict resolution and grievance recording	The assigned co-ordinator at each project site shall report any conflicts or complains from the public and relevant stakeholders to the proponent, and coordinate efforts to resolve any issues. Record all conflicts and complaints received, and steps taken to resolve any issue.	Record of complaints, conflicts and steps taken to resolve issue.	Proponent and contractor

8.3 Management Strategies and Actions

8.3.1 Construction Phase

8.3.1.1 Construction Impact Management Plan and Awarding of Contracts

Majority of adverse environmental impacts of the project are during the construction phase. Thus the proponent is committed to develop a Construction Environmental Impact Management Plan. The Construction Environmental Impact Management Plan will contain on-site guidelines for contractors specifying appropriate construction practices. The results of the existing environmental conditions assessment would be used in the Construction Impact Management Plan to clearly identify demarcate the cable deployment area, to ensure all construction works are restricted to these areas. The Construction Impact Management Plan and the results of the existing environmental conditions assessment would be used to educate the contractor and labourers on the value environment and to inform of their duty of care. The following are some of the other measures that would be implemented to ensure that construction practices have minimal site disruption.

- In the construction, preference would be given to hire local labour from respective Atolls. The use of local labour encourages community participation in the development, provides opportunities for locals to exhibit their work and skills, and provides employment.
- Technically competent personnel would be employed to supervise the activities of the workforce throughout the construction phase. Briefing or training sessions for contractor and their employees, specifying the desired practices and consequences of non-compliance will be held.
- Contractor would be asked to provide a performance bond or deposit which can be used to repair any environmental damage inconsistent with the Construction Environmental Impact Management Plan.
- All construction workers and project management staff provided with information on general environmental issues, compliance with environmental permits and EMP.

8.3.1.2 Residues

Solid waste is expected to be a residue from the proposed development in construction phase. Domestic waste such as food items would be disposed to designated areas in each island. Any hazardous waste generated will be separated and sent to Thilafushi Waste Management Site.

In addition oil waste will also be properly barrelled and sent to Thilafushi Waste Management Site.

8.3.1.3 Environmental Monitoring, Reporting and Audit

A regular environment monitoring programme (as outlined in section 9) will be conducted to observe any changes taking place from the development and this programme would be mainly directed at continuously understanding and reporting the reef health.

8.4 Non-Conformances and Corrective Action

All non-conformances to the environmental permit conditions, observed during monitoring will be documented.

Necessary corrective actions and preventative actions will be identified

Corrective actions will be implemented, with systematic follow-ups to ensure effectiveness of these measures.

8.5 Reporting

Reporting shall be undertaken to provide evidence of the ongoing implementation of the EMP and will cover any training activities, site conditions and operations, monitoring data, details of non-conformances, incidents, complaints and follow up action, results of audits and reviews. Reporting shall be undertaken by the project proponent and the Environmental Consultant.

The environmental reporting process is summarized in the figure 8.2. All non-compliances and complaints during the execution of the project are to be reported to the EPA.

9 ENVIRONMENTAL MONITORING PLAN

9.1 Introduction

This chapter will outline the monitoring plan for the proposed project. Environmental monitoring is essential because, although with proper mitigation measures, the overall environmental damage can be significantly minimized, an unforeseen impact may still occur. Furthermore, some of the impacts predicted may turn out to be far greater than predicted, making mitigation measures ineffective. Therefore, in order to avoid or reduce the chances of such events, regular and frequent environmental monitoring is vital.

9.2 Objectives of the Monitoring Plan

The main objectives of the monitoring plan are:

1) To identify whether the predicted impacts are accurate and mitigation measures taken are effective.
2) To identify any unforeseen impacts so that appropriate mitigation measures can be taken at the earliest.
3) To identify and resolve any issues of social unrest at the earliest.
4) To eliminate or reduce environmental costs.

9.3 Before Construction

The monitoring assessments prescribed in Table 9.1 are required before construction, if the construction activities begin 12 months after this EIA.

9.4 Monitoring during Construction Phase

Table 9.2 shows the details of the different monitoring attributes and parameters must be monitored during the construction stage.

Additionally, the following aspects will be monitored during the construction stage to ensure that environmental impacts are minimized.

1) Daily monitoring to ensure that the construction processes are not creating any significant noise, dust that may be a nuisance to locals.
2) Daily monitoring of vehicle refuelling and repair should be undertaken to ensure that these exercises are carried out on hardstands and to ensure that they are done properly. This is to reduce the potential of soil contamination from spills.

9.5 Monitoring during Operational Phase

Table 9.2 shows the details of the different monitoring attributes and parameters must be monitored during the operation stage.

9.6 Cost of Monitoring

The cost of monitoring is estimated to be US$ 4000 annually. Professional consultants will be hired to undertake the monitoring and the necessary equipment for monitoring will be procured.

For pre-construction and construction stage monitoring, individual parameter costs are provided in the relevant tables above.

9.7 Commitment to Monitoring

The proponent is fully committed to undertake the monitoring programme given in this chapter (see Appendix I).

Table 9.1: Monitoring Schedule for Pre-construction Stage (if required)

Monitoring Attribute	Objective	Indicator	Methodology	Locations & samples	Frequency	Applicable standard	Est. Total Costs USD*
Marine Water Quality	To re-establish the baseline quality of marine water at respective project sites	The following parameters will be tested: pH, TSS, Salinity, Turbidity, Nitrates and Total Petroleum Hydrocarbon	Laboratory analysis	One sample from S. Hithadhoo (SW1) One sample from Gdh. Thinadhoo (SW1) One sample from M. Kolhufushi (SW1) One sample from Kulhudhuffushi (SW1) One sample from B. Eydhafushi (SW1)	Once prior to commencement of construction activities	Maldives EPA marine water monitoring standards	320.00
Coral Reef Health	To re-establish the baseline status of the reef and to determine the species abundance and composition of the reef	Percent of live coral cover, and fish species abundance and composition	Photo Quadrat Surveys, Fish Census	Project Site in all six islands	Once prior to commencement of construction activities	Maldives EPA standards of coral reef surveys	500.00 per survey

** Does not include logistic cost and consultant fees*

Table 9.2: Monitoring Schedule for Construction and Operation Phase

Monitoring Attribute	Objective	Indicator	Methodology	Locations & samples	Frequency	Applicable standard	Est. Total Costs USD*
Spillages and Accidents	To maintain all records of spillages and accidents that occurs on project site.	Accidents, Oil and Chemical spills	Visual inspection and Records	At all project sites	Daily during construction	-	NA
Marine Water Quality	To determine any changes to marine water quality at respective project sites	The following parameters will be tested: pH, TSS, Salinity, Turbidity, Nitrates and Total Petroleum Hydrocarbon	Laboratory analysis	One sample from S. Hithadhoo (SW1) One sample from Gdh. Thinadhoo (SW1) One sample from M. Kolhufushi (SW1) One sample from Kulhudhuffushi (SW1) One sample from B. Eydhafushi (SW1)	Once on completion of construction activities. Once after one year of completion of all construction works	Maldives EPA marine water monitoring standards	320.00
Coral Reef Health	To determine any changes to the status of the reef and species abundance and composition of the reef	Percent of live coral cover, and fish species abundance and composition	Photo Quadrat Surveys, Fish Census	Project Site in all six islands	Once on completion of construction activities. Once after one year of completion of all construction works	Maldives EPA standards of coral reef surveys	500.00 per survey

** Does not include logistic cost and Consultant fees*

10 STAKEHOLDER CONSULTATIONS

Stakeholder consultations for this EIA were conducted between 13 April 2016 and 11 May 2016. All stakeholders were consulted in face-to-face meetings. During each consultation stakeholders were briefed about the proposed project and asked about their views and concerns about the project activities, and to give recommendations.

Main concern of the utility providers and telecommunication service providers in all the islands is potential damage to their existing infrastructure in the footprint of proposed land cable during excavation works. Manual excavation has been recommended over the use of an excavator to reduce the risk of damage to existing cables and pipelines. It has also been recommended to inform these institutions prior to commencing the earth trenching works.

Following subsections provide a brief summary of each consultation.

10.1 Communications Authority of Maldives (CAM)

Date: 11 May 2016

Time: 13:00hrs

Participants: See table 10.1

Table 10.1: List of participants from Telecommunications Authority Maldives

#	Name	Position	Contact
1	*Abdulla Shiham*	*Deputy Director*	*7788235*
2	*Abdulla Pasha*	*Deputy Director General*	*7913022*

Summary of key discussions:

- CAM is strongly in favour of the proposed project. Having two telecommunications networks is a great advantage in the national interest as it increases the resilience of telecommunication services.
- The biggest advantage of the project, in CAM's view, is the coverage of one and half degree channel by submarine cable (channel between Laamu atoll and Huvadhu Atoll) which is not currently covered by Dhiraagu.
- Main legal provision applicable to this project is Telecommunication Law (Law number 43/2015).

- There are no specific telecommunication regulation or technical guideline for submarine cable networks. CAM follows international standards in approving networks and services.
- Proponent has consulted with CAM and taken all required approvals for this project. CAM has requested councils of all cable landing islands to provide support to the proponent in undertaking the proposed project.
- It is advised to take all necessary approvals from other institutions such as EPA.
- Since Ooredoo is an international company with a good reputation, CAM trusts Ooredoo to finish the project at a good standard without cutting any corners.

10.2 S. Hithadhoo Stakeholder Consultations

10.2.1 Addu City Council

Date: 20th April 2016

Time: 13:00 hrs

Participant(s):

Mr. Abdulla Sodiq
Addu City Council Mayor
Contact: +960-7924030

Summary of Discussions:

- Name of the proposed road for laying the land cable is Valimaamiskiy Magu.
- There are underground cables of Dhiraagu and FENAKA on this road. Therefore, these two parties need to be consulted for this project.
- If the cable needs to be taken across the tar-paved main road, the road will need to be excavated with approval from Housing Ministry. Hithadhoo District office needs to be informed about this work. It is advised that this work be handed to MRDC to ensure the re-paving is done at a good standard.
- Valimaamiskiy Magu is planned to be paved in the future. It is advised to consult MRDC about the road excavation and levelling the manhole.

10.2.2 Hithadhoo District Office

Date: 20 April 2016

Time: 13:30 hrs

Participant(s):

Ms. Mariyam Habeeba

Assistant Director

Contact: +960-7923585

Summary of Discussions:

- Consult with Dhiraagu and FENAKA since the proposed road has underground cables of Dhiraagu and FENAKA.
- Starting from around August 2015, all road works are overseen by Housing Ministry's Hithadhoo Branch. Consult with Housing Ministry regarding the land use of the area and the proposed works.

10.2.3 Housing Ministry - Hithadhoo Office

Date: 20th April 2016

Time: 14:00 hrs

Participant(s): *see table 10.2*

Table 10.2: List of participants from Housing Ministry Hithadhoo Office

#	Name	Position	Contact
1	*Muhthalib Shareef*	*Planning Officer*	*9997858*
2	*Mohamed Zuhair*	*Assistant Director*	*7913022*

Summary of Discussions

- Ground excavation and cable placing will need to be approved from Housing Ministry.
- Consult with all the parties with cables or pipelines in the project site, including Dhiraagu and FENAKA.
- Road works required for connection across the main road (excavation on main road and re-paving) should be done by MRDC to ensure work is completed at a good standard.

- At present, land use plan of the island is being revised. There are no plans for the coastal vegetation areas. 50ft 'no development' buffer zone is maintained from coastal vegetation.

10.2.4 FENAKA – Hithadhoo Branch

Date: 20th April 2016

Time: 14:45 hrs

Participant(s): See table 10.3

Table 10.3: List of participants from FENAKA Hithadhoo Branch

#	Name	Position	Contact
1	*Mohamed Zuhair*	*Director*	*9980166*
2	*Mohamed Hameed*	*Assistant Manager*	*7845824*
3	*Abdulla Naseer*	*Senior Technician*	*7978000*

Summary of Discussions:

- There are low voltage electricity cables of FENAKA along roads perpendicular to Valimaamiskiy Magu. Hence there are crossover points at the junctions of these roads and Valimaamiskiy Magu.
- Electricity cables of FENAKA are buried at 2-2.5ft depths at about 1/3 of the road, in most roads on the eastern side.
- Warning tapes are present at about 6 inches above the cables.
- Water supply pipes run along the roads perpendicular to Valimaamiskiy Magu with crossover points at the junctions of the roads. These pipes are located 2ft east of the electricity cables.
- There are 3 water pipes located on the western most road. These are two transfer pipes and one distribution pipe. Pipes measure 50mm, 75 mm and 110 mm in diameter.
- Sewerage network installation work will start very soon (in about a week or two). EIA for this work has been completed. The type of network for this island is vacuum system

so there will be two pipes. Pipes are planned for the proposed road as well, however the exact locations are not available with this section of FENAKA (electricity section).

10.2.5 Dhiraagu Hithadhoo Office

Date: 20 April 2016

Time: 16:00 hrs

***Participants**: see table 10.4*

Table 10.4: List of participants from Dhiraagu Hithadhoo Office

#	Name	Position	Email	Contact
1	*Mumtaz Hussain*	*Manager (MSO)*	*mumtaz @dhiraagu.com.mv*	*7788289*
2	*Hussain Naseer*	*AE CIM/ LP*	-	*7773734*

Summary of Discussions:

- There are Dhiraagu cables along and across the roads in the land section of the project site except the outer road (western most road).
- Cables are buried around 2-3 ft deep. There may be some cables at 1.5ft depth as well.
- Warning cables have been laid out 6 inches below the ground surface.
- Dhiraagu has no concerns about the project. This project is a good development for the atoll and the nation.
- Inform Dhiraagu Hithadhoo Office prior to starting the road excavation works. Dhiraagu is ready to coordinate with the contractor and will provide full support in identifying the location of their cables.

10.3 Stakeholder Consultations- GDh.Thinadhoo

10.3.1 GDh.Thinadhoo Island Council

Date: 22nd April 2016

Time: 16:00 hrs

Participants: see table 10.5

Table 10.5: List of participants from GDh.Thinadhoo Office

#	Name	Designation	Contact	Email ID
1	Ibrahim Asad	Vice President	9795563	asadthinadhoo@gmail.com
2	Gusayyu Abdulla	Council Member	7791070	gusey123@gmail.com
3	Mohamed Amjad	Council Member	9903040	amjadhumohamed@gmail.com
4	Abdulla Saneef	Council Member	7770878	abdullasaneef@hotmail.com
5	Ahmed Nashid	Director	7796732	dhihsan@gmail.com

Summary of Discussion:

- Not many residential buildings are located in the project area. However, there are few cables and pipelines underground on land. Therefore, all relevant parties, including Dhiraagu, FENAKA and Cable TV provider, needs to be consulted.
- Council's main concern is damage to land cables during excavation. Works like this often end up damaging cables and disrupting public services. In most cases, public comes to council with complains regarding such disruptions. It is very important for communication channels and ways resolving conflicts to be identified in the EIA report so that any conflicts in the future can be quickly resolved.
- The beach in the project area has a section of geo-bags recently placed by MTCC. Coordinate with MTCC for the works involving the removing and re-placing of the geo-bags.

- Road excavation works require an approval form to be filled and submitted to the island council. This form requires signs from all the affected parties (i.e. utility and telecommunication companies).
- Part of the proposed land route (Ranna-bandeyri Magu) will be paved very soon. Pavement is only planned up to Ooredoo Antennae, hence the project site will not be affected.
- Fishermen go out in small boats to the reef in the proposed project area and surrounding for fishing. If these boats anchor in the area where the cable is located, there is a chance that the cable might get damaged.
- Council requests the manhole designs to be shared with the council.
- Council has some information about Government's plan to develop the beach in the proposed area as a tourist beach. The proposed project should be carried out with consideration to this plan and should not be a barrier to the beach development project.

Post consultation actions:

- Dhiraagu, FENAKA and Cable TV provider in Thinadhoo were consulted as advised by the council (refer to sections 10.3.2, 10.3.3 and 10.3.5).
- Proponent has already contracted MTCC to undertake earth trenching in the section where geo-bags are located.
- EMP section of this EIA report identifies mechanism for conflict resolving.

10.3.2 Dhiraagu Thinadhoo Branch

Date: 22nd April 2016

Time: 17:00 hrs

Participant(s):

Mr. Ahmed Nadheem- Manager – 7786765

Mr.Hussain Hilmy- Assistant Engineer

Summary of Discussion:

- Dhiraagu has a distribution board and few cables on Ranna-bandeyri Magu, mainly crossover points. Cables from the distribution board used to be located on the southern side of the road at about 2ft below. However, the road has now been widened and the cables are now located roughly at the center of the road. Warning tapes may be present at some areas but it should not be relied upon since it may have been removed by contractors during previous road works.
- Chances of cable damage are higher when an excavator is used. Manual excavation is therefore recommended, as it is the safest option.
- At present, cable ducts are being laid under the sidewalk of the road. It may be a good idea to take the cable via a duct on the northern side of the road. This option will have no or minimal impacts on Dhiraagu cables.

10.3.3 FENAKA Thinadhoo Branch

Date: 23 April 2016

Time: 11:00 hrs

Participant(s):

Mr. Musthafa Hassan- Technical Manager- 9996762

Summary of Discussion:

- The proposed project area includes a small section on Ranna-bandeyri Magu where FENAKA electricity cables are present (between Ooredoo Antennae and road east of Islamic Center).

- FENAKA electricity cables are present on a small section of the northern side of Ranna-bandeyri Magu at about 2-2.5 ft underground. These are mainly LV cables. Any new cables in the future will also be LV cables and they will be installed along 1/3 of road from north.
- Installation of the sewerage system is contracted to Srilankan company called Sierra. Operation of the Sewerage system will be done by FENAKA. Sierra will hand over the operations to FENAKA on 15th May 2016.
- There is a water supply pipeline along Ranna-bandeyri Magu 3ft from northern edge. The pipe is a 160mm diameter pipe and is buried 2ft below the ground.
- Manual excavation is recommended over excavator use since chances of cable and pipeline damage are reduced with this method.

10.3.4 Sierra Maldives Pvt Ltd- Thinadhoo Office

Date: 23rd April 2016
Time: 12:00 hrs
Participant(s):

Mr. Sisil Jayantha- Maintenance and Operations Supervisor – 7493883

Summary of Discussion:

- There is one gravity pipline that runs from east to west along a small section located between Ooredoo Antenna and Islamic centre. The pipe is located on the north side of the road.
- No current plans for extension of the sewerage network to the west, but can be easily done if the need arise in the future.

10.3.5 J Set cable TV

Date: 22nd April 2016

Time: 17:00 hrs

Participant:

Mr. Ibrahim Mughny- - 9701753

Summary of Discussion:

- No concerns about the project as there are no cables of J Set in the project site.

10.3.6 Maldives Road Development Corporation (MRDC)- Thinadhoo office

Date: 23 April 2016

Time: 13:00 hrs

Participant(s):

Mr. Ahmed Murthala – Assistant Manager- 7496802

Summary of Discussion:

- Ranna-Bandeyri Magu will be paved under the ongoing road pavement project in Thinadhoo. Pavement of the road is expected to be complete by June 2016.
- MRDC has the machinery and vehicles required for the proposed works.
- If project is undertaken after the completion of the road pavement, the pavement will need to be cut and re-paved once the work is complete.

10.4 Stakeholder Consultations- M.Kolhufushi

10.4.1 M.Kolhufushi Island Council

Date: 25th April 2016

Time: 10:00 hrs

Location: Council Office

Participant: see table 10.6

Table 10.6. List of participants from GDh.Thinadhoo Office

#	Name	Designation	Office / Address	Contact
1	Shuaib Abdulla	Council Member	Island Council, Saadhaage, Kolhufushi	7917944
2	Abdul Wahid	Council Member	Island Council, Malhaaru, Kolhufushi	7411667

Summary of Discussions

- The council identified the following parties as institutions who have cables/ networks laid out on the island; Dhiraagu and FENAKA (electricity and sewerage). However, they noted that none of these cables/networks are located near the cable landing station or the proposed cable route.
- This project is seen as an overall beneficial project to the island, and their main expectations are to have a better network and the accessibility to additional land-based internet service providers with more competitive prices. However, the council did note that most of the citizen's preferred mobile internet and the demand for land-based internet services were very low on the island.
- The council has already allocated the land and given all approvals to this project.
- The main concern from the council was to have a designated focal point for the project identified to the council for better communications. The council does not envisage any other issues for the project.

Note: *Since the location of the Ooredoo cable landing station and the cable route is outside the inhabited parts of the island and, since none of the existing cable/networks will be affected from the project, there was no need to meet any other stakeholders individually for this project.*

10.5 Stakeholder Consultations- Hulhumale'

10.5.1 Hulhumale Development Corporation (HDC)

Date: 7th April 2016
Time: 12:30 PM
Location: HDC Office, Hulhumale
Participant:

Mr. Ahmed Zinaf
Senior Planning Officer/ Urban officer
Contact: 7674221

Summary of Discussions

- HDC did not have any issues with the project and has already allocated the land and given all necessary approvals to this project.
- Their only suggestion is to ask the proponent to perhaps improve the aesthetics of the landing site (i.e. place a few benches).
- HDC also wants to be informed prior to contractors working in the area, as this is one of the busiest areas in Hulhumale (BBQ area).
- They have asked the proponent to ensure that the contractors place all necessary signboards to make the public aware of any construction activities. Especially in the lagoon as it is a heavy traffic area used for water sports.
- This project is seen as an overall beneficial project to the island, and their main expectations are to have a better network and the accessibility to additional land-based internet service providers with more competitive prices. HDC welcomes any project that brings a development to the island.

10.6 Stakeholder Consultations- B.Eydhafushi

10.7 B.Eydhafushi Island Council

Date: 30th March 2016

Time: 11:00 hrs

Location: Council Office

Participants: see table 10.7

Table 10.7. List of participants from B.Eydhafushi Island Council

#	Name	Designation	Office / Address	Contact
1	Naazneena Yousuf	President	Island Council, Seetumaage, Eydhafushi	7932889
2	Mohamed Naureef	Vice President	Island Council, Manzaru, Eydhafushi	7786007

Summary of Discussions

- The council identified the following parties as stakeholders who have cables/ networks laid out on the island; Dhiraagu, FENAKA (electricity, sewerage and water) and Cable TV Operators (Eydhafushi Cable Network and Eydhafushi Cable Choice).
- The council was only able to arrange a meeting with FENAKA. Dhiraagu recommended to consult them when the contractors come to lay out the network. The council was unable to arrange a meeting with the cable TV operators during the field visit due to their unavailability on the island, however some information regarding their network was provided by the council themselves.
- Cable TV operators does not seem to follow any standard guidelines according to the council. Some cables are laid out just a few inches from the top soil and at a maximum depth of just 1 feet.
- This project is seen as an overall beneficial project to the island, and their main expectations are to have a better network and the accessibility to additional land-based internet service providers with more competitive prices.
- The council has already allocated the land and given all approvals to this project.
- The island has a proposed road development project in place and the cable landing station is located in one of the proposed roads. They do not see the implementation of the

road project to begin in the near future, however, they can provide the design details of the road project to the proponent via email upon request if needed.

- Their main concern is regarding the land use plan of the island, to which they have no access to. According to the council, the LUP has already been completed by the Ministry of Housing and Infrastructure (without any community consultation) and they have only seen a draft of this plan.
- Since there is no finalized LUP for the island (including the newly reclaimed areas) it is a major concern for the council and they believe even to this project. Changes to the LUP might put the proposed cable route outside a designated road route.

10.8 FENAKA, Eydhafushi Branch

Date: 30th March 2016
Time: 12:00 PM
Location: FENAKA Office, Eydhafushi
Participant:

Mr. Ahmed Anwar
Station Manager
Contact: 9972554

Summary of Discussions

- FENAKA provides both electricity and sewerage services on the island with the proposed water project ongoing on the island as well.
- FENAKA has been handling the power services on the island since 2009 and the lines are located at a depth of 2.5 feet on the side of the road.
- The installed capacity on the island is 1550kW and the maximum required for the island is 800kW.
- FENAKA has also been providing sewerage services on the island since 2010.
- The manholes for the sewerage network are laid really deep with home connections raised with a Y-Connection where required. The network map is still being developed and is only partially complete.
- The island has a proposed water project in place, however the details of the project are unavailable at the time.

- FENAKA hopes to finish all the projects prior to the start of the proposed road development project of the island.
- They recommend the contractors of Ooredoo to consult with them during the time of laying out the cables to get the exact locations for FENAKA's different cable networks for each road.

10.9 Stakeholder Consultations- HDh.Kulhudhuffushi

10.9.1 Kulhudhuffushi Island Council

Date: 18th April 2016

Time: 11:00 hrs

***Participants**: see Table 10.8.*

Table 10.8: List of participants from HDh.Kulhudhuffushi Island Council

#	Name	Position	Contact
1	Ali Mohamed	Council President	*7787789*
2	Ali Haashim	Council Member	9922992

Summary of Discussion:

- Proponent has previously met with Kulhudhuffushi Council to discuss the proposed project.
- Council has no concerns regarding the proposed development.
- Public Service Media (PSM), with assistance from Japanese Government, is in the process of installing an antennae north of the cable route. However, the PSM antenna is not likely to affect the cable laying works as the two project sites have no points of overlap.

10.9.2 FENAKA Kulhudhuffushi Branch

Date: 18th April 2016

Time: 12:00 pm

Participants: see table 10.9

Table 10.9: List of participants FENAKA Kulhudhuffushi Branch

#	Name	Position	Contact	Email
1	Mamdhooh Ali	Station Manager	7911909	Kulhudhuffushi@fenaka.com.mv
2	Moosa Adam	Electrical Engineer	9977222	Kulhudhuffushi@fenaka.com.mv

Summary of Discussion:

- There are electricity cables of FENAKA on the proposed route for land cable at 2- 2.5ft depth between the distribution board and Ameenee Magu. These cables are located 3 ft from the wall. There are no electricity cables east of the distribution board on this road.
- Main concern of FENAKA regarding the proposed works is damage to the electricity cables of FENAKA.
- It is advised to inform FENAKA office before the excavation works begin.

10.9.3 Cable Plus (Cable TV)

Date: 18th April 2016

Time: 16:00 hrs

Participant:

Mr. Yoonus Ibrahim

Director

Wavelength Private Limited

Contact: 9997589

Summary of Discussion:

- Cable TV cables are located 5ft from stadium wall at 1.5 ft depth on the road where Ooredoo is planning to bury their land cable.

- Prior discussions were held with Ooredoo regarding the proposed project. Cable Plus informed Ooredoo that their cable could be relocated for 16000 MVR.
- Cable Plus undertook the excavation and land cable laying work for Dhiraagu.

10.9.4 MWSC Kulhudhuffushi Office

Date: 18th April 2016

Time: 13:00 hrs

Participants:

Mr.Ali Zahir Hussain

Operations Officer

Contact: 9688895

Email: ali.zahir@mwsc.com.mv

Summary of Discussion:

- MWSC sewage outfall pipe is located near (south) the proposed cable landing site, but would not likely be affected by the proposed works.
- There are 5 different sewage pipes located between the MWSC gate and the second perpendicular road west of the gate. These are 6 inch pipes laid about 1m below the ground. Additionally, there is a one gravity line located midway on the road at 1m depth. This pipe runs from the main road (Ameenee Magu) upto the MWSC gate.
- In addition to the sewage pipes, MWSC also has a water supply pipe located on the road planned for laying the land cable of Ooredoo.
- If Ooredoo cable is laid at 3ft depth, it will be at the same depth as MWSC pipes and this may become an issue for both parties. It is therefore recommended to bury the Ooredoo cable slightly deeper around 3.5ft depth.

10.9.5 Dhiraagu Kulhudhuffushi Operations Centre

Date: 18th April 2016

Time: 14:00

Participant(s):

Mr. Mohamed Hassan

Manager

Contact: 7781007

Summary of Discussion:

- The proposed road for laying Ooredoo land cable has cables of Dhiraagu connected to MWSC and houses in that area. Cables are buried 2ft deep and located about 1m away from stadium wall.
- Main concern of Dhiraagu is damage to their cables and changes in location (depth) of their cable during excavation works of the proposed project.
- Even though the proponent is aware of the location of cables and piplines of other parties, if the contractor is not informed about these, chances of damage to the infrastructure of other providers is likely to be high since contractor will be the one undertaking the excavation works. Hence, it is very important that the information be passed on to the contractor as well.
- If any damages occur to Dhiraagu cables during land excavation, it should be immediately informed to Dhiraagu office.

11 Potential Data Gaps and Assessment Limitations

11.1 Gaps in Information

The environment of Maldives is generally poorly understood. This may be due to the lack of detailed studies in the Maldives. Much of the literatures on coral islands are derived from studies done in the Pacific which unfortunately has very different climatic and geologic settings.

Detailed environmental analysis for an EIA is often required to be undertaken in a relatively short period of time. Give the seasonal climatic variations in Maldives and the differences in local geomorphologic and climate settings in individual islands such a short time frame is often too little to assess selected aspects of the environment. This problem is compounded by the absence of long-term studies in other parts of Maldives. Hence, most EIA's end up being based on an environmental snapshot of specific point in time. However, experienced EIA specialists can deliver a close match to reality based on a number of similar assessments. In this regard, the following gaps could be identified in information.

- Absence of long-term site specific or even regional data (at least 2 years). Most critical data include current, wave and terrestrial modification history.
- Absence of historical and long-term records on reef and lagoon environment.

These gaps are seriously considered in the assessment and care has been taken to address the issue in designing mitigation measures and the monitoring programme.

11.2 Uncertainties in Impact Prediction

Environmental impact prediction involves a certain degree of uncertainty as the natural and anthropogenic impacts can vary from place to place due to even slight differences in ecological, geomorphological or social conditions in a particular place. As note earlier, there is also no long term data and information regarding the particular site under consideration, which makes it difficult to predict impacts. However, the level of uncertainty is partially minimised due to the experience of past dredging and reclamation projects in similar settings in the Maldives. Nevertheless, it is important to consider that there will be uncertainties and voluntary monitoring of natural processes as described in the monitoring programme is absolutely essential.

12 Conclusions

This project has been proposed to improve and enhance the capacity of Ooredoo Maldives to provide all telecommunication services across the Maldives. The main activities at each project site includes laying of submarine cables from the islands reef slope to the shore, and from a designated beach manhole or a manhole to the respective Cable Landing Stations.

The assessment shows that the most significant negative impacts from this project during construction stage would be the loss of sessile marine life within the cable route, and the potential health and safety risks to the workers and general public associated with offshore cable deployment, and excavation works on land. The project mainly has positive socio-economic benefits; via improvement in quality and speed of telecommunication service provided by Ooredoo Maldives across the Maldives.

The impacts predicted can be reduced considerably (but not completely) with the proposed mitigation measures suggested in the report. It is important that proper monitoring be undertaken during construction stage to identify any unwarranted practices and activities. Environmental monitoring and management plan will also ensure that the impacts to the environment are kept to a minimum throughout the project.

Consultations revealed that the key concern of stakeholders were potential damage to existing cables, pipelines at respective project sites. Main recommendation from stakeholders was to use manual excavation to reduce the risk of potential damage to existing pipelines/cables. This method was also recommended as an alternative to excavators at sites where pipelines and cables have been installed.

Given the proposed project have high economic benefits to the national economy, it is recommended to proceed with the project with the suggested mitigation measures and management plan

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APPENDIX A – Terms of Reference

203-EIARES/PRIV/2016/212

Terms of Reference for Environmental Impact Assessment for Development of Nationwide Submarine Cable Ooredoo Maldives

The following is the Terms of Reference (ToR) following the scoping meeting held on *13/04/2016* for undertaking the EIA for proposed Nationwide Submarine Cable Ooredoo Maldives (NaSCOM). The Proponent of this Project is Ooredoo Maldives. While every attempt has been made to ensure that this TOR addresses all of the major issues associated with development proposal, they are not necessarily exhaustive. They should not be interpreted as excluding from consideration matters deemed to be significant but not incorporated in them, or matters currently unforeseen, that emerge as important or significant from environmental studies, or otherwise, during the course of preparation of the EIA report.

1. **Introduction and rationale –** Describe the purpose of the project and, if applicable, the background information of the project/activity and the tasks already completed.**.** Objectives of the development activities should be specific and if possible quantified. Define the arrangements required for the environmental assessment including how work carried out under this contract is linked to other activities that are carried out or that is being carried out within the project boundary. Identify the the donors and the institutional arrangements relevant to this project. .

2. **Study area –** Submit a minimum A3 size scaled plan with indications of all the proposed infrastructures. Specify the agreed boundaries of the study area for the environmental impact assessment highlighting the proposed development location and size. The study area should include adjacent or remote areas, such as relevant developments and nearby environmentally sensitive sites (e.g. coral reef, sea grass, mangroves, marine protected areas, special birds site, sensitive species nursery and feeding grounds). Relevant developments in the areas must also be addressed including residential areas, all economic ventures and cultural sites.

3. **Scope of work** – The report should be categorised into the following components:

Task 1: **Project Description** – Provide a full description and justification of relevant components of the project; including methodology for cable deployment, cable type location and size of beach manholes, materials and equipment's to be used, work plan, labor force requirement, and future maintenance activities that may affect the environment.

Task 2. Descriptions of the environment – Assemble, evaluate and present the environmental baseline study/data regarding the study area and timing of the project (e.g. monsoon season). Identify baseline data gaps and identify studies and the level of detail to be carried out by consultant. Consideration of likely monitoring requirements should be borne in mind during survey planning, so that data collected is suitable for use as a baseline. As such all baseline data must be presented in such a way that they will be usefully applied to future monitoring. The report should outline detailed methodology of data collection utilized.

The baseline data will be collected before construction and from at least two benchmarks.

All data must be collected as per the requirements of the EPA Data Collection Guidelines (published on www.epa.gov.mv). The report should outline detailed methodology of data collection utilized.

All survey locations shall be referenced with Geographic Positioning System (GPS) including water sampling points, reef transects, vegetation transects and manta tows sites for posterior data comparison. Information should be divided into the categories shown below:

Climate

- Temperature, rainfall, wind
- Wave condition at Island

Geology and geomorphology

- Characteristics of seabed sediments to assess direct habitat destruction and turbidity impacts during construction;
- Condition of the beach at the land sites

Ecology

- Identify marine protected areas (MPAs) and sensitive sites within and across the cable route
- Benthic and fish community monitoring at cable deployment sites
- Benthic habitat mapping along the cable lines along the reef flat

Socio-economic environment

- Land use of the landing sites, and proposed stations
- Issues related to land acquisition and common property resources
- Sites with historical or cultural interest or sacred places (mosques, graveyard).
- Existing pipe line, network information (where available)
- Baseline socio-economic profile at each affected island

The report should outline the detailed methodology of data collection utilized to describe the existing environment.

Task 3: Legislative and Regulatory considerations – Identify the pertinent legislation, regulations and standards, and environmental policies that are relevant and applicable to the proposed project, and identify the appropriate authority jurisdictions that will specifically apply to the project. Legal requirements:

- Approval from Communication Authority of Maldives

Task 4. Potential impacts of proposed project, incl. all stages – The EIA report should identify all the impacts, direct and indirect, during and after construction, and evaluate the magnitude and significance of each.

The methods used to identify the significance of the impacts shall be outlined. One or more of the following methods must be utilized in determining impacts; checklists, matrices, overlays, networks, expert systems and professional judgment. Justification must be provided to the selected methodologies. The report should outline the uncertainties in impact prediction and also outline all positive and negative/short and long-term impacts. Identify impacts that are cumulative and unavoidable.

Task 5. Alternatives to proposed project – Describe alternatives including the *"no action option"* should be presented. Determine the best practical environmental options. Alternatives examined for the proposed project that would achieve the same objective including the "no action alternative". All alternatives must be compared according to international standards and commonly accepted standards as much as possible. The comparison should yield the preferred alternative for implementation. Mitigation options should be specified for each component of the proposed project.

Environmental Protection Agency
Green Building, 3rd Floor, HandhuvareeHingun
Male', Rep. of Maldives, 20392
Tel: [+960] 333 5949 [+960] 333 5951 ފޯނު:
Fax: [+960] 333 5953 ފެކްސް:

އެންވަޔަރަންމަންޓަލް ޕްރޮޓެކްޝަން އޭޖެންސީ
ގްރީން ބިލްޑިންގ، 3ވަނަ ފަންގިފިލާ، ހަންދުވަރީ ހިނގުން
މާލެ، ދިވެހިރާއްޖެ، 20392
Email: secretariat@epa.gov.mv : އީމެއިލް
Website: www.epa.gov.mv : ވެބްސައިޓް

Task 6: <u>Mitigation and Management of negative impacts</u> – Identify possible measures to prevent or reduce significant negative impacts to acceptable levels. Measures for both construction and operation phase shall be identified. The confirmation of commitment of the developer to implement the proposed mitigation measures shall also be included. An Environmental management plan for the proposed project, identifying responsible persons, their duties and commitments shall also be given. In cases where impacts are unavoidable arrangements to compensate for the environmental effect shall be given.

Task 7: <u>Monitoring Plan</u> – Identify the critical issues requiring monitoring, in addition to the issues addressed in the existing monitoring plan, to ensure compliance to mitigation measures. Details of additions to the existing monitoring programme including the additional physical and biological parameters to be monitored, frequency, duration and cost commitment from responsible person, detailed reporting timetable and ways and means of undertaking the monitoring programme must be provided.

Task 8. Stakeholder consultation, Inter-Agency coordination and public/NGO participation) – Identify appropriate mechanisms for providing information on the development proposal and its progress to relevant stakeholders, government authorities. In this respect consultation shall be undertaken with the following stakeholders:

- Communication Authority of the Maldives
- Island Council of Hdh, Kulhuduffushi
- Hulhumale' Development Co-orporation
- Island Council of Baa. Eydhafushi
- Island Council of Meemu Kolhufushi
- Island Council of Gdh. Thinadhoo
- Seenu Hithadhoo District Office

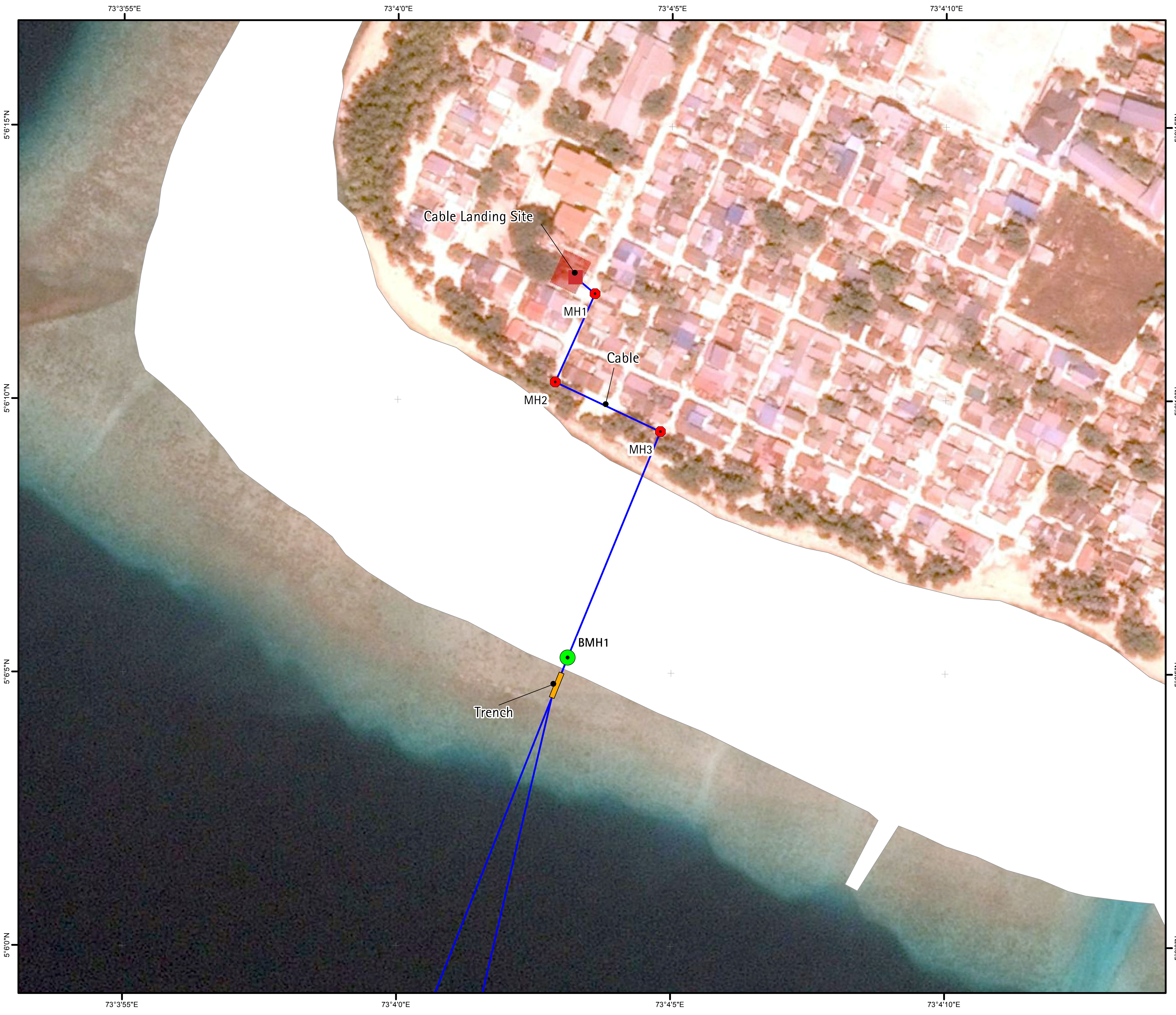
<u>Presentation</u>- The environmental impact assessment report, to be presented in digital format, will be concise and focus on significant environmental issues. It will contain the findings, conclusions and recommended actions supported by summaries of the data collected and citations f or any references used in interpreting those data. The environmental assessment report will be organized according to, but not necessarily limited by, the outline given in the Environmental Impact Assessment Regulations, 2012.

<u>Timeframe for submitting the EIA report</u> – The developer must submit the completed EIA report within 6 months from the date of this Term of Reference.

……………………………………………

18 April 2016

APPENDIX B – Site Plan



Legend

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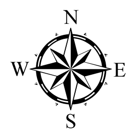
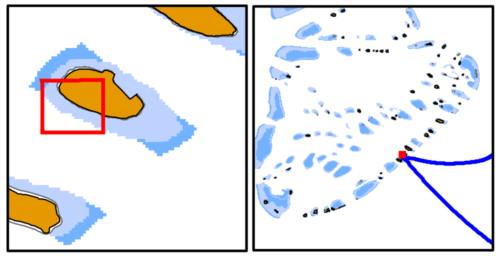
- Cable Landing Site
- Beach Manholes
- Manholes
- Cable Path
- Reclaimed_Area





Meters

0 25 50 100

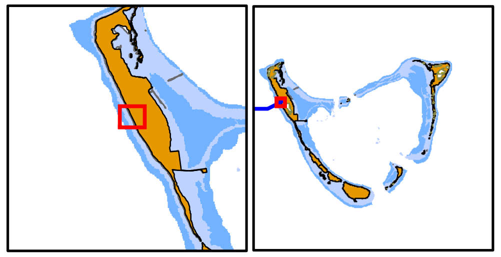
Nationwide Submarine Cable
Ooredoo Maldives Project
Eydhafushi Island
Site Plan

PROJECTION: Transverse Mercator
(UTM Zone 43 N); HORIZONTAL DATUM: WGS84;
VERTICAL DATUM: Hulhule Tide Gauge
Map version: 12/05/2016

Surveyed and Prepared by: CDE Consulting, Maldives

Legend

- Concrete Trench
- Cable Landing Site
- Beach Manholes
- Manholes
- Cable Path



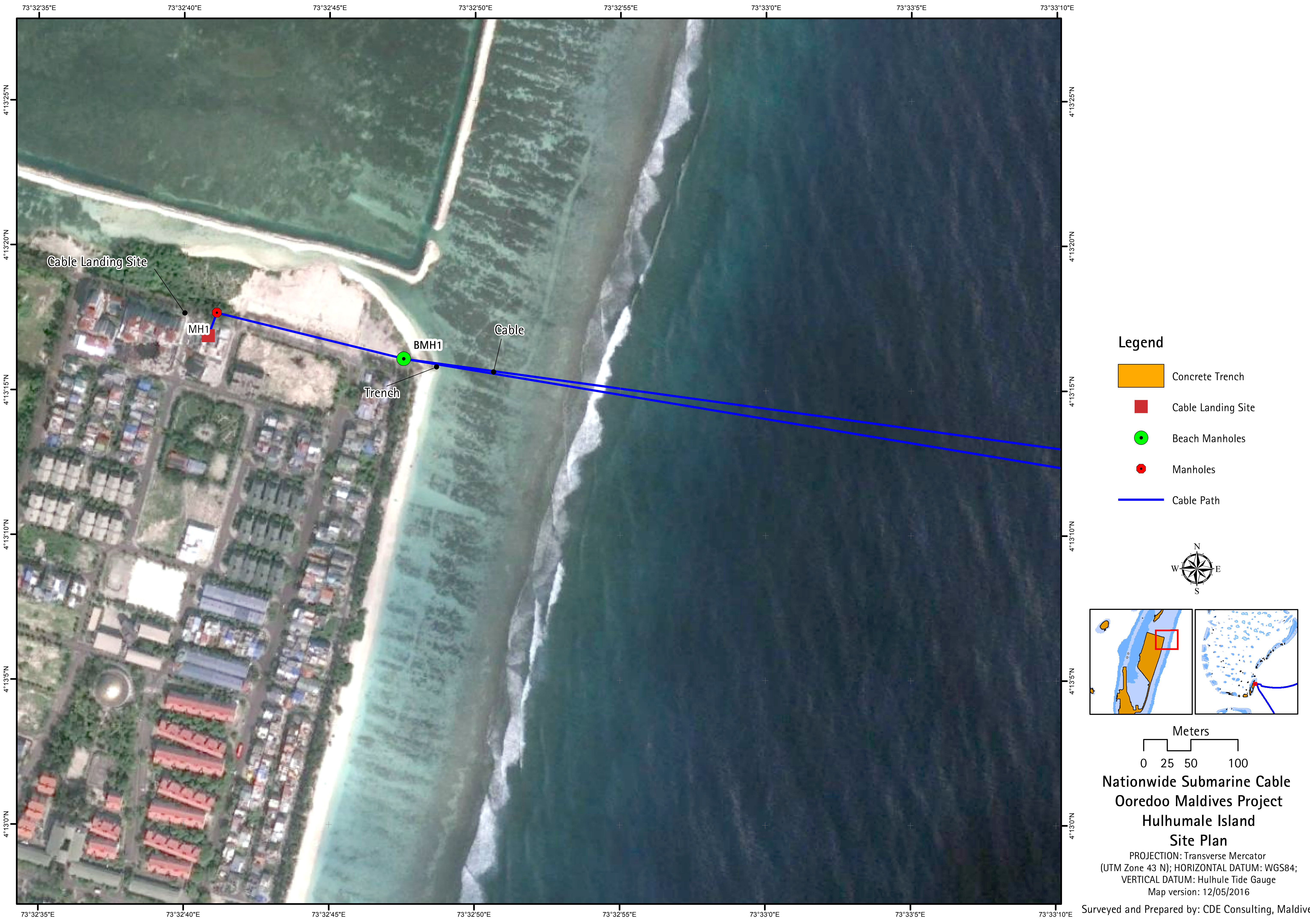
Meters

0 25 50 100

Nationwide Submarine Cable
Ooredoo Maldives Project
Hithadhoo Island
Site Plan

PROJECTION: Transverse Mercator
(UTM Zone 43 N); HORIZONTAL DATUM: WGS84;
VERTICAL DATUM: Hulhule Tide Gauge
Map version: 12/05/2016

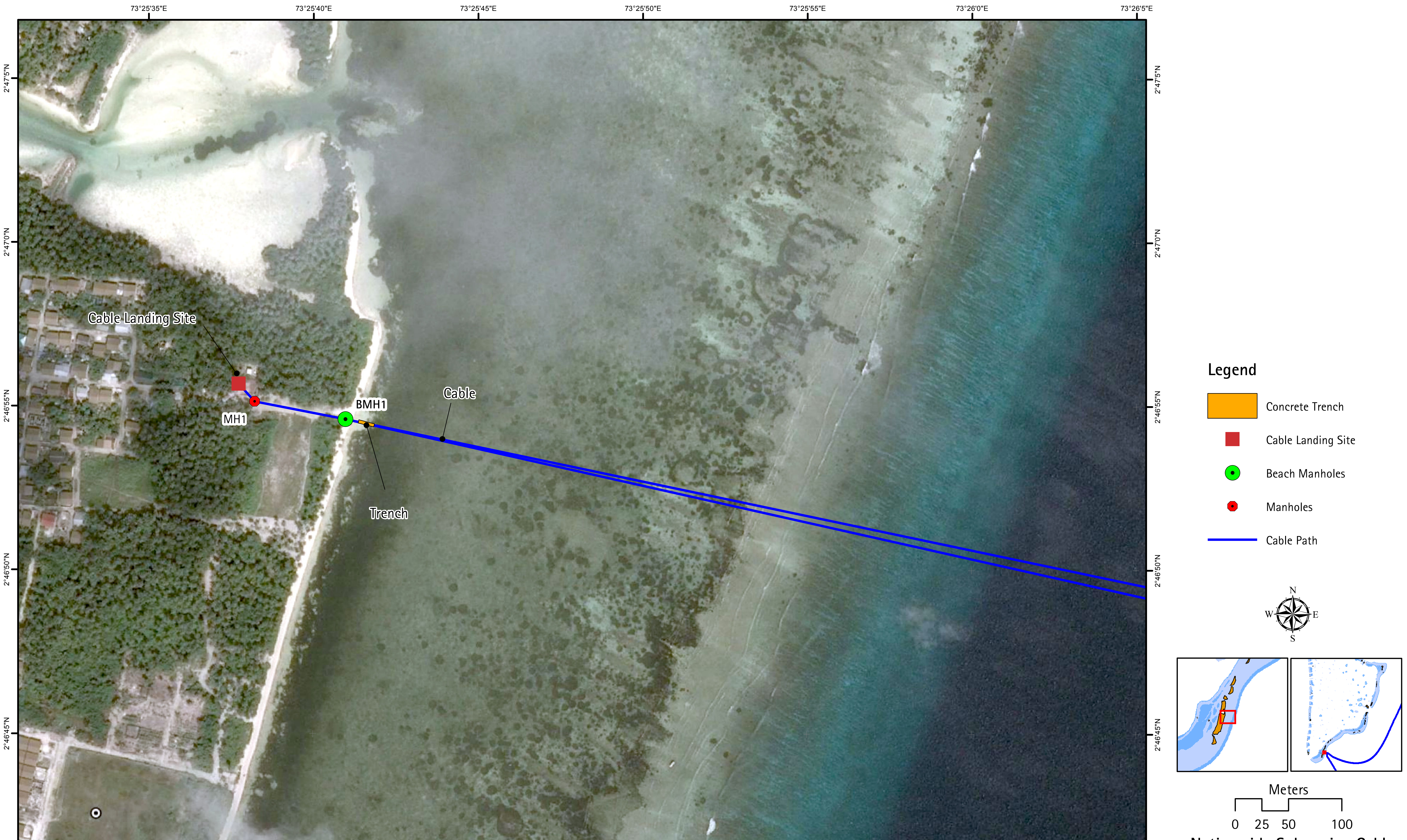
Surveyed and Prepared by: CDE Consulting, Maldives



Nationwide Submarine Cable
Ooredoo Maldives Project
Hulhumale Island
Site Plan

PROJECTION: Transverse Mercator
(UTM Zone 43 N); HORIZONTAL DATUM: WGS84;
VERTICAL DATUM: Hulhule Tide Gauge
Map version: 12/05/2016

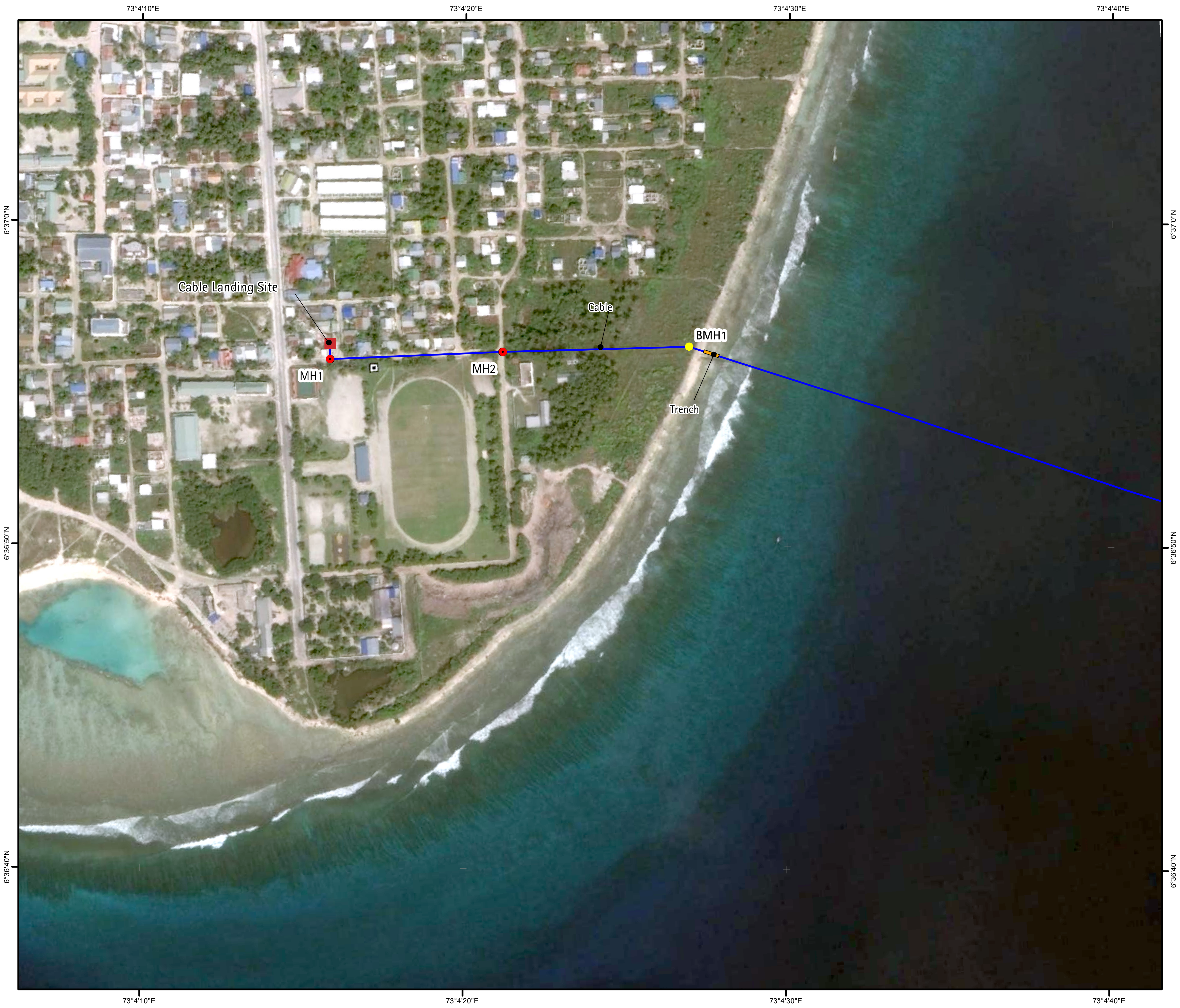
Surveyed and Prepared by: CDE Consulting, Maldives



Nationwide Submarine Cable
Ooredoo Maldives Project
Kolhufushi Island
Site Plan

PROJECTION: Transverse Mercator
(UTM Zone 43 N); HORIZONTAL DATUM: WGS84;
VERTICAL DATUM: Hulhule Tide Gauge
Map version: 12/05/2016

Surveyed and Prepared by: CDE Consulting, Maldives



Legend

- Concrete Trench
- Cable Landing Site
- Beach Manholes
- Manholes
- Cable Path

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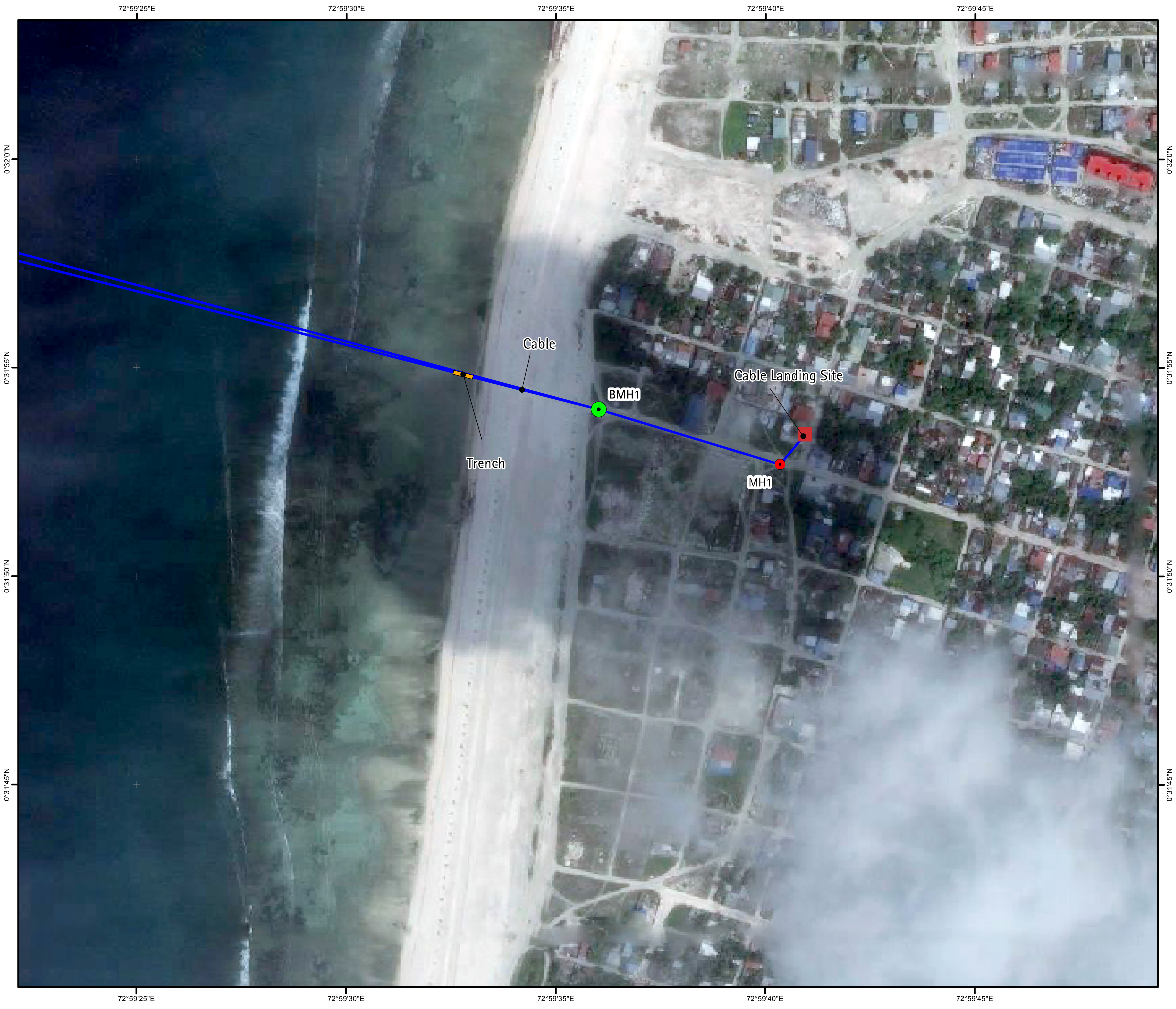
Nationwide Submarine Cable
Ooredoo Maldives Project
Kulhudhuffushi Island
Site Plan

PROJECTION: Transverse Mercator
(UTM Zone 43 N); HORIZONTAL DATUM: WGS84;
VERTICAL DATUM: Hulhule Tide Gauge
Map version: 12/05/2016

Surveyed and Prepared by: CDE Consulting, Maldives



Legend

- Concrete Trench
- Cable Landing Site
- Beach Manholes
- Manholes
- Cable Path

Meters

0 25 50 100

Nationwide Submarine Cable
Ooredoo Maldives Project
Thinadhoo Island
Site Plan

PROJECTION: Transverse Mercator
(UTM Zone 43 N); HORIZONTAL DATUM: WGS84;
VERTICAL DATUM: Hulhule Tide Gauge
Map version: 12/05/2016

Surveyed and Prepared by: CDE Consulting, Maldives

APPENDIX C – Approvals and Agreements

بسم الله الرحمن الرحيم

1033

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WATANIYA
WELCOME TO THE NEW WORLD

Wednesday, June 22, 2011

SUMMARY OF THE LEASE AGREEMENT

Client: ABDUL RAHMAN MOHAMED

Address: Sun Flower, B. Eydhafushi, Republic of Maldives

Description: Office Space for Technical

Purpose: Office Space

Contract Period: 20th May 2011 to 19th May 2016.

Monthly Rent: Mrf 4,000.00 (Four Thousand Maldivian Rufiyaa only)

Approved by

22/6/11

....
Vinod Janardhanan
Operations Controller

Wataniya Telecom Maldives Pvt Ltd, P.O. Box 2196, 5th Floor, H.Sunleet, Boduthakurufaanu Magu,
Male', Republic of Maldives, Office: +960 9611000, Fax: +960 9611001
E-mail: info@wataniya-maldives.com, Website: www.wataniya.mv

بسم الله الرحمن الرحيم

LEASE AGREEMENT

IN RESPECT OF GROUND FLOOR AT
SUN FLOWER / B. EYDHAFUSHI
REPUBLIC OF MALDIVES

MR. ABDUL RAHMAN MOHAMED
(AS THE "LESSOR")

- AND -

WATANIYA TELECOM MALDIVES PVT.LTD
(AS THE "LESSEE")

<u>WEDNESDAY, 18TH MAY 2011</u>
REPUBLIC OF MALDIVES

LEASE AGREEMENT

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LEASE AGREEMENT

INTRODUCTION

THIS LEASE AGREEMENT (the "Agreement") is made on 18th May 2011

BY:

MR. ABDUL RAHMAN MOHAMED, as the owner of the properties, a Maldivian National holder of National ID Number A040949 **(the "Lessor" which expression shall include its successors in title, liquidators and assignees where the context so requires or admits)**

AND:

WATANIYA TELECOM MALDIVES PVT.LTD, a private company limited by shares incorporated under and in accordance with Law No:10/96 of the Republic of Maldives, and whose registered office is located at H. Sunleet, 5th Floor, Male', Boduthakurufaanu Magu, Republic of Maldives and which is registered with the ministry of Economic Development and Trade with company registration number C-704/2005 **(the "Lessee" which expression shall include its successors-in-title, liquidators and assignees where the context so requires or admits)**

WHEREAS

The Lessor lets and the Lessee takes the property described in this Agreement according to the terms and conditions specified below.

NOW THEREFORE the Lessor and the Lessee agree as follows.

PROPERTY, TERM, RENT AND DEPOSIT

Property Let

1. The Lessor lets to the Lessee the following premises **(the "Property")**:

   Sun Flower, B. Eydhafushi, Ground Floor (Whole Ground Floor), including the fixtures and fittings and the items described in the Inventory annexed to this Agreement in **Schedule 1**.

Term

2. The duration of the lease shall be:-

   05 (Five) Years commencing from 20th May 2011 (the "Term") to 20th May 2016

Rent

3. The rent payable by the Lessee for the lease of the Property shall be:-

   MRF 4,000.00 (Four Thousand Maldivian Rufiyaa only) per calendar month for the whole Ground Floor for the duration of the Term **(the "Rent")**.

   (a) Rent shall be payable in Maldivian Rufiyaa.

(b) Any tax or other levies levied by the Government would be borne by the Lessee.

Payable

4. The Rent shall be payable no later than the 10th of each calendar month. The Rent shall be paid by the Lessee into a bank account specified by the Lessor or paid in some other manner as agreed between the parties.

Account Number:	7704 261710 101		
Account Name:	Abdul Rahman Mohamed		
Currency:	**MRF**	Bank:	Bank of Maldives

5. In this context:-

(a) The Deposit is to be held by the Lessor throughout the Term of the tenancy as security against the Lessee's failure to pay the Rent or non-performance of its obligations laid down within this Agreement. This includes any breach by the Lessee of its obligations as to the cleaning of the Property or destruction of any of the fixtures and fittings therein and the safekeeping and return of all keys upon expiration or termination of the Term.

Option to Renew Lease or Extend Term

6. The Lessee shall be given first option to renew or extend the lease at the end of the Term, provided that this option is exercised at least 2 (two) months prior to expiration of the term. The Lessor and the Lessee shall in good faith negotiate the new lease period and the amount of rent payable. In the event that the Lessor and the Lessee fail to reach mutual agreement on a renewal or extension of this Agreement for any reason whatsoever, however, then this Agreement shall expire at the end of the Term stipulated above.

DUTIES AND OBLIGATIONS OF THE LESSEE

7. The Lessee shall carry out the following throughout the Term of the tenancy:-

(a) to pay the Rent at the time and in the manner aforesaid;

(b) to use the Property for office space & storage space purposes for Wataniya Telecom Maldives. The Property shall not be used for commercial use without the prior written permission of the Lessor;

(c) not carry out any unlawful profession, trade or business on or at the Property or use it for any improper, immoral or illegal purpose, nor permit others to engage in such activities on the Property either;

(d) to promptly make payments to the relevant authorities upon receipt of invoice for all electricity, light, power and water consumed or supplied on or to the Property during the tenancy. Proof of the last such payment shall be produced by the Lessee if and when the Lessor so requires. The Lessor and the Lessee confirm the readings for the electricity and water supply meters at the Property at the time occupation of the Property are as specified in **Schedule 2** and **Schedule 3** hereof;

(e) to use the Property in a proper Lessee-like manner and in particular do the following:-

(i) keep the interior of the Property and all fixtures and fittings therein in the same good state and condition and repair as it was at the date hereof (fair wear and tear excepted).

(ii) keep the Property in a good state of decorative condition internally and at least up to the same standard as when the Lessee took possession;

(iii) preserve the furniture, equipment and effects from being destroyed, damaged or removed from the Property and make good, repair or replace with articles of a similar kind and of equal value any item that has been destroyed, lost, broken or damaged (fair wear and tear excepted);

(iv) be responsible for all insurance of furniture, fixtures, fittings, equipment and the Lessee's personal effects within the Property (including coverage for fire, theft and flooding);

(v) not to cause or permit any damage, injury or spoilage to the Property nor make any alterations or additions to the Property or the structure thereof; nail or drill holes into any wall or floor

(vi) dispose of all rubbish and other refuse in the correct manner. Garbage shall only be dry garbage waste typically found in offices and must all times be placed in the dustbin provided by the Lessor on the ground floor for this purpose;

(vii) not do or omit to do anything on or at the Property that may in any way prejudice the Lessor's insurance of the Property (if any) or cause an increase in the premium payable thereof;

(viii) not do or omit to do anything on or at the Property which may be or become a nuisance or annoyance to the Lessor or owners or occupiers of adjoining or nearby premises;

(f) to permit the Lessor or anyone authorised by it at reasonable hours in the daytime and upon 48 (forty eight) hours prior written notice (except in emergency) to enter and view the Property for any proper purpose (including the checking of compliance with the Lessee's obligations under this Agreement);

(g) not assign, sublet, charge or part with or share possession or otherwise dispose of the Property without the Lessor's prior written approval;

(h) to yield up the Property at the end of the Term and if any item listed on the Inventory requires repair, replacing, cleaning or laundering pay for the same (reasonable wear and tear and damage excepted);

DUTIES AND OBLIGATIONS OF THE LESSOR

8. Subject to the Lessee paying the Rent and performing its obligations under this Agreement, the Lessor shall carry out the following throughout the Term of the tenancy:-

(a) to allow the Lessee to peaceably hold and enjoy the Property during the Term save for any lawful interruption from the Lessor or any person rightfully claiming under or in trust for it;

(b) to keep in good repair the structure, exterior and interior of the Property (including drains, gutters, roofing, ceiling & external pipes), except where any damage was caused by the negligence of the Lessee or the Lessee's employees, agents or servants;

(c) to provide and keep in proper working order, facilities and amenities necessary for proper operation of the Property including (without limitation) installations for the supply of electricity and for sanitation (including basins, sinks, baths and sanitary conveniences);

(d) to facilitate MWSC water supply connection, connection of phone lines and generally provide the Lessor's assistance in obtaining other such services from the relevant service providers,

(e) to take out insurance of the Property against the risk of fire, flooding or any other such event;

(f) to return to the Lessee any portion of Rent paid for any period that the Property is rendered uninhabitable by fire or other risk against which the Lessor has effected insurance.

BREACH OF AGREEMENT AND TERMINATION

Breach of Agreement Requiring Remedy

9. In the event of breach of any of the terms of this Agreement by the Lessee, the Lessor shall serve a written notice upon the Lessee to remedy the breach within a period of 30 (thirty) days of receipt of the notice (or an increased period of time if the breach is such that reasonably warrants an increased period).

Termination of Agreement by Lessor

10. The Lessor may terminate this Agreement by serving 60 (sixty) days written notice upon the Lessee of its intention to do so in the event that any one or more of the following occur:-

(a) the Lessee fails to pay the Rent within a period of 60 (sixty) days after the due date (whether demanded or not); or

(b) the Lessee fails to remedy a breach of this Agreement within the time period specified in the notice serviced upon it pursuant to Clause 11 above;

The Lessor may re-enter the Property (or any part thereof) upon the expiration of the termination notice period. Any such termination shall be without prejudice to any of the Lessor's rights and remedies in respect of any outstanding obligations on the part of the Lessee.

11. The Lessor may terminate this Agreement by serving 3 (three) calendar month written notice upon the Lessee of its intention to do so under any other circumstances.

Termination of Agreement by Lessee

12. The Lessee may terminate this Agreement for any reason whatsoever, by serving 1 (one) month advance written notice upon the Lessor of its intention to do so or by paying 1 (one) calendar month rent in lieu thereof and the Agreement shall stand determined and any claim or monies due and payable from one party to the other should be paid within 2 (two) weeks of such determination.

MISCELLANEOUS

Assignment

13. Neither party may assign any of its rights, obligations, or responsibilities under this Agreement without the prior written consent of the other party (including, but not limited to, assigning, sub-letting, charging or parting with or sharing possession or occupation of the Property).

Waiver

14. The failure by any party to exercise or enforce in any instance any of the terms or conditions of this Agreement, or to insist upon strict performance by the other party of any of the provisions of this Agreement, shall not constitute or be deemed a waiver of that party's rights under this Agreement.

Force Majeure

15. A party shall be excused from performing its obligations under this Agreement if its performance is restricted or prevented by a natural cause beyond its control, which shall be limited to Acts of God, storm, tempest, flood, war, insurrection and civil commotion. Performances shall be excused only to the extent of and during the reasonable continuance of such disability.

Corporate Authority

16. Both parties represents that it has taken all necessary corporate action to authorise the execution and consummation of this Agreement and will furnish the other party with satisfactory evidence of this upon request.

Compliance with Laws

17. Each party hereto agrees that it shall comply with all applicable laws, ordinances, codes and regulations in the performance of its obligations or receipt of services under this Agreement, including the procurement of permits and certificates where required. If at any time during the term of this Agreement, a party is informed or information comes to its attention that it is or may be in violation of any law, ordinance or code (or if it is so determined by any court, tribunal or other authority), that party shall immediately take all appropriate steps to remedy such violation and comply with such law, regulation, ordinance or code in all respects.

Notices

18. All notices, requests, demands or other communications to or upon the respective parties to this Agreement shall be in English or in Maldivian (Dhivehi) and shall be deemed to have been duly given or made when delivered personally or by registered letter or by facsimile to the other party at the addresses set out below or at such other address as the party concerned may hereafter specify to the other in writing or, in the case of facsimile, to the published number of the addressee:-

FOR THE LESSOR:

ABDUL RAHMAN MOHAMED
SUN FLOWER
B. EYDHAFUSHI
TEL: 7795236

FOR THE LESSEE:

WATANIYA TELECOME MALDVIES PVT.LTD
5TH FLOOR, H. SUNLEET
BODUTHAKURUFAANU MAGU,
MALE',
REP. OF MALDIVES
FAX NO. 960-9611001

Posted letters shall be deemed to have been delivered 14 business days after posting (Fridays, Saturdays and Public Holidays excepted) and facsimile messages shall be deemed to have been delivered at the time of despatch unless they are received outside business hours of the recipient in which case they shall be deemed received at the opening of business on the next business day.

Inurement

19. This Agreement shall inure to the benefit of and be binding upon each of the parties and their respective successors-in-title, permitted assigns and liquidators.

Partial Invalidity

20. If at any time any provision hereof is or becomes illegal, invalid or unenforceable in any respect under the laws of Maldives, neither the legality, validity or enforceability of the remaining provisions hereof nor the legality, validity or enforceability of such provision under the laws of Maldives shall in any way be effected or impaired thereby.

Amendments

21. Any amendments to this Agreement shall be made in writing and executed by both parties to this Agreement.

Entire Agreement and Copies

22. This Agreement constitutes the entire agreement between the parties with respect to the subject matter contemplated herein and supersedes all oral statements and prior writings.

23. This Agreement shall be executed simultaneously in two original copies, each of which when executed and delivered shall constitute an original, but all copies shall together constitute but one and the same instrument.

Governing Law

24. This Agreement shall be governed by, construed and enforced in accordance with the laws of the Republic of Maldives.

SIGNATURES

IN WITNESS WHERE of the Lessor and the Lessee has executed this Agreement on the respective dates specified below with the effect from the date specified above.

SIGNED FOR AND ON BEHALF OF THE LESSOR- ABDUL RAHMAN MOHAMED

Name: **Abdul Rahman Mohamed**

Position: **Owner**

Date:

....

Signature

SIGNED FOR AND ON BEHALF OF THE LESSEE- WATANIYA TELECOM MALDIVES PVT LTD

Name: Mohamed Shahid

Position: Director HR & Admin

Date: 25th May 2011.

....

Signature

IN THE PRESENCE OF:

....

Signature of Witness

Name

Address

ID No:

....

Signature of Witness

Name Ahmed Numan

Address LOT 10223
Hulhumale'
Male' , Rep of Maldives

ID No: A - 203882

SCHEDULE 1: INVENTORY

As attached

The Lessor and the Lessee confirm that the property contains the above items of furnishing at the commencement of the tenancy.

Signed by the Lessor

Signed by the Lessee

SCHEDULE 2: ELECTRICITY METER READING

Sun Flower, B. Eydhafushi, Ground Floor

KILOWATT HOUR METER READING

Meter Serial No. :
Distribution Board No. :
Present Reading : ____________________
Date : ____________________

Meter reading observed by:

1) **ABDUL RAHMAN MOHAMED**

Attended by:

Name : ____

Designation : ____

Signature : ____

2) **WATANIYA TELECOM MALDIVES PVT LTD**

Attended by:

Name : ____

Designation : ____

Signature : ____

SCHEDULE 3: WATER METER READING

Sun Flower, B. Eydhafushi, Ground Floor

WATER METER READING

Meter Serial No. :
Present Reading :
Date : ______________
____

Meter reading observed by:

1) **ABDUL RAHMAN MOHAMED**

Attended by:

Name : ______________________________

Designation : ______________________________

Signature : ______________________________

2) **WATANIYA TELECOM MALDIVES PVT LTD.**

Attended by:

Name : ______________________________

Designation : ______________________________

Signature : ______________________________

Amendments

21. Any amendments to this Agreement shall be made in writing and executed by both parties to this Agreement.

Entire Agreement and Copies

22. This Agreement constitutes the entire agreement between the parties with respect to the subject matter contemplated herein and supersedes all oral statements and prior writings.

23. This Agreement shall be executed simultaneously in two original copies, each of which when executed and delivered shall constitute an original, but all copies shall together constitute but one and the same instrument.

Governing Law

24. This Agreement shall be governed by, construed and enforced in accordance with the laws of the Republic of Maldives.

SIGNATURES

IN WITNESS WHERE of the Lessor and the Lessee has executed this Agreement on the respective dates specified below with the effect from the date specified above.

SIGNED FOR AND ON BEHALF OF THE LESSOR- ABDUL RAHMAN MOHAMED

Name: **Abdul Rahman Mohamed**

Position: **Owner**

Date:

....
Signature

SIGNED FOR AND ON BEHALF OF THE LESSEE- WATANIYA TELECOM MALDIVES PVT LTD

Name: Stephen Smith

Position: Acting Chief Operating Officer

Date:

....
Signature

بِسْمِ اللَّهِ الرَّحْمَٰنِ الرَّحِيمِ

CELL SITE LEASE AGREEMENT

IN RESPECT OF THE LAND AREA AT GADHAGE

(HDH.KULHUDHUFFUSHI)

(AS THE "LANDLORD")

– AND –

WATANIYA TELECOM MALDIVES PVT LTD

(AS THE "TENANT")

WEDNESDAY01ST JULY 2011

REPUBLIC OF MALDIVES

LEASE AGREEMENT

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TERM 3
RENT 4
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LEASE AGREEMENT

INTRODUCTION

THIS LEASE AGREEMENT (the "Agreement") is made on [Wednesday01stJuly 2011].

BY:

Mr.Mohamed Moosa(ID No: - A139034), Gadhage,Hdh. Kulhudhuffushi, a private residence incorporated under the laws of the Maldives. **(the "Landlord" which expression shall include its successors-in-title, liquidators and assignees where the context so requires or admits)**

AND:

WATANIYA TELECOM MALDIVES PVT LTD, a private company incorporated under the laws of the Maldives and whose registered office is at Second Floor, HDC Building, Hulhumale, Male', Rep of Maldives **(the "Tenant" which expression shall include its successors-in-title, liquidators and assignees where the context so requires or admits)**

WHEREAS

The Landlord lets and the Tenant takes the property described in this Agreement according to the terms and conditions specified below.

NOW THEREFORE the Landlord and the Tenant agree as follows.

PROPERTY, TERM, RENT AND DEPOSIT

Property Let

1. The Landlord lets to the Tenant the following premises **(the "Property")**:

   Area of 18ft and 25ft (Mr. Mohamed Moosa /Gadhage,Hdh. Kulhudhuffushi, REPUBLIC OF MALDIVES) asdemarcated in schedule 2 annexed hereto. It is understood that the property will be suitable for installation and operation by the tenant of telecommunications equipment in the form of a24mantenna with equipments

   Together with the rights set out in clause 10 of this Agreement.

Term

2. The duration of the lease shall be:-

   5[FIVE] years commencing from and including [July01st,2011] until and including [July01st, 2016](the "Term").

Rent

3. The rent payable by the Tenant for the lease of the Property **(the "Rent")** on a per calendar month basis for the duration of the Term shall be:-

MRF: [(4000) Four Thousand Maldivian Rufiyaa Only]
Account Name:Mohamed Moosa
Account No: 7706-348295-102
Bank Name: Bank of Maldives / Kulhudhuffushi Branch

Payable

4. The Rent shall be payable in advance by no later than the 10th day of each month. The Rent shall be paid by the Tenant into a bank account specified by the Landlord or paid in some other manner as agreed between the parties.

Utilities

5. The Rent shall be exclusive of utilities such as electricity, light and power consumed or supplied on or to the Property during the tenancy.

Option to Renew Lease or Extend Term

6. The Tenant shall be given first option to renew or extend the lease at the end of the Term, provided that this option is exercised at least 2 (two) months prior to expiration of the Term. The Landlord and the Tenant shall in good faith negotiate the new lease period and the amount of rent payable. In the event that the Landlord and the Tenant fail to reach mutual agreement on a renewal or extension of this Agreement for any reason whatsoever, however, then this Agreement shall expire at the end of the Term stipulated above.

DUTIES AND OBLIGATIONS OF THE TENANT

7. The Tenant shall throughout the Term of the tenancy:-

(a) pay the Rent at the time and in the manner aforesaid;

(b) use the Property for the purpose of installing the Tenant's Equipment necessary for the provision of mobile telecommunications services and their associated services.

(c) not carry out any unlawful profession, trade or business on or at the Property or use it for any improper, immoral or illegal purpose, nor permit others to engage in such activities on the Property either;

(d) use the Property in a proper tenant-like manner and in particular do the following:-

(i) keep the Tenant's Equipment in safe repair and condition;

(ii) Be responsible for all insurance of the Tenant's Equipment (including coverage for fire and theft). It is expressly agreed that the Landlord will not be responsible for any loss, theft or damage to any of the Tenant's Equipment or supplies located at any time in the Property;

(iii) not to cause or permit any damage or injury to the Building nor make any alterations or additions to the Property or the structure except for civil work required for the installation of the Tenants Equipment;

(e) to promptly make payments to the relevant authorities upon receipt of invoice for all electricity, light, power and water consumed or supplied on or to the Property during the tenancy;;

(f) to permit the Landlord or anyone authorised by it at any time and upon reasonable prior written notice (except in emergency) to enter and view the Property for any proper purpose (including the checking of compliance with the Tenant's obligations under this Agreement);

(g) not assign, sublet, charge or part with or otherwise dispose of the Property without the Landlord's prior written approval;

(h) to yield up the Property at the end of the Term in the same condition as at the commencement of the Term;

(i) to be solely responsible for payment of taxation of any kind whatsoever arising from or in connection with the Tenant's occupation of the Property under this Agreement if and when such is imposed by the Maldives Government in the future, and to indemnify the Landlord in this regard.

DUTIES AND OBLIGATIONS OF THE LANDLORD

8. Subject to the Tenant paying the Rent and performing its obligations under this Agreement, the Landlord shall carry out the following throughout the Term of the tenancy:-

(a) to allow the Tenant to peaceably hold and enjoy the Property during the Term save for any lawful interruption from the Landlord or any person rightfully claiming under or in trust for it;

(b) To permit the Tenant to install, maintain, alter, renew, replace upgrade and operate the Tenant's Equipment on the Property, with the space provided by the landlord.

(c) allow the Tenant or any other party acting on its behalf (including but not limited to employees, sub-contractors and consultants) to access the Property at any time in order to survey, maintenance purposes or for civil works purposes;

(d) to allow the Tenant to change the position, or location of the Tenant's Equipment installed or carry out any other required work provided that this does not overload the structural integrity of the Building;

(e) to provide the Tenant with all the documentation and any other assistance required from the Landlord in order for the Tenant to install and receive services such as electricity and any other utilities required on the Property;

(f) to keep in good repair structural parts, all conduits and equipment belonging to the Landlord which are adjacent to or serve or benefit the Property (including drains, gutters and external pipes), except where any damage was caused by the negligence of the Tenant or the Tenant's employees, agents or servants;

(g) to provide and keep in proper working order, facilities and amenities necessary for proper operation of the Property including (without limitation) installations for the supply of electricity;

(h) to take out insurance of the Building against the risk of fire, flooding or any other such event;

(i) to return to the Tenant any portion of Rent paid for any period that the Property is rendered uninhabitable by fire or other risk against which the Landlord has effected insurance;

(j) to allow the Tenant all rights of support for the Property from the Building;

(k) to obtain the prior written consent of the Tenant before permitting any other party (whether a telecommunications operator or otherwise) to install telecommunications equipment in the vicinity of the Property or the Tenants Equipment;

(l) to allow the Tenant the right to use lay connect and construct new or existing conduits that may be required for the Tenant's use of the Property in over under or through the Building and where applicable the Landlord's adjoining property in such position or positions as agreed with the Landlord (such agreement on the part of the Landlord not to be unreasonably withheld or delayed) and to repair maintain inspect and renew such conduits at any time the Tenant or the person exercising such rights causing as little inconvenience as reasonably possible to such adjoining property and making good without unreasonable delay any damage thereby caused to such adjoining property;

(m) to allow the Tenant the right to erect all necessary hand railing ladders and other access/safety equipment for the safe working of the Tenant's contractors agents or servants;

(n) not move interfere or tamper with the Tenant's Equipment and not to knowingly permit any other person to move interfere or tamper with the same.

BREACH OF AGREEMENT AND TERMINATION

Breach of Agreement Requiring Remedy

9. In the event of breach of any of the terms of this Agreement by the Tenant, the Landlord shall serve a written notice upon the Tenant to remedy the breach within a period of 30 days of receipt of the notice (or an increased period of time if the breach is such that reasonably warrants an increased period). However the agreement remain valid until the tenant removes the equipment's set for a under cause some from the landlord buildings.

Termination of Agreement by Landlord

10. Provided that the Tenant pays the Rent as provided for in this Agreement, the Landlord may not terminate this Agreement. However the Landlord has the right to terminate the Agreement if the Tenant fails to remedy a breach of this Agreement within the time period specified in the notice serviced upon it pursuant to Clause 11 above. Or the landlord may terminate this Agreement by serving 3 (Three) months written notice upon the tenant of its intention to do so for any reason whatsoever.

Termination of Agreement by Tenant

11. The Tenant may terminate this Agreement by serving 1 (one) months' written notice upon the Landlord of its intention to do so for any reason whatsoever.

MISCELLANEOUS

Landlord's certificate

12. The Landlord hereby certifies to the Tenant that it has full power to grant this lease and that the Property and the land subject to the rights are held by the Landlord free from encumbrances which would prevent the Tenant using and occupying the Property and exercising the rights hereby granted fully freely and without restriction.

Assignment

13. Neither party may assign any of its rights, obligations, or responsibilities under this Agreement without the prior written consent of the other.

Waiver

14. The failure by any party to exercise or enforce in any instance any of the terms or conditions of this Agreement, or to insist upon strict performance by the other party of any of the provisions of this Agreement, shall not constitute or be deemed a waiver of that party's rights under this Agreement.

Force Majeure

15. A party shall be excused from performing its obligations under this Agreement if its performance is restricted or prevented by a natural cause beyond its control, which shall be limited to Acts of God, storm, tempest, flood, war, insurrection and civil commotion. Performances shall be excused only to the extent of and during the reasonable continuance of such disability.

Corporate Authority

16. Each party represents that it has taken all necessary corporate action to authorise the execution and consummation of this Agreement and will furnish the other with satisfactory evidence of this upon request.

Compliance with Laws

17. Each party hereto agrees that it shall comply with all applicable laws, ordinances, codes and regulations in the performance of its obligations or receipt of services under this Agreement, including the procurement of permits and certificates where required. If at any time during the term of this Agreement, a party is informed or information comes to its attention that it is or may be in violation of any law, ordinance or code (or if it is so determined by any court, tribunal or other authority), that party shall immediately take all appropriate steps to remedy such violation and comply with such law, regulation, ordinance or code in all respects.

Notices

18. All notices, requests, demands or other communications to or upon the respective parties to this Agreement shall be in English or in Maldivian (Dhivehi) and shall be deemed to have been duly given or made when delivered personally or by registered letter or by facsimile to the other party at the addresses set out below or at such other address as the party concerned may hereafter specify to the other in writing or, in the case of facsimile, to the published number of the addressee:-

FOR THE BUILDING

Mr.Mohamed Moosa
Owner of the building
Gadhage
Hdh. Kulhudhuffushi
Republic of Maldives
Mobile No: (+960) 795 3992

FOR THE TENANT:

Wataniya Telecom Maldives Pvt Ltd
Second Floor
HDC Building,
Hulumale,
Male
Rep of Maldives
Fax no. (+960) 9611001

Posted letters shall be deemed to have been delivered 14 business days after posting (Fridays, Saturdays and Public Holidays excepted) and facsimile messages shall be deemed to have been delivered at the time of despatch unless they are received outside business hours of the recipient in which case they shall be deemed received at the opening of business on the next business day.

Inurement

19. This Agreement shall inure to the benefit of and be binding upon each of the parties and their respective successors-in-title, permitted assigns and liquidators.

Partial Invalidity

20. If at any time any provision hereof is or becomes illegal, invalid or unenforceable in any respect under the laws of Maldives, neither the legality, validity or enforceability of the remaining provisions hereof nor the legality, validity or enforceability of such provision under the laws of Maldives shall in any way be effected or impaired thereby.

Amendments

21. Any amendments to this Agreement shall be made in writing and executed by both parties to this Agreement.

Entire Agreement and Copies

22. This Agreement constitutes the entire agreement between the parties with respect to the subject matter contemplated herein and supersedes all oral statements and prior writings.

23. This Agreement shall be executed simultaneously in two original copies, each of which when executed and delivered shall constitute an original, but all copies shall together constitute but one and the same instrument.

Governing Law

24. This Agreement shall be governed by, construed and enforced in accordance with the laws of the Republic of Maldives.

SIGNATURES

IN WITNESS WHEREOF the Landlord and the Tenant have executed this Agreement on the respective dates specified below with the effect from the date specified above.

Signed For and on Behalf of the Landlord

Name: **Mr.Mohamed Moosa**

Position: **Owner of the House**

Date: ………………..

Company Seal: …………………………..

Signature ………………………………

Signed For and on Behalf of the Tenant

Name: **Mr.Stephen Smith**

Position: **Chief Commercial Officer**

Date: ……………………

Company Seal: ……………………………… Wataniya Telecom Maldives Pvt. Ltd.

Signature ………………………………

In presence of:

Name: Mariyam Shujana.

Position: Site Acquisition Officer

ID/Passport No: A 024223

Date: ………………………………………

Signature ………………………………

In presence of:

Name: AHMED RISHWAN

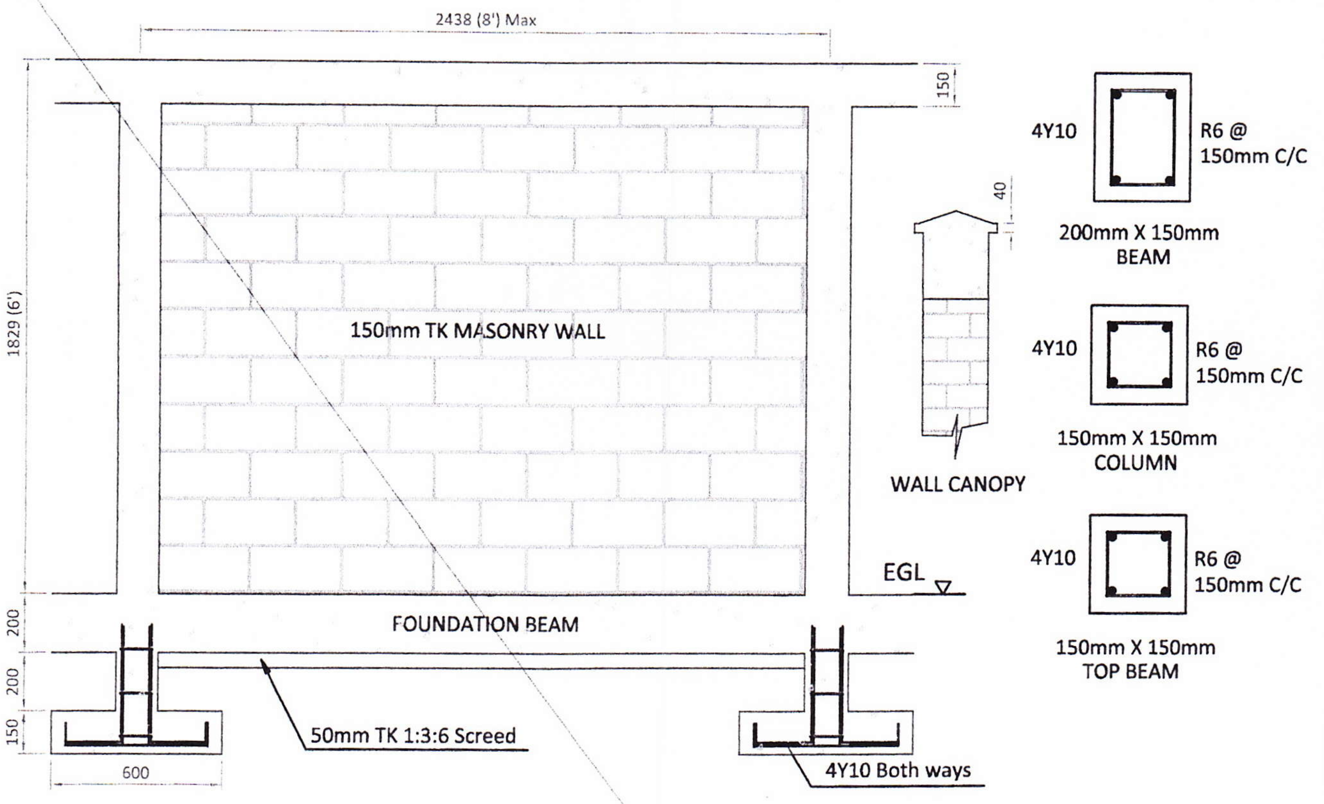
Position: PLANNING CORDINATOR

ID/Passport No: A047941

Date: 06.06.2011

Signature ………………………………

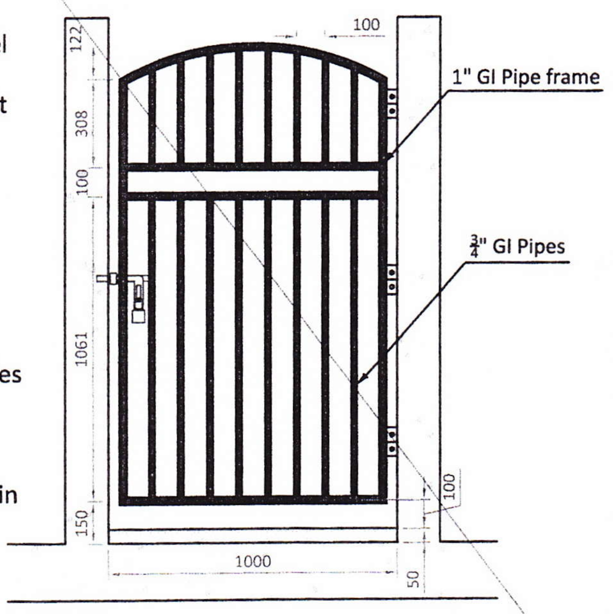
SCHEDULE 2: LOCATION OF PROPERTY



BOUNDARY WALL

NOTE

- Ground level needs to be taken from the nearest road level
- Wall thickness is 150mm
- Wall needs to be painted with exterior weather proof paint
- Lean concrete needs to be 50mm
- Number of columns to be taken as marked in the layout drawing
- Column & beam concrete should be in 1:2:3
- Screed concrete should be in 1:3:6
- Columns should be reinforeced with 10mm Steel
- Maximum distance between each column is 8'
- Top wall should be 30° taper to both sides
- 50mm Thick plinth should be placed 200mm from both sides of the boundary wall
- Gate will be stongly achored to the columns by hinges
- All Welding joints should be applied with Appoloy potty
- GI pipe frame should be in 1" pipes & other members are in $\frac{3}{4}$" pipes
- Paint with 1 coat of primer & 2 coats of Enamel



GATE

ALL DIMENSIONS ARE IN MILLIMETERS

WATANIYA Confidential to WMT	TITLE: STRUCTURAL DRAWINGS OF BOUNDARY WALL & GATE	SCALE:	N.T.S
		DATE:	29/05/2011
		DRAWN BY:	SANKHA
		SURVEYED BY:	SANKHA
	SITE NAME:	DRG NO:	

بسم الله الرحمن الرحيم

ސޯލް ސަލިއުޝަން ކޯޕަރޭޝަނުގެ އޮފަރޝަން

މަދުޢަންގްގާވަރ ، ސ. ހިތަދޫ

ތައުޖަންވާވަރު، ސ. ހިތަދޫ ގެ ސޯލް ސަޕްލައި ކޮންޓްރެކްޓިންގާ ގުޅިގެން

(ކޮންޓްރެކްޓަރު ފަރާތް)

އަދި

އުރީދޫ މޯލްޑިވްސް ޕްރައިވެޓް ލިމިޓެޑް

(ކޮންޓްރެކްޓިދާ ފަރާތް)

ދެމެދު ވެވުނު އެއްބަސްވުން.

30 ސެޕްޓެމްބަރ 2014

ދިވެހިރާއްޖެ

ތަޢާރަފު

<u>ސޯލް ސަޕްލައި ކޮންޓްރެކްޓިންގގެ މިއެއްބަސްވުން</u> ("އެގްރީމަންޓް") ވެފައިވަނީ 2015 ވަނަ އަހަރުގެ މާރިޗު މަހުގެ 01 ވަނަ ދުވަހު،

<u>އަންނަނިވި ފަރާތްތަކުގެ މެދުގައެވެ:</u>

ނަސީރު އިބްރާހިމް. (ދިވެހި ރައްޔިތެއްކަން އަންގައިދޭ ކާޑު ނަންބަރު: A021080.)، ތައުޖަންވާވަރު، ސ. ހިތަދޫ ("ކޮންޓްރެކްޓަރު ފަރާތް" މިބަހުގެ މާނައިގެ ތެރޭގައި އެފަރާތުގެ ވާރިސުންނާއި، އެސައިންސްއާއި ވެކިލުންނާއި އަދި ހުއްދަދީފައިވާ ފަރާތްތައް ހިމެނެއެވެ.)

YUDHRA ABDUL LATHEEF
ATTORNEY AT LAW
LICENSE No. 2010/08

Date 14:21 10/3/2015

OM/CONT/15/044

<u>އަދި:</u>

ooredoo
Ooredoo Maldives Pvt. Ltd.
C-633/2004

އުރީދޫ މޯލްޑިވްސް ޕްވޓް ލޓޑް، ދިވެހިރާއްޖޭގެ ޤާނޫނުތަކުގެ ދަށުން އުފައްދާފައިވާ އަމިއްލަ ކުންފުންޏެއް އަދި ކުންފުނީގެ ރަޖިސްޓަރޑް އޮފީސް ފަސްވަނަ ފަންގިފިލާ، ހ. ސަންލީޓް، ބޮޑުތަކުރުފާނުމަގު، މާލެ، ދިވެހިރާއްޖޭގައި ހުންނަ ("ކުއްޔަށްހިފާފަރާތް" މިބަހުގެ މާނައިގެ ތެރޭގައި އެފަރާތުގެ ވާރިސުންނާއި، ވަކީލުންނާއި، ވަސީއްޔަތްތެރިންނާއި އަދި ހައްޤު ބަދަލުކުރެވޭ ފަރާތްތައް ހިމެނެއެވެ.)

މިއެގްރީމަންޓުގައި ބަޔާންކޮށްފައިވާ ޕްރޮޕަޓީ ތިރީގައިވާ ޝަރުތުތަކާއި ދެފަރާތުގެ ދެމެދުގައި އެއްބަސްވާ ކަންތައްތަކާ އެއްގޮތްވާ ގޮތުގެ މަތިން ކުއްޔަށްދޭފަރާތުން ކުއްޔަށްހިފާ ފަރާތަށް ކުއްޔަށްދިނުމަށް އެއްބަސްވާ ހިނދު،

ދެންފަހެ ކުއްޔަށްދޭފަރާތާއި ކުއްޔަށްހިފާފަރާތުން އަންނަނިވި ގޮތަށް އެއްބަސްވެއެވެ.

ޕްރޮޕަޓީ، މުއްދަތު، ކުލި އަދި ޑިޕޮޒިޓް

ކުއްޔަށްދޫކުރާ ޕްރޮޕަޓީ

1. ކުއްޔަށްދޭފަރާތުން ކުއްޔަށްހިފާފަރާތަށް އަންނަނިވި ތަން ("ޕްރޮޕަޓީ") ކުއްޔަށްދޫކުރެއެވެ:

މިއެގްރީމަންޓާއެކު ޖަދުވަލު 1 ގައި ކުރަހާލުމުން ދައްކައިދީފައިވާ ގޮތުގެމަތިން (ތަޢުޖަންފޯވަރ، ސ. ހިތަދޫ ، ދިވެހިރާއްޖޭގެ) 547 އަކަފޫޓުގެ ބާގައި މިގެ ފަހުން "ޕްރޮޕަޓީ" ކަމަށް ބަޔާންކޮށްފައިވާ، ގައި ކުއްޔަށްހިފާފަރާތުން ހަރުކުރާ ބޭސްސްޓޭޝަނުން ބޭނުންވާ ޓެލެކޮމިއުނިކޭޝަން އިކުއިޕްމަންޓް، އޭގެތެރޭގައި ޖީއެސްއެމް އެންޓެނާ، މައިކްރޯވޭވް ޑިޝް، ޓަވަރުތައް، ބީޓީއެސް އިކުއިޕްމަންޓް، ޖެނެރޭޓަރ ނުވަތަ ބެޓަރީ އެއާކޮން އެހެނިހެން އިކުއިޕްމަންޓް ހަރުކޮށް ބޭނުންކުރުމަށް އެކަށީގެންވާ ތަނެއްކަމުގައި ވަނީ ބަޔާންކޮށްފައެވެ.

ކުއްޔަށްދޭ މުއްދަތު

2. ކުއްޔަށްދޭނެ މުއްދަތަކީ:-

ކުއްޔަށް ދޫކުރާ މުއްދަތު: (01 މާރޗް 2015) ހިމެނޭގޮތުން އެތާރީޚުން ފެށިގެން (31 މާރޗް 2025) ހިމެނޭގޮތުން އެތާރީޚުގެ ނިޔަލަށް 10 (ދިހައެއް) އަހަރު ދުވަސް ("ކުއްޔަށްދޭ މުއްދަތު")

ކުލި

3. ކޮންމެ ކަލަންޑަރު މަހަކު ދައްކާ އުސޫލުން ކުއްޔަށްދޭ މުއްދަތުގެ ތެރޭގައި ކުއްޔަށްހިފާފަރާތުން ޕްރޮޕަޓީ ކުއްޔަށްދޭފަރާތަށް ދައްކަންޖެހޭ ކުއްޔަކީ ("ކުލި"):-

ކުލީގެ އަދަދު: 5000/- (ފަސްހާސް ރުފިޔާ)

އެކައުންޓް ނަމްބަރު: 7708 467377 001

ބޭންކް : ބޭންކް އޮފް މޯލްޑިވްސް

OM/CONT/15/044

PUR/CONT/14/089

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އެކައުންޓް ނަން: ނަސީރު އިބްރާހިމް

ކުލި ދެއްކުން

4. ކުލި ދައްކަންވާނީ ކޮންމެ މަހެއްގެ 10 (ދިހައެއް) ވަނަ ދުވަހަށް ވުރެ ފަސްނުކޮށް ބޭންކަށެވެ. ކުއްޔަށްހިފާފަރާތުން ކުލި ދައްކަންވާނީ ކުއްޔަށްދޫކުރާފަރާތުން އަންގާ ބޭންކް އެކައުންޓަކަށް ނުވަތަ ދެފަރާތުގެ ދެމެދުގައި އެއްބަސްވާ އުސޫލަކުން ޖަމާކުރަންވާނެއެވެ.

ޑިޕޮސިޓް

5. ކުއްޔަށްދޫ މުއްދަތުގެ ތެރޭގައި ޕްރޮޕަރޓީގައި ބޭނުންކުރާ ނުވަތަ ޕްރޮޕަރޓީއަށް ލިބޭ ގެއްލުންތަކާއި އިލެކްޓްރިސިޓީއާއި، އަދި ފެނާއި ކަރަންޓުގެ ކުލީގެ ތެރެއަކު ނުހިމެނޭނެއެވެ.

ކުލީގެ މުއްދަތު އާކުރުން ނުވަތަ އިތުރުކުރުމުގެ ފުރުޞަތު

6. ކުއްޔަށްދޫ މުއްދަތު ހަމަވުމުގެ ކުރިން އެންމެ ލަސްވެގެން 2 (ދޭއް) މަސް ދުވަހުގެ ތެރޭގައި ކުއްޔަށްދޫ މުއްދަތު އާކުރުން ނުވަތަ އިތުރުކުރުމުގެ ފުރުޞަތުގެ ބޭނުން ކުއްޔަށްހިފާފަރާތުން ހިފައިފިނަމަ، ކުއްޔަށްދޫ މުއްދަތު ނިމުމުން އާކުރުން ނުވަތަ އިތުރުކުރުމުގެ ފުރަތަމަ ފުރުޞަތު ކުއްޔަށްހިފާފަރާތަށް ލިބިދޭނެއެވެ. އަދި ކުއްޔަށްދޫ މުއްދަތާއި ދެއްކަންޖެހޭ ކުލީގެ އަދަދު ކަނޑައަޅާނީ ކުއްޔަށްދޫކުރާފަރާތާއި ކުއްޔަށްހިފާފަރާތާ ދެމެދު ހެޔޮ ނިޔަތުގައި މަޝްވަރާކުރުމަށްފަހުއެވެ. އެހެންކަމުގައިވިޔަސް، އެއްވެސް ސަބަބަކާ ގުޅިގެން މިއެގްރީމަންޓް އާކުރުމާއި މުއްދަތު އިތުރުކުރުމާ ކުއްޔަށްދޫކުރާފަރާތާއި ކުއްޔަށްހިފާފަރާތާ ދެމެދު އެއްބަސްވުމަކަށް ނާދެވިއްޖެ ހާލަތެއްގައި، މިގޮތުގައި 2 ވަނަ މާއްދާގައި ބަޔާންކޮށްފައިވާ ކުއްޔަށްދޫ މުއްދަތު ނިމުމުން މިއެގްރީމަންޓްގެ މުއްދަތު ހަމަވާނެއެވެ.

ކުއްޔަށްހިފާފަރާތުގެ ޒިންމާތަކާއި މަސްއޫލިއްޔަތުތައް

7. ކުއްޔަށްދޫ މުއްދަތުގެ ތެރޭގައި ކުއްޔަށްހިފާފަރާތުން:-

(ހ) އިސްވެބަޔާންކޮށްފައިވާ ވަގުތުތަކުގައި އެއްބަސްވުމުގެ މަތިން ކުލި ދައްކަންވާނެއެވެ؛

(ށ) ޕްރޮޕަރޓީ ބޭނުންކުރަންވާނީ މޮބައިލް ޓެލިކޮމިއުނިކޭޝަން ހިދުމަތްތަކާއި އެއާއި ގުޅުން ހުރި ހިދުމަތްތައް ފޯރުކޮށްދިނުމުގެ މަޤްޞަދުގައެވެ.

(ނ) ދައުލަތުގެ ޤާނޫނާއި އެއްވެސް މަސައްކަތެއް ނުވަތަ ވިޔަފާރިއެއް ކުރުމަށް ނުވަތަ އެކަށީގެންނުވާ، ބޭއަދަބު ނުވަތަ ހުއްދަނޫން އެއްވެސް ބޭނުމަކަށް ޕްރޮޕަރޓީ ބޭނުންކުރުން ނުވާނެއެވެ. އަދި އެފަދަކަމެއް ޕްރޮޕަރޓީގައި ހިންގުމަށް އެހެން ފަރާތަކަށް ހުއްދަދިނުން ނުވާނެއެވެ؛

(ރ) ކުއްޔަށްހިފާފައިވާ ތަނުން ބޭނުންކުރުމުގައި އެކަށީގެންވާ ގޮތުގައި ޕްރޮޕަރޓީ ބޭނުންކުރަން ޚާއްސަކޮށް އަންނަނިވި ކަންތައްތައް ކުރަންވާނެއެވެ:-

om/CONT/15/044

(i) ކޮންޓްރެކްޓަރުގެ މުދާ ރައްކާތެރިކަމާއެކު ބަހައްޓާނެ ތަނެއް ގޮތުގައި ބަހައްޓުން؛

(ii) ކޮންޓްރެކްޓަރުގެ އިންޖިނިއަރިންގެ އުސޫލާއި އިންޓަނޭޝަނަލް ސްޓޭންޑަރޑް (އޭގެތެރޭގައި އެކިވާރގެ ވައްކަމުގެ ކަމަށް ހިމެނޭނެއެވެ). އެއްވެސް ވަގުތެއްގައި ޕްރޮޖެކްޓުގައި ހުރި ކޮންޓްރެކްޓަރުގެ އިންޖިނިއަރަކަށް ސަފްވަޔަކަށް ލިބޭ އެއްވެސް ގެއްލުމެއް، ނުވަތަ އަނިޔާ ކުރާ ވައްކަމަކަށް ކޮންޓްރެކްޓަރު ޒިންމާ ނުވާނަމަކަށް ސާފުކަމެއް އެއްބަސްވެއެވެ؛

(iii) އިމާރާތް ކުރުވިފައިވާނަމަ، އިމާރާތަށް އެއްވެސް ގެއްލުމެއް ނުދިނުމާއި އަދި ކޮންޓްރެކްޓަރުގެ އިންޖިނިއަރުން ހުރުކުރުމަށް ކުރަންޖެހޭ ސިވިލް މަސައްކަތްތަކުގެ ދުވަސް ޕްރޮޖެކްޓަށް އެއްވެސް ބަދަލެއް ނުވަތަ އުނިއިތުރެއް ނުގެނައުން؛

(ހ) ކޮއަރަންޓީ މުއްދަތުގެ ތެރޭގައި ޕްރޮޖެކްޓުގައި ބޭނުންކުރާ ނުވަތަ ޕްރޮޖެކްޓަށް ފޮނުވާފައިވާ ހިދުމަތްތެރިޔާއި، އަދި އަދި ކަރަންޓާއި ފެނާ އިންތިޒާމް ފިޔަވާއި ކާނާއާއި ދޭހުގެ މުސާރަ ފަދަ ދައްކަންޖެހޭނެއެވެ؛

(ށ) އެކަނިވެރިވާ ނަގާސް ފިޔަވައި ދިނުމުގެ ފަހުން (ކުރިން ބާވަތްތަކުގައި ހިމަނައި) އެކަނިވެރިވާ މަޝްވަރާކުރަން (އޭގެތެރޭގައި މިއަދުވަންދެން ދަނޑި ކޮންޓްރެކްޓަރުގެ މަސައްކަތުގެ ފުރިހަމަކަމާއި އެއްބަސްވުން ބެލުން ހިމެނޭ) ޕްރޮޖެކްޓަށް ވަދެ ބެލުމަށް ކޮންޓްރެކްޓަރު ވަނީ ހުއްދަ ދީފައެވެ ނުވަތަ ހުށަހެޅުން ވަގުތުން ހުއްދަ ވެއްޖެއްނަމަ ކުރުން ހުރުމާއި އެއްގޮތްވާ ހުއްދަ ދިނުން ލާޒިމުވާނެއެވެ؛

(ނ) ކޮއަރަންޓީގެ ހުއްދަ ލިބުމުން ހުރިހާ ކަމެއް ފުރިހަމަ ޕްރޮޖެކްޓް އެކު ވަގުތަކަށް ހަވާލުކުރުމަށް، ކޮންޓްރެކްޓަރު ނުވަތަ އެންމެ ގާތުގައި ހުރި ޕްރޮޖެކްޓަކަށް ފޮނުވާނެއެވެ؛

(ރ) އިމާރާތްކޮށް ނިމުމުން ކޮއަރަންޓީ މުއްދަތު ހަމަވުމުން ޕްރޮޖެކްޓް ހަވާލުކުރަން ކޮއަރަންޓީ މުއްދަތު ފުރުން އިން ހުރި ހަވާލުކުރާނެއެވެ.

ކޮއަރަންޓީގެ ޒިންމާއާއި މަސްއޫލިއްޔަތު

8. ކޮއަރަންޓީ މުއްދަތުގެ ތެރޭގައި ކޮންޓްރެކްޓަރު އަންނަނިވި ކަންތައްތައް ކުރަންވާނެއެވެ:-

(ހ) ފާސްކުރި ގޮތުން އަދަދުގެ ތެރެއިން ކޮއަރަންޓީ ތަކެތި ނުވަތަ އެހެން ބަޔަކު ދިނުމުން އެކަން ބަލަހައްޓާ މެދުވެރިވެ، ކޮއަރަންޓީ މުއްދަތުގެ ތެރޭގައި ކޮންޓްރެކްޓަރު ޕްރޮޖެކްޓް ބަލަހައްޓަން ފުރިހަމަ ބެލުން ލާޒިމުވާނެއެވެ؛

(ށ) ކޮއަރަންޓީ ވަގުތު ފޮރުކޮށް ޗެކްކުރަން، ކޮންޓްރެކްޓަރުގެ އިންޖިނިއަރުން ޕްރޮޖެކްޓުގައި ހުރުން، ބަލަހައްޓައި، ބަލަހައްޓުން، އާލާތް، ބެލެހެއްޓުން، އަދި ތަރާތީބު ހިމެނޭ ކޮންމެ ކަމެއް ކޮންޓްރެކްޓަރު ފުރިހަމަ ބެލުން ލާޒިމުވާނެއެވެ؛

(ނ) ކޮންޓްރެކްޓަރު ނުވަތަ އެހެންގެ ބަދަލުގައި މަސައްކަތްތެރިން އެކަން ފަރާތަކުން (އޭގެތެރޭގައި މުވައްޒަފުންނާއި، ސަބް-ކޮންޓްރެކްޓަރުންނާއި ކޮންސަލްޓަންޓުން އަދި އެކަން ފަރާތްތަކުން ހިމެނޭ) ސަރުކާރުން މަޝްވަރާކުރާ ބަދަލުކުރުމުގެ ބާރުތަކާއި ސިވިލް މަސައްކަތުގެ ބާރުތައް ހުށަހަޅާ ގޮތުގައި ކޮންޓްރެކްޓަރު ހިފާ ފަރާތެއް ކޮއަރަންޓީގެ މުއްދަތުގެ ޕްރޮޖެކްޓް ވަކިކުރުމުގެ ފުރިހަމަ ބެލުން؛

OM/CONT/15/244

PUR/CONT/14/089 – ސަޕްލައިއާ ކޮންޓްރެކްޓް އެގްރީމެންޓް

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(ރ) ކޮންޓްރެކްޓަރުން ޕްރޮޖެކްޓަށް ބޭނުންވާ އިލެކްޓްރިސިޓީއާއި އާންމު ފެނާއި ޓެލެފޯނު އިންސްޓޯލޭޝަން ލިބިގަތުމަށް ކޮންޓްރެކްޓަރުގެ ހަރަދުގައި ލިބިދިނުމާއި އެކަށައަޅާ ކޮންޓްރެކްޓަރު ފޯރުކޮށްދިނުން؛

(ބ) ޕްރޮޖެކްޓާއި އިންޝުއަރެންސް ނުވަތަ ޕްރޮޖެކްޓަށް ޚިދުމަތް ނުވަތަ ފައިދާވާގޮތަށް ހުރިހާ ކޮންޓްރެކްޓްތަކުގެ ބެލުމުގެ ދަށުގައިވާ ސަބްކޮންޓްރެކްޓަރު ބައިވެރިޔާ، ރޭވުމާއި ނަގު އަދި ދިމާވާ ތަކުރާރު އިސްތިޢުމާލުކުރުން (އޭގެތެރޭގައި ފޯރިނުމާއި ނިޒާމުތަކާއި، ކާރު އަދި ބޭރަށް ގެންނަ ގޮތް ހިފެހެއްޓުން) ރަނގަޅު ފެންވަރެއްގައި މަރާމާތުކޮށް ބެލެހެއްޓުން. މިގޮތުން ކޮންޓްރެކްޓަރުގެ ނުވަތަ އެފަރާތުގެ މުވައްޒަފުންގެ ނުވަތަ އޭޖެންޓުންގެ ނުވަތަ ސަބްކޮންޓްރެކްޓަރުންގެ އިހުމާލުން ވީ އެއްވެސް ގެއްލުމެއް ނުހިމެނޭނެއެވެ؛

(ޅ) ޕްރޮޖެކްޓް ފިނިޝްވުމުން ބޭނުންނުކުރާ ކަރުދާސް ބޭނުންތަކާ، އިލެކްޓްރިކް ސަޕްލައިކުރާ ކުނި އިންސްޓޯލޭޝަނާއި ވެސް (އަދި އެންޓްރެންސް)، ވަޔަރިންގްތަކާއި އާލާތްތައް ބޭނުންކުރާ ވަގުތުތަކުގައި ބެހެއްޓުން؛

(ކ) ކޮންޓްރެކްޓް ވަގުތު އިންޝުއަރެންސްގެ އަގުތަކާއި އަދި އުޅަނދު ނުވަތަ ތަރުކާތައް ނިޒާމް ޕްރޮޖެކްޓާއި ގުޅިގެން ބޭނުންކުރާ ބޭރުފަރާތްތަކުގެ ނަމުގައި މުދަލާއި ކޮންޓްރެކްޓަރުން ދައްކާފައިވާ ކާކު ކޮންޓްރެކްޓަރު އަދާކުރުން؛

(އ) އިމާރާތް ޕްރޮޖެކްޓް ފިނިޝްވުމުގެ ސަޓްފިކެޓް އެދޭނީ ހަމައެކަނި ކޮންޓްރެކްޓަރު ދާނެއެވެ؛

(ވ) ޕްރޮޖެކްޓާއި ގުޅޭ ކޮންޓްރެކްޓަރުގެ އިލެކްޓްރޮނިކް ކާނޫނީ މަސްއޫލިއްޔަތު ޖެނެރަލް ކޮންޓްރެކްޓަރެއް އިލެކްޓްރޮނިކް ރެކޯޑުތައް ހޯދާ އެހެން ވަސީލަތް (ޖެނެރަލް ކޮންޓްރެކްޓަރ ޕްރޮޖެކްޓް ނުވަތަ އެހެން ވަސީލަތްތަކުން) ދިނުމުގެ ކާރުން ކޮންޓްރެކްޓަރުގެ ހައްގު ލިބުން ހުއްދަ؛

(މ) ކޮންޓްރެކްޓް ހަވާލުވާ ހަރުމަށްފަހު ކޮންޓްރެކްޓަރުގެ ކޮންޓްރެކްޓްތަކުން ދޭ، ޕްރޮޖެކްޓް ފަހުން ޒިންމާވާ ކުރަން ޝަރުޠުތަކާއި، ކަމުގެ ޝަރުޠު ބެލެހެއްޓުން ވަކިކުރުމަށް/ބަދަލުވާ ގޮތުގެ އިލެކްޓްރޮނިކް ނަގާ ހަމަ ކޮންޓްރެކްޓަރު ދާނެ؛

(ފ) ކޮންޓްރެކްޓަރުގެ އިލެކްޓްރޮނިކް ހުރިހާ އުސޫލުތަކުން ބަރާބަރަކަށް ތަކުރާރު ހިސާބުކުރެވޭ ނުވަތަ އެހެން ވަކިތަކަށް ކޮންޓްރެކްޓަރު ދޭ އުސޫލުތަކުގެ ތެރެއިން، އެހެނިހެން ފަރާތަކާ ހަވާލުކުރާ އުސޫލުތަކުން ބަރާބަރަކަށް ހިސާބުކުރެވޭ ނުވަތަ އެހެން ތަކުރާރު ކަމެއް ބަލާ ނުދާނެއެވެ.

އެގްރީމެންޓާއި ހިންގުމާއި އަދި ބާތިލުކުރުން

އެގްރީމެންޓާއި ވާދަވާ ގޮތުން އިސްލާހު ގެނައުން

9. ކޮންޓްރެކްޓަރުން މިއެގްރީމެންޓްގައި ކަނޑައަޅާފައިވާ އެއްވެސް ކަމަކާ ހިލާފުވާ ހާލަތެއްގައި، ނޯޓިސް ލިބޭ ތާރީޚުން ފެށިގެން 30 ދުވަހުގެ މުއްދަތުގައި (ނުވަތަ އިސްލާހުކުރުމަށް އިތުރު މުއްދަތެއް ބޭނުންވާ ހާލަތެއްގައިނަމަ އިތުރު މުއްދަތެއްގެ މުއްދަތުގައި) އެކަމެއް އިސްލާހުކުރުމަށް ކޮންޓްރެކްޓްދޭފަރާތުން ކޮންޓްރެކްޓަރަށް ލިޔުމުން ނޯޓިސްދޫކުރާނެއެވެ.

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ކޮމްޕެނީން އެގްރީމަންޓް ބާތިލްކުރުން

10. މިއެގްރީމަންޓްގައި ކަނޑައަޅާފައިވާ ގޮތުގެ މަތިން ކޮންޓްރެކްޓަރު ކުރި ދައްކަން ޖެހޭ ކޮންޓްރެކްޓަރުން ދަންނަވަން ކޮންޓްރެކްޓަރުން މިއެގްރީމަންޓް ބާތިލްކޮށްގެން ނުވާނެއެވެ. އެހެންނަމަވެސް، މި އެގްރީމަންޓާއި ހިލާފަށް ގޮސްފައި މިއެގްރީމަންޓްގެ 9 ވަނަ މާއްދާގެ ދަށުން އެންގި ނޯޓިސްއެއްގައި ކަނޑައަޅާފައިވާ މުއްދަތުގެ ތެރޭގައި ކޮންޓްރެކްޓަރުން ފިޔަވަޅު ހައްލު އިސްލާހުނުކުރެވިއްޖެ ހާލަތެއްގައި މިއެގްރީމަންޓް ބާތިލްކުރުމުގެ ހައްގު ކޮމްޕެނީއަށް ލިބިގެންވެއެވެ.

ކޮންޓްރެކްޓަރުން އެގްރީމަންޓް ބާތިލްކުރުން

11. ކޮންމެ ސަބަބަކާ ހުރެ ނަމަވެސް އެގްރީމަންޓް ބާތިލްކުރުމަށް ކޮންޓްރެކްޓަރު ބޭނުންވާނަމަ 1 (އެކެއް) މަސް ދުވަހުގެ ނޯޓިސް ކޮމްޕެނީއަށް ދިނުމަށްފަހު ކޮންޓްރެކްޓަރަށް މިއެގްރީމަންޓް ބާތިލްކުރެވިދާނެއެވެ.

އެހެނިހެން ކަންތައްތައް

ކޮންޓްރެކްޓު ހަވާލުކުރުން

12. ކޮންޓްރެކްޓަރުން ޕްރޮޖެކްޓް ބޭނުންކޮށް މިއެގްރީމަންޓްގެ ދަށުން ލިބިދޭ ހައްގުތައް ފަރާތަކަށް ހަވާލުކުރުމަށް ކުރިން ކޮމްޕެނީގެ ލިޔުމުން ހުއްދަ ނެތި، ޕްރޮޖެކްޓާ ގުޅޭ ހުރިހާ ކަމެއް ކޮމްޕެނީއަށް ހަވާލުނުކޮށް ކޮންޓްރެކްޓަރުން މިއެގްރީމަންޓް، ޕްރޮޖެކްޓް ކޮންޓްރެކްޓަރުގެ ފަރާތުން ބޭރު ފަރާތަކަށް ކޮންޓްރެކްޓަރުން ކޮންޓްރެކްޓް ހަވާލުކުރެވިގެން ނުވާނެއެވެ.

ބަދަލުކުރުން

13. ފަރާތްތަކުގެ އެއްބަސް ވުމަކާ ނުލާ މިއެގްރީމަންޓްގެ ދަށުން ލިބިދޭ ހައްގެއް، ކަސްޓަމަރުންނަށް ހުރި ހަމަޖެހުމެއް ބަދަލުކޮށްގެން ފަރާތްތަކުގެ ލިޔުމުން ހަވާލުކުރެވޭގޮތެއް ނެތި ފަރާތްތަކުން ބަދަލުކޮށްގެން ނުވާނެއެވެ.

ޚުދު

14. ފަރާތްތަކުގެ ދެމެދުގައި މިއެގްރީމަންޓްގައި ކަނޑައަޅާފައިވާ ކަމެއް ނުވަތަ ސަރުކާރުގެ އެއްވެސް ޤާނޫނެއްގައި ނުހިމެނޭ ނުވަތަ މިއެގްރީމަންޓްގެ އެއްވެސް މާއްދާއެއްގައި ވާގޮތް ފުރިހަމަކުރުމަށް ބަލާއިރު ފަރާތްތަކުގެ މައްޗަށް ޙާލަތުގައި، އެފަރާތަކުން މިއެގްރީމަންޓްގެ ދަށުން ލިބިދޭ ހައްގެއް ދޫކޮށްލާކަމަށް ނުބެލެވޭނެއެވެ.

ކާރިސާ

15. ފަރާތްތަކުގެ ފަރާތުން މިއެގްރީމަންޓްގެ ދަށުން ފުރިހަމަކުރަންޖެހޭ މަސްއޫލިއްޔަތެއް ފުރިހަމަކުރުމަށް ހުރަސް އެޅުނަ، އެފަރާތުގެ ކޮންޓްރޯލްއިން ބޭރުގައިވާ ގުދުރަތީ ކާރިސާއެއް ކުރިމަތިވެއްޖެނަމަ އެފަރާތްތަކުގެ މަސްއޫލިއްޔަތު އަދާކުރުމުން (އެފަދަ ކަމެއް ހިނގަމުން ދާއިރުގައި) އިސްތިސްނާކުރެވޭނެއެވެ. އެފަދަ ކާރިސާތަކުގެ ތެރޭގައި ހަމައެކަނި ހިމެނޭ ގުދުރަތީ ކާރިސާތައް، ބޮޑުން، ވިންޑްސްޓޯމް، ހަނގުރާމަ، ބަޣާވާތް އަދި މަރުދަރި ހިމެނެއެވެ.

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އެގްރީމަންޓުކުރުމުގެ ބާރު

16. ކޮންމެ ފަރާތަކުންވެސް އެފަރާތަކުން މިއެގްރީމަންޓުގައި ސޮއިކޮށް ފުރިހަމަކުރުމުގެ ބާރު ލިބިގެންވާކަން އަޅަންޖެހޭ ކޯޕަރޭޓް ފިޔަވަޅުތައް އަޅާފައިވާކަމުގެ ޔަގީންކަން އަނެއް ފަރާތަށް ދީފައެވެ. އަދި އެއްފަރާތަކުން އެދިއްޖެނަމަ އަނެއް ފަރާތުން އެކަމުގެ އެކަށީގެންވާ ހެކި ފޯރުކޮށްދޭންވާނެއެވެ.

ޕާޓްނަރޝިޕް ޤާއިމުނުކުރުން

17. މިއެގްރީމަންޓުގައި ބައިވެރިވާ ފަރާތްތަކުގެ އެފަރާތްތަކުން މިއެގްރީމަންޓުގެ ދަށުން ހަވާލުކުރެވޭ މަސްއޫލިއްޔަތުތައް ހަވާލުކުރުމުގައި ނުވަތަ ލިބެންޖެހޭ ޙައްޤުތަކާއި ފައިދާތަކުގައި، އަދި ޒިންމާތަކުގައި ޝަރީކުވުމަކީ ޕާޓްނަރޝިޕެއް، ވަކާލާތެއް އެންމެހައި ޖޮއިންޓްވެންޗަރ، ފްރެންޗައިޒް، ކޯޕަރޭޝަން އަދި ޕާޓްނަރޝިޕް ޤާއިމުކުރުމެއް ނޫނެވެ. މިއެގްރީމަންޓުގެ ދަށުން ފަރާތްތަކުގެ އެއްވެސް ފަރާތަކަށް، އަނެއް ފަރާތުގެ ނަމުގައި ނުވަތަ ބަދަލުގައި އެއްވެސް ކަމެއް ކުރުމުގެ ނުވަތަ ޒިންމާއެއް އުފުލުމުގެ އިޚްތިޔާރު ލިބިގެން ނުވާނެއެވެ. (ނުވަތަ ކޮންމެ ފަރާތަކުން އަނެއް ފަރާތުގެ މަސްލަހަތަށް ހިނގާނަމަވެސް)، އެފަރާތަކުން އެހެން ފަރާތުގެ ބަދަލުގައި އެއްވެސް ވަޢުދެއް ވުމާއި، ޒިންމާ ނެގުން، ގޮތް ނިންމުން، ފަރާތް ނުވަތަ ކޮންމެ ކަމެއް އެއްބަސްވުމުގެ ޙައްޤުނުލިބޭނެއެވެ.

ނޯޓިސްތައް

18. މިއެގްރީމަންޓުގައި ބަޔާންކުރާ ފަރާތްތަކުގެ ދެމެދުގައި ބަދަލުކުރެވޭ ނޯޓިސް، އެދުން، ޑިމާންޑް އަދި އެހެނިހެން މުއާމަލާތްތައް ހުންނަންވާނީ އިނގިރޭސި ބަހުން ނުވަތަ ދިވެހި ބަހުންނެވެ. އަދި ހަވާލުކުރާއިރު ލިޔުމުން ފޮނުވަންވާނެއެވެ. އަތުން ހަވާލުކޮށް ނުވަތަ ރެޖިސްޓަރޑް ޕޯސްޓުން ނުވަތަ ފެކްސް ނުވަތަ އީމެއިލް މެދުވެރިކޮށް، ތިރީގައި ބަޔާންކޮށްފައިވާ އެޑްރެހަށް ނުވަތަ މިގޮތުން ހަވާލުވާ ފަރާތުން އަންގާ ފަރާތަށް ލިބުނު އެނގޭ އެޑްރެހަކަށް އަދި އީމެއިލް ފޮނުވާނަމަ ހަވާލުވާ ފަރާތުގެ ނަންބަރުގެ ގޮތުގައި ސަރުކާރުގައި ރަޖިސްޓްރީވާ ނަންބަރަށް ފޮނުވާށެވެ:-

ކޮންޓްރެކްޓަރގެ ފަރާތުން ފޮނުވާނަމަ

ނަސީރު އިބްރާހީމް
(ޖެނެރަލް މެނޭޖަރ، ސީ.ހިޔަނޫ ގޭ ފިހާރަތަށް)
ޖެނެރަލް މެނޭޖަރ
ސީ. ހިޔަނޫ، ދިވެހިރާއްޖެ
މޯބައިލް: 7826550

ކުންފުނީގެ ފަރާތުން ފޮނުވާނަމަ

އުރީދޫ މޯލްޑިވްސް ޕްރައިވެޓް ލިމިޓެޑް
ފަސްމަހަ ފަންގިފިލާ
ހ. ސަންލައިޓް

OM/CONT/15/44

Ooredoo Maldives Pvt. Ltd.
C-633/2004

ބޮޑުތަކުރުފާނު މަގު
މާލެ ، ދިވެހިރާއްޖެ
ފޯނު ނަންބަރު: (+960) 9611001

ޕޯސްޓްޕެއިޑް ސިމްކާޑު ހައްދުކުރުވުނުކަމުގައި ބެލެވޭނީ އުސޫލު ހައްދުކުރުވުނުކަމެވެ. އަދި ފޯނުސިމު ދެސްޓު ހައްދުކުރުވުނުކަމުގައި ބެލެވޭނީ އެ ފޯނު ވަކިވަކިން، ޖެނެރޭޓުކުރެވޭ ބިލްތަކުގައި އެ ދެސްޓު ފޯނުގެ ކަމެއް ބައްޔަންކުރެވިފައިވާނަމަ. އަދި ފޯނުސިމު ދެސްޓުގެ ފޯނު ވަކިވަކިން ހައްދުވާ ފަރާތުގެ މަސައްކަތް ގޮތަށް ބޭނުމާ ވަކިވަންނަމަ އެ ހައްދުކުރުވުނުކަމުގައި ބެލެވޭނީ ދެން ހުރި ދުވަހު އެފަރާތުގެ ވިޔަފާރި ހުރި ވަކިވާނެއެވެ.

ފައިދާއަށް މަސައްކަތްކުރުން

19. މިއެގްރީމަންޓް ބާޠިލުކުރަންވާނީ ދެފަރާތުން ފައިދާވާ ގޮތުގެ މަތިން އަދި ދެފަރާތާއި އެފަރާތްތަކުގެ ވާރިސުންނާއި، ހުއްދަދޭ ނަމޫނާތަކަށް ފަރާތްތަކާއި ވިޔަފާރި ބައިވެރިންނަށް ވެސް ބައިވެރިވާ ގޮތަށެވެ.

އެގްރީމަންޓްގެ ބައެއްގެ ސަބްކޮންޓްރެކްޓް ދެއްވުން

20. މިއެގްރީމަންޓުގައި ހިމެނޭ އެއްބަސްވުމާއި އެއްބަސް ވުމުގައި ދިވެހިރާއްޖޭގެ ޤާނޫނުތަކުގެ ދަށުން ޙައްޤު ޤާނޫނީ ސަބްކޮންޓްރެކްޓް ނުވަތަ އަމަލުކުރެވޭނެ ގޮތްތަކުގައި ނުވަތަ މާއްދާއަކުން ލާޒިމުކަމަކަށް، މިއެގްރީމަންޓުގެ ބާކީ ހުރި މާއްދާތަކުގެ ޤާނޫނީ ހައިސިއްޔަތަށް، ސަބްކޮންޓްރެކްޓް ނުވަތަ އަމަލުކުރުން ނުވަތަ ދިވެހިރާއްޖޭގެ ޤާނޫނުތަކުގެ ދަށުން އެއްވެސް މާއްދާއަކަށް ޤާނޫނީ ހައިސިއްޔަތަށް، ސަބްކޮންޓްރެކްޓުގެ އަމަލުކުރުމުގައި އެއްބަސްވުމާ އަސަރެއް ނުވަތަ އުނިކަމެއް ނާންނާނެއެވެ.

އިސްތިސްނާކުރުން

21. މިއެގްރީމަންޓަކީ އެއްބަސްވުމުގެ އިސްތިސްނާއެއް ގެނައުން ވިޔަ ދެފަރާތުން ސޮއިކޮށްގެންނެވެ.

ދެފަރާތުގެ ދެމެދުގައިވާ މުޅި އެއްބަސްވުން އަދި ކޮޕީތައް

22. މިއެގްރީމަންޓުގައި ބަޔާންކޮށްފައިވާ ކަންތައްތަކާއި ގުޅޭ ގޮތުން ދެފަރާތުގެ ދެމެދުގައި ވެފައިވާ މުޅި އެއްބަސްވުން ހިމެނިފައިވަނީ މިއެގްރީމަންޓުގައެވެ. އަދި އަނގަބަހުން ދިމާވާ ބައެއްކަމާއި މީގެކުރިން ލިޔުމުންވާ އެއްބަސްވުންތައް މިއެގްރީމަންޓަށް ބާޠިލުވާނެއެވެ.

23. މިއެގްރީމަންޓުގައި ސޮއިކުރަންވާނީ އެއްވަރަށް ދެ އަސްލު ކޮޕީގައި، އެއިން ކޮންމެ ކޮޕީއެއްގައި ސޮއިކޮށް ފުރިހަމަކުރުމުން އެއް ފަދަ އަސްލުކޮޕީތަކެއް ކަމުގައި ބަލާނީ ފަހުން ކޮޕީއެއް ހުށަހަޅާ އެއް އެއްބަސްވުން ރަސްމީކޮށް ގޮތުގައި ވާނެއެވެ.

އަމަލުކުރަންވީ ޤާނޫނު

24. މިއެގްރީމަންޓު ހިނގައި، މާނަކޮށް، ތަންފީޒުކުރަންވާނީ ދިވެހިރާއްޖޭގެ ޤާނޫނުތަކާއި އެއްގޮތަށް ވާނެއެވެ.

OM/CONT/15/44

ސޮއި

ބާންކޮކްގައިވާ ހުރިހާ ހަތިޔާރުގައި ކުއްލިއްޔާތުގެ ކުއްލިހާރަތައް ފަރާތުން ... ބާންޑާކޮށްގައިވާ ތިރިގައި ބާންކޮކްގައިވާ ތިރިހުމަކާގައި
މިއެގްރީމެންޓުގައި ސޮއިކޮށްފައިވާ މިއެގްރީމެންޓުގެ ފުރުގައި ބާންކޮކްގައިވާ ތިރިފުން ފުރިގެން އެގްރީމެންޓުގެ ހަމަޖެހިގެން
އެއްބަސްވެގެންނެވެ.

ކުއްލިއްޔާ ފަރާތުން

ނަން: ނަސީރު އިބްރާހިމް

މަޤާމު: ގޯގެ ފިރިފައިރާމް

ތާރީޚް: 01 މާރިޗު 2015

ސޮއި: ....

ހެކިން

ނަން: އަބްދުﷲ ޝާހިދު

އެޑްރެސް: ވިއު، ސ. ހިތަދޫ

އައިޑީ ކާޑު/ޕާސްޕޯޓް ނަންބަރު: A001084

ސޮއި:

ނަން: މޫސާ ޒިހުނީ

އެޑްރެސް: ފަސްޖެހިގެ، ސ. ހިތަދޫ

އައިޑީ ކާޑު/ޕާސްޕޯޓް ނަންބަރު: A001148

ސޮއި:

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ކޮންޓްރެކްޓަރުގެ ފަރާތުން

ނަން: [illegible]

މަޤާމު: ޗީފް އެކްސިކިއުޓިވް އޮފިސަރ

ތާރީޚް: 1 މާރިޗު 2015

ސޮއި: .... ސްޓޭމްޕް ....

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C-633/2004

ހެކިން

ނަން:

އެޑްރެސް:

އައިޑީ ކާޑު/ޕާސްޕޯޓް ނަންބަރު:

ސޮއި: ....

OM/CONT/15/44

• މަޢުލޫމާތު ސާފުކުރުއްވުމަށް ގުޅާނެ ނަމްބަރުތައް ތިރީގައި މިވަނީއެވެ.

ahmed.rishwan@ooredoo.mv	961 1509	ޕްރޮކިއުމަންޓް ކޯޑިނޭޓަރ	އަޙްމަދު ރިޝްވާން	އެގްރީމަންޓާއި ބެހޭގޮތުން މަޢުލޫމާތު ސާފުކުރުއްވުމަށް
mariyamsiyana@ooredoo.mv	961 1905	ސައިޓް އެކުއިޒިޝަން އޮފިސަރ	މަރިޔަމް ސިޔާނާ	
ahmed.haleem@ooredoo.mv	961 1740	އެސިސްޓެންޓް މެނޭޖަރ ރީޖަނަލް އޮޕަރޭޝަންސް	އަޙްމަދު ހަލީމް	މަސައްކަތު ކުރަމުންދާ ގޮތާއި މަސައްކަތާއި ބެހޭގޮތުން މަޢުލޫމާތު ސާފުކުރުއްވުމަށް
ahmed.shafiu@ooredoo.mv	1986 961	ސީނިއަރ ސްޕަވައިޒަރ ރީޖަނަލް އޮޕަރޭޝަންސް	އަޙްމަދު ޝާފިޢު	
hussain.shamil@ooredoo.mv	961 1604	އެކައުންޓްސް އޮފިސަރ ޕޭއަބަލް	ހުސައިން ޝާމިލް	ބިލު ނުވަތަ ފައިސާއާއި ބެހޭ މަޢުލޫމާތު ސާފުކުރުއްވުމަށް
yasir.hassan@ooredoo.mv	961 1638	އެކައުންޓްސް އޮފިސަރ ޕޭއަބަލް	ޔާސިރު ހަސަން	
ވެބް ސައިޓް www.ooredoo.mv	961 1000	އޮފީސް		އޮފީސް ޓެލެފޯން ނަމްބަރ
	961 1001	ފެކްސް		

House Owner

Name: Naseer Ibrahim
Address: Thousand Flower / Hithadhoo / Addu City
NID card No: A021080
Contact No: +960 7826550

Signature: ----------------------

Bank details of the house Owner
Bank Account Name: Naseer Ibrahim
Bank Account Number: 7708 467377 001 (BML account)
Owner Contact Number: +960 7826550
Alternative Number: +960 9996502 & +960 6886502

Witness

Name: Abdulla Sadig
Address: View / Hithadhoo / Addu City
NID card No: A001084
Contact No: +960 9731016

Signature: ----------------------

Name: Moosa Zihuny
Address: Fanjehige / Hithadhoo / Addu City
NID card No: A001148
Contact No: +960 7790898

Signature: ----------------------

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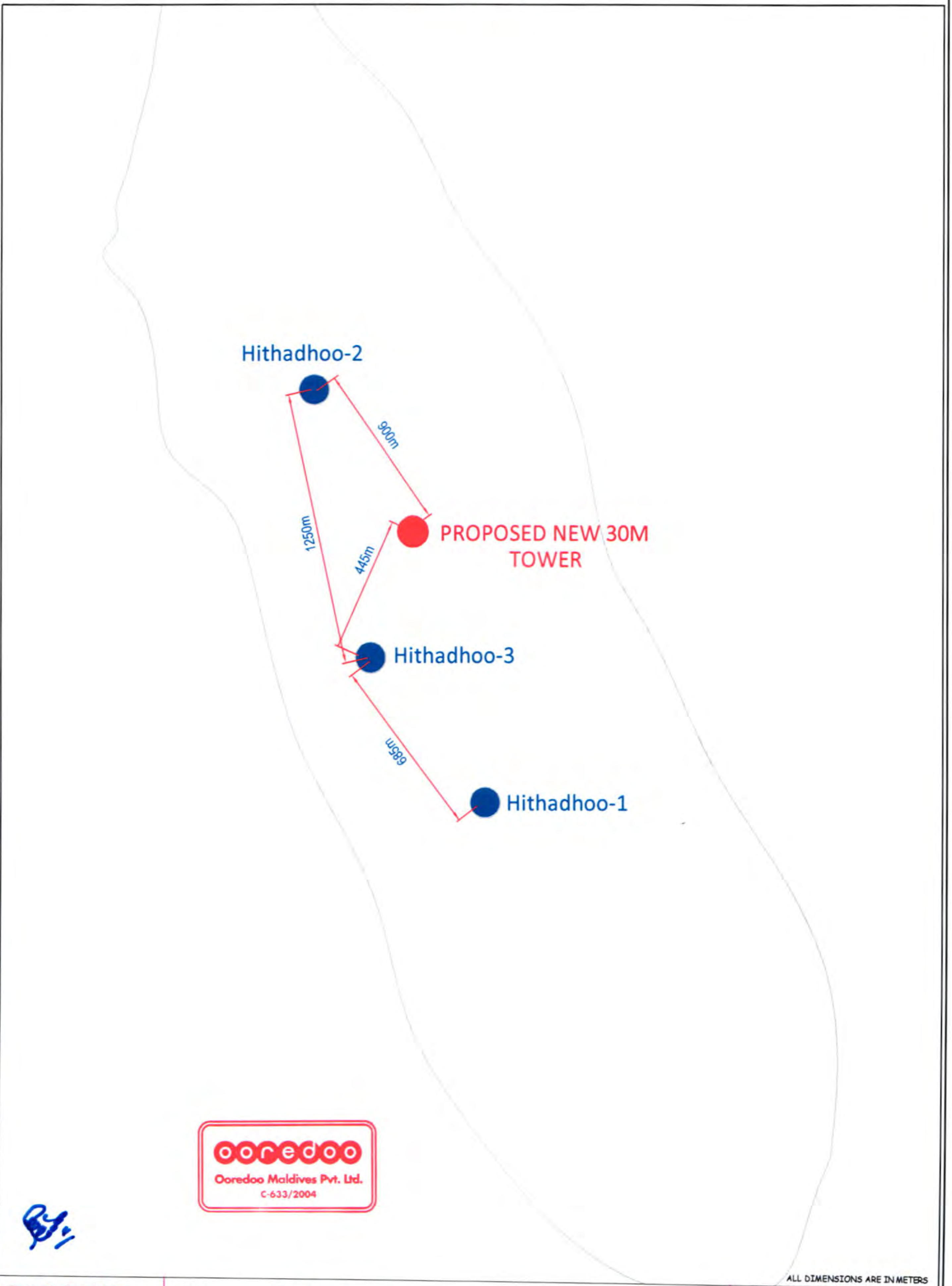
LOCATION MAP



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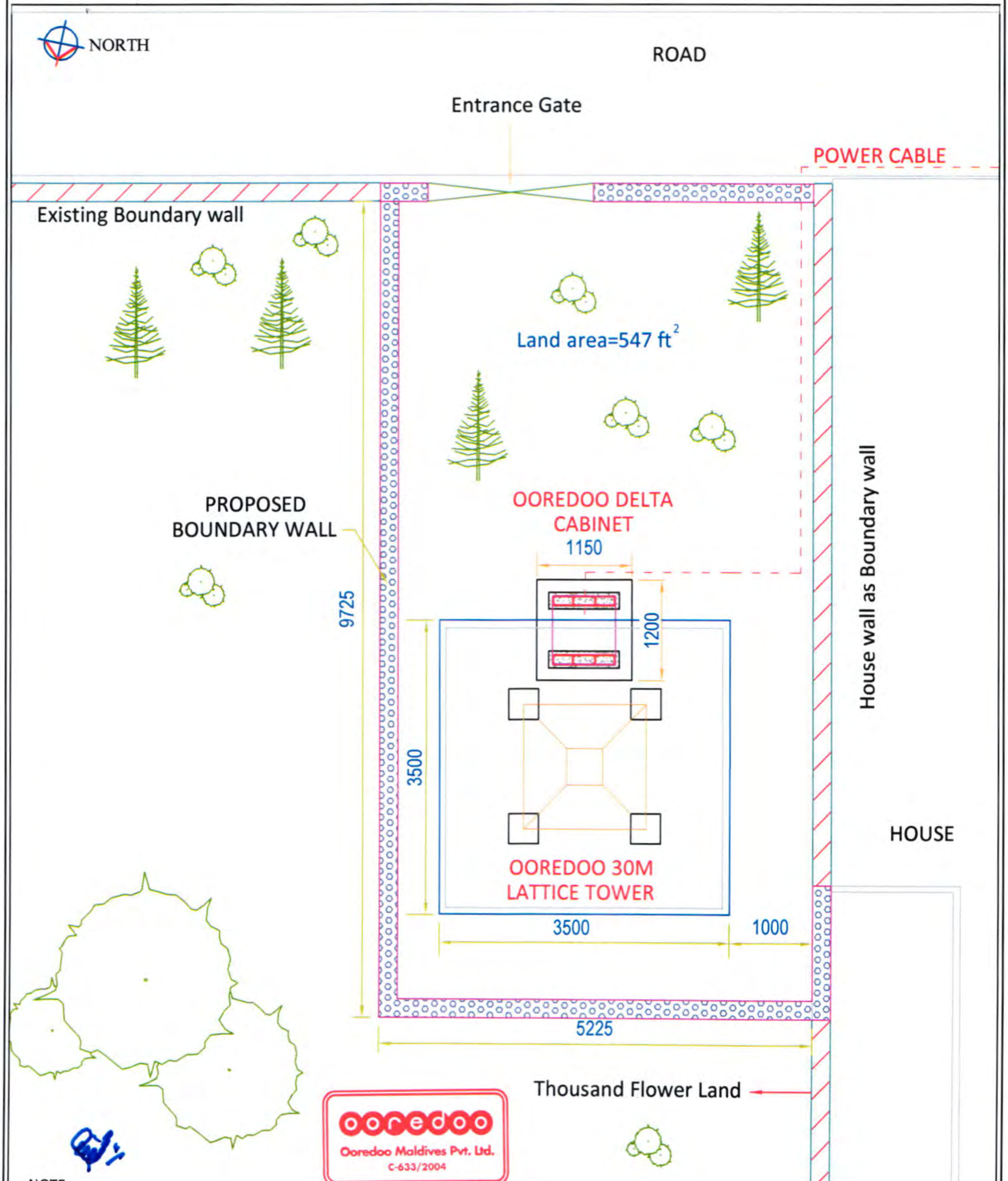
C-633/2004

ALL DIMENSIONS ARE IN METERS

ooredoo Confidential to Ooredoo	TITLE: LOCATION MAP	SCALE:	N.T.S
		DATE:	18/01/2015
		SURVEYEDBY:	RAVI
	SITE NAME: THOUSAND FLOWERS HOUSE-HITHADHOO ISLAND	DRAWN BY:	RAVI
		DRG NO:	

OM/CONT/15/014

SITE LAYOUT DRAWING



NOTE

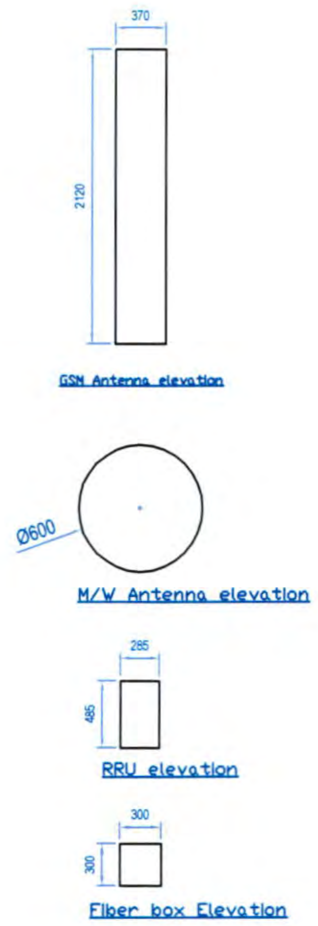
- Proposed Ooredoo 4 leg tower height is 30m.
- Ooredoo delta cabinet will be installed near the tower as shown in the drawing.
- Electricity will be taken from the near D.B.
- Length of the power cable between D.B & Ooredoo cabinet is 100m.
- Boundary wall will be built around the Ooredoo land area.
- Some bushes to be removed to occupy the space for Ooredoo tower.

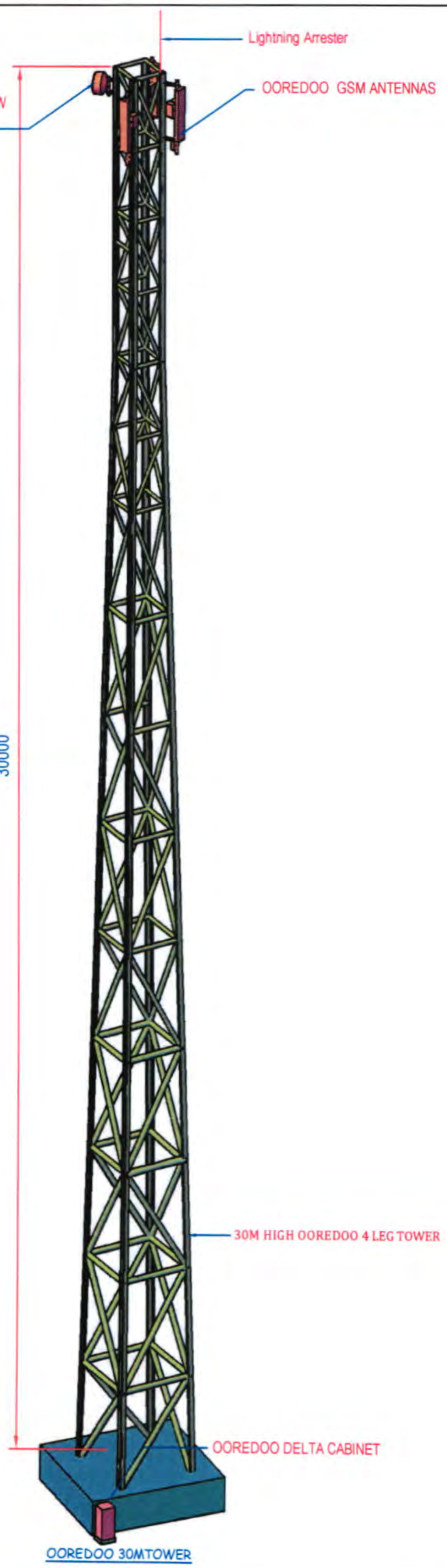
ALL DIMENSIONS ARE IN MILLIMETERS

ooredoo	TITLE:	SITE LAYOUT DRAWING	SCALE: DATE: SURVEYEDBY:	N.T.S 18/01/2015 RAVI
Confidential to Ooredoo	SITE NAME:	THOUSAND FLOWER HOUSE-HITHADHOO ISLAND	DRAWN BY: DRG NO:	RAVI

om/CONT/15/044

OOREDOO 30M TOWER ELEVATION





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C-633/2004

NOTE

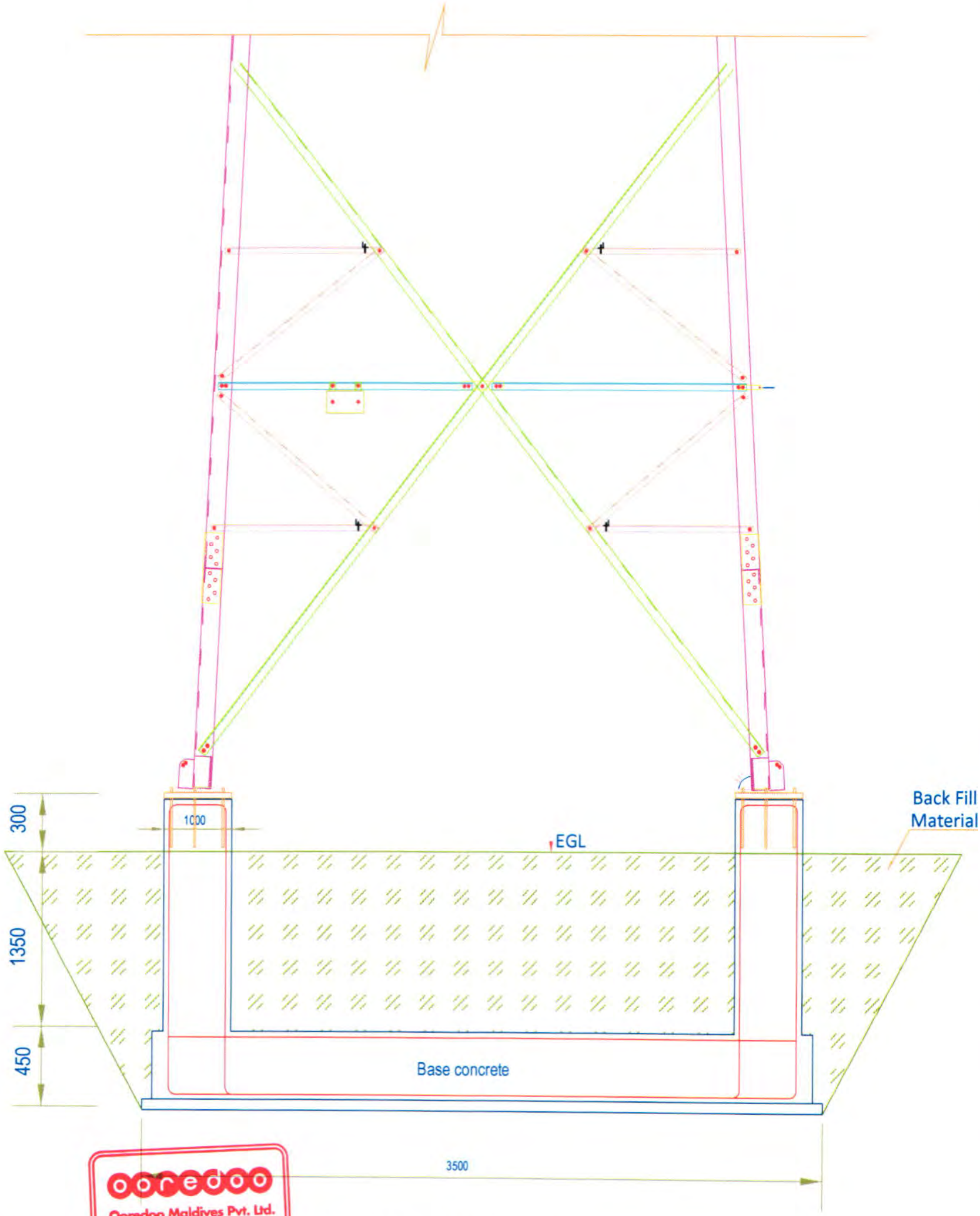
- Ooredoo 4 leg tower height is 30m.
- Ooredoo antennas will be fixed in the top of the tower.
- Ooredoo cabinet will be placed on the ground nearby the tower as shown in the drawing. (Cabinet size L=850mm, W=759mm, H=2060mm)

ALL DIMENSIONS ARE IN MILLIMETERS

ooredoo	TITLE:	OOREDOO 30M TOWER ELEVATION	SCALE: N.T.S DATE: 18/01/2015 SURVEYED BY: RAVI DRAWN BY: RAVI RRG NO:
Confidential to Ooredoo	SITE NAME:	THOUSAND FLOWERS HOUSE-HITHADHOO ISLAND	

om/CONT/15/044

TOWER FOUNDATION



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OOREDOO TOWER FOUNDATION

NOTE

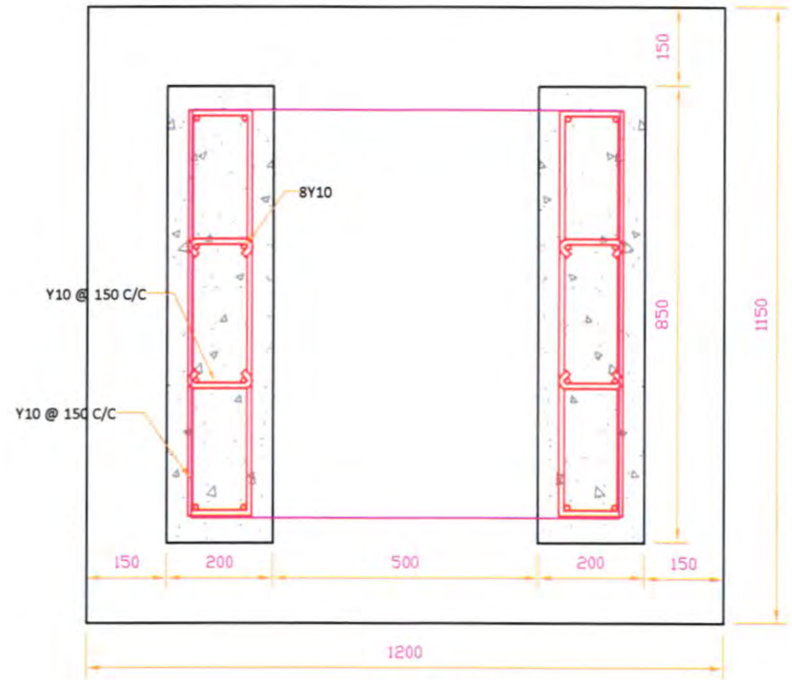
- Refer the detail structural foundation drawings for more details.

ALL DIMENSIONS ARE IN MILLIMETERS

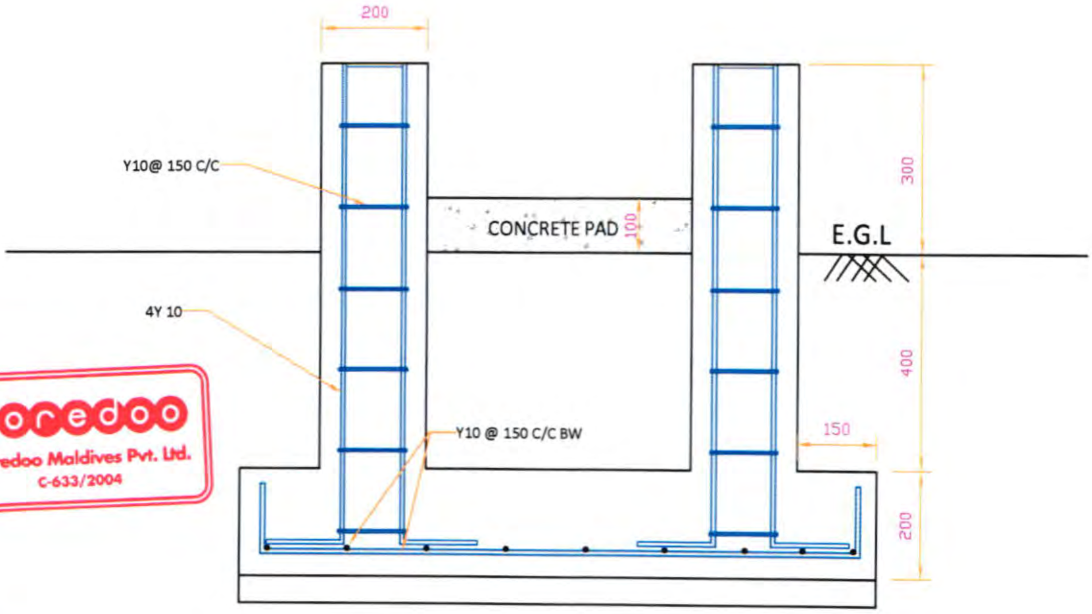
ooredoo Confidential to Ooredoo	TITLE:	TOWER FOUNDATION-30M TOWER	SCALE: DATE: DRAWN BY:	N.T.S 18/01/2015 RAVI
	SITE NAME:	THOUSAND FLOWERS HOUSE-HITHADHOO	DRG NO:	

OM/CONT/15/044

FOUNDATION FOR DELTA CABINET



FOUNDATION PLAN



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FOUNDATION ELEVATION

NOTE

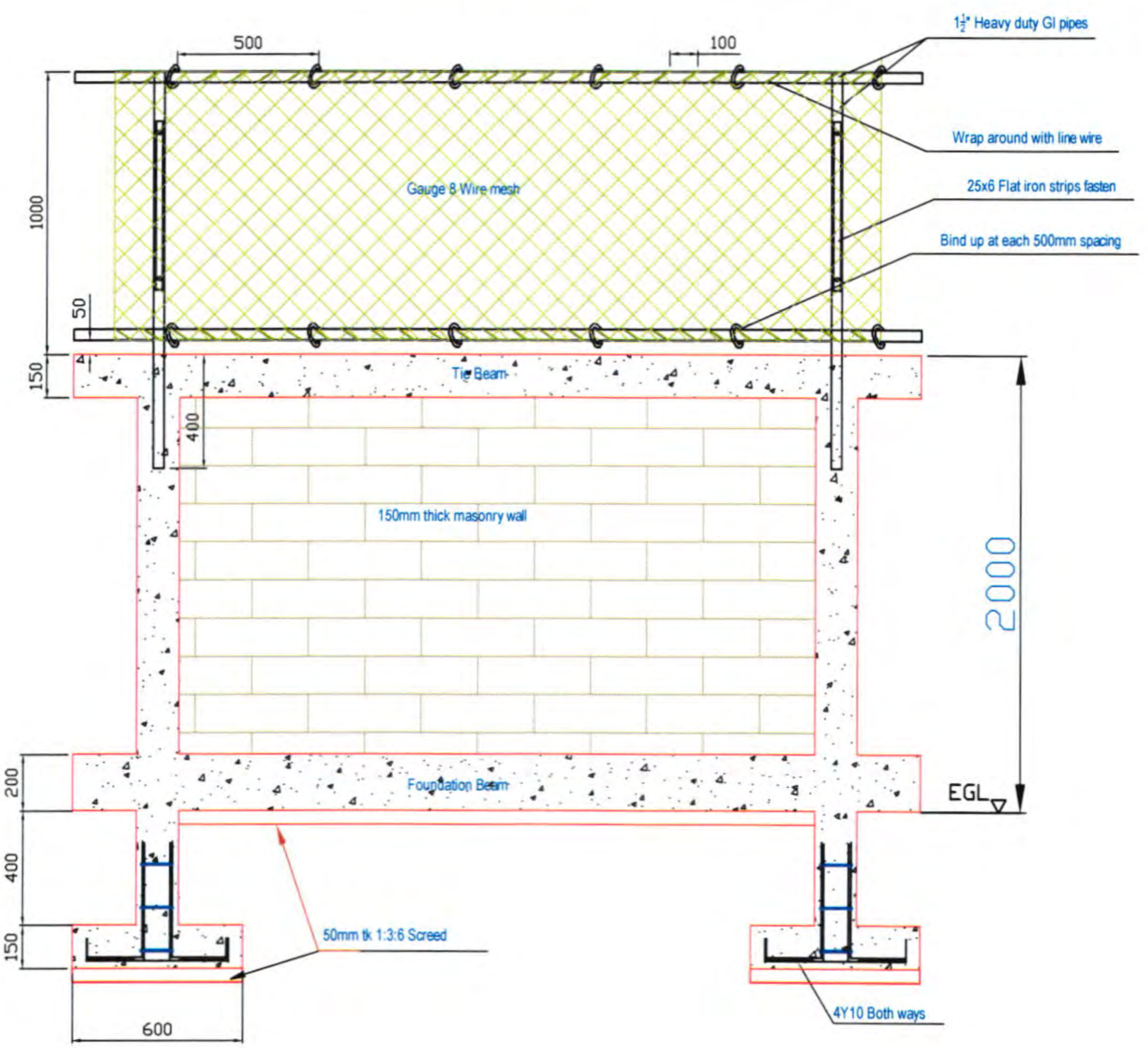
- Lean concrete should be in 1:3:6 concrete
- Column concrete should be in 1:1 1/2:3 RCC concrete
- Columns should be reinforeced with 10mm Steel
- Clear cover to the reinforcement is 40mm all sides

ALL DIMENSIONS ARE IN MILLIMETERS

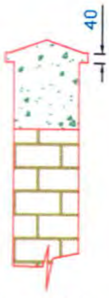
ooredoo	TITLE: DELTA CABINET	SCALE:	N.T.S
		DATE:	18/01/2015
		DRAWN BY:	RAVI
Confidential to Ooredoo	SITE NAME: THOUSAND FLOWER HOUSE-HITHADHOO ISLAND	DRG NO:	

om/CONT/15/044

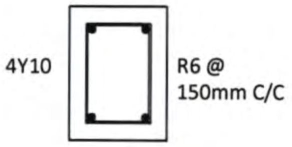
BOUNDARY FENCE



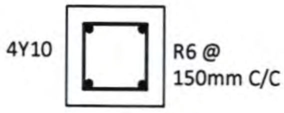
BOUNDARY WALL SECTION



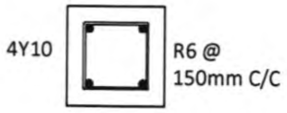
WALL CANOPY



200mm X 150mm BEAM



150mm X 150mm COLUMN



150mm X 150mm TIE BEAM

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NOTE

- Ground level needs to be taken from the nearest road level
- Number of columns to be taken as marked in the layout drawing
- Column & beam concrete should be in 1:2:3
- Screed concrete should be in 1:3:6
- Columns & beams should be reinforced with 10mm Steel
- Clear cover to R/F is 40mm all sides
- Maximum distance between each column is 8'
- Top wall should be 30° taper to both sides
- All GI pipes should be 1½" heavy duty pipes
- All welding joints should be applied with appoloy putty & antiprogressive paint
- Anchorage length of vertical pipe is 400mm
- Gauge 8 wire mesh should be used for fencing
- The wire mesh is strongly fasten to the vertical pipes by flat iron strips
- The mesh will be tied up to the horizontal pipes with wrapping around line wire in every 100mm & bind up with line wires in every 500mm as shown in the drawing
- Wall needs to be painted with exterior weather proof paint
- All the paints are with 1 coat of primer & 2 coats of base
- Color code for the wall is white, for columns and beams is red & for pipes is green

ALL DIMENSIONS ARE IN MILLIMETERS

ooredoo	TITLE: BOUNDARY WALL	SCALE:	N.T.S
Confidential to Ooredoo	SITE NAME: THOUSAND FLOWERS HOUSE-HITHADHOO ISLAND	DATE:	18/01/2015
		SURVEYED BY:	RAVI
		DRAWN BY:	RAVI
		CHECKED BY:	

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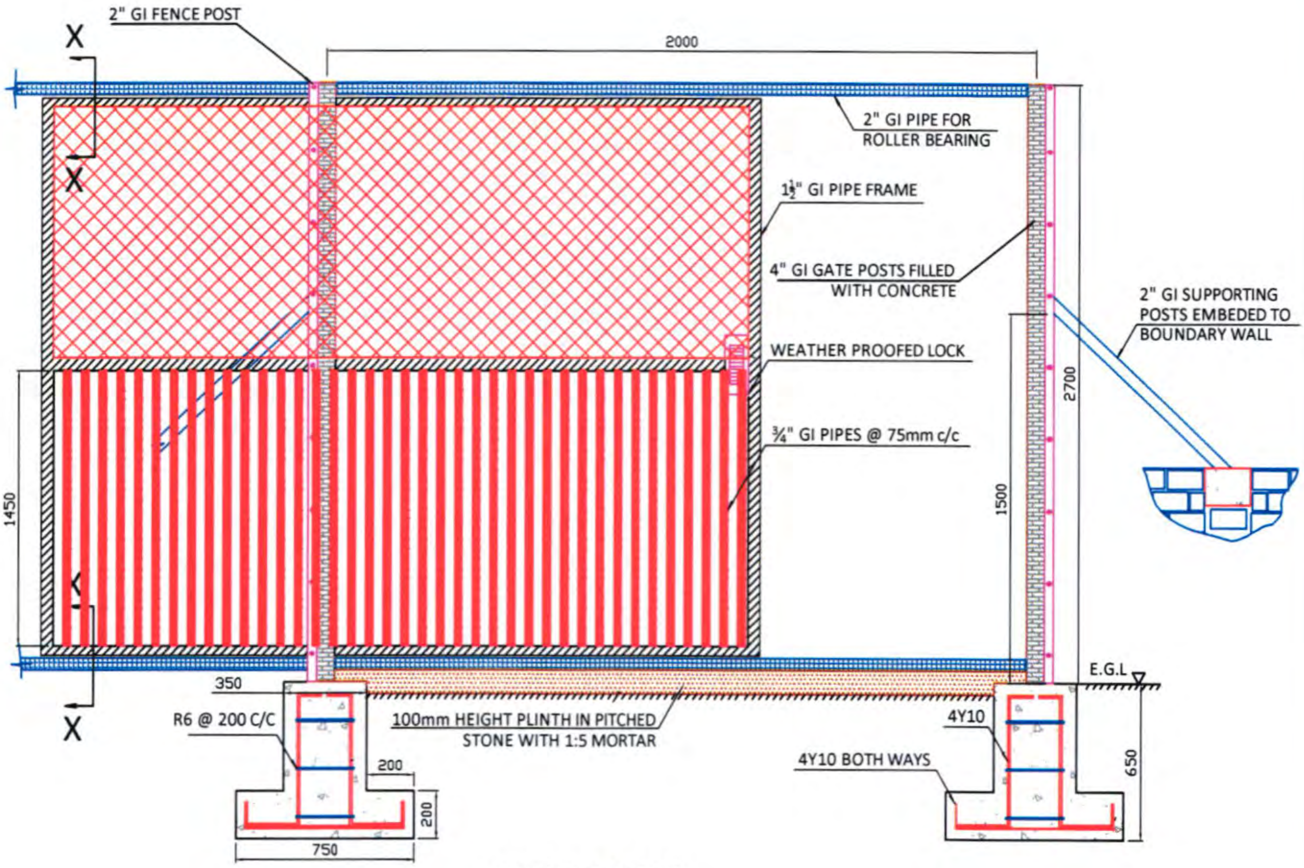
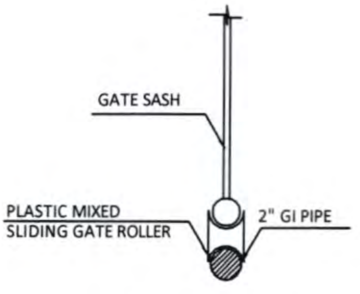
BOUNDARY FENCE



GATE ELEVATION



SECTION X - X

NOTE

1. Size of the foundation may vary depending on the soil condition

2. Pass the iron strip through the mesh & fasten it to the fence post with bolts.

3. 100mm Thick plinth should be placed 1000mm from both out side and inside from the gate

4. All Welding joints should be applied with Appoloy potty

5. Paint with 1 coat of primer & 2 coats of Enamel

6. Dia 4" Guard posts should be anchored 450mm to the concrete

7. All pipes shall be in Heavy Duty steel

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ALL DIMENSIONS ARE IN MILLIMETERS

ooredoo Confidential to Ooredoo	TITLE: BOUNDARY WALL	SCALE:	N.T.S
		DATE:	18/01/2015
	SITE NAME: THOUSAND FLOWERS HOUSE-HITHADHOO ISLAND	SURVEYED BY:	RAVI
		DRAWN BY:	RAVI
		CHECKED BY:	

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LOCATION

LOCATION

LOCATION

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C-633/2004

ooredoo	TITLE:	LOCATION		SCALE:	N.T.S
				DATE:	18/01/2015
				SURVEYEDBY:	RAVI
Confidential to Ooredoo	SITE NAME:	THOUSAND FLOWERS HOUSE-HITHADHOO ISLAND		DRAWN BY:	RAVI
				DRG NO:	

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ދިވެހި ޖުމްހޫރިއްޔާ

REPUBLIC OF MALDIVES

ދިވެހި ރައްޔިތުންގެ އައިޑެންޓިޓީ ކާޑު

NATIONAL IDENTITY CARD

ނަންބަރު:

Number: A001148

Name ނަން މޫސާ ޒިހުނީ Moosa Zihuny	
Sex ޖިންސު M ފ	Date of Birth އުފަން ތާރީޚު 19/12/1971
Address އެޑްރެސް ފަންޖެހިގެ ސ. ހިތަދޫ Fanjehige S. Hithadhoo	

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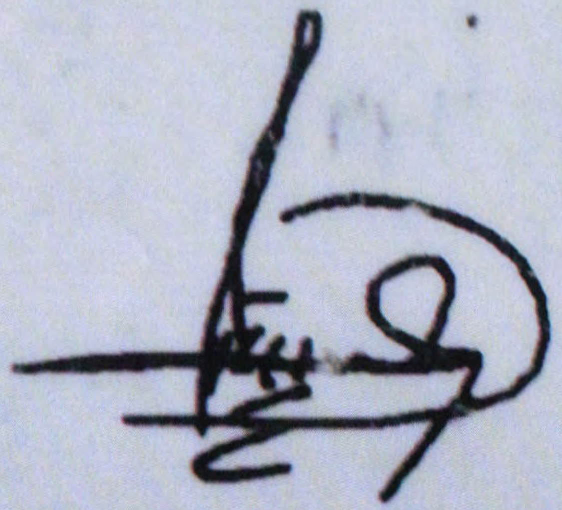
SN0454119

Signature / Finger Print



Ooredoo Maldives Pvt. Ltd.
C-633/2004

Common Name

Moosa Didi

Blood Group	Expires on
B+	22/02/2016

REPUBLIC OF MALDIVES

NATIONAL IDENTITY CARD

Number: **A001084**

Name Abdulla Sadig	
Sex M	Date of Birth 15/06/1967
Address View S. Hithadhoo	

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REPUBLIC OF MALDIVES

ދިވެހި ރައްޔިތެއްކަން އަންގައިދޭ ކާޑު

NATIONAL IDENTITY CARD

ނަންބަރު:

Number: **A021080**

Name ނަން ނަސީރު އިބްރާހީމް Naseer Ibrahim	
Sex ޖިންސު M ފ	Date of Birth އުފަން ތާރީޚު 11/10/1945
Address އެޑްރެސް ތައުޒަންޑް ފްލާވަރ ސ. ހިތަދޫ Thousand Flower S. Hithadhoo	

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ސޮއި / އިނގިލީގެ ނިޝާން
Signature / Finger Print

Common Name	ޢާއްމު ނަން
Naseer	ނަޞީރު

Blood Group ލޭގެ ގުރޫޕު	Expires on މުއްދަތު ހަމަވާނީ
NA	29/05/2021

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SN0525367

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Ooredoo Maldives Pvt. Ltd.
C-633/2004

ސޮއި / އިނގިލީގެ ނިޝާން
Signature / Finger Print

Common Name	އާއްމު ނަން
Sadig	ސާދިގު

Blood Group ލޭގެ ބާވަތް	Expires on މުއްދަތު ހަމަވާނީ
NA	26/03/2022

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ހިންނަވަރު
ދިވެހިރާއްޖެ.

ރަޖިސްޓަރީ ނަންބަރު: 973

އިމާރާތާއި ގޯތީގެ ރަޖިސްޓަރީ

އަތޮޅާއި ރަށް: ......ޅ. ހިންނަވަރު..

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އެޑްރެސް : .... ޅ. ހިންނަވަރު

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ވިޔަފާރީގެ ނަން: ޖައުސަން ފްލާވަރ / ސ. ހިތަދޫ.

އެޑްރެސް: ޖައުސަން ފްލާވަރ / ސ. ހިތަދޫ.

ވިޔަފާރީގެ ބާވަތް: ބަންގާރަ.

ވިޔަފާރިކުރާ ފަރާތުގެ ނަމާއި އެޑްރެސް: ސަޢީދު އިބްރާހީމް ޖައުސަން ފްލާވަރ / ސ. ހިތަދޫ.

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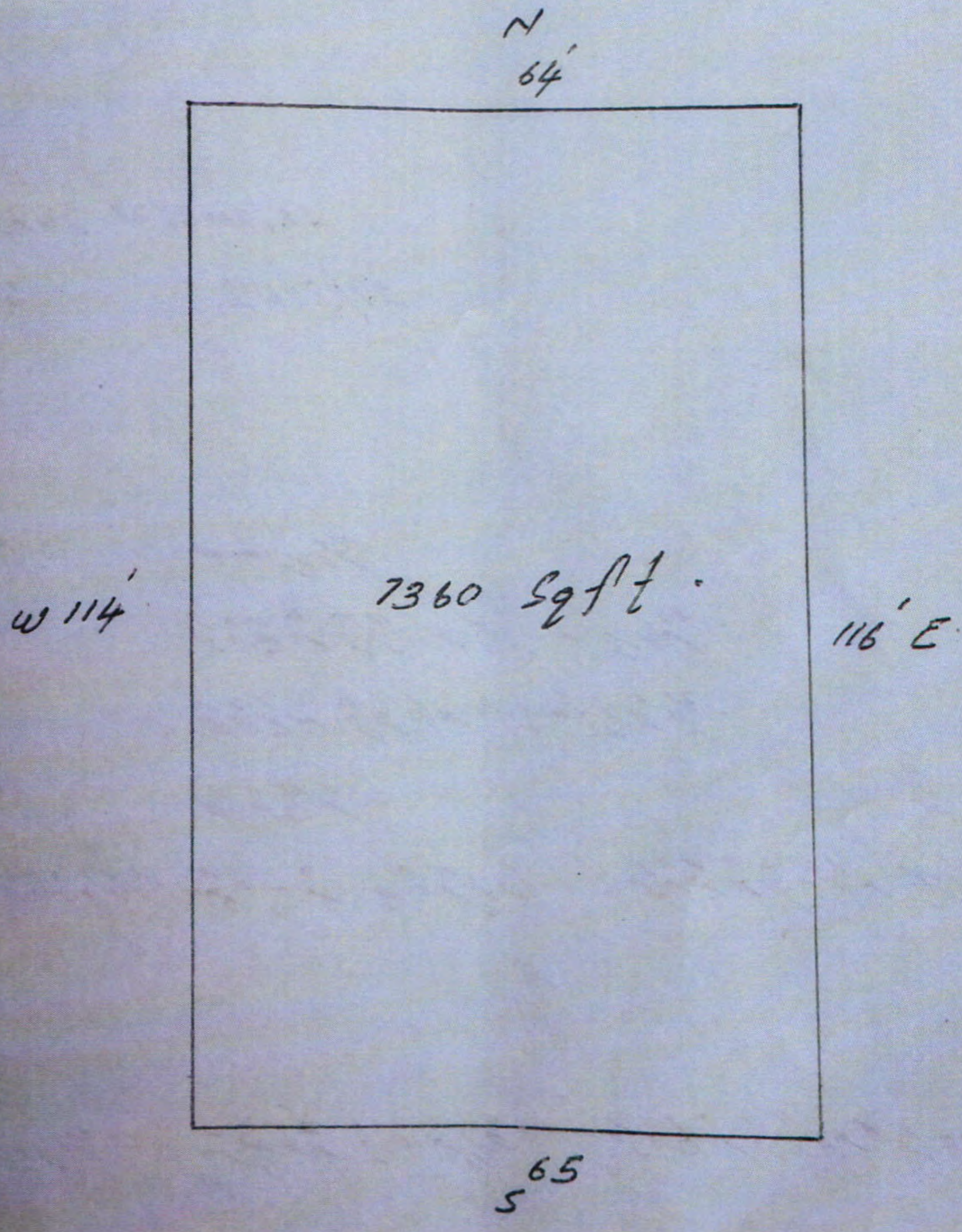

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C-633/2004

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... ކުރެވޭނެއެވެ.

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* ގޯތިގެއް ކަމާދޭ ދަރުކަރުވާން ހަށްދަވާ ގަވާއިދުތަކާ އެއްގޮތަށް މިގޮތުގެ ދުރުމިނަށް މިރަސްމީ ބޭސްސްޓޭޝަނުގައި ނަސްބުކުރެވިދާނެ ވަރަށްމީގެ ދަށުން ބޭނުންކުރެވޭނެއެވެ.
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* ބޭސްސްޓޭޝަނުގެ އަލާމަތްތަކުން ނުވަތަ ވިއްޔަތަކުން އުނިއިތުރުވެ ގެއްލުމެއްވާނަމަ އެއީ އަމަލުކުރާ ބޭނުންވާ ދަރަޖައެއްގެ ސާފުކުރެވޭނެއެވެ.

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C-633/2004

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M.Atoll Office
M.Muli
Republic of Maldives

AGREEMENT FOR LEASING LAND

THIS AGREEMENT (hereinafter referred to as "this Agreement") is made on 02nd June 2005

BETWEEN the Government of the Republic of Maldives, represented by the M.Atoll Office (hereinafter referred to as "the Lessor") on the first part

AND

Wataniya Telecom Maldives Private Limited, a private company limited by shares incorporated under and in accordance with Law No. 10/96 of the Republic of the Maldives shoes registered office is located at Second Floor, HDC Building, Hulhumale', Male', Republic of Maldives, and which is registered with Ministry of Trade and Industries of the Government of the Maldives under company registration number C-633/2004 (hereinafter referred to as "the Lessee" which expression shall mean and include the said Wataniya Telecom Maldives Private Limited, its heirs, successors-in-title and assigns) on the second part.

WHEREAS, the Lessor has agreed to lease an area of public land located at an inhabited island of the Republic of Maldives to the Lessee and to permit the Lessee to undertake certain construction works and to install, operate and maintain certain telecommunications equipment as required by the Lessee (the "Works").

NOW, THEREFORE, the Lessor and the Lessee (hereinafter referred to as "the Parties") agree as follows:

1. In consideration of the Lessee's obligations under this Agreement, the Lessor will grant to the Lessee and the Lessee will accept from the Lessor the lease of an area of 7500 square feet of land ("the Land") located at an inhabited island of the Republic of the Maldives and the Lessor will permit the Lessee to undertake the Works.

2. The Land leased under this Agreement is in Kolhufushi of M.Atoll and the location is adjacent to the "Fareedhee magu" near the free-land area.

3. The lease rent (hereinafter referred to as "the Lease Rent") is MRf 750.00(seven hundred and fifty rufiyaa) per calendar month, calculated as -/10 (Ten Laari) per

square feet payable from the date that the Lessee is given vacant possession of the Land.

4. The Lessor will arrange to give the Lessee vacant possession of the Land immediately after the Parties sign this Agreement in the form of an administrative letter sent to the Kolhufushi Office by the Lessor starting the date of the grant of the lease and directing the Kolhufushi Office to plot the Land and to draw a sketch map of the Land before allowing the Lessee vacant possession of the land. A copy of the said letter and the sketch map will be forwarded to the Lessee and will be attached to this Agreement as attachments 1 and 2.

5. The lease period shall be for a period of 15 (fifteen) years (the "Team") and shall be renewable for further periods, subject to the agreement of the Parties.

6. The Lessor shall permit the following for the duration of the lease:

    a) To allow the Lessee to quietly hold and enjoy the Land during the Term;

    b) To permit the Lessee to install, maintain, alter, renew, replace, upgrade and operate certain telecommunications equipment including GSM antenna, microwave dish, towers, generators and any other equipment (the "Lessee's Equipment") on the Land;

    c) To grant to the Lessee, and any other party acting on behalf of the Lessee, permission to travel, at any time, to the inhabited island on which the Land is located, in connection with the Land, the Works or the Lessee's Equipment, without the need to obtain any further authorizations or permits;

    d) To allow the Lessee, and any other party acting on behalf of the Lessee, to access the Land at any time in connection with the Land, the works or the Lessee's Equipment;

    e) To provide the Lessee with any documentation and assistance that the Lessee may require in order for the Lessee to install and receive utility services on the Land including electricity and water;

    f) To inform by writing to the Lessee before permitting any other party (whether a telecommunications service provider or otherwise) to install any equipment in the vicinity of the Land;

    g) To allow the Lessee the right to use, lay, connect and construct new or existing conduits that may be required for the Lessee's use of the Land in, over or through any adjacent land in such position or positions as agreed with the Less or.

7. The Lessee shall pay the Lease Rent for each calendar month to the Department of Inland Revenue of the Government of the Republic of the Maldives. Before the 10th day of the relevant month. The Lease Rent for the first month *pro rata* shall be paid within 10 days of the signing of this Agreement.

8. If the Lease Rent is not paid in time, as stated in Clause (7) above, 25%(twenty five percent) of the daily rent will be charged from the Lessee as a fine, calculated on the basis of amount of the Lease Rent that is overdue up to the date of payment of the overdue Lease Rent.

9. If the Lease Rent of the month is not paid as per Clause (7) and the Lease Rent is not settled together within fine payable under Cause (8) above within 30 days, the Lessor will inform the Lessee in writing to settle or rectify such defaults within 15 days, the Lessor has the right to terminate this Agreement without any further notice.

10. The Lessor may decide to take back the Land for a public purpose. If the Lessor decided to do so, the Lessor shall give 6 (six) months advance written notice to the Lessee before termination of this Agreement. In the event that the Lessor decides to take back the land for a public purpose, the Lessor will provide to the Lessee on similar terms a suitable piece of land, and will not require the Lessee to vacate the Land until vacant possession of such alternative suitable piece of land have been given to the Lessee.

11. If this Agreement is terminated under the circumstances stated in Clause (10) above, the Lessor shall;
    a) Reimburse to the Lessee any advance payments of the Lease Rent that have been made to the Lessor by the Lessee.

    b) Pay to the Lessee fair and just compensation for any immovable property of the Lessee existing on the Land.

12. The Lessee may terminate this Agreement by giving to the Lessor 2 (two) months advance written notice.

13. Without prejudice to Clause 12, the Lessee may terminate this Agreement forthwith by giving notice of termination to the Lessor in the event that the License granted to the Lessee to provide telecommunications services is terminated, suspended, withdrawn or revoked for any reason.

14. The Lessor may, at any reasonable time and, except in the case of an emergency, after having given reasonable notice in writing to the Lessee enter the Land accompanied with an employee of the Lessee to inspect the Works carried out by the Lessee on the Land.

15. The Lessee shall comply during the term of this Agreement with the country's regulations in force, at any time, relating to the lease of public lands from the inhabited islands leased to carry out major or industrial works.

16. The Lessee shall not assign, lease any or all parts of the Land to any other party, unless permission is granted by the Lessor in writing and shall not assign or shall not in any manner transfer the obligations of the Lessee to any other party.

17. All notices, demands, and other communications required or permitted to be given under this Agreement shall be in writing and, delivered by hand or sent by certified or registered mail, or transmitted by telefax to the respective party at the following addresses:

    The Lessor: Ministry of Atolls Development
    Faashanaa Buliding,
    Boduthakurufaanu Magu
    Male',
    Republic of Maldives
    Tel: 3323070 Telefax: 3327750

    The Lessee: Wataniya Telecom Maldives Private Limited
    Second Floor,
    HDC Building,
    Hulhumale',
    Male'
    Republic of Maldives
    Tel: +960 9611000 Telefax: +960 9611001

18. On expiry of this Agreement or termination as per the terms of Clause 9, 12 or 13 above, the Lessee shall peacefully yield to the Lessor, all immovable properties existing on the Land without causing any damage to those properties. However, the Lessee has the right to remove the Lessee's movable properly (including the Lessee's Equipment) from the Land. The Lessee shall not be entitled to claim any compensation for the immovable property.

19. Any amendments made to this Agreement shall be in writing and signed by the Parties.

20. This Agreement shall be governed by and subject to the laws and regulations of the Republic of Maldives.

21. The courts of law of the Republic of Maldives will have exclusive jurisdiction in respect of all claims or disputes that may arise in connection with or in relation to this Agreement.

22. If any provision of this Agreement becomes illegal, invalid or unenforceable under the laws of the Republic of Maldives, neither the validity nor the enforceability of the remaining provisions shall in any way be affected or impaired.

23. In this Agreement, all the words used in the singular form includes the plural and *vice versa*, unless the context required otherwise. Any reference in this Agreement to a "month" or to any other period of time shall be construed by reference to the Gregorian calendar.

24. Notwithstanding anything else in this Agreement, if either party's failure to comply with the conditions set forth in this Agreement is due to circumstances beyond the control of the Parties (e.g. Act of God, flood, etc), such failure shall not constitute as a breach of this Agreement.

25. Any misunderstanding or dispute arising out of or in connection with this Agreement the matter(s) shall be settled by mutual discussions between the Parties. However, if the misunderstanding or dispute cannot be resolved by the mutual discussions of the Parties the matter(s) can be submitted to the relevant courts of laws for adjudication.

IN WITNESS WHEREOF, the parties have hereto signed on the date first written above.

Signed for and on behalf the Lessor:-

Mohamed Naeem
Atoll Chief
M.Atoll Office
M.Muli, Republic of Maldives

Signed for and on behalf the Lessee:-

Yasser Abdel Hakim
Chief executive officer,
Wataniya Telecom Maldives Pvt. Ltd

بسم الله الرحمن الرحيم

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ގަޑި 11-00

بسم الله الرحمن الرحيم

CELL SITE LEASE AGREEMENT

GDH THINADHOO

ooredoo

Ooredoo Maldives Pvt. Ltd.
C-633/2004

IN RESPECT OF

AGREEMENT FOR LEASEOF CELL SITE

BETWEEN

OOREDOO MALDIVES PVT LTD
(AS THE "LESSEE")

AND

GDH THINADHOO COUNCIL
(AS THE "LESSOR")

ON

SUNDAY 21 FEBRUARY 2016.
~~MONDAY, 14 MARCH 2016~~
REPUBLIC OF MALDIVES

Ooredoo Maldives Pvt. Ltd.
C-633/2004

SECRETARIAT OF THE THINADHOO COUNCIL

Ooredoo Maldives Pvt. Ltd.
C-633/2004

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Ooredoo Maldives Pvt. Ltd.
C-633/2004

THIS LEASE AGREEMENT is made on Sunday 21st February 2016 between

(1) **OOREDOO MALDIVES PVT LTD,** a limited liability company incorporated under and in accordance with Law No 10/96 of the Republic of Maldives, having its principle place of business at Fifth Floor, Sunleet, Boduthakurufaanu Magu, Henveyru, Male', 23023, Republic of the Maldives and which is registered with the Government of the Maldives Ministry of Trade and Industries with company registration number C-633/2004 (hereinafter referred to as **"Ooredoo Maldives"** which expression shall include its successors-in-title, liquidators and assignees where the context so requires or admits)

AND

(2) Thinadhoo Council, incorporated under in accordance with Local Government Authority Law of Republic of Maldives and whose registered office is at Gdh Thinadhoo, Republic of Maldives (hereinafter referred to as The "lessor" which expression shall include the successor in liquidators and assignees where the context requires or admits)

(3)

Each a "**Party**" and together the "**Parties**".

WHEREAS

The lessor has agreed to lease an area of public land next to ooredoo Cell Site at an inhabited island of Gdh Thinadhoo the republic of Maldives to Lessee and to permit the lessee to undertake certain construction works and to install, operate and maintain certain Telecommunications equipment's as required by the lessee (the works)

NOW THEREFORE the Lessor and the Lessee agree as follows.

PROPERTY, TERM, RENT AND DEPOSIT

Property Let

1. The Lessor lets to the Lessee the following premises (the "Property")

Area of 1840 square feet of land (the "lessor") located, Gdh. Thinadhoo as demarcated in schedule 2 annexed hereto. It is understood that the Property will be suitable for installation and operation by the Lessee of telecommunications Equipment as required. (the "Lessee's Equipment's").

Term

2. The duration of the lease shall be:-
10 (Ten) Years, commencing from 21st February 2016 until 20th February 2026 (the "Term") and shall be renewable for further periods, subject to the agreement of the parties

Rent

3. The rent payable by the Tenant for the lease of the Property **(the "Rent")** on a per calendar month basis for the duration of the Term shall be MVR 1840/- (One Thousand Eight Hundred and Forty Rufiyaa) calculated as 1/- (One Rufiyaa) per square feet.

Payable

4. The Rent shall be payable on or before the 10th day of the relevant month to a bank account specified by the Lessor (every month the receipt copy should be sent to the council) or paid in some other manner as agreed between the parties.

Account Number:	7710 700287 001		
Account Name:	1475 Revenue 1		
Currency:	MVR	Bank:	Bank of Maldives

Utilities

5. The Rent shall be exclusive of utilities such as electricity, light and power consumed or supplied on or to the Property during the tenancy.

Option to Renew Lease or Extend Term

6. The Lessee shall be given first option to renew or extend the lease at the end of the Term, provided that this option is exercised at least 2 (two) months prior to expiration of the Term. The Lessor and the Lessee shall in good faith negotiate the new lease period and the amount of rent payable. In the event that the Lessor and the Lessee fail to reach mutual agreement on a renewal or extension of this Agreement for any reason whatsoever, however, then this Agreement shall expire at the end of the Term stipulated above.

DUTIES AND OBLIGATIONS OF THE LESSEE

7. The Lessee shall throughout the Term of the tenancy:-

(a) pay the Rent at the time and in the manner aforesaid,

(b) use the Property for the purpose of installing the Lessee's Equipment necessary for the provision of mobile telecommunications services and their associated services.

(c) not carry out any unlawful profession, trade or business on or at the Property or use it for any improper, immoral or illegal purpose, nor permit others to engage in such activities on the Property either;

(d) use the Property in a proper Lessee-like manner and in particular do the following:-

(e) keep the Lessee's Equipment in safe repair and condition;

(f) Be responsible for all insurance of the Lessee's Equipment (including coverage for fire and theft). It is expressly agreed that the Lessor will not be responsible for any loss, theft or damage to any of the Lessee's Equipment or supplies located at any time in the Property;

(g) not to cause or permit any damage or injury to the Building nor make any alteration or additions to the property or the structure except for civil work require for the installation of the Lessees' Equipment and with consent of the Lessor;

(h) to promptly make payments to the relevant authorities upon receipt of invoice for all el… power and water consumed or supplied on or to the property during the tenancy;

(i) to permit the Lessor or anyone authorized by it at any time and upon reasonable prior written notice (except in emergency) to enter and view the Property for any proper purpose (including the checking or compliance with the Lessees' obligation under this Agreement.

(j) not assign, sublet, charge or part with or otherwise dispose of the Property without the Lessor's prior written approval.

(k) to yield up the property at the end of Term in the same condition as at the commencement of the Term.

(l) to be solely responsible for payment of taxation of any kind whatsoever arising from or in connection with the Lessee's occupation of the Property under this Agreement if and when such is imposed by the Maldives Government in the future, and to indemnify the Lessor in this regard.

DUTIES AND OBLIGATIONS OF THE LESSOR

8. The Lessor shall carry out the following throughout the entire Term of the tenancy:-

(a) to allow the Lessee to peaceably hold and enjoy the Property during the Term save for lawful interruption from the Lessor or any person rightfully claiming under or in trust for it;

(b) to permit the Lessee to install, maintain, alter, renew, replace upgrade and operate the Lessee's equipment on the Property,

(c) allow the Lessee or any other party acting on its behalf (including but not limited to employees, sub-contractors and consultants) to access the Property at any time in order to survey, maintenance purpose or for civil works purpose;

(d) to allow the Lessee to change the position ,height ,size or location of the Lessees' Equipment installed or carry out any other required work provided the this does not overload the structural integrity of the Building.

(e) to access the property anytime in order to survey, for maintenance purposes or for civil works purpose.

(f) to provide the Lessee with all the documentation and other assistance required from the Lessor in order for the Lessee to install and receive services such as electricity and any other utilities required on the Property;

(g) to keep in good repair structural parts, all conduits and equipment belonging to the Lessor which are adjacent to or serve or benefit the Property (including drains, gutters and external pipes), except where any damage was caused by the negligence of the Lessee or the Lessee's employees, agents or servants.

(h) to provide and keep in proper working order, facilities and amenities necessary for operation of the Property including (without limitation) installations for the supply of electricity.

(i) to return to the Lessee any portion of Rent paid for any period that the property is rendered unusable by fire or other risk against which the Lessor has effected insurance;

(j) to allow the Lessee all rights of support for the Property from the building;

(k) to obtain the prior written consent of the Lessee before permitting any other party (whether a telecommunications operator or otherwise) to install telecommunications equipment in the vicinity of the Property or the Lessees Equipment;

(l) to allow the Lessee the right to use lay connect and connect and construct new or existing conduits that may be required for the Lessee's use of the Property in over, under or through the Building and where applicable the Lessor's adjoin property in such position or positions as agreed with the Lessor (such agreement on the part of the Lessor not to be unreasonably withheld or delayed) and to repair maintain inspect and renew such conduits at any time to Lessee or the person exercising such right causing as little inconvenience as reasonably to such adjoining property and making good without unreasonable delay any damage thereby cause to such adjoin Property;

(m) to allow the Lessee the right to erect all necessary hand railing ladders and other access/safety equipment for the safe working of the Lessees' contractors agent or servants;

(n) not move interfere or tamper with the Lessee's Equipment and not to knowingly permit any other person to move interfere or tamper with the same.

BREACH OF AGREEMENT AND TERMINATION

Breach of Agreement Requiring Remedy

9. In the event of breach of any of the terms of this Agreement by the Lessee , the Lessor shall serve a written notice upon the Lessee to remedy the breach within a period of 30 days of receipt of the notice (or an increased period of time if the breach is such that reasonably warrants an increased period.

Termination of Agreement By Lessor

10. The Lessor may terminate this Agreement by serving 6 (Six) month written notice upon the Lessee of its intention to do so for any reason whatsoever.

Termination of Agreement By Lessee.

11. The Lessee may terminate this Agreement by serving 2 (Two) month written notice upon the Lessor of its intention to do so for any reason whatsoever.

MISCELLANEOUS

Lessor's Certificate

12. The Lessor hereby certifies to the Lessee that it has full power to grant this lease and that the Property and the land subject to the rights are held by the Lessor free from encumbrances which would prevent the Lessee using and occupying the Property and exercising the right hereby granted fully freely and without restriction.

Assignment

13. Neither party may assign any of its right, obligations or responsibilities under this Agreement without the prior written consent of the other.

Waiver

14. The failure by any party to exercise or enforce in any instance any of the terms or conditions of this Agreement, or to insist upon strict performance by the other party of any of the provisions of this Agreement, shall not constitute or be deemed a waiver of that party's rights under this Agreement.

Force Majeure

15. A party shall be excused from performing its obligations under this Agreement if its performance is restricted or prevented by a natural cause beyond its control, which shall be limited to Acts of God, storm, tempest, flood, war, insurrection and civil commotion. Performances shall be excused only to the extent of and during the reasonable continuance of such disability.

Corporate Authority

16. Each party represents that it has taken all necessary corporate action to authorize the execution and consummation of this Agreement and will furnish the other with satisfactory evidence of this upon request.

Compliance with Laws

17. Each party hereto agrees that it shall comply with all applicable laws, ordinances, codes and regulations in the performance of its obligations or receipt of services under this Agreement, including the procurement of permits and certificates where required. It at any time during the term of this Agreement, a party is informed or information comes to its attention that it is or may be in violation of any law, ordinance or code (or if it is so determined by any count, tribunal or other authority), that party shall immediately take all appropriate steps to remedy such violation and comply with such law, regulation, ordinance or code in all respects.

Notice

18. All notice, requests, demands or other communications to or upon the respective parties to this Agreement shall be in English or in Maldivian Language (Dhivehi) and shall be deemed to have been duly given or made when delivered personally or by registered letter or by facsimile to the other party at the addresses set out below or at such other address as the party concerned may hereafter specify to the other in writing or, in the case of facsimile, to the published number of the addressee:-

FOR THE LESSOR:-

Secretariat of the Thinadhoo Council,
South Huvadhuatolhu, GdhThinadhoo
Dayzee Magu, GDh.Thinadhoo
Rep of Maldives
Phone: (+960) 6842596 Fax: (+960) 6841018

FOR THE LESSEE:
OOREDOO MALDIVES PVT. LTD
Fifth Floor, Sunleet – Gadhage' Mohamedfulhu Building
Boduthakurufaanu Magu, Henveiru
Male', Republic of Maldives
Phone: (+960) 9611000 Fax: (+960) 9611001

Posted Letters shall be deemed to have been delivered 14 business days after posting (Fridays, Saturdays and Public Holidays excepted) and facsimile messages shall be deemed to have been delivered at the time of dispatch unless they are received outside business hours of the recipient in which case they shall be deemed received at the opening of business on the next business day.

Inurnment

19. This Agreement shall inure to the benefit of and be binding upon each of the parties and their respective successors-in-title, permitted assigns and liquidators.

Partial Invalidity

20. If at any time any provision hereof is or becomes illegal, invalid or unenforceable in any respect under the laws of Maldives, neither the legality, validity or enforceability of the remaining provisions hereof nor the legality, validity or enforceability of such provision under the laws of Maldives shall in any way be effected or impaired thereby.

Amendments

21. Any amendments to this Agreement shall be made in writing and executed by both parties to this Agreement.

Entire Agreement and Copies

22. This Agreement constitutes the entire agreement between the parties with respect to the subject matter contemplated herein and supersedes all oral statements and prior writings

This Agreement shall be executed simultaneously in two original copies, each of which when executed and delivered shall constitute an original, but all copies shall together constitute but one and the same instrument.

Governing Law

23. This Agreement shall be governed by, construed and enforced in accordance with the laws of the Republic of Maldives.

[Signature page to follow]

SECRETARIAT OF THE THINADHOO COUNCIL

Ooredoo Maldives Pvt. Ltd.
C-633/2004

SIGNATURES

IN WITNESS whereof the Lessor and the Lessee have executed this Agreement with effect from the date specified above.

Signed For and on Behalf of The Building
Name: Ahmed Naseer
Position: Council President
Date:

Signature:

SECRETARIAT OF THE THINADHOO COUNCIL

In presence of:

Name: Hassan Rasheed
Contact: 9992401
ID Card No: A317684

Signature:

Signed For and on Behalf of Ooredoo Maldives
Name: Hussain Zareer
Position: Financial Controller
Date: 21/7/16

Signature:

Ooredoo Maldives Pvt. Ltd.
C-633/2004

In presence of:

Name: AMINATH MOHAMED
Contact: 961 ''00
ID Card No: A024948

Signature:

SCHEDULE1: COPY OF THE AGREEMENT BETWEEN LANDLORD AND LESSOR

SCHEDULE 2: BUILDING

ooredoo
Ooredoo Maldives Pvt. Ltd.

SCHEDULE 3: PROPERTY REGISTRY

REPUBLIC OF MALDIVES

NATIONAL IDENTITY CARD

Number: **A317684**

Name	Hassan Rasheed
Sex	M
Date of Birth	30/05/1989
Address	Vaadheege GDh. Thinadhoo

SN0709049

[redacted]

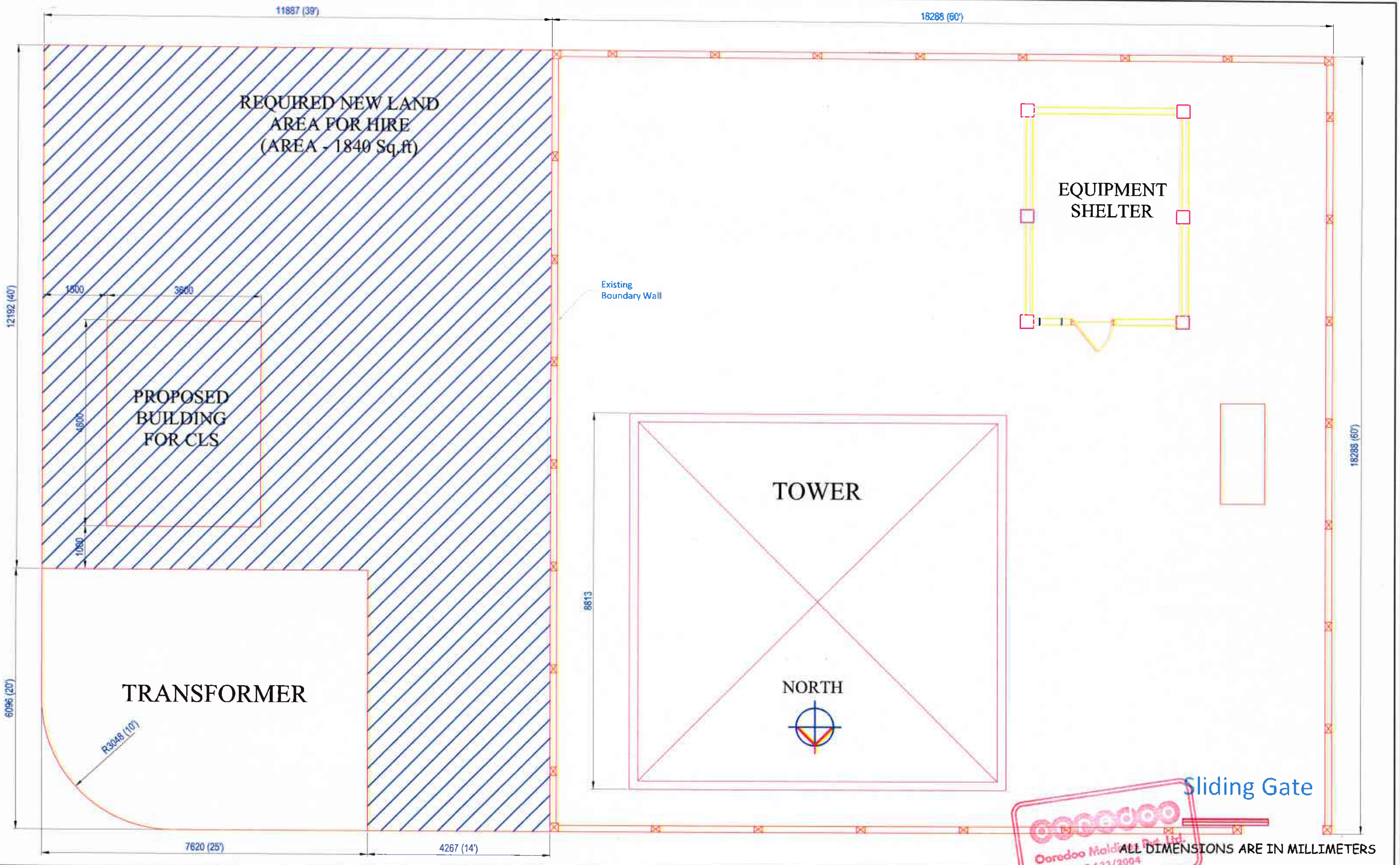
Signature / Finger Print

Common Name	Hassan
Blood Group	NA
Expires on	18/03/2020

ooredoo

Pvt. Ltd.

SITE LAYOUT PLAN



ALL DIMENSIONS ARE IN MILLIMETERS

ooredoo	TITLE:	SITE LAYOUT	SCALE: N.T.S DATE: 24/12/2015 DRAWN BY: SARANGA
	SITE NAME:	G.DH. THINADHOO (ID 4205)	

Ooredoo Maldives Pvt Ltd. C-633/2004

OM/CONT/16/0443

بسم الله الرحمن الرحيم

ދިވެހިން ދިވެހިރާއްޖޭގެ ވެރިން   ޖިނިވެރިކަމުގެ އަހަރު

ކޮމިއުނިކޭޝަންސް އޮތޯރިޓީ އޮފް މޯލްޑިވްސް
COMMUNICATIONS AUTHORITY OF MALDIVES

Ref: 165/M/2016/03   :ނަންބަރު

ކަމާބެހޭ ފަރާތްތަކަށް

ރާއްޖޭގެ މުވާސަލާތުގެ އިންފްރާސްޓްރަކްޗަރަކަށް ތަރައްޤީކޮށް މުޅިރާއްޖެއަށް ހައިސްޕީޑް ބްރޯޑްބޭންޑް ހިދުމަތް ދިނުމަށް ގާއިމުކުރުވާ ސަބްމެރިން ފައިބާ ކޭބަލްގެ މަސައްކަތް މިއަހަރުތެރޭގައި އުރީދޫ މޯލްޑިވްސް އިން ފެށުމަށް ވަނީ ނިންމާފައެވެ. މި ކޭބަލްގެ ޝަބަކާއިގެ ސަރަހައްދުން ރާއްޖޭގެ އިންޓަރނެޓްގެ ހިދުމަތް އިތުރަށް ފުރިހަމަ ކުރުމާއިއެކު ދިނުމަށް މަގުފަހިވެގެންދާނެއެވެ.

ރާއްޖޭގެ އެއްކޮޅުން އަނެއް ކޮޅަށް އަޅާ ސަބްމެރިން ފައިބާ ކޭބަލްގެ ލޭންޑިންގ ސްޓޭޝަން 6 ތަނެއްގައި ގާއިމު ކުރެވޭނެއެވެ. އެތަންތަނަކީ، ހދ. ކުޅުދުއްފުށި، ޅ. ހިންނަވަރު، ދ. ކުޑަހުވަދޫ، ގދ. ތިނަދޫ، އަދި ސ. ހިތަދޫ އާއި ހުޅުމާލެއެވެ. ވީމާ ކަމާބެހޭ އެންމެހާ ފަރާތްތަކުން މި މަސައްކަތުގައި އެހީތެރިކަމާއި އެއްބާރުލުން ދެއްވުމަށް ދަންނަވަމެވެ.

3 ރަބީޢުލްއާޚިރު 1437
13 ޖަނަވަރީ 2016

އިލްޔާސް އަޙްމަދު
ޗީފް އެގްޒެކެޓިވް

TELECOM Building   ޓެލެކޮމް ބިލްޑިންގ
Male'.   މާލެ
Republic of Maldives   ދިވެހިރާއްޖެ
Tel: 3323344   :ފޯން
Fax: 3320000   :ފެކްސް
e-mail: secretariat@cam.gov.mv   :އީ-މެއިލް

ދިވެހިން ދިވެހިންގެ ގޮތުގައި މިނިވަންކަމުގައި އަބަދަށް

ކޮމިއުނިކޭޝަންސް އޮތޯރިޓީ އޮފް މޯލްޑިވްސް

COMMUNICATIONS AUTHORITY OF MALDIVES

Ref: 165-I/426/2016/1 ނަންބަރު:

އައްޑޫ ސިޓީގެ މޭޔަރު އަލްފާޟިލް ޢަބްދުﷲ ސޮދިގު އަށް

ވެރިން ސަލާމަށްފަހު ދަންނަވަމެވެ.

ރާއްޖޭގެ މުވާސަލާތުގެ އިންފްރާސްޓްރަކްޗަރ ތަރައްޤީކޮށް މުވާފަޤާތު ހަރުދަނާ ޚިދުމަތްތަކެއް ފޯރުކޮށްދިނުމަށް އިތުރު ސަބްމެރިން ކޭބަލް ނެޓްވޯކެއް ގާއިމުކުރުމުގެ މަސައްކަތް މިއަހަރުގެ ތެރޭގައި ކުރިއަށް ގެންދިއުމަށް ވަނީ ރޭވިފައެވެ. މި ކޭބަލް ސިސްޓަމްގެ ސަބަބުން އަތޮޅުތަކަށް އިންޓަނެޓުގެ ޚިދުމަތް ފޯރުކޮށްދިނުމަށް މަގުފަހިވެގެންދާނެއެވެ.

ރާއްޖޭގެ އެއްކޮޅުން އަނެއްކޮޅަށް ގާއިމުކުރާ މި ސަބްމެރިން ކޭބަލް ނެޓްވޯކުގެ ފުރަތަމަ ސްޓޭޝަންތައް 6 ރަށެއްގައި ގާއިމުކުރުމަށްފަހު. މިގޮތުން ސ. ހިތަދޫގައި ވެސް ކޭބަލް ލޭންޑިންގ ސްޓޭޝަނެއް ގާއިމުކުރުމަށް ވަނީ ހަމަޖެހިފައެވެ. މިއީ، އަތޮޅުތަކުގެ އިންޓަނެޓް ޚިދުމަތުގައި ތަރައްޤީއާއި ފުޅާކުރުމަށް ކުރާ މި މުހިއްމު މަސައްކަތުގައި އައްޑޫ ސިޓީ ކައުންސިލްގެ އެއްބާރުލުން ދެއްވުން އެދެމެވެ.

އިޙްތިރާމް ޤަބޫލު ކުރެއްވުން އެދެމެވެ.

25 ربيع الأول 1437

05 ޖަނަވަރީ 2016

ޚާދިމުކުމް

[signature]

އިލްޔާސް އަޙްމަދު

ޗީފް އެގްޒެކެޓިވް

އައްޑޫ ސިޓީ

ސ. ހިތަދޫ، ދިވެހިރާއްޖެ

ކޮޕީ: އައްޑޫ ކައުންސިލް

TELECOM Building ޓެލެކޮމް ބިލްޑިންގ

Male', މާލެ،

Republic of Maldives ދިވެހިރާއްޖެ

Tel: 3323344 ފޯން:

Fax: 3320000 ފެކްސް:

e-mail: secretariat@cam.gov.mv އީ-މެއިލް:

بسم الله الرحمن الرحيم

ދިވެހިން ދިވެހިންގެ ޤައުމުގައި މިނިވަންކަމުގައި އަހަރެން

ކޮމިއުނިކޭޝަންސް އޮތޯރިޓީ އޮފް މޯލްޑިވްސް

COMMUNICATIONS AUTHORITY OF MALDIVES

Ref: 165-1/419/2016/1 ނަންބަރު:

މާލޭސިޓީ ކައުންސިލްގެ އިދާރާގެ ރައީސް އަލްފާޟިލް މުޙައްމަދު

ނަޒީރު އަށް.

ވެދުން ސަލާމަށްފަހު ދަންނަވަމެވެ.

ތިޔަ ކައުންސިލުން ދަންނަވާފައިވާ ސިޓީއަށް ރިޢާޔަތްކޮށް، މި އޮތޯރިޓީއިން ކުރެވިދާނެ ކަންތައްތައް ދިރާސާކޮށް، ގުޅުންހުރި ފަރާތްތަކާއި މަޝްވަރާކޮށް ނިންމުމަށް ފަހު ތިޔަ އިދާރާއަށް އެކަން އަންގާނެކަމުގައި ދަންނަވަމެވެ.

ތިޔަ އިދާރާއިން އެދިވަޑައިގެންފައިވާ ކަންތައްތައް ދިރާސާކުރުމަށް 6 ހަފްތާގެ މުއްދަތެއް ބޭނުންވާނެކަމަށް ދެކެމެވެ. އަދި ކަމާބެހޭ ފަރާތްތަކާއި ގުޅުމުގެ ނަތީޖާއާ އެކު ތިޔަ އިދާރާއަށް ޖަވާބު ދަންނަވާނެކަމުގައި ދަންނަވަމެވެ.

އިޚްލާޞްތެރިކަމާއެކު ޚިދުމަތުގައި ދަންނަވަމެވެ.

25 ربيع الأول 1437

05 ޖަނަވަރީ 2016

ޗެއަރމަން

[signature]

އިލްޔާސް އަޙްމަދު

ޗީފް އެގްޒެކެޓިވް

މާލޭސިޓީ ކައުންސިލްގެ އިދާރާ

މާލެ، ދިވެހިރާއްޖެ

ކޮޕީ: އޮޑިޓަރ ޖެނެރަލްގެ އޮފީސް

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ދިވެހިން ދިވެހިންގެ ގޮތުގައި މިނިވަންކަމުގައި އަބަދަށް

ކޮމިއުނިކޭޝަންސް އޮތޯރިޓީ އޮފް މޯލްޑިވްސް
COMMUNICATIONS AUTHORITY OF MALDIVES

Ref: 165-1/367/2016/1 :ނަންބަރު

[illegible]

[illegible]

[illegible]

އިޙްތިރާމް ޤަބޫލު ކުރެއްވުން އެދެމެވެ.

25 ربيع الأول 1437
05 ޖަނަވަރީ 2016

ޚާދިމްކުމް

އިލްޔާސް އަޙްމަދު
ޗީފް އެގްޒެކެޓިވް

[illegible]
މ. [illegible]، ދިވެހިރާއްޖެ

ކޭޕް: އޫރިދޫ މޯލްޑިވްސް

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ޓެލެކޮމް ބިލްޑިންގ
މާލެ،
ދިވެހިރާއްޖެ

ދިވެހިން ދިވެހިންގެ ގޮތުގައި މިނިވަންކަމުގައި އަހަރެން

ކޮމިއުނިކޭޝަންސް އޮތޯރިޓީ އޮފް މޯލްޑިވްސް

COMMUNICATIONS AUTHORITY OF MALDIVES

Ref: 165-1/201/2016/1 ނަންބަރު:

ތިލަދުންމަތީ ދެކުނުބުރީ ކުޅުދުއްފުށީ ކައުންސިލްގެ ނާއިބު ރައީސް އަލްފާޟިލް މުޙައްމަދު ޢަލީމަން

އަށް

ވެދުން ސަލާމަށްފަހު ދަންނަވަމެވެ.

ރާއްޖޭގެ މުވާސަލާތުގެ އިންފްރާސްޓްރަކްޗަރ ތަރައްޤީކޮށް މުޅިރާއްޖެއަށް ހައިސްޕީޑް ބްރޯޑްބޭންޑް ހިދުމަތް ދޭން އިތުރު ސަބްމެރިން ކޭބަލް ނެޓްވޯކެއް އެޅުމުގެ މަސައްކަތް މިއަހަރުގެ ތެރޭގައި އުރީދޫ މޯލްޑިވްސް އިން ކުރިއަށް ގެންދިއުމަށް ވަނީ ރާވާފައެވެ. މި ކޭބަލް ސިސްޓަމްގެ ސަރަހައްދުން އަތޮޅުތަކަށް އިންޓަރނެޓްގެ ހިދުމަތް އިތުރު ފުރިހަމަކަމާއިއެކު ދިނުމަށް މަގުފަހިވެގެންދާނެއެވެ.

ރާއްޖޭގެ އެއްކޮޅުން އަނެއްކޮޅަށް ގުޅުވާލެވޭ މި ސަބްމެރިން ކޭބަލް ނެޓްވޯކުގެ ލޭންޑިންގ ސްޓޭޝަންތަކުގެ 6 ތަނެއްގައި ގުޅުވާލެވޭނެއެވެ. މިގޮތުން ހދ. ކުޅުދުއްފުށީގައި ވެސް ކޭބަލް ލޭންޑިންގ ސްޓޭޝަނެއް އެއް ގުޅުވާލެވުމަށް ވަނީ ހަމަޖެހިފައެވެ. ވީމާ، އަތޮޅުތަކުގެ އިންޓަރނެޓް ހިދުމަތްތައް ތަރައްޤީކޮށް ފުޅާކުރުމަށް ކުރެވޭ މި މުހިއްމު މަސައްކަތުގައި އުރީދޫ އަށް އެހީތެރިކަމާއި އެއްބާރުލުން ދެއްވުން އެދެމެވެ.

އިޙްތިރާމް ފޮނުވީ ކުރިއެރުން އެދުމެވެ.

25 رَبِيعُ الأوَّل 1437
05 ޖަނަވަރީ 2016

ޚާދިމްކުމް

އިލްޔާސް އަޙްމަދު
ޗީފް އެގްޒެކެޓިވް

ތިލަދުންމަތީ ދެކުނުބުރީ ކުޅުދުއްފުށީ ކައުންސިލްގެ އިދާރާ
ކުޅުދުއްފުށި، ދިވެހިރާއްޖެ

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ޓެލެކޮމް ބިލްޑިންގ
މާލެ،
ދިވެހިރާއްޖެ

ދިވެހިން ދިވެހިންގެ ގޮތުގައި މިނިވަންކަމުގައި އަބަދަށް

ކޮމިއުނިކޭޝަންސް އޮތޯރިޓީ އޮފް މޯލްޑިވްސް

COMMUNICATIONS AUTHORITY OF MALDIVES

Ref: 165-1/415/2016/1 ނަންބަރު:

ހުވަދުއަތޮޅު ދެކުނުބުރި ތިނަދޫ ކައުންސިލްގެ ރައީސް އަލްފާޟިލް އަޙްމަދު ނަސީމް

އަށް

ވީދުން ސަލާމަށްފަހު ދަންނަވަމެވެ.

ރާއްޖޭގެ މުވާސަލާތުގެ އިންފްރާސްޓްރަކްޗަރ ތަރައްޤީކޮށް މުޅިރާއްޖެއަށް ހައިސްޕީޑް ބްރޯޑްބޭންޑް ޚިދުމަތް ފޯރުކޮށް އިތުރު ސަބްމެރިން ކޭބަލް ނެޓްވޯކް އެއް ޤާއިމުކުރުމުގެ މަސައްކަތް މިއަހަރުގެ ތެރޭގައި އުރީދޫ މޯލްޑިވްސް އިން ކުރިއަށް ގެންދިއުމަށް ރޭވި ތައްޔާރުވެފައެވެ. މި ކޭބަލް ސިސްޓަމްގެ ސަބްމެރީން އަތޮޅުތަކަށް އިންޓަރނެޓްގެ ޚިދުމަތް އިތުރު ފުރިހަމަކަމާއިއެކު ދިނުމަށް މަގުފަހިވެގެންދާނެއެވެ.

ރާއްޖޭގެ އެއްކޮޅުން އަނެއްކޮޅަށް ޤާއިމުކުރާ މި ސަބްމެރިން ކޭބަލް ނެޓްވޯކުގެ ލޭންޑިންގ ސްޓޭޝަންތައް 6 ރަށެއްގައި ޤާއިމުކުރެވޭނެއެވެ. މިގޮތުން ގދ. ތިނަދޫގައި ވެސް ކޭބަލް ލޭންޑިންގ ސްޓޭޝަން އެއް ޤާއިމުކުރުމަށް ވަނީ ހަމަޖެހިފައެވެ. ވީމާ، އަތޮޅުތަކުގެ އިންޓަރނެޓް ޚިދުމަތުގެ ތަރައްޤީއަށް ފުރުޞަތުކުރުމަށް ކަނޑު މި މުހިއްމު މަސައްކަތުގައި ތިޔަ ކައުންސިލުން އެހީތެރިކަމާއި އެއްބާރުލުން ދެއްވުން އެދެމެވެ.

އިޙްތިރާމް ފައުޅު ކުރުމަށްފަހު އަރުޒުކުރަމެވެ.

25 ރަބީޢުލްއައްވަލް 1437
05 ޖަނަވަރީ 2016

ޚާދިމުކުމް

އިލްހާމް އަޙްމަދު
ޗީފް އެގްޒެކެޓިވް

ހުވަދުއަތޮޅު ދެކުނުބުރި ތިނަދޫ ކައުންސިލްގެ އިދާރާ
ތިނަދޫ، ދިވެހިރާއްޖެ

ކޮޕީ: އުރީދޫ މޯލްޑިވްސް

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ޓެލެކޮމް ބިލްޑިންގ
މާލެ،
ދިވެހިރާއްޖެ

ދިވެހިން ދިވެހިންގެ ގޮތުގައި މިނިވަންކަމުގައި އަހަރު

ކޮމިއުނިކޭޝަންސް އޮތޯރިޓީ އޮފް މޯލްޑިވްސް
COMMUNICATIONS AUTHORITY OF MALDIVES

Ref: 165-1/161/2016/1 ނަންބަރު:

ހައުސިންގ ޑިވެލޮޕްމަންޓް ކޯޕަރޭޝަންގެ މެނޭޖިންގ ޑިރެކްޓަރ އަލްފާޟިލް މުޙައްމަދު ސުހައިލް

އަށް

ވެރިން ސަލާމަށްފަހު ދަންނަވަމެވެ.

ތިޔާގެ ހުވަފެންމާގެ އިންފްރާސްޓްރަކްޗަރ ޑިޕާޓްމަންޓުން ހުޅުމާލޭގައި ހައިސްޕީޑް ބްރޯޑްބޭންޑް ޚިދުމަތް ދެވޭނެ އިތުރު ސަބްމެރިން ކޭބަލް ނެޓްވޯކެއް އެއް ގާއިމުކުރުމުގެ މަސައްކަތް ކުރަމުންދާ ތަރުތީބުގައި އެކުލަވާލެވުނު މޮޑިއުލް އިން ކުރައްވާ ގުޅިގެނެވުން ކަމަށް ބަލައިފިމެވެ. މި ކޭބަލް ސިސްޓަމްގެ ސަބްމެރިން ކޭބަލް އިންފްރާސްޓްރަކްޗަރގެ ޚިދުމަތް އިތުރު ފުރިހަމަ ކުރުމަށް ތައްޔާރުކުރަން ޖެހޭ ކަންކަން ދެންނެވުމަށް ދަންނަވަމެވެ.

ތިޔާގެ އެއްބަސްވުން އަންނައުޅުމަށް ގާއިމުކުރުމާ މި ސަބްމެރިން ކޭބަލް ނެޓްވޯކްގެ ތާރީޚީން ސްޓޭޝަނަށް 6 ދަތުރުގައި ގާއިމުކުރުމަށްފަހު. މިގޮތުން ހަރުމަތީގައި ގައި ވަރަށް ކޭބަލް ތާރީޚީން ސްޓޭޝަނަށް އެއް ގާއިމުކުރުމަށް ވަކި ހަމަޖެހިފައެވެ. މިހާ، އޮތޯރިޓީގެ އިންޓަރނެޓް ޚިދުމަތްތައް ތަރައްޤީކޮށް ފުރިހަމަކުރުމަށް ކުރަންޖެ މި މުހިއްމު މަސައްކަތުގައި ޢާއިލީ އަދި އިޖުތިމާޢީ އެއްބާރުލުން ދެއްވުން އެދެމެވެ.

އިޚްތިރާމް ފުޅާ ކުރުމުގެ ބަހުން ދަންނަވަމެވެ.

25 رَبِيْعُالأَوَّل 1437
05 ޖަނަވަރީ 2016

ހުރުމަތާއެކު

އިލްހާމް އަޙްމަދު
ޗީފް އެގްޒެކެޓިވް

ހައުސިންގ ޑިވެލޮޕްމަންޓް ކޯޕަރޭޝަން
ހުޅުމާލެ، ދިވެހިރާއްޖެ.

ކޮޕީ: އޫރެޑޫ މޯލްޑިވްސް

ޓެލެކޮމް ބިލްޑިންގ
މާލެ،
ދިވެހިރާއްޖެ

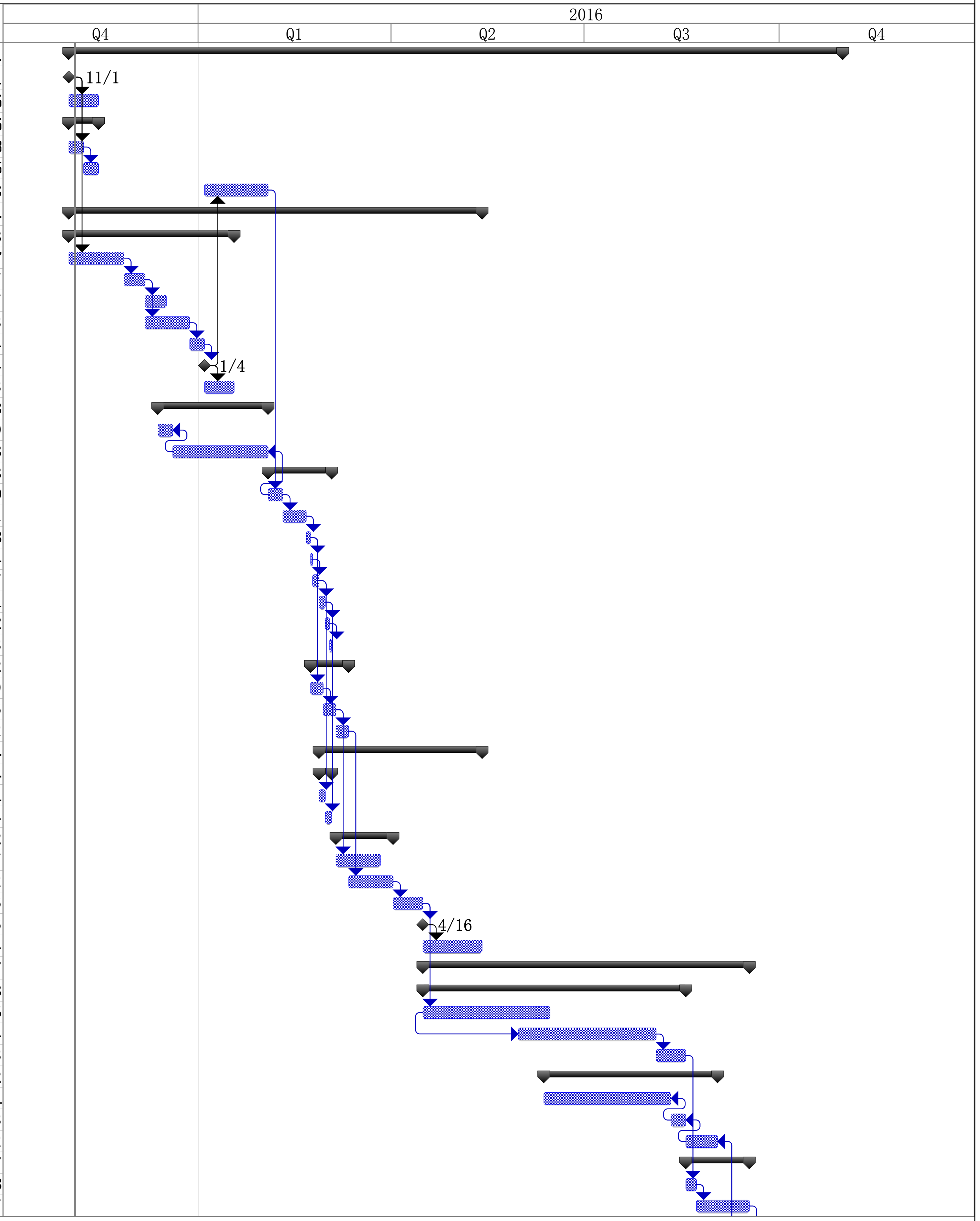
TELECOMBuilding
Male',
Republic of Maldives

Tel: 3323344 :ފޯނު
Fax: 3320000 :ފެކްސް
e-mail: secretariat@cam.gov.mv :އީ-މެއިލް

APPENDIX D – Work Plan

Plan of Work

ID	Task Name	Duration	Start	Finish
1	**Ooredoo Maldives Submarine Cable System (S2&S3)**	**365 days**	**Sun 15/11/1**	**Mon 16/10/31**
2	Contract Signature	0 days	Sun 15/11/1	Sun 15/11/1
3	**Project Management Deliverables**	**14 days**	**Sun 15/11/1**	**Sun 15/11/15**
4	**System Design**	**14 days**	**Sun 15/11/1**	**Sun 15/11/15**
5	Submission of final system design documentation	7 days	Sun 15/11/1	Sun 15/11/8
6	Design review and approve	7 days	Sun 15/11/8	Sun 15/11/15
7	**Principle Permitting in place (Purchaser's scope)**	**30 days**	**Mon 16/1/4**	**Wed 16/2/3**
8	**DTS and Marine Route Survey**	**195 days**	**Sun 15/11/1**	**Sat 16/5/14**
9	**Desk Top Study**	**78 days**	**Sun 15/11/1**	**Mon 16/1/18**
10	Archival data search	26 days	Sun 15/11/1	Fri 15/11/27
11	In-country site visits	10 days	Fri 15/11/27	Mon 15/12/7
12	In-country site visit report	10 days	Mon 15/12/7	Thu 15/12/17
13	Provisional DTS report	21 days	Mon 15/12/7	Mon 15/12/28
14	Provisional DTS report reviewed by the purchaser	7 days	Mon 15/12/28	Mon 16/1/4
15	Receive comments on Provisional DTS report	0 days	Mon 16/1/4	Mon 16/1/4
16	Final DTS report	14 days	Mon 16/1/4	Mon 16/1/18
17	**Permitting for Survey Operation**	**52 days**	**Sun 15/12/13**	**Wed 16/2/3**
18	Prepare permit packages for submission whilst Maldives PIP being obtained	7 days	Sun 15/12/13	Sun 15/12/20
19	Permit for Survey Vessel	45 days	Sun 15/12/20	Wed 16/2/3
20	**Main Survey Activities**	**29.5 days**	**Wed 16/2/3**	**Thu 16/3/3**
21	Project Execution Plan	7 days	Wed 16/2/3	Wed 16/2/10
22	Vessel mobilisation and transit to site	11 days	Wed 16/2/10	Sun 16/2/21
23	Equipment calibration	2 days	Sun 16/2/21	Tue 16/2/23
24	Transit to Hulhumale inshore HOP	1 day	Tue 16/2/23	Wed 16/2/24
25	Survey from Hulhumale inshore HIO to Kolhufushi inshore HIOP (S3)	3 days	Wed 16/2/24	Sat 16/2/27
26	Survey from Kolhufushi inshore HOP to Thinadhoo inshore HOP (S2)	3 days	Sat 16/2/27	Tue 16/3/1
27	Transit to Port Male	1.5 days	Tue 16/3/1	Wed 16/3/2
28	Port call and demob	1 day	Wed 16/3/2	Thu 16/3/3
29	**Inshore, Diver and Land Survey**	**18 days**	**Tue 16/2/23**	**Sat 16/3/12**
30	Inshore survey in Hulhumale	6 days	Tue 16/2/23	Mon 16/2/29
31	Inshore survey in Kolhufushi	6 days	Mon 16/2/29	Sun 16/3/6
32	Inshore survey in Thinadhoo	6 days	Sun 16/3/6	Sat 16/3/12
33	**Reporting and Charting**	**77 days**	**Sat 16/2/27**	**Sat 16/5/14**
34	**Preliminary reports, charts, SLDs and RPLs**	**6 days**	**Sat 16/2/27**	**Fri 16/3/4**
35	Hulhumale to Kolhufushi	3 days	Sat 16/2/27	Tue 16/3/1
36	Kolhufushi to Thinadhoo	3 days	Tue 16/3/1	Fri 16/3/4
37	**Provisional Reports and Charts**	**27 days**	**Sun 16/3/6**	**Sat 16/4/2**
38	Hulhumale to Kolhufushi	21 days	Sun 16/3/6	Sun 16/3/27
39	Kolhufushi to Thinadhoo	21 days	Sat 16/3/12	Sat 16/4/2
40	Review by Purchaser	14 days	Sat 16/4/2	Sat 16/4/16
41	Receive comments from Purchaser	0 days	Sat 16/4/16	Sat 16/4/16
42	Final Reporting	28 days	Sat 16/4/16	Sat 16/5/14
43	**System Manufacture and Integration**	**154 days**	**Sat 16/4/16**	**Sat 16/9/17**
44	**Marine Cable Manufacture**	**124 days**	**Sat 16/4/16**	**Thu 16/8/18**
45	Raw material procurement	60 days	Sat 16/4/16	Wed 16/6/15
46	Cable manufacture	65 days	Tue 16/5/31	Thu 16/8/4
47	Factory Acceptance Test	14 days	Thu 16/8/4	Thu 16/8/18
48	**TSE Manufacture**	**82 days**	**Sun 16/6/12**	**Fri 16/9/2**
49	TSE manufacture	60 days	Sun 16/6/12	Thu 16/8/11
50	TSE FAT	7 days	Thu 16/8/11	Thu 16/8/18
51	Delivery to sites	15 days	Thu 16/8/18	Fri 16/9/2
52	**Cable Transportation**	**30 days**	**Thu 16/8/18**	**Sat 16/9/17**
53	Cable twin line loading	5 days	Thu 16/8/18	Tue 16/8/23
54	Transit to Male, Maldives and clear in	25 days	Tue 16/8/23	Sat 16/9/17

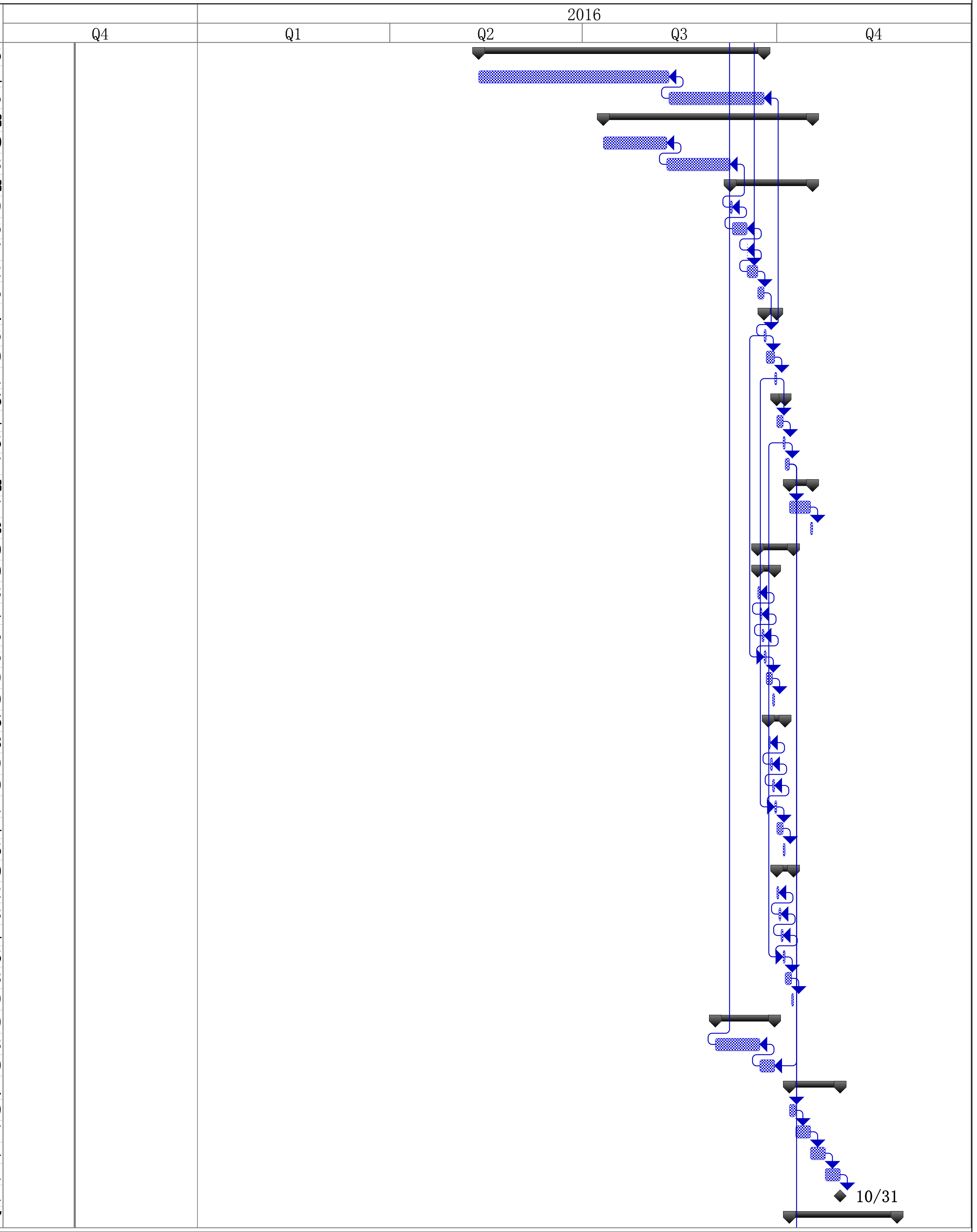


Project: **Ooredoo Maldives Submarine Cable System**
Date: Nov. 2015

Task	Inactive Task	Manual Task	Manual Summary
Milestone	Inactive Milestone	Duration-only	Start-only
Summary	Inactive Summary	Manual Summary Rollup	Finish-only
Progress			

Plan of Work

ID	Task Name	Duration	Start	Finish
55	**Terrestrial Cable**	**135 days**	**Fri 16/5/13**	**Sun 16/9/25**
56	Terrestrial cable manufacture and deliver to sites	90 days	Fri 16/5/13	Thu 16/8/11
57	Terrestrial cable installation	45 days	Thu 16/8/11	Sun 16/9/25
58	**Marine Cable Installation**	**99.5 days**	**Sun 16/7/10**	**Tue 16/10/18**
59	Marine operational permit	30 days	Sun 16/7/10	Tue 16/8/9
60	Review of survey report	30 days	Tue 16/8/9	Thu 16/9/8
61	**Marine Operations**	**39.5 days**	**Thu 16/9/8**	**Tue 16/10/18**
62	Mobilisation of main lay vessel	1 day	Thu 16/9/8	Fri 16/9/9
63	Clear out and transit to Maldives	7 days	Fri 16/9/9	Fri 16/9/16
64	Clear in and rig for loading	0.5 days	Fri 16/9/16	Sat 16/9/17
65	Twin line loading cable onto main lay vessel	5 days	Sat 16/9/17	Thu 16/9/22
66	Test, de-rig and transit to Hulhuhdoo	3 days	Thu 16/9/22	Sun 16/9/25
67	**Segment 2 Thinadhoo - Kolhufushi**	**6 days**	**Sun 16/9/25**	**Sat 16/10/1**
68	Direct shore end landing to Thinadhoo	1 day	Sun 16/9/25	Mon 16/9/26
69	Surface lay 308.34km of cable	4 days	Mon 16/9/26	Fri 16/9/30
70	Direct shore end landing to Kolhufushi	1 day	Fri 16/9/30	Sat 16/10/1
71	**Segment 3 Kolhufushi - Hulhumale**	**4 days**	**Sat 16/10/1**	**Wed 16/10/5**
72	Surface lay 205.261km of cable	3 days	Sat 16/10/1	Tue 16/10/4
73	Direct shore end landing to Hulhumale	1 day	Tue 16/10/4	Wed 16/10/5
74	Weather contingency	2 days	Wed 16/10/5	Fri 16/10/7
75	**Transit and offload**	**11 days**	**Fri 16/10/7**	**Tue 16/10/18**
76	Transit to Singapore and discharge spares	10 days	Fri 16/10/7	Mon 16/10/17
77	Demob	1 day	Mon 16/10/17	Tue 16/10/18
78	**Shore end works**	**17 days**	**Thu 16/9/22**	**Sun 16/10/9**
79	**Thinadhoo (DSE - 245m)**	**8 days**	**Thu 16/9/22**	**Fri 16/9/30**
80	Mobilize of the team to site	1 day	Thu 16/9/22	Fri 16/9/23
81	Pre-landing meeting and mobilization of beach equipment	1 day	Fri 16/9/23	Sat 16/9/24
82	Preparations & pre-lay video survey and route clearance	1 day	Sat 16/9/24	Sun 16/9/25
83	Shore end landing to BMH	1 day	Sun 16/9/25	Mon 16/9/26
84	Anchor plate installation and as laid survey	3 days	Mon 16/9/26	Thu 16/9/29
85	Demobilize team	1 day	Thu 16/9/29	Fri 16/9/30
86	**Kolhufushi (DSE - 720m and 710m)**	**8 days**	**Tue 16/9/27**	**Wed 16/10/5**
87	Mobilize of the team to site	1 day	Tue 16/9/27	Wed 16/9/28
88	Pre-landing meeting and mobilization of beach equipment	1 day	Wed 16/9/28	Thu 16/9/29
89	Preparations & pre-lay video survey and route clearance	1 day	Thu 16/9/29	Fri 16/9/30
90	Shore end landing to BMH	1 day	Fri 16/9/30	Sat 16/10/1
91	Anchor plate installation and as laid survey	3 days	Sat 16/10/1	Tue 16/10/4
92	Demobilize team	1 day	Tue 16/10/4	Wed 16/10/5
93	**Hulhumale (DSE-700m)**	**8 days**	**Sat 16/10/1**	**Sun 16/10/9**
94	Mobilize of the team to site	1 day	Sat 16/10/1	Sun 16/10/2
95	Pre-landing meeting and mobilization of beach equipment	1 day	Sun 16/10/2	Mon 16/10/3
96	Preparations & pre-lay video survey and route clearance	1 day	Mon 16/10/3	Tue 16/10/4
97	Shore end landing to BMH	1 day	Tue 16/10/4	Wed 16/10/5
98	Anchor plate installation and as laid survey	3 days	Wed 16/10/5	Sat 16/10/8
99	Demobilize team	1 day	Sat 16/10/8	Sun 16/10/9
100	**TSE Installation and Commissioning**	**28 days**	**Fri 16/9/2**	**Fri 16/9/30**
101	TSE installtion	21 days	Fri 16/9/2	Fri 16/9/23
102	TSE commissioning/in-station test	7 days	Fri 16/9/23	Fri 16/9/30
103	Test and Acceptance	24 days	Fri 16/10/7	Mon 16/10/31
104	Contractor's system test	3 days	Fri 16/10/7	Mon 16/10/10
105	Purchaser's test	7 days	Mon 16/10/10	Mon 16/10/17
106	Reliability test (SLTE)	7 days	Mon 16/10/17	Mon 16/10/24
107	Reliability test (MPLS)	7 days	Mon 16/10/24	Mon 16/10/31
108	Issuance of PAC	0 days	Mon 16/10/31	Mon 16/10/31
109	**Installation Report**	**51 days**	**Fri 16/10/7**	**Sun 16/11/27**

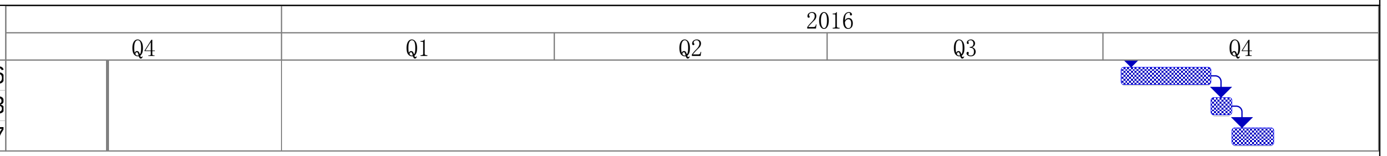


Project: **Ooredoo Maldives Submarine Cable System**
Date: Nov. 2015

Task | Inactive Task | Manual Task | Manual Summary | Progress
Milestone | Inactive Milestone | Duration-only | Start-only
Summary | Inactive Summary | Manual Summary Rollup | Finish-only

Plan of Work

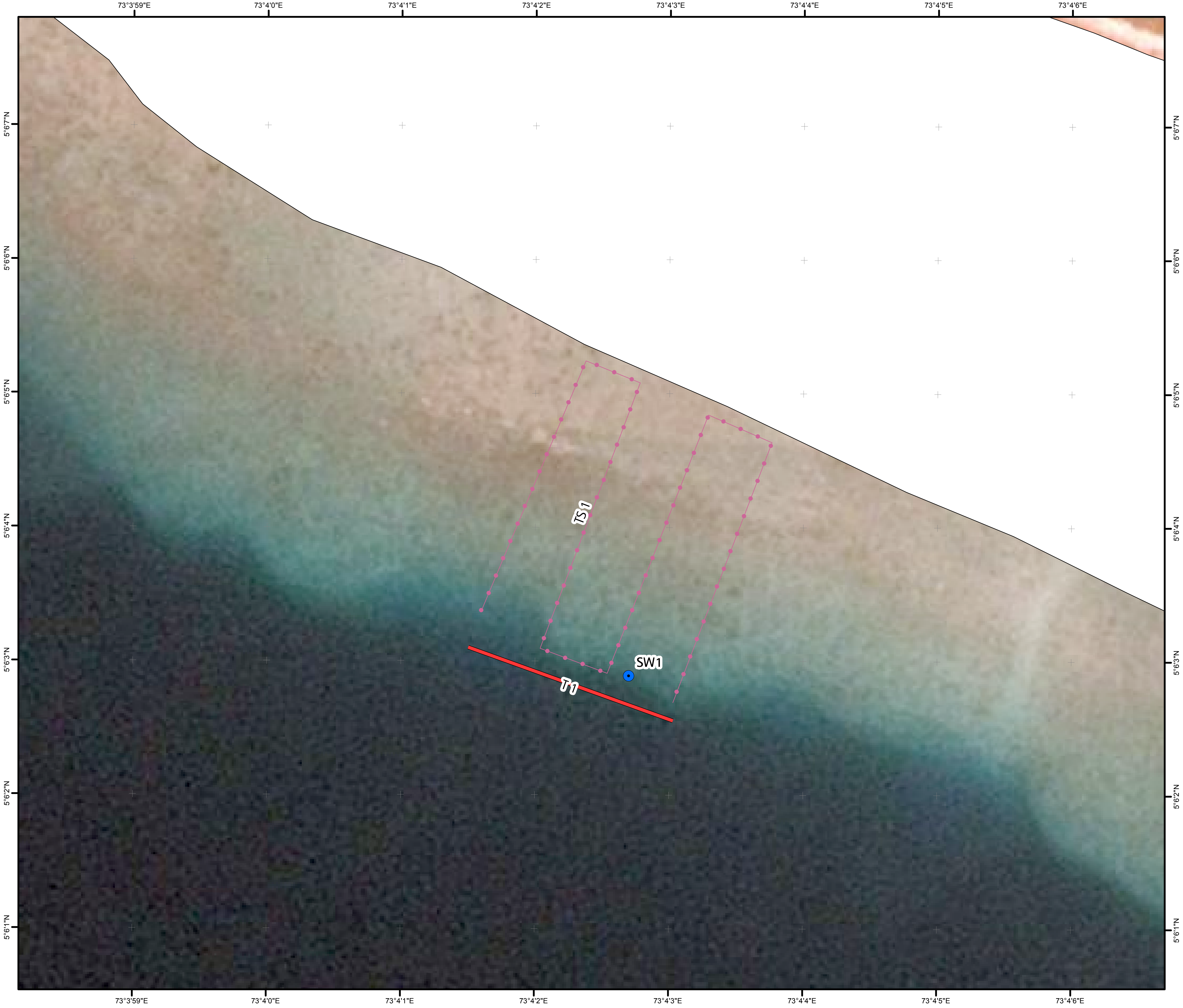
ID	Task Name	Duration	Start	Finish
110	Preliminary installation report	30 days	Fri 16/10/7	Sun 16/11/6
111	Receive comments from Purchaser	7 days	Sun 16/11/6	Sun 16/11/13
112	Final installtion report	14 days	Sun 16/11/13	Sun 16/11/27

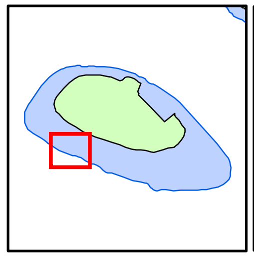


Project: **Ooredoo Maldives Submarine Cable System**
Date: Nov. 2015

Task		Inactive Task		Manual Task		Manual Summary		Progress	
Milestone		Inactive Milestone		Duration-only		Start-only			
Summary		Inactive Summary		Manual Summary Rollup		Finish-only			

APPENDIX E – Survey Locations





Legend

Timed Swims

Marine Transects

Marine Water Samples

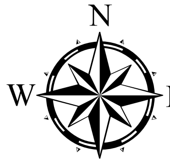
Reclaimed area

Marine water samples

Code	X	Y
SW1	73.06748	5.100802

Marine Transects

Code	X Start	Y Start	X Finish	Y Finish
T1	73.0671	5.100862	73.06757	616925.6



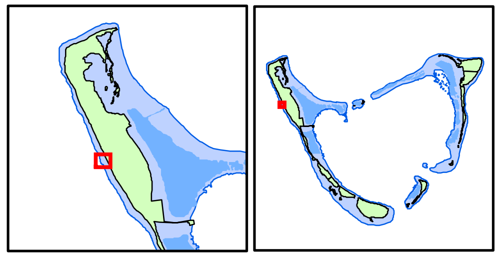
Meters

0 12.5 25 50

Eydhafushi,Baa Atoll
Nationwide Submarine Cable
by Ooreedoo Maldives
Bathymetry

PROJECTION: Transverse Mercator
(UTM Zone 43 N); HORIZONTAL DATUM: WGS84;
VERTICAL DATUM: Hulhule Tide Gauge
Map version: 12/05/2016

Surveyed and Prepared by: CDE Consulting, Maldives



Legend

Timed Swims

Marine Transects

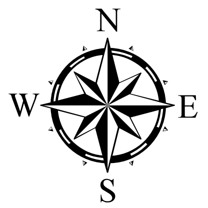
Marine Water Samples

Marine water samples

Code	X	Y
SW1	72.99081	0.532179

Marine Transects

Code	X Start	Y Start	X Finish	Y Finish
T1	72.9909	0.531963	72.99104	0.532405



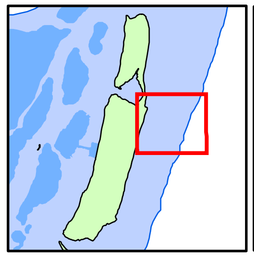
Meters

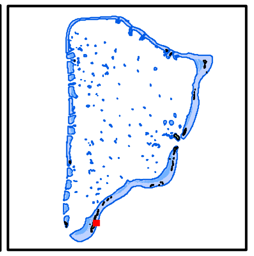
0 15 30 60

Hithadhoo, Seenu Atoll
Nationwide Submarine Cable
by Ooreedoo Maldives
Survey Locations

PROJECTION: Transverse Mercator
(UTM Zone 43 N); HORIZONTAL DATUM: WGS84;
VERTICAL DATUM: Hulhule Tide Gauge
Map version: 12/05/2016

Surveyed and Prepared by: CDE Consulting, Maldives





Legend

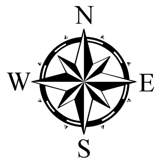
- Timed Swims
- Marine Transects
- Marine Water Samples

Marine water samples

Code	X	Y
SW1	73.4329	2.781106

Marine Transects

Code	X Start	Y Start	X Finish	Y Finish
T1	73.4336	2.780923	73.43381	2.78136



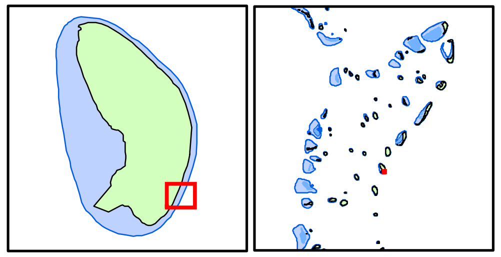
Meters

0 35 70 140

Kolhufuhi, Meemu Atoll
Nationwide Submarine Cable
by Ooreedoo Maldives
Survery Locations

PROJECTION: Transverse Mercator
(UTM Zone 43 N); HORIZONTAL DATUM: WGS84;
VERTICAL DATUM: Hulhule Tide Gauge
Map version: 12/05/2016

Surveyed and Prepared by: CDE Consulting, Maldives



Legend

- Timed Swims
- Marine Transects
- Marine Water Samples

Marine water samples

Code	X	Y
SW1	73.07526	6.615451

Marine Transects

Code	X Start	Y Start	X Finish

N W E S

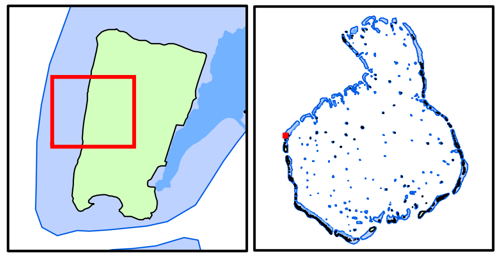
Meters

0 15 30 60

Kulhudhuffushi, Haa Daalu Atoll Nationwide Submarine Cable by Ooreedoo Maldives Survery Locations

PROJECTION: Transverse Mercator
(UTM Zone 43 N); HORIZONTAL DATUM: WGS84;
VERTICAL DATUM: Hulhule Tide Gauge
Map version: 12/05/2016

Surveyed and Prepared by: CDE Consulting, Maldives



Legend

- Timed Swims
- Marine Transects
- Marine Water Samples

Marine water samples

Code	X	Y
SW1	72.99081	0.532179

Marine Transects

Code	X Start	Y Start	X Finish	Y Finish
T1	72.9909	0.531963	72.99104	0.532405

N
W E
S

Meters

0 25 50 100

Thinadhoo, Gaafu Dhaalu Atoll Nationwide Submarine Cable by Ooredoo Maldives Survery Locations

PROJECTION: Transverse Mercator
(UTM Zone 43 N); HORIZONTAL DATUM: WGS84;
VERTICAL DATUM: Hulhule Tide Gauge
Map version: 12/05/2016

Surveyed and Prepared by: CDE Consulting, Maldives

APPENDIX F –Water Quality Results

Male' Water & Sewerage Company Pvt Ltd
Water Quality Assurance Laboratory
FEN Building 5th Floor, Machangoalhi, Ameeneemagu, Male', Maldives
Tel: +9603323209, Fax: +9603324306, Email: wqa@mwsc.com.mv

بسم الله الرحمن الرحيم

MWSC

WATER QUALITY TEST REPORT

Test Report No: 300678/2016/24

Customer Informations : ***CDE Consulting Pvt Ltd***
H.Orchidmaage 4th Floor
Ameeru Ahmed Magu
Male'
Rep.of Maldives

Date: 24/04/2016

Sample Description / Location~	SW1 (HDh. Kulhudhuffushi)	TEST METHOD	UNIT
Sample Type~	Sea water		
Sampled Date~	14/04/2016		
Sample Received Date	19/04/2016		
Test Requisition Form No.	900163193		
Sample No.	822708		
Date of Analysis	19/4/2016 - 24/4/2016		
PARAMETER	**ANALYSIS RESULT**		
Physical Appearance	Clear	Visual	-
Nitrate	3.7	Method 8171 (Adapted from HACH DR5000 Spectrophotometer procedure Manual)	mg/L
pH	8.14	Method 4500-H+ B. (adapted from Standard methods for the examintation of water and waste water, 21st edition)	-
Total Petroleum Hydrocarbon (TPH)	0.10	UV Fluorescence	mg/L
Total Suspended Solids (TSS)	4	Method 8006 (Adapted from HACH DR5000 Spectrophotometer procedure Manual)	mg/L
Turbidity	0.176	HACH Nephelometric Method (adapted from HACH 2100N Turbidimeter User Manual)	NTU

Keys:
mg/L: Milligram Per Liter, **‰:** Parts Per Thousand, **NTU:** Nephelometric Turbidity Unit

Checked by:	Approved by:
Abdulla Rasheed Senior Quality Officer	Mohamed Eyman Senior Technical Officer

Notes:
Sampling Authority: Sampling was not done by MWSC Laboratory
This report shall not be reproduced
This test report is ONLY FOR THE SAMPLES TESTED.
~ Information Supplied by the customer

********************END OF THE REPORT********************

Male' Water & Sewerage Company Pvt Ltd
Water Quality Assurance Laboratory
FEN Building 5th Floor, Machangoalhi, Ameeneemagu, Male', Maldives
Tel: +9603323209, Fax: +9603324306, Email: wqa@mwsc.com.mv

بسم الله الرحمن الرحيم

WATER QUALITY TEST REPORT

Test Report No: 300678/2016/25

Customer Informations : ***CDE Consulting Pvt Ltd***
H.Orchidmaage 4th Floor
Ameeru Ahmed Magu
Male'
Rep.of Maldives

Date: 27/04/2016

Sample Description / Location~	Thinadhoo SW1	TEST METHOD	UNIT
Sample Type~	Sea water		
Sampled Date~	23/04/2016		
Sample Received Date	24/04/2016		
Test Requisition Form No.	900164131		
Sample No.	823474		
Date of Analysis	24/4/2016 -27/4/2016		
PARAMETER	**ANALYSIS RESULT**		
Physical Appearance	Clear	Visual	-
Nitrate	3.3	Method 8171 (Adapted from HACH DR5000 Spectrophotometer procedure Manual)	mg/L
pH	8.08	Method 4500-H+ B. (adapted from Standard methods for the examintation of water and waste water, 21st edition)	-
Total Petroleum Hydrocarbon (TPH)	0.16	UV Fluorescence	mg/L
Total Suspended Solids (TSS)	<5 (LoQ 5 mg/L)	Method 8006 (Adapted from HACH DR5000 Spectrophotometer procedure Manual)	mg/L
Turbidity	0.255	HACH Nephelometric Method (adapted from HACH 2100N Turbidimeter User Manual)	NTU

Keys:

mg/L: Milligram Per Liter, **‰:** Parts Per Thousand, **NTU:** Nephelometric Turbidity Unit

LoQ : Limit of Quanitification

Checked by:	Approved by:
Abdulla Rasheed Senior Quality Officer	Mohamed Eyman Senior Technical Officer

Notes:

Sampling Authority: Sampling was not done by MWSC Laboratory

This report shall not be reproduced

This test report is ONLY FOR THE SAMPLES TESTED.

~ Information Supplied by the customer

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بسم الله الرحمن الرحيم

MWSC

WATER QUALITY TEST REPORT

Test Report No: 300678/2016/26

Customer Informations : ***CDE Consulting Pvt Ltd***
H.Orchidmaage 4th Floor
Ameeru Ahmed Magu
Male'
Rep.of Maldives

Date: 28/04/2016

Sample Description / Location~	S. Hithadhoo		TEST METHOD	UNIT
	SW1	SW2		
Sample Type~	Sea water			
Sampled Date~	24/04/2016			
Sample Received Date	26/04/2016			
Test Requisition Form No.	900164140			
Sample No.	823505	823506		
Date of Analysis	26/4/2016 - 27/4/2016			
PARAMETER	**ANALYSIS RESULT**			
Physical Appearance	Clear	Clear	Visual	-
Nitrate	4.1	2.3	Method 8171 (Adapted from HACH DR5000 Spectrophotometer procedure Manual)	mg/L
pH	8.10	8.09	Method 4500-H+ B. (adapted from Standard methods for the examintation of water and waste water, 21st edition)	-
Total Petroleum Hydrocarbon (TPH)	0.42	0.17	UV Fluorescence	mg/L
Total Suspended Solids (TSS)	17	<5 (LoQ 5 mg/L)	Method 8006 (Adapted from HACH DR5000 Spectrophotometer procedure Manual)	mg/L
Turbidity	1.49	1.10	HACH Nephelometric Method (adapted from HACH 2100N Turbidimeter User Manual)	NTU

Keys:
mg/L: Milligram Per Liter, **NTU:** Nephelometric Turbidity Unit

Checked by:	Approved by:
Abdulla Rasheed Senior Quality Officer	Mohamed Eyman Senior Technical Officer

Notes:
Sampling Authority: Sampling was not done by MWSC Laboratory
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Male' Water & Sewerage Company Pvt Ltd
Water Quality Assurance Laboratory
FEN Building 5th Floor, Machangoalhi, Ameeneemagu, Male', Maldives
Tel: +9603323209, Fax: +9603324306, Email: wqa@mwsc.com.mv

بسم الله الرحمن الرحيم

WATER QUALITY TEST REPORT

Test Report No: 300678/2016/27

Customer Informations : ***CDE Consulting Pvt Ltd***
H.Orchidmaage 4th Floor
Ameeru Ahmed Magu
Male'
Rep.of Maldives

Date: 03/05/2016

Sample Description / Location~	M. Kolhufushi SW1	TEST METHOD	UNIT
Sample Type~	Sea water		
Sampled Date~	26/4/2016		
Sample Received Date	27/4/2016		
Test Requisition Form No.	900164156		
Sample No.	823569		
Date of Analysis	27/4/2016 - 28/4/2016		
PARAMETER	**ANALYSIS RESULT**		
Physical Appearance	Clear	Visual	-
Nitrate	2.7	Method 8171 (Adapted from HACH DR5000 Spectrophotometer procedure Manual)	mg/L
pH	8.48	Method 4500-H+ B. (adapted from Standard methods for the examintation of water and waste water, 21st edition)	-
Total Petroleum Hydrocarbon (TPH)	0.10	UV Fluorescence	mg/L
Total Suspended Solids (TSS)	<5 (LoQ 5mg/L)	Method 8006 (Adapted from HACH DR5000 Spectrophotometer procedure Manual)	mg/L
Turbidity	0.966	HACH Nephelometric Method (adapted from HACH 2100N Turbidimeter User Manual)	NTU

Keys:
mg/L: Milligram Per Liter, **NTU:** Nephelometric Turbidity Unit
LoQ: Limit of Quantification

Checked by:	Approved by:
Afnan Farooq Laboratory Executive	Abdulla Rasheed Senior Quality Officer

Notes:
Sampling Authority: Sampling was not done by MWSC Laboratory
This report shall not be reproduced
This test report is ONLY FOR THE SAMPLES TESTED.
~ Information Supplied by the customer

********************END OF THE REPORT********************

Male' Water & Sewerage Company Pvt Ltd
Water Quality Assurance Laboratory
FEN Building 5th Floor, Machangoalhi, Ameeneemagu, Male', Maldives
Tel: +9603323209, Fax: +9603324306, Email: wqa@mwsc.com.mv

بسم الله الرحمن الرحيم

WATER QUALITY TEST REPORT

Test Report No: 300678/2016/17

Customer Informations :

CDE Consulting Pvt Ltd
H.Orchidmaage 4th Floor
Ameeru Ahmed Magu
Male'
Rep.of Maldives

Date: 07/04/2016

Sample Description / Location~	**SW1 (B. Eydhafushi)**	**TEST METHOD**	**UNIT**
Sample Type~	Sea water		
Sampled Date~	31/3/2016		
Sample Received Date	31/3/2016		
Test Requisition Form No.	900163114		
Sample No.	822423		
Date of Analysis	31/3/2016 - 6/4/2016		
PARAMETER	**ANALYSIS RESULT**		
Physical Appearance	Clear with particles	Visual	-
Nitrate	5.6	Method 8171 (Adapted from HACH DR5000 Spectrophotometer procedure Manual)	mg/L
pH	8.06	Method 4500-H+ B. (adapted from Standard methods for the examintation of water and waste water, 21st edition)	-
Total Petroleum Hydrocarbon (TPH)	0.09	UV Fluorescence	mg/L
Total Suspended Solids (TSS)	5	Method 8006 (Adapted from HACH DR5000 Spectrophotometer procedure Manual)	mg/L
Turbidity	0.916	HACH Nephelometric Method (adapted from HACH 2100N Turbidimeter User Manual)	NTU

Keys:

mg/L: Milligram Per Liter, **‰:** Parts Per Thousand, **NTU:** Nephelometric Turbidity Unit

LoQ: Limit of Quantification

Checked by:	**Approved by:**
Afnan Farooq Laboratory Executive	Mohamed Eyman Senior Technical Officer

Notes:

Sampling Authority: Sampling was not done by MWSC Laboratory

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This test report is ONLY FOR THE SAMPLES TESTED.

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********************END OF THE REPORT********************

Male' Water & Sewerage Company Pvt Ltd
Water Quality Assurance Laboratory
FEN Building 5th Floor, Machangoalhi, Ameeneemagu, Male', Maldives
Tel: +9603323209, Fax: +9603324306, Email: wqa@mwsc.com.mv

بسم الله الرحمن الرحيم

WATER QUALITY TEST REPORT

Test Report No: 300678/2016/16

Customer Informations : ***CDE Consulting Pvt Ltd***
H.Orchidmaage 4th Floor
Ameeru Ahmed Magu
Male'
Rep.of Maldives

Date: 07/04/2016

Sample Description / Location~	GW1 (B. Eydhafushi)	TEST METHOD	UNIT
Sample Type~	Ground water		
Sampled Date~	31/3/2016		
Sample Received Date	31/3/2016		
Test Requisition Form No.	900163114		
Sample No.	822422		
Date of Analysis	31/3/2016 - 6/4/2016		
PARAMETER	**ANALYSIS RESULT**		
Physical Appearance	Clear	Visual	-
Nitrate	25.8	Method 8171 (Adapted from HACH DR5000 Spectrophotometer procedure Manual)	mg/L
pH	8.20	Method 4500-H+ B. (adapted from Standard methods for the examintation of water and waste water, 21st edition)	-
Salinity	0.16	Method 2520 B. (adapted from Standard methods for the examintation of water and waste water, 21st edition)	‰
Total Petroleum Hydrocarbon (TPH)	0.06	UV Fluorescence	mg/L
Total Dissolved Solids (TDS)	162	Electrometry	mg/L

Keys:
mg/L: Milligram Per Liter, **‰:** Parts Per Thousand
LoQ: Limit of Quantification

Checked by:	Approved by:
Afnan Farooq Laboratory Executive	Mohamed Eyman Senior Technical Officer

Notes:
Sampling Authority: Sampling was not done by MWSC Laboratory
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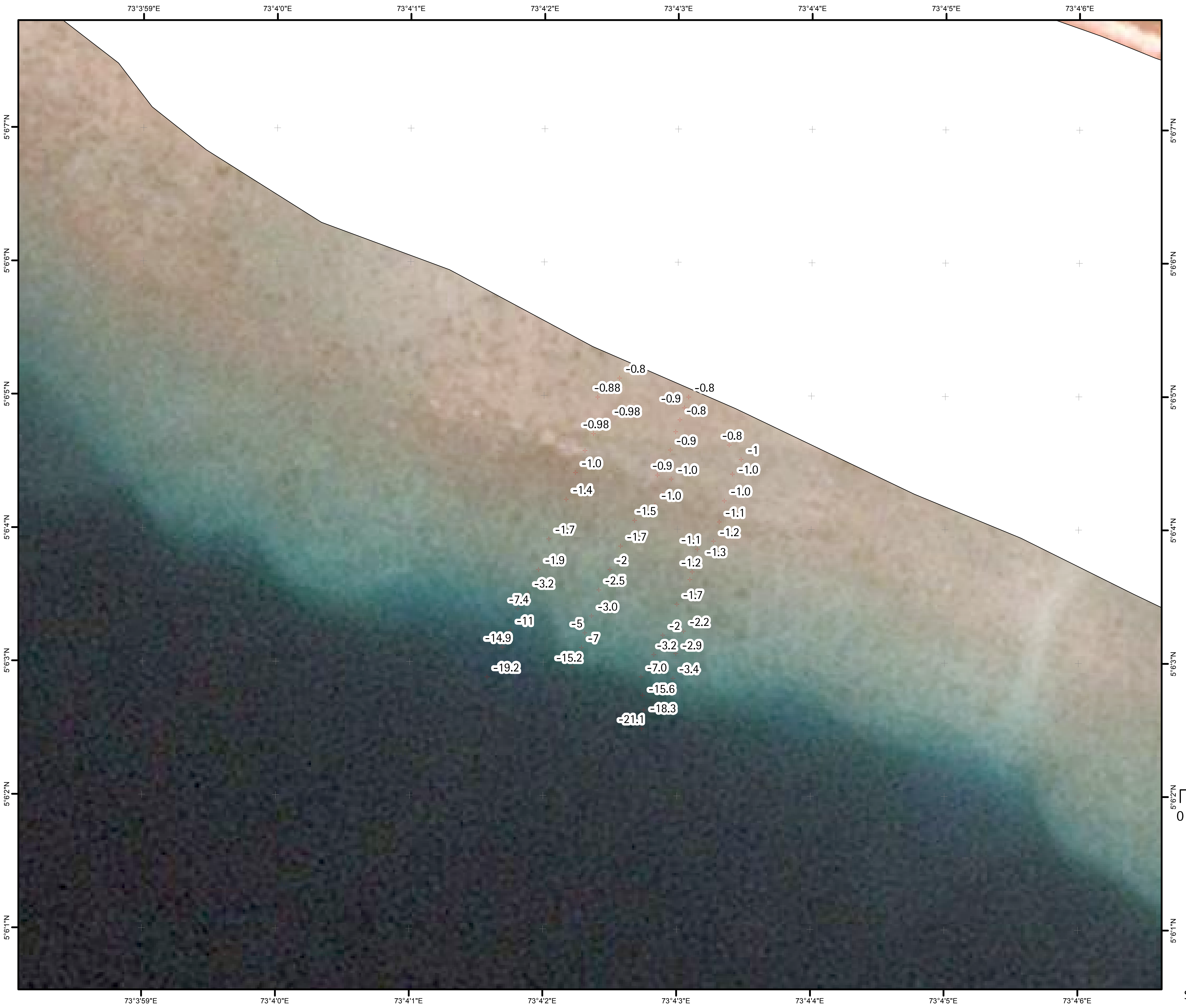
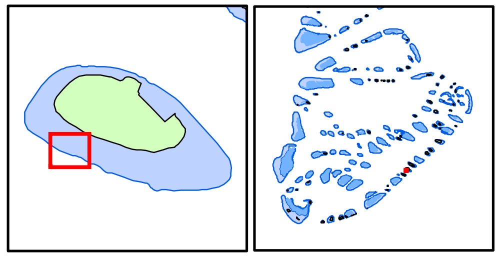
APPENDIX G – Bathy Charts

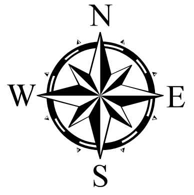




Legend

Depth (m)

Reclaimed area



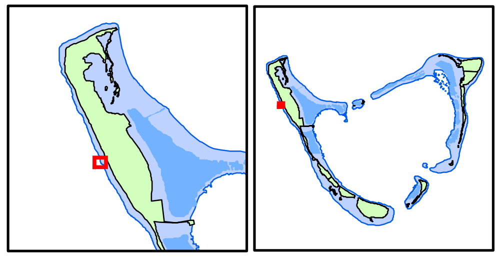
Meters

0 15 30 60

Eydhafushi,Baa Atoll
Nationwide Submarine Cable
by Ooreedoo Maldives
Bathymetry

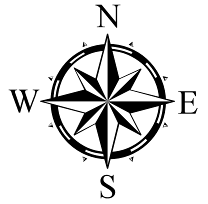
PROJECTION: Transverse Mercator
(UTM Zone 43 N); HORIZONTAL DATUM: WGS84;
VERTICAL DATUM: Hulhule Tide Gauge
Map version: 12/05/2016

Surveyed and Prepared by: CDE Consulting, Maldives



Legend

Depth (m)



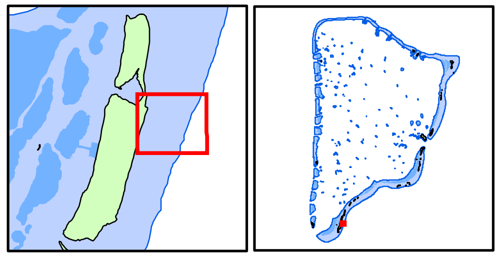
Meters

0 15 30 60

Hithadhoo, Seenu Atoll
Nationwide Submarine Cable
by Ooredoo Maldives
Bathymetry

PROJECTION: Transverse Mercator
(UTM Zone 43 N); HORIZONTAL DATUM: WGS84;
VERTICAL DATUM: Hulhule Tide Gauge
Map version: 12/05/2016

Surveyed and Prepared by: CDE Consulting, Maldives



Legend

Depth in meter

N
W E
S

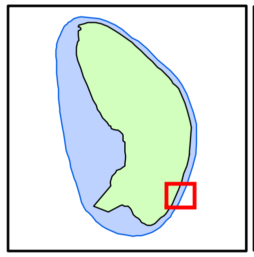
Meters

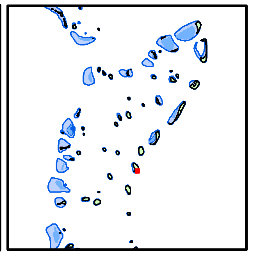
0 35 70 140

Kolhufuhi, Meemu Atoll Nationwide Submarine Cable by Ooredoo Maldives Survery Bathymetry

PROJECTION: Transverse Mercator
(UTM Zone 43 N); HORIZONTAL DATUM: WGS84;
VERTICAL DATUM: Hulhule Tide Gauge
Map version: 12/05/2016

Surveyed and Prepared by: CDE Consulting, Maldives





Legend

Depth (m)

N
W E
S

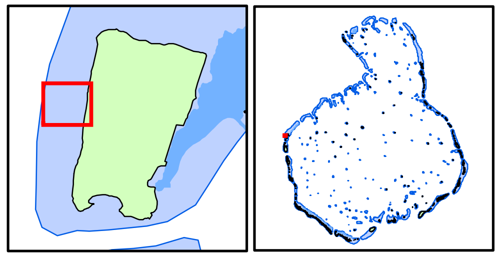
Meters

0 15 30 60

Kulhudhuffushi, Haa Daalu Atoll
Nationwide Submarine Cable
by Ooredoo Maldives
Bathymetry

PROJECTION: Transverse Mercator
(UTM Zone 43 N); HORIZONTAL DATUM: WGS84;
VERTICAL DATUM: Hulhule Tide Gauge
Map version: 12/05/2016

Surveyed and Prepared by: CDE Consulting, Maldives



Legend

Depth (m)

N

W E

S

Meters

0 17.5 35 70

Thinadhoo, Gaafu Dhaalu Atoll
Nationwide Submarine Cable
by Ooreedoo Maldives
Bathymetry

PROJECTION: Transverse Mercator
(UTM Zone 43 N); HORIZONTAL DATUM: WGS84;
VERTICAL DATUM: Hulhule Tide Gauge
Map version: 12/05/2016

Surveyed and Prepared by: CDE Consulting, Maldives

APPENDIX H – CV of Consultants

MARIYAM HANA SAEED

ADDRESS

G. Quest, Alikilegefaanu Magu
Galolhu, 20118, Malé
Republic of Maldives

CONTACTS

960 797 0022

mariyamhanas@gmail.com
hana@cde.com.mv

NATIONALITY

Maldivian

ACADEMIC QUALIFICATIONS

2014
December

Bachelor of Environments
University of Melbourne, Parkville Victoria

Recipient of Australia Awards Scholarship
Majored in Environmental Geographies, Politics and Culture

2010
June

Higher Secondary Education, Edexcel A' Level
Centre for Higher Secondary Education, Male' Maldives

Achieved Fourth Place among the National Top 10 Achievers in 2010

Maths (Mechanics)	A	Biology	B
Chemistry	A	Physics	B
Islam	A	Dhivehi	B

2007
November

Secondary Education, GCE O' Level
Aminiya School, Male' Maldives

Achieved First Place among the National Top 10 Achievers in 2007

Maths	A	Physics	A	English (IGCSE)	B
Biology	A	Computer Studies	A	English (GCE)	A
Chemistry	A	Dhivehi	A	Islam	A

LANGUAGES

English
●●●●● Fluent

Dhivehi
●●●●● Fluent

SKILLS

- Excellent customer service skills
- Expert knowledge in environment and development field
- Familiar with the concept of environmental psychology
- Knowledge on coastal landforms and processes
- Familiar with risk assessment projects
- Experience in communicating effectively with key decision makers and clients
- Ability to learn quickly and understand complex work
- Excellent organisation skills
- Excellent computer skills

EXPERIENCE

Environment Impact Assessment (EIA)

- EIA for the proposed development of a tertiary hospital at Hulhumale'
- EIA for the proposed Test Drilling For Hulhule'-Male' Bridge Construction project
- EIA for the proposed redevelopment of Nasandhura palace Hotel, Male'
- EIA for the proposed Hulhule'-Male' Bridge Project
- EIA for the proposed construction of a 9-storey building at the compound of ADK Hospital, Sosun Magu, Male', Maldives
- EIA for the proposed tourist development project at Madivaru Island, Kaafu Atoll
- EIA for the proposed land reclamation and resort development project in Ithaafushi Reef, South Male' Atoll
- EIA for the proposed resort development in Bodukaashihuraa, Alifu Dhaalu Atoll, Maldives

Water

Completed Desalination Plant Registration in the following resorts

- Mirihi Island Resort
- Conrad Maldives Rangali Island

Energy

- Gasfinolhu Energy Audit 2015
- Tourism Adaptation Platform - conducted energy audit of the following resorts to understand the risks to and vulnerability of energy sector to climate change in tourist resorts
  - Bandos Island resort
  - Kurumba Maldives
  - Vilamendhoo Island Resort and Spa
  - Embudhu Village
  - Irufushi Beach & Spa
  - Shangri-La's Vilingili Resort & Spa

Monitoring Projects

- Environmental and Social Performance Annual Monitoring 2014 for Shangri-La's Vilingili Resort & Spa, Addu Atoll, Maldives

Survey

- IFES Maldives Democracy Survey 2015

EMPLOYMENT HISTORY

March 2015 to Present

Sustainable Development Consultant | **CDE Consulting, Malé, Maldives**

Specialised Work Areas | **Renewable energy, Water, Sewerage and Housing**

Duties

+ Involved in cross-business, community and regulatory agencies
+ Contribute to development plans, policy analysis, institutional and sectoral reviews, project appraisals and designs
+ Planning and designing of strategies and programs of intervention on key social issues, major economic sectors and environmental issues
+ Conduct consultation, education and outreach programs
+ Prepare baseline, suitability analysis, due diligence, consultation, impact assessment, monitoring and evaluation and audit reports
+ Research and maintain up to date knowledge about current policies, best practices and potential future policies.

February 2011 to January 2012

Administrative Assistant | **The President's Office, Malé, Maldives**

Duties

+ Monitored the policies under governance section in the Policy Office
+ Organised meetings of Narcotics Control Council board and updated the progress of the policies and actions under the council
+ Managed all admin-oriented work in the section, updating minutes of each council meeting, updating databases, and filing
+ Led administrative work to organise the 17th SAARC Summit in November 2011 and worked in coordination with other government bodies, private agencies and key decision makers to organise meetings and circulate information

Ahmed Shaig

Phone: (+960) 77 88 758   shaig@cde.com.mv

Personal Details

Date of Birth: 19/02/1976 **Nationality:** Maldivian **Gender:** Male **Marital Status:** Married

Permanent Address: Maldives **Present Address:** M. Muleege, Orchid Magu, Male', Maldives.

Education

PhD, Environmental Science, 2009
James Cook University, Townsville, Australia

Research degree on 'Settlement Planning for Natural Hazard Resilience in Small Island States: The Population and Development Consolidation Approach'

BSc Land and Spatial Information Studies/Information Science. (double major), 1999-2001
University of Otago, Dunedin, New Zealand

Diploma in project planning, implementation, monitoring and evaluation, 1995
ILO training Centre, Turin, Italy

Employment History

Director, Environmental Services — 2008 to present
CDE Consulting — Supervisor: Dr. Simad Saeed
Republic of Maldives — Phone: +(960) 7777445
Head of environmental wing

Assistant Under-secretary, Spatial Planning — 2002-2004
Ministry of Planning and National Development — Supervisor: Hon. Hamdun Hameed
Republic of Maldives — Phone: +(960) 332-3919
Head of Spatial Planning Unit. Relevant Tasks include:

- Oversee environment related projects and application of environmental guidelines for planned projects.
- Plan, implement and oversee the development of a National GIS;
- Aid/facilitate/oversee urban planning, housing, land use planning, natural resource planning and environment related projects; Provide assistance in project planning (includes urban and regional planning, natural resources planning)

Project Manager, National Digital Mapping Project — 2005 (8 months)
Ministry of Planning and National Development — Supervisor: Hon. Hamdun Hameed
Republic of Maldives — Phone: +(960) 332-3919

- Project involved aerial photography and satellite imagery of entire Maldives, ground surveying of key settlements, digital conversion of data and setting up a Mapping Unit.

Assistant Planning Officer/Planning Officer — 1994-1999
Ministry of Planning and National Development — Supervisor: Mr. Mohamed Hunaif
Republic of Maldives — Phone +(960) 331-3040
Relevant tasks involved:

- Assisting in the National GIS Development Programme (Junior GIS developer)
- Facilitate urban planning, housing, land use planning, natural resource planning and environment related projects.

Experience in Consultancy

- *September 2002:* Member of the team appointed for environmental surveying and carrying capacity assessment of islands for tourism development in the southern atolls of Maldives for Ministry of Tourism Maldives.
- *October 2002:* Developed the Census GIS for United National Population Fund
- *December 2002:* Developed the Maldives Protected Areas Systems GIS for Maldives Home Affairs Housing and Environment.
- *February 2003*: Participated in the preparation of Royal Island and Spa Resort Annual Environmental Monitoring Report for Royal Island and Spa.
- *April 2003:* Member of the team selected for developing town plans for urban centres in Northern and Southern Regional Development Zones, looking specifically into environmental control measures, for Ministry of Planning and National Development.
- *April 2003:* Participated in the preparation of Environmental Impact Statement for Coastal Modifications on Rihiveli, South Malé Atoll, Maldives.
- *April 2003:* Participated in the surveying and preparation of Environmental Impact Statement for the proposed coastal improvements to address coastal erosion concerns on Royal Island Spa Resort, Baa Atoll, Maldives.
- *May 2003:* Participated in the bathymetry survey and preparation of Initial Environmental Examination for Deepening of Existing Entrance Channel to Service Jetty, Soneva Gili Resort and Spa, North Malé Atoll, Maldives
- *May 2003:* Participated in the preparation of Initial Environmental Examination for development of an access channel into the natural inner lagoon (*Vilu*) of Mayafushi resort, North Ari Atoll.
- *May 2003:* Participated in the preparation of Environmental Impact Assessment for Landaa Giraavaru Pvt. Ltd. for the development of a Four Season's Tourist Resort on the island of Landaa Giraavaru in Baa Atoll, Maldives.
- *June 2003:* Participated in survey and preparation of Initial Environmental Examination for the Development of a Mooring Area and Associated Beach Replenishment in, Boduhithi Club, North Malé Atoll, Maldives.
- *July 2003:* Participated in the surveying and preparation of Initial Environmental Examination for Short-term and Long-term Shore Protection Measures at Alimatha Tourist Resort, Vaavu Atoll, Maldives.
- *July 2003:* Conducted shoreline and vegetation line of Alimatha Tourist Resort, Vaavu Atoll, Maldives.
- *July 2003:* Participated in the surveying for Initial Environmental Examination for Short-term and Long-term Shore Protection Measures at Dhiggiri Tourist Resort, Vaavu Atoll, Maldives.
- *July 2003:* Participated in conducting and preparation of Fun Island Resort Annual Environmental Monitoring Report.
- *July 2003:* Participated in conducting and preparation of Sun Island Resort Annual Environmental Monitoring Report.
- *July 2003:* Participated in conducting and preparation of Holiday Island Resort Annual Environmental Monitoring Report.
- *August 2003:* Developed the Initial Environmental Examination for the construction of Sun Decks along the southern beach of Kudarah Island Resort.
- *September 2003:* Participated in surveying and preparation of Fonaddoo Environmental Impact Assessment Report for the development of fisheries complex, Fonaddoo, Maldives.
- *October 2003*: Participated in surveying and preparation of Kuda Rah Erosion Study and recommendations for shore protection and erosion prevention
- *November 2003:* Conducted vegetation and shoreline survey of Dhonveli Beach and Spa and Four Seasons Report for the Boundary Delineation between the two islands.
- *December 2003:* Contributed to the Landuse Planning Guidelines of Maldives (environmental aspects) for Ministry of Housing and Urban Development.
- *December 2003*: Contributed to the Development of a Building Code of Maldives for Ministry of Housing and Urban Development.
- *January 2004:* Co-author to the Environmental Guidelines for the Development of Resort Islands in Maldives, Ministry of Tourism.
- *February 2004:* Developed the Baa Atoll Spatial Development Plan for Ministry of Planning and National Development.

- *April-July 2004:* Participated in the preparation of the Environmental aspects of the 8 bid proposals for resort Development for various proponents.
- *November 2005:* Participated in the preparation of EIA for L.Gan Resettlement Project for Ministry of Housing.
- *December 2005:* Participated in the surveying and preparation of EIA for Gn Fuvahmulaku Tourist Hotel Development
- *November 2005:* Developed a GIS for strategic planning to select islands for tourism development for Ministry of Tourism.
- *January 2006:* Local consultant for the Strategic Environmental Assessment (SEA) of Maldives Regional Development Plan, for AGRIFOR Consult Consortium, Belgium.
- *June 2006:* Developed the Baa Atoll Resource Management GIS for Ministry of Environment and Energy.
- *August 2006:* Consultant to the Integrated Climate Change System (ICCS) project – Assessment of vulnerability of Maldives Islands and Beaches to climate change
- *September 2006:* Consultant to the ICCS project – Assessment of vulnerability of Maldives Infrastructure to climate change
- *November 2006:* Consultant to the preparation of National Adaptation Programme of Action in Maldives for Ministry of Environment.
- *December 2006*: Environmental Consultant to the United Nations Development Programme (UNDP) Project: Disaster Risk Assessment of Selected nine Safe Islands in Maldives.
- *April 2007:* Prepared the Coastal Erosion Assessment and Management Report for Ga.Meradhoo Island.
- *May 2007:* Participated in the preparation of EIA for N. Randheli Resort Development Project, I&T Management group.
- *June 2007:* Participated in the preparation of Millennium Development Goals, Maldives Country Report.
- *October 2007*: Natural Hazard Assessment consultant to the UNDP Project: Disaster Risk Assessment of Selected Safe Islands in Maldives.
- *November 2007*: Prepared the EIA for proposed coastal protection, beach replenishment and access improvement of Elaa, Thaa Atoll, for Mr Abbas Mohamed, H. Merry Rose.
- *May 2009*: Participated in the preparation of EIA for sand sourcing and beach replenishment project of Viligilli Island, Addu Atoll, for Shangri-La at Viligilli..
- *April 2009:* Participated in the preparation of EIA for N. Maafaru Airport Development Project for Noonu Hotels Pvt Ltd.
- *May 2009:* Participated in the preparation of EIA for resort development in Huvandhumaavattaru, Noonu Atoll
- *June 2009:* Prepared a status of the environment report Randheli Island, Noonu Atoll.
- *July 2009:* Prepared the Environmental EIA for harbour development in Fiyoari, Gaafu Dhaalu Atoll.
- *July 2009:* Participated in the preparation of EIA for Jetty and arrival lounge development project in Gan, Addu Atoll, for Island Aviation Services Private Limited.
- *July 2009:* Team Leader for the socio-economic risk assessment of Selected Safe Islands in Maldives.
- *August 2009:* Coastal erosion data synthesis for selected islands of Maldives, for World Bank Maldives Environmental Management Project.
- *September 2009:* Prepared the beach management plan and development control measures for Reethibeach Island Resort, Baa Atoll.
- *September 2009:* Participated in the preparation of EIA for agricultural island development in Felivaru, Noonu Atoll, for Fantasy Private Limited.
- *September 2009:* Consultant to review the safer islands programme and cost benefit study of mitigation measures in three islands in the Maldives for UNDP.
- *October 2009:* Consultant to the Maldives Environmental Management Project for waste management technical assistance for World Bank.
- *December 2009:* Environmental consultant for advising on resort development and development control measures in Randheli Island, Noonu Atoll.
- *January 2010:* Prepared the beach management plan and development control measures for Shangri-La Island Resort, Addu Atoll.
- *January 2010:* Consultant to the Atoll Ecosystem Conservation project conservation component defining conservation areas and development controls.
- *February 2010:* Prepared the environmental audit of Thunbafushi Island, Kaafu Atoll, for Champa Brothers Private Limited.

- *March 2010:* Prepared the beach management plan and development control for Herathera Island Resort, Addu Atoll.
- *March 2010:* Lead author in the preparation of EIA for power plant upgrading project in Palm Beach Island in Lhaviyani Atoll.
- *April 2010:* Lead author in the preparation of EIA for Seagrass removal and beach replenishment project in Olhuveli Island Resort and Spa, Kaafu Atoll.
- *April 2010:* Prepared an EIA addendum for resort development in Gaakoshibee Island, Shaviyani Atoll.
- *May 2010:* Consultant to undertake island environmental scoping studies in 30 islands in North Maldives to determine islands with resort development potential for GMR Group of India.
- *May 2010:* Lead author in the preparation of EIA for harbour development project in Madidhoo Island, Shaviyani Atoll.
- *June 2010:* Lead author in the preparation of EIA for deep piling project in Olhuveli Island Resort and Spa, Kaafu Atoll.
- *July 2010:* Lead author in the preparation of EIA for the development of an aquaculture site in Kanduoigiri, Kaafu Atoll.
- *July 2010:* Environmental planning consultant for Shangri-La at Viligilli Maldives, Addu Atoll.
- *July 2010:* Environmental planning consultant to the Addu Land Use Planning project (including defining development controls) in Addu Atoll Maldives for South Province Office.
- *August 2010:* Environmental Consultant for the Atoll Ecosystem Conservation Project to declare Baa Atoll as a UNESCO Biosphere reserve.
- *September 2010:* Lead author in the EIA for Seagrass removal and beach replenishment project in Herathera Island, Addu Atoll.
- *September 2010:* Lead author in the EIA for resort redevelopment in Vilamendhoo Island Resort, Ari Atoll.
- *September 2010:* Lead author in the preparation of EIA for Gulhifalhu land reclamation project in Gulhifalhu, Male' Atoll, for Capital Investment and Finance Limited, UK.
- *September 2010:* Participated in the preparation of EIA for sewerage system development project in Miladhoo, Noonu Atoll.
- *October 2010:* Consultant to undertake the coastal adaptation survey of 40 islands in Maldives for Ministry of Housing and Environment.
- *November 2010:* Environmental consultant for advising on resort development and development control measures in Maamigili Island, Raa Atoll
- *January 2011:* Lead author in the preparation of EIA for sewerage and water system development project in Hithadhoo Island, Addu City for Bi-water International Private Limited.
- *February 2011:* Lead author in the preparation of EIA for sewerage and water system development project in Maradhoo Island, Addu City for Bi-water International Private Limited.
- *March 2011:* Lead author in the preparation of EIA for sewerage and water system development project in Feydhoo Island, Addu City for Bi-water International Private Limited.
- *April 2011:* Lead author in the preparation of EIA for sewerage and water system development project in Maradhoo-Feydhoo Island, Addu City for Bi-water International Private Limited.
- *May 2012:* Coastal erosion mitigation assessment and planning for Six Senses Laamu, Laamu Atoll
- *January 2012:* Lead author in the preparation of EIA for sewerage and water system development project in Fuvahmulah Island, Addu City for Bi-water International Private Limited.
- *February 2012:* Coastal erosion mitigation assessment and planning for Fushivelavaru Island
- *March 2012:* EIA for the proposed resort redevelopment project in Conrad Rangali Island for Champa and Crown Resorts
- *March 2012:* EIA for the proposed resort redevelopment project in Gasfinolhu Island Resort, Champa and Crown Resorts
- *May 2012:* Environmental consultant for advising on resort development and development control measures in Gasfinolhu Island, Male' Atoll
- *June 2012:* Environmental consultant for advising on resort development and development control measures in Nakachchaa Huraa Island, Male' Atoll
- *April 2012:* Member of the consultant team that prepared the Tourism Opinion and Profile Survey 2011, Ministry of Tourism.
- *October 2012:* Environmental consultant to the preparation of 4th Tourism Master plan for Ministry of Tourism, Maldives.
- *November 2013:* Environmental consultant for advising on land reclamation, resort development and development control measures in Dhiffushi Island Reef, Male' Atoll.

- *January 2013:* Environmental consultant for advising on resort development and development control measures in Hankede Island, Addu Atoll
- *January 2013:* Environmental consultant for advising on resort development and development control measures in Hankede Island, Addu Atoll

  June 2013: Local Environment consultant to the WCCM project, HIDRIA and Aquatica, Spain.

Membership of Professional Bodies

- Member of Building Code Committee, Maldives
- Member of Commission on Sustainable development
- Member of the Technical Committee for Developing Spatial Plans for conducting tourism related activities in Ari Atoll.
- Member of Climate Advisory Council to the President of Maldives 2009- to present.
- Registered EIA Consultant in Maldives Environment Protection Agency roster.

Major Publications

SHAIG, A. (2001) "An Overview of Web Based Geographic Information Systems". In Proceedings: Thirteenth Annual Colloquium of the Spatial Information Research Centre. P.A. Whigham (ed). 2 - 5 Dec, Dunedin, New Zealand. University of Otago, pp.255-264.

SHAIG, A. (2006). Climate Change Vulnerability and Adaptation Assessment of the Coastal Infrastructure of Maldives. Technical Paper submitted to Maldives National Adaptation Plan of Action for Climate Change. Ministry of Environment, Energy and Water, Male', Maldives.

SHAIG, A. (2006). Climate Change Vulnerability and Adaptation Assessment of the Land and Beaches of Maldives. Technical Paper submitted to Maldives National Adaptation Plan of Action for Climate Change. Ministry of Environment, Energy and Water, Male', Maldives.

SHAIG, A. (2007) Land Study of Maldives, 2006. Ministry of Planning and National Development, Male' Maldives.

SHAIG, A. and Aslam, M (2007) Detailed Island Risk Assessment Maldives Volume I to Volume IV – Natural Hazard Assessment (Final Draft). UNDP, Male' Maldives

SHAIG, A. (2007) Detailed Island Risk Assessment Maldives Volume I to Volume IV – Environmental Vulnerability Assessment (Final Draft). UNDP, Male' Maldives.

Academic Achievements

2001 Critchlow Associates Prize in Surveying, New Zealand.
Prize awarded annually by University council for the highest standard of Achievement in Spatial Information Studies in University of Otago.
1994 Certificate for best results in General Certificate of Examinations, Advanced Level.
Science Education Centre, Male', Maldives

References

Hamdun Hameed
Member of Parliament
Male', Maldives
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minister@planning.gov.mv

Simad Saeed, Dr
Managing Director,
CDE Consulting
Male', Maldives
Tel: +960 777 7445
Email: simad@cde.com.mv

David King, Dr.
Associate Proffessor
James Cook University
Townsville, QLD,Australia, 4811
Tel: (+61) 747 81 4441 ,Fax: (+61) 747 81 5581
Email: david.king@jcu.edu.au

Peter Valentine
Head of School, TESAG Department
James Cook University
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Email: peter.valentine@jcu.edu.au

Clarification

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications and my experience. I understand that any willful misstatement described herein may lead to my disqualification or dismissal, if engaged.

Signature Date: 15 July 2013

Mohamed Faizan

Contact Details

Address: H. Pent Land,
Lansimoo Goalhi,
20041 Male',
Maldives

Tel: +960-7501205

E-mail: Mohamed.faizan@gmail.com

Education

August 2012 – September 2014 University of Malaya, (Malaysia)

- Master of Technology (Environmental management),
- Dissertation title "Study on the impact of anthropogenic pressure on coral reefs around Cape Rachado, Malacca and recommendations to improve its management"

July 2006- June 2010 International Islamic University Malaysia, (Malaysia)

- Bachelor of Biotechnology (Honours).
- Final year thesis title "Spatio-temporal study on coastline changes along Tanjung Lumpur – Cherok Paloh Coast".

June 2002 – June 2004 Centre for Higher Secondary School, (Maldives)

- GCE Advanced level.

January 1997 – February 2002 Majeediyaa School, (Maldives)

- GCE Ordinary level.

Employment History

July 2014 – Present CDE Consulting

- **Environmental Consultant** at CDE Consulting. Roles and responsibilities include preparation of Environmental Impact Assessment reports, undertaking environmental baseline surveys, and conduct environmental monitoring.

June 2010 – July 2012 CDE Consulting

- **Environmental Consultant** at CDE Consulting. Responsibilities included undertaking environmental baseline studies for Environmental Impact Assessments, and environmental monitoring. In addition, co-ordination of field surveys.

February 2005 – April 2006 Integrated Climate Change Strategy

- **Project Assistant** for the Integrated Climate Change Strategy implemented by Ministry of Environment, Energy and Water (Maldives).
- Responsibilities included assisting the project manager, in preparation of financial reports, organizing workshops.
- Helped launch monthly newsletter on climate change "Nakaiy".

EIA experience

Environmental Impact Assessment (EIA)	Proponent	Date
EIA for the proposed sewerage system project at Kanditheem, Shaviyani - Marine environment assessment and report for the EIA	Male' Water and Sewerage Company Pvt Ltd	April 2014
EIA for the proposed beach replenishment project in Holiday Inn Resort Kandooma, Maldives, South Male' Atoll - Marine environment assessment and report for the EIA	Holiday Inn Resort Kandooma Maldives	April 2014
EIA report for the proposed sewerage system at Maduvvari, Raa Atoll - Undertook the baseline assessment surveys, including stakeholder consultations. Complied the EIA report.	Mr. Ibrahim Shazyl, Venture Maldives Pvt Ltd	February 2012
EIA report for the proposed installation and operation of desalination plant at Hithaadhoo, Baa Atoll - EIA report compilation.	Mr. Ismail Shafeeu, Static Company Pvt Ltd	January 2012
EIA report for the proposed Solid Waste Management facility at Thilafushi - Baseline marine assessments and EIA report compilation.	Tatva Global Renewable Energy (Maldives) Private Limited	December 2011
EIA for the development of a domestic airport on Koodoo, GA. Atoll - Undertook baseline assessments for the EIA, and prepared the existing environment chapter for the EIA.	Bonavvista (Maldives) Private Limited Singapore	October 2011
EIA prepared for the proposed harbor entrance channel dredging project in Bodufolhudhoo Island, North Ari Atoll - Undertook the baseline assessments for the EIA, and prepared the existing environment chapter of the EIA and compiled the overall EIA report.	Ministry of Housing and Environment	August 2011
EIA prepared for the proposed re-development – phase I of Gasfinolhu Island Resort, Kaafu Atoll, Maldives - Baseline marine assessments and report preparation for the EIA.	Mr. Hussain Afeef	July 2011
EIA prepared for the proposed re-construction of Shaviyani Foakaidhoo Harbour - Undertook the marine baseline assessments and, prepared the marine assessment report for the EIA.	Ministry of Housing and Environment	March 2011
EIA for the sewerage system development in N. Miladhoo - Marine environment assessments	Works Corporation Limited	September 2010

PERSONAL DETAILS

Name in Full : Ali Moosa Didi
Date of Birth : 18.06.1985
Gender : Male
Nationality : Maldivian Address:
Permanent : Saraasaruge Aage, S.Hithadhoo
Neelonfaru Magu

Present : Ma. Rose Villa SE, 4th Floor Dhevina Magu
Male'

Telephone : +960 9912001

EDUCATIONAL QUALIFICATIONS

Madharasthul Islamiya School

Certification, University of Cambridge General Certification of Education O/L

Subject English Mathematics
Business Account Commerce
Economics

Secondary School Certificate Islamic Studies
Dhivehi Language

WORK PLACE DETAILS

Commerce Development and Environment Pvt.
H. Orchidmaage, 4th Floor
Ameeru Ahmed Magu,
Male', Republic of Maldives
Telephone: + 960 3312514
Fax: + 960 3315926
E-mail: ali@cde.com.mv

EMPLOYMENT RECORD

January 2004 – December 2008 Commerce Development & Environment Pvt

Assistant Surveyor January 2009 – December 2009 Ryco Investment Pvt
HR. Officer

January 2010 – To Current Date Commerce Development & Environment Pvt Surveyor

WORK EXPERIENCE

Assistant Surveying Officer (Sep 2008 – To Current Date)
-Survey proposed areas for the new projects under the instruction of survey officer.

-Determine precise location and measurements of points, elevations, lines, areas, contours for the construction studying the morphology of the seabed mapmaking and for construction staking, defining and managing parcels data, as-built and profiling.

-Utilize recourses to the optimum level.

-Use company civil/ survey software for contouring, setting alignments, setting points construction, land division.

-Edits and troubleshoot incoming data collector files in accordance with company procedures.

Processing Survey Data's Using Topcon Tools, Surfer, Sonar XP, etc

-Reviews and utilize survey crew field notes. -Imports verified data into the appropriate CAD drawing file, using company standards point layer management and description keys.

-Prepares survey drawings and documents using company standards, prototypes, templates and blocks.

-Operate digital cameras and download photo files into database and/ or CAD drawings.

-Utilize company scanners to transfer reference maps into CAD files to facilitate utility mapping and property line.

-To perform bathymetric and topographical survey before start of the Projects

-Plotting survey data using AutoCAD 2006-2009

-Processing Survey Data's Using Topcon Tools, Surfer, Sonar XP, etc.

-Modeling accurate contours

-Advanced at ESRI ArcGIS (ArcMap, Arc Catalogue)

-GPS, wetland vegetation species identification, extensive geological identification skills

-Preparation of survey maps

-Make sure all the survey instruments are working in good condition.

AHMED HAIMAN RASHEED

PERSONAL DETAILS

Full Name: **Haiman Rasheed, Ahmed**

Gender: **Male**

Place of birth: **S.Feydhoo, Republic of Maldives**

NIRC: **A297924**

Date of birth: **September 24, 1993**

Nationality: **Maldivian**

Permanent Address: **Goal Corner**
S.Feydhoo 19040
Republic of Maldives

Contact Details: **(Mobile): +960 7684393**

Email for correspondence: **haiman@cde.com.mv**

EDUCATION

Year	Name of Education Institute	Title of Qualification	Status
2007 – 2009	**DHARUMAVANTHA SCHOOL**	**GCE / IGCSE O' Level under the curriculum of University of Cambridge**	**Graduated**

EMPLOYMENT HISTORY

Time Period	**Position Held, Employee**	**Task assigned**
February 2014 – present	Associate Consultant, CDE Consulting	- Marine surveying (Conducting inspections, surveys & examinations of reefs) - Beach surveying - Compiling Marine reports (Prepare reports on types of surveys conducted
August 2013 – February 2014	Assistant technician, Ministry of Fisheries and Agriculture	- Designing the structure of FAD (Fish Aggregating Device) - Research on the status and pelagic fishes found near FADs
January 2011 – January 2012	Research officer, CDE Consulting	- Marine surveying (Conducting inspections, surveys & examinations of reefs) - Beach surveying - Compiling Marine reports (Prepare reports on types of surveys conducted
December 2009 – June 2010	Research officer, CDE Consulting	- Marine surveying (Conducting inspections, surveys & examinations of reefs) - Beach surveying - Compiling Marine reports (Prepare reports on types of surveys conducted)

REFERENCES

Name	Address, Telephone & Fax	Email, Occupation & Business Title
Ahmed Shaig, PhD	**CDE Pvt Ltd** **4th Floor, Orchidmaage** **Ameer Ahmed Magu, Henveiru** **Male', Maldives** **(Telephone): +960 3312514** **(Fax): +960 3315926**	**Director** **CDE Pvt Ltd** **info@cde.com.mv**
Ahmed Yameen	**Ministry of fisheries and agriculture** **7th Floor, velaanaage** **Ameer Ahmed Magu, Henveiru** **Male', Maldives** **(Telephone): +960 3322625** **(Fax): +960 3326558**	**Assistant director**

Mohamed Ali

ID #:	A 094918
Nationality:	Maldivian
Languages:	English, Sinhalese, Dhivehi
Date of Birth:	13/09/1983
Telephone:	960-790-6007
Email:	mohamed.ali@cde.com.mv

Experience

Marine Environmental Specialist — June 2011- Present
CDE Consulting

Marine Environment Officer — July 2008 – May 2011
Banyan Tree Vabbinfaru

Freelance Lobster Hunter, Shark Fisherman — Jan 2007 - July 2008
Laamu Atoll

Dock Assistant — Sep 2006 - Jan 2007
Tourist Submarine Maldives

Education and Certifications

PADI Rescue Diver — June 2011
PADI Enriched Air Diver — June 2011
Emergency First Responder — May 2011

Basic Computer Science — 2001 - 2006
Singapore Informatics, Colombo Sri Lanka

Profile

I am very passionate about protecting the marine environment. After having worked as both a fisherman and a marine environment officer I am aware of the impact that human activity has on our fragile marine environment. My favorite activities are reef monitoring and planting coral gardens. With my undying passion for the underwater world and also with my vast experience diving all over the Maldives, educating people on the marine environment is my greatest mission, to ensure the preservation and protection of our most valuable treasure. Furthermore, I have got the opportunity to work besides the greatest marine experts in the world namely Prof. J.E.N. Veron,Dr. Norman Queen and Dr. Daphne G. Fautin.

References

N.D. Abdul Azeez Abdul Hakeem
Former Director of Conservation
Mobile: + 960 7784263
Banyan Tree Maldives

Dr. Steve Newman
Former Marine Lab Manager at Banyan Tree
steve.newman@ncl.ac.uk

Robert James
Former Marine Lab Manager at Banyan Tree

Shahdha

Sustainable Development Consultant

CDE Consulting Pvt Ltd

Phone: +960 9700169 E-Mail: shahdha@cde.com.mv

Professional Experience

Sustainable Development Consultant

CDE Consulting Private Limited, Male', Republic of Maldives. **1 March 2015- Present**

- Experience

Environmental Impact Assessments

- EIA for the proposed test drilling For Hulhule'-Male' Bridge construction project
- EIA for the proposed redevelopment of Nasandhura Palace Hotel, Male'
- EIA for the proposed Hulhule'-Male' Bridge Project
- EIA for the proposed construction of a 9-storey building at the compound of ADK Hospital, Sosun Magu, Male', Maldives
- EIA for the proposed tourist development project at Madivaru Island, Kaafu Atoll
- EIA for the proposed land reclamation and resort development project in Ithaafushi Reef, South Male' Atoll
- EIA for the proposed resort development in Bodukaashihuraa, Alifu Dhaalu Atoll, Maldives

Surveys

- Maldives Visitor Survey 2015 for the Ministry of Tourism
- Maldives Democracy Survey 2015 for International Foundation for Electoral Systems (IFES)

Environmental Monitoring Projects

- Environmental and Social Performance Annual Monitoring 2014 for Shangri-La's Vilingili Resort & Spa, Addu Atoll, Maldives

- Key Skills and Competencies

- Ability to interpret environmental laws and regulations and act accordingly
- Sound knowledge of environmental management procedures and assessment of risk
- Solid understanding of waste management, climate change, disaster prevention and mitigation, and coastal environment and processes
- Profound knowledge of sustainable development issues
- Ability to assess and analyze complex social problems
- Competent in identifying and communicating with stakeholders
- Skilled in data collection, analysis and report writing

Clinical Assistant

Indhira Gandhi Memorial Hospital, Male, Republic of Maldives **February 2010- December 2011**

Relief Teacher

HDh. Atoll School, HDh. Vaikaradhoo, Republic of Maldives **July 2009- November 2009**

Academic Qualifications

Bachelor of Environments 2012-2014

Major: Environmental Geographies, Politics and Cultures,

The University of Melbourne, Melbourne, Victoria, Australia.

Advanced Level Edexcel Examination

Higher Secondary Certificate (HSC) Examinations 2007-2009

Center for Higher Secondary Education, Male', Republic of Maldives

Cambridge GCE O-level

IGCSE Examinations

Secondary School Certificate (SSC) Examination 2004-2006

Cener for Higher Secondary Education, Male', Republic of Maldives

Achievements

- Dean's Honours Award for outstanding academic achievement in 2014 (University of Melbourne) 2014
- Australian Development Scholarship 2011
- Fourth place among the National Top 10 Achievers in the Higher Secondary School Completion Examinations 2009 2009
- Second place among the National Top 10 Achievers in the Secondary School Completion Examinations 2006
- Best All Round Student of H Dh. Atoll School 2006
- Haveeru Atolls Scholarship Award 2007-2009
- School Captain at H Dh. Atoll School.
- Student Association's Vice President in 2006 at H Dh. Atoll School 2006
- Deputy and Acting School Captain in 2005 at H Dh. Atoll School
- Student Association's President in 2005 at H Dh. Atoll School 2005

Professional Development and Memberships

- Member of the University of Melbourne Australian Awards Club 2013- 2014
- Participated in the Women's Mentoring Network at the University of Melbourne 2013
- Completed a 21 hours course on Standard First Aid at the Faculty of Health Sciences, Maldives College of Higher Education 2010
- Member of the Science Club at the Center for Higher Secondary Education 2007-2009
- School Prefect Board member at the H Dh. Atoll School 2004-2006

Computer Skills

- Experienced in using Microsoft office Word, Excel, Powerpoint and Project.

Language Skills

	Understanding	Speaking	Writing
English	Excellent	Excellent	Excellent
Dhivehi	Excellent	Excellent	Excellent

Ali Nishaman Nizar

G. Dhoores Villa, 20132

06th March 1988

(00) 960 778 5767

ali.nishaman@gmail.com

A strategic and creative thinker who has effective communication and writing skills, and is ready and willing to use my skills and knowledge to add significant value to aid in your organization's development and enhance its values.

EDUCATION

Cyprus Forestry College (2006 - 2008)

- Adv. Diploma in Forestry

Center for Higher Secondary Education (2004 - 2006)

- Edexcel - G.C.E. A'levels (Statistics, Business, Accounts)
- Cambridge - Certificate in Advanced English

Majeedhiyya School (2001 - 2003)

- Cambridge - O'levels (Mathematics, Economics, Commerce, English, Accounts)

EXPERIENCE

Terrestrial Environment Consultant – CDE Consulting, (July 13 – Present)

- Provides technical assistance to various national and international projects, specifically providing input in areas such as; wetlands, agriculture, forestry, vegetation mapping, mangroves, waste management, composting…etc.
- Working on and contributing to several Environmental Impact Assessment studies.
- In charge of sourcing/developing innovative tools and methodologies for improving teamwork and cohesion at the office.
- Lead designer for iPad based surveys and in charge of the Data Management System for surveys.

Local Consultant – Vegetation Expert – Hidria, Spain, (May 13 – Aug 13)

- Worked as a local consultant for Hidria, on developing the Wetland Management Plan for Addu Hithadhoo Eidhigali Kilhli and Gn.Fuvahmulah Bandaara & Dhandimagu Kilhi.
- Specifically on the areas of terrestrial biodiversity and vegetation mapping.

CSR Consultant – Secure Bag Maldives Pvt Ltd (Jan 12 – Jan 13)

- In charge of all activities of the company to improve its CSR image.
- In charge of handling all the activities carried out on the company owned Private Island. This includes doing various agricultural activities such as hydroponics, goat keeping, poultry, orchid farming, land-based agriculture and agro-tourism. The task involves leading staff personnel of 13 employees on the island.
- Developed a home-based CSR project to organize and reduce household waste.
- Developed a school program to increase awareness of recycling.

Agriculture Implementation Officer (AIO) – **Project Implementation Unit, MOFA (Oct 10 – Jun 13)**

- Worked on the "Post-Tsunami Agriculture and Fisheries Rehabilitation Programme" & the "Fisheries and Agriculture Diversification Programme"
- In charge of planning, organizing and implementing all the activities under the agriculture component of the project.
- Planning and coordinating all agriculture and cooperative related training programs.
- Focal point for forming and mobilizing agriculture cooperatives in island based communities.
- Lead instructor for conducting Enumerator Training Programs and the Team leader for conducting baseline surveys for FADIP project
- Established 5 agricultural cooperatives in the Maldives and working closely towards the formation of several additional cooperatives.

Head of Agriculture Research & Extension – **Ministry of Fisheries and Agriculture (Jan 10 – Sept 10)**

- Lead a team of 5 staff at the Agriculture Research and Extension Section in the Capital city and an additional 15 staff at our regional research centers in the North and South
- Devised agricultural research programs that develop and improve agriculture in a sustainable manner in the country.
- Conducted training programs, workshops and awareness session at various venues.

Marketing Manager – **BCube Signage Pvt Ltd (Aug 08 – Present)**

- In charge of handling all marketing and client relations for the company.
- Designed layouts and concept notes for various publications and marketing campaigns.
- Lead focal point for all communications with the company's foreign suppliers and local clients.

Agriculture Officer – **Ministry of Fisheries and Agriculture (Aug 08 – Dec 09)**

- Handled the "Training & Extension Unit" (Agriculture Division).
- Planned and coordinated all agriculture related training programs in the Maldives on a daily basis according to the staff availability.
- Promoted general agriculture and other related activities using modern extension methodologies.
- Conducted training programs, workshops and awareness session at various venues.

National Project Assistant – **F.A.O, United Nations (Aug 06 – Oct 06)**

- Worked on a Post-Tsunami forest rehabilitation project.
- Worked with international consultants on several aspects of Maldivian forestry, agriculture and especially focusing upon Maldivian Mangrove ecosystems.
- Worked closely with community members, local officials and visiting consultants in understanding local environments.
- Studied the different vegetation types in the Maldives (30 islands, mostly including wetlands).

Graphic Designer – **BCube Signage Pvt Ltd (Jan 04 – Oct 06)**

- Designed various logos and graphics for several clients.
- Created layouts and concept designs for several clients
- Create routine layouts for signboards.
- Design graphic advertisements ready for print, billboard and signboards.

WORKSHOPS / SHORT-TERM TRAININGS ATTENDED

- 2009,
  - Workshop on Strengthening Plant Quarantine and Inspection, Male', Maldives, 15-16 July 2009
  - "Awareness of Food Security" Workshop, Male', Maldives, 22nd October 2009
  - Workshop on Updating and Finalization of the Agriculture Development Master Plan (ADMP), Male, Maldives, 21st December 2009

- 2010,
  - Fisheries & Agriculture Diversification Programme, Financial, Procurement & M&E Training, Male', Maldives, 26-28 January 2010
  - Team Leaders Meeting, 8th Virtual University for Small States of the Commonwealth's (VUSSC) International Training and Materials Development Workshop, Singapore, 14-20 April 2010
  - Prevention, Control and Management of Forest Invasive Species in South Asia, (by APFSIN), Male', Maldives, 29th April 2010
  - 8th Virtual University for Small States of the Commonwealth's (VUSSC) International Training and Materials Development Workshop, Male', Maldives, 15-31 March 2011
  - Loan Administration Training, Hdh.Kulhudhuhfushi, Maldives, 3-8 July 2010
  - Workshop to Finalize the Draft Pesticides and Plant Protection Bill, Male', Maldives, 12-13 July 2010
  - International Workshop on Climate Change Extreme Events Adaptation Practices and Technological Solutions, New Delhi, 16-18 August 2010

- 2011,
  - FADIP "Rolling Baseline Survey" Workshop, Male, Maldives, 2-3 March 2011
  - Knowledge Sharing in Asia Workshop #3: Participatory Techniques in the Field, Godavri, Nepal, 30th March 2011 – 2nd April 2011
  - Knowledge Sharing in Asia Workshop #2: Writing to Share Knowledge Effectively, Godavri, Nepal, 3-6 April 2011
  - Consultation Workshop for Facilitators on Cooperatives and Business Development, UNDP Building, Male, Maldives, 21st April 2011
  - AFE's Workshop on "Value Chain Program Design", Chiang Mai, Thailand, 12-16 September 2011
  - Training of Trainers Workshop on Systematization, Nepal, 8-10 December 2011

- 2012,
  - Workshop on Knowledge Management, tools and techniques (as a trainer for the programme), Maldives, 29th November 2012 – 02nd December 2012
  - Partnering 4 Development Forum, UNDP, Paradise Island Resort, 2nd December 2012

- 2013,
  - Consultative Workshop on ICRAF's Capacity Development Strategy & ICRAF's South Asian Partner's Capacity Needs Assessment, BRAC (Bangladesh Rural Advancement Committee) Centre, 30-31 January 2013
  - Certificate in Co-operative Poverty Reduction, Co-operative College of Malaysia, Malaysia, 3-21 March 2013

ENVIRONMENT IMPACT ASSESSMENT WORK

- Was a member of the team, and provided contributions to both the field work and report writing of the following EIA's:
- Tourism Development Projects:
  - Adh. Bodukaashihuraa Resort Development EIA
  - B. Dhigufaruvinagandu Resort Development EIA
  - K. Madivaru Resort Development EIA
  - Lh. Fushifaru Resort Development EIA
  - N. Thanburudhuffushi Picnic Island Development EIA
  - K. Gasfinolhu Addendum EIA (Palm transplanting)
  - K. Taj Vivanta Resort Shore Protection EIA
- Agricultural Development Projects:
  - Sh. Madidhoo Agricultural Development EIA
  - Lh. Maduvarri Agricultural Development EIA
- Airport Development Projects:
  - R. Ifuru Airport Development EIA
  - N. Maafaru Airport Development EIA
- Major public/ private sector Projects:
  - Tree Top Hospital Development EIA
  - Nasandhura Palace Hotel Redevelopment EIA
  - Male-Hulhule Bridge, Borehole Drilling EIA
  - Male-Hulhule Bridge EIA
  - Addu and Fuvahmulah ESIA for Wetland Project

ACADEMIC ACHIEVEMENTS

Cyprus Forestry College (2006 - 2008)

- Highest Overall Performance: Presidential Prize (2nd prize)
- Best Academic Performance: Nature Conservation
- Best Academic Performance: Ecology
- Best Botanical Collection
- Best Fire Protection Project
- Best Forest Management Project
- Best Nursery Management Project

Center for Higher Secondary Education (2004 - 2006)

- 10th place in the national Top Ten.

Majeedhiyya School (2001 - 2003)

- 8th place in the national Top Ten.
- A Prefect

PROFESSIONAL ACHIEVEMENTS

- Designed and structured an online system to coordinate training programs and staff travel plans. This lead to an overall increase in the number of trainings by 400% from 2008 to 2009.
- Played active roles in the planning and organizing of key events and workshops such as;
    - Agriculture Fair 2009, Hdh.Kulhudhuhfushi
    - Farmers Day 2009, F.Nilandhoo
    - Food Security Workshop 2009, (In collaboration with Department of National Planning)
- Worked with a team from the Sultanate of Oman on a research program focusing on the local mango variety “Dhivehi Anbu”. The discovery of the Maldivian mango variety having a polyembryonic seed structure was one of the key findings of the research.
- Co-director and technical advisor for the Agriculture TV program, “dhanduveriya” for a full season, featuring over 13 episodes.
- Group leader in a materials development workshop for a course titled “Diploma in Sustainable Agriculture for Small States” for the Commonwealth of Learning, collaborating with 20 other experts from different parts of the world. My work was focused on writing specifically the chapters of “Agriculture Production Systems” and the “Importance of Working Together (CBPO’s)”.
- Team leader for the “Fisheries and Agriculture Diversification Program” (FADiP) baseline survey on the RIM’S Impact Questionnaires and the Project Questionnaire which included over 450 households in 4 different islands.
- Introduced an iPad-based real-time data entry system in 2014, that eliminated the need for paper-based questionnaire forms, reduced survey times, improved security features and provided real-time partial analytics on the data for our clients, at CDE. This system has since been replicated in over 5 separate surveys carried out by CDE.

SKILLS

- ICT Competent (MS Applications, Corel Suite…etc)
- Flexible to travel at any time
- Able to Multi-task and work in stressful conditions
- Able to co-ordinate and work with CBPO’s / Co-operatives / NGO’s
- Decision Making Skills
- Logistical Planning Skills
- Good Interpersonal Skills (Community Consultation Expert, specifically on participatory approaches and conflict resolution exercises)
- Training Skills in “Agri-Business”, “General Agriculture”, “Hydroponics”, “Agro-Forestry”, “Home-gardening”, “Baseline Surveys” and “Co-operatives”.

MEMBERSHIPS IN PROFESSIONAL ASSOCIATIONS

- Bluepeace - an Environmental NGO
  - Advisor on environmental and agricultural issues since the year 2009.
  - Participated in several beach and reef cleanup programs.
  - A member since the year 2008.
- United Artists of Maldives - an association focusing on Maldivian Art and Artisans
  - Sits in the Steering committee of UAM as the Media Coordinator, since January 2013
  - Participated in the International Hay Festival Activities held in the Maldives in 2010.
  - A member since the year 2008.
- UN Global Compact Maldives Network - a network of local private sector parties
  - Representative for Addu Meedhoo Cooperative Society
  - Representative for CDE Consulting

REFEREES

- Dr. Ahmed Shaig,
  Director of Environment, CDE Consulting,
  shaig@cde.com.mv
  +9607788758

- Dr. Aminath Shafia,
  Former State Minister, Ministry of Fisheries and Agriculture,
  shafia@fishagri.gov.mv
  +9607792458

LANGUAGE PROFICIENCY

- Fluent in both writing and reading of Dhivehi (mother tongue)
- Fluent in both writing and reading of English

APPENDIX I – Commitment Letter

Date: 12th May 2016

No: ORD -TECH/16/023

Mr. Ibrahim Naeem
Director General,
Environmental Protection Agency,
Male', Republic of Maldives.

Dear Sir,

<u>Sub: EIA for the proposed Nationwide Submarine Cable by Ooredoo Maldives</u>

As the proponent of the above mentioned project, we guarantee that we have read the report and to the best of our knowledge all non-technical information provided here are accurate and complete.

We also hereby confirm our commitment to carry out and bear costs of environmental mitigation measures and monitoring outlined in the EIA report.

Sincerely,

Ahmed Haleem

Project Manager (NaSCOM)

ooredoo
Technology Department

H. Sunleet | 5th Floor | P.O. Box 2196, Boduthakurufaanu Magu, Malé, Republic of Maldives
T: +960 9611000 | F: +960 9611001 | E: 929@oordeoo.mv ooredoo.mv

APPENDIX J – Acknowledgement of receipt from respective atoll councils

بسم الله الرحمن الرحيم

ނަންބަރު: CDE-L/0516/64

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ބ. އަތޮޅު ކައުންސިލްގެ ރައީސަށް،

ވީދުން ސަލާމަށްފަހު ދަންނަވަމެވެ.

ރާއްޖޭގައި ސަބްމެރިން ކޭބަލް އެޅުމުގެ މަސައްކަތް، އުރީދޫ މޯލްޑިވްސް އިން ކުރުމަށްވަނީ ހަމަޖެހިފައެވެ. އަދި އުރީދޫ މޯލްޑިވްސްއިން ވަކި މިމަޝްރޫޢުގެ ސަބަބުން ތިމާވެއްޓަށް އަސަރުކުރާނެ މިންވަރު ބަޔާންކުރާ ރިޕޯޓް (އީ.އައި.އޭ ރިޕޯޓް) ތައްޔާރުކުރުމުގެ މަސައްކަތް މިކުންފުންޏާ ހަވާލުކޮށްފައެވެ. އެގޮތުން މިމަޝްރޫޢުގެ ކޭބަލް ލޭންޑިން ސައިޓެއް އޭދަފުށިގައި އެޅުމަށް ޤަރާރުވުމީ، ލާމަރުކަޒީ ޤާނޫނުގެ 69 ވަނަ މާއްދާ ގައިވާ ގޮތުގެ މަތިން، މި އީ.އައި.އޭ ރިޕޯޓް ތިޔަ ކައުންސިލާއި ހިއްސާ ކުރުމުގެ ގޮތުން މިސިޓީއާއެކު ފޮނުވީމެވެ. ވީމާ، މިސިޓީގެ ތިރީގައި އޮތް މި ރިޕޯޓް ކައުންސިލުން ދިރާސާކުރުމުގެ ސުވާލު ފުރިހަމަ ކޮމެންޓްތަކާއި ވީއެންމެ އަވަސް ފޮނުއްވައިދެއްވައި މިސްޓަރު ހިޔާލެއްވާނަމަ ފާހަގަކޮށް ނުވަތަ މިއޮފީހުގެ ފޯނު ނަންބަރު 3315926 ނުވަތަ hana@cde.com.mv އަށް ފޮނުއްވައި ދެއްވުން އެދެމެވެ.

އިޙްތިރާމް ގަބޫލުކުރައްވުން އެދެމެވެ.

12 މޭ 2016

މާރިފުކަމް

ސިމާދު ސައީދު

މެނޭޖިންގ ޑިރެކްޓަރ

ބ.އަތޮޅު ކައުންސިލް، އޭދަފުށި

އީ.އައި.އޭ ރިޕޯޓް ލިބުނު ކަމުގެ ލިޔުން

ރިޕޯޓުގެ ނަން: އުރީދޫ މޯލްޑިވްސް އިން ރާއްޖޭގައި އަޅާ ސަބްމެރިން ކޭބަލްގެ ދަށުން ތިމާވެއްޓަށް ކޮށްފާނެ އަސަރު ވަޒަންކުރުމުގެ މަޝްރޫޢު:

ހަވާލުވި ފަރާތް: މުޙައްމަދު އާދިލް

މަޤާމު: ބ. އަތޮޅު ކައުންސިލްގެ ކައުންސިލަރު

އިދާރާގެ ނަން: ބ. އަތޮޅު ކައުންސިލްގެ އިދާރާ

ބަލައިގަތް ތާރީޚް: 15 މޭ 2016 ބަލައިގަތް ގަޑި: 09.32

ސޮއި:

މުހުރު:

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REG.NO: C-262/2001

بسم الله الرحمن الرحيم

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ނަންބަރު: CDE-L/0516/61

ގދ. އަތޮޅު ކައުންސިލް ޑިރެކްޓަރ،

ފުރަތަމަ ސަލާމަށްފަހު ދަންނަވަމެވެ.

ރާއްޖޭގައި ސަބްމެރިން ކޭބަލް އެޅުމުގެ މަސައްކަތް، އުރީދޫ މޯލްޑިވްސް އިން ކުރިއަށްގެންދަވަން ހަމަޖެހިފައެވެ. އަދި އުރީދޫ މޯލްޑިވްސް އިން ވަނީ މިމަޝްރޫއުގެ ސަރަޙައްދުން ތިމާވެއްޓަށް އަސަރުކުރާނެ މިންވަރު ބެލުމަށްޓަކައި ރިޕޯޓް (އީ.އައި.އޭ ރިޕޯޓް) ތައްޔާރުކުރުމުގެ މަސައްކަތް މިކުންފުނިން ހަވާލުކޮށްފައެވެ. އެގޮތުން މިމަޝްރޫއުގެ ކޭބަލް ލޭންޑިން ސައިޓެއް ހިމެނޭގޮތުގައި އެކުލެވޭ ހަމަޖެހިފައިވާ، ވާހަކަދެއްކުމުގެ ޖަލްސާގެ 69 ވަނަ ގަޑިއާ ގުޅޭ ގޮތުގެ މަތިން، މި އީ.އައި.އޭ ރިޕޯޓް ބަލާ ކައުންސިލްތަކުގެ ހިއްސާ ކުރުމުގެ ގޮތުން މިސިޓީއާއެކު ފޮނުވީމެވެ. ވީމާ، މިސިޓީގެ ތިރީގައި އޮވާ މި ރިޕޯޓް ކައުންސިލަށް ލިބުނުކަމުގެ ސޮއިކޮށް ފޮނުއްވައިދެއްވުމަށް ފޮނުވުމުގެ އިތުރުން، މިސިޓީގައި ހިމެނިފައިވާ ކަންކަމާ ގުޅޭގޮތުން މަޢުލޫމާތު ސާފުކުރައްވަން ބޭނުންފުޅުވާނަމަ 3315926 ނަންބަރު ފޯނަށް ނުވަތަ hana@cde.com.mv އަށް ގުޅުއްވައިދެއްވުން އެދެމެވެ.

އިޙްތިރާމް ފޭބުނަލައްވައިން އެދެމެވެ.

12 މޭ 2016

ޚާދިމްކުމް

[signature]

ސިމާދު ސަޢީދު

މެނޭޖިންގ ޑިރެކްޓަރ

ގދ. އަތޮޅު ކައުންސިލް، ތިނަދޫ

އީ.އައި.އޭ ރިޕޯޓް ލިބުނު ކަމުގެ ރަސީދު

ރިޕޯޓުގެ ނަން: އުރީދޫ މޯލްޑިވްސް އިން ރާއްޖޭގައި އަޅާ ސަބްމެރިން ކޭބަލްގެ ދަށުން ތިމާވެއްޓަށް ކޮށްފާނެ އަސަރު ވަޒަންކުރުމުގެ މަޝްރޫއު:

ހަވާލުވި ފަރާތް: [illegible]

މަޤާމު: [illegible]

އިދާރާގެ ނަން: ގދ. އަތޮޅު ކައުންސިލް

ބަލައިގަތް ތާރީޚު: 15/05/2016

ބަލައިގަތް ގަޑި: 10:15

ތައްގަނޑު: [stamp: ގދ. އަތޮޅު ކައުންސިލްގެ އިދާރާ]

ސޮއި: [signature]

2335 15/5/16

15/05/2016

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ބިސްމިﷲ الرحمن الرحيم

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ނަންބަރު: CDE-L/0516/63

ހައުސިންގ ޑިވެލޮޕްމަންޓް ކޯޕަރޭޝަންގެ މެނޭޖިންގ ޑިރެކްޓަރ މުޙައްމަދު ސައިމަންއަށް،

ފުރިހަމަ ސަލާމަށްފަހު ދަންނަވަމެވެ.

ހުޅުމާލޭގައި ސަބްމެރިން ކޭބަލް އެޅުމުގެ މަސައްކަތް، އެރިޔާ މެނޭޖްމަންޓް އިން ކުރުމަށް ހަމަޖެހިފައެވެ. އަދި އެރިޔާ މެނޭޖްމަންޓް ޕްލޭން މިމަޝްރޫޢުގެ ސަރަޙައްދު ޕަބްލިކް އަސަރުކުރާނެ މިންވަރު ބެލުމުގެ ރިޕޯޓް (އީ.އައި.އޭ ރިޕޯޓް) ތައްޔާރުކުރުމުގެ މަސައްކަތް މިކުންފުނިން ހަވާލުވެފައެވެ. އެގޮތުން މިމަޝްރޫޢުގެ ކާބަފު ފަރާތްތަކުން ސަރަޙައްދު ހުޅުމާލޭގައި އެޅުމަށް ހަމަޖެހިފައިވާ، ފަޅުގެދަށުގެ ބޮޑުކަނޑުގެ 69 ވަނަ މާއްދާ ގައިވާ ގޮތުގެ މަތިން، މި އީ.އައި.އޭ ރިޕޯޓް ތައް އިދާރާއަށް ހުށަހަޅާ ކުރުމުގެ ގޮތުން މަޝްވަރާއަށް ދޭހަވެފައެވެ. މީގެ، މަސްލަހަތު ރިޕޯޓުގައި އޮތް މި ރިޕޯޓް ޕަބްލިކްކުރުމުގެ ސުވާލު ފުރިހަމަ ކޮށްދެއްވުމަށްފަހު ވީނަމަ އަވަސް ފުރުޞަތެއްގައި މަޝްވަރާ ހިފައިގެންނެވި ފަރާތަށް ނަންބަރު މިއުރާގެ ފޯނު ނަންބަރު 3315926 ނުވަތަ hana@cde.com.mv އަށް ފޮނުއްވައި ދެއްވުން އެދެމެވެ.

އިޙްތިރާމް ގަބޫލުކުރެއްވުން އެދެމެވެ.

15 މޭ 2016

ޚާދިމުކުމް

[signature]

ޒިޔާދު ސަޢީދު

މެނޭޖިންގ ޑިރެކްޓަރ

ހައުސިންގ ޑިވެލޮޕްމަންޓް ކޯޕަރޭޝަން، ހުޅުމާލެ

އީ.އައި.އޭ ރިޕޯޓް ޖަވާބު ދޭނެ ފޯމް

ރިޕޯޓުގެ ނަން: އެރިޔާ މެނޭޖްމަންޓް އިން ހުޅުމާލޭގައި އަޅާ ސަބްމެރިން ކޭބަލްގެ ދަށުން ތިމާވެށްޓަށް ކުރާނެ އަސަރު ވަޒަންކުރުމުގެ މަޝްވަރާ:

ހުށަހެޅި ފަރާތް:

މަޤާމު:

އިދާރާގެ ނަން:

ބައްދަލުވުމުގެ ތާރީޚް:

HOUSING DEVELOPMENT CORPORATION LTD	
RECEIVED DATE: 15/5/16	L.NO:
RECEIVED BY: Sana	TIME: 11:43
ACTION TO BE TAKEN:	
RECEIVED FOR ACTION:	[signature] Sana
COMMENTS:	

ސޮއި:

ބިސްމިﷲ الرحمن الرحيم

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ނަންބަރު: CDE-L/0516/65

ހދ. އަތޮޅު ކައުންސިލްގެ ރައީސަށް،

ވީއްސް ސަލާމަށްފަހު ދަންނަވަމެވެ.

ދެއްޗެގެއި ސަބްމެރިން ކޭބަލް އެޅުމުގެ މަސައްކަތް، އުރީދޫ މޯލްޑިވްސް އިން ކުރުމަށް ހަމަޖެހިފައެވެ. އަދި އުރީދޫ މޯލްޑިވްސް އިން ވަނީ މިމަޝްރޫޢުގެ ސަބްކޮންޓްރެކްޓަރ ތިމާވެއްޓަށް އަސަރުކުރާނެ މިންވަރު ބެލުމަށް ރިޕޯޓް (އީ.އައި.އޭ ރިޕޯޓް) ތައްޔާރުކުރުމުގެ މަސައްކަތް ހަވާލުކުރެވިފައެވެ. އެގޮތުން މިމަޝްރޫޢުގެ ކޭބަލް ވާނީ ސައިޓްއާ ކުޅުދުއްފުށި އޮޅުމަށް ހަމަޖެހިފައިވާއިރު، ވާމަކުރަކާއި ގުޅުންހުރި 69 ވަނަ މާއްދާ ގައިވާ ގޮތުގެ މަތިން، މި އީ.އައި.އޭ ރިޕޯޓް ކައުންސިލްއާއި ހިއްސާ ކުރުމުގެ ގޮތުން މިސިޓީއާއި ފޮނުވީމެވެ. އަދި، މިސިޓީގެ ތިރީގައި އެވާ މި ރިޕޯޓް ކައުންސިލަށް ލިބުނުކަމުގެ ސޮއިކޮށް ފެކްސްމަ ކޮންފަރމްކުރަށްދެއްވުން އެދެމެވެ. ފެކްސް ނަންބަރު 3315926 ނުވަތަ hana@cde.com.mv އަށް ފޮނުއްވައި ދެއްވުން އެދެމެވެ.

އިޙްތިރާމް ގަބޫލުކުރެއްވުން އެދެމެވެ.

12 މޭ 2016

ޚާދިމްކުމް

ސަމީރު ސައީދު

މެނޭޖިންގ ޑިރެކްޓަރ

ހދ.އަތޮޅު ކައުންސިލް، ކުޅުދުއްފުށި

އީ.އައި.އޭ ރިޕޯޓް ލިބުނު ކަމުގެ ރަސީދު

ރިޕޯޓްގެ ނަން: އުރީދޫ މޯލްޑިވްސް އިން ދެއްޗެގެއި އަދި ސަބްމެރިން ކޭބަލްގެ ދަށުން ތިމާވެއްޓަށް ކުރާނެ އަސަރު ވަޒަންކުރުމުގެ މަޝްރޫޢު:

ހަވާލުވި ފަރާތް: އަޙްމަދު އިބްރާހީމް

މަގާމު: ހދ. އަތޮޅު ކައުންސިލްގެ ރައީސް

އިދާރާގެ ނަން: ހދ. އަތޮޅު ކައުންސިލް އިދާރާ

ބަލައިގަތް ތާރީޚު: 15.05.2016

ބަލައިގަތް ގަޑި: 09:00

ސޮއި:

ތައްގަނޑު:

CDE Pvt Ltd
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Ameeru Ahmed Magu,
Henveiru, Malé, Maldives
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REG.NO. C-562/2001

بسم الله الرحمن الرحيم

CDE-L/0516/62 :ނަންބަރު

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ދ.އަތޮޅު ކައުންސިލްގެ ރައީސް ހަސަން އަބްދުލްރަހްމާނަށް،

ވީފަސް ސަލާމަށްފަހު ދަންނަވަމެވެ.

ތަރައްޤީގައި ސަޕޯޓްދިނުން ކާބަފު އުޅުމުގެ މަސައްކަތްތަކަށް، އެޑިއު ޑިވެލޮޕްމަންޓް އިން ކުރިމަތިލާފައި ހަމަޖެހިފައެވެ. އަދި އެޑިއު ޑިވެލޮޕްމަންޓް ފަރު މިމަސައްކަތުގެ ސަރަހައްދު ޕްރޮޖެކްޓް އެސެސްމަންޓް މިނިވަން ބާހަކަތަށް ދިރާސާ (ޔޫ.އެސް.އޭ ދިރާސާ) ތަރައްޤީކުރުމުގެ މަސައްކަތް މިކުންފުނިން ހަމަޖެހިފައިވެއެވެ. އެގޮތުން މިމަސައްކަތުގެ ކާބަފު ފެންޑިން ސަޕޯޓް ދިރާސާ ކުރުމުގައި އެންމެ ރަނގަޅު ފުރުސަތެއް، މާލޭގެ 69 ވަނަ މާއްދާ ގައިވާ ގޮތުގެ މަތިން، މި ޔޫ.އެސް.އޭ ދިރާސާ ދިރާ ކައުންސިލާއެކު ރިޕޯޓް ކުރުމުގެ ގޮތުން މިސާލާއެކު ފޮނުވީމެވެ. މިހާ، މިރިޕޯޓުގެ ދިރާސާއި އެކު މި ދިރާސާ ކައުންސިލަށް ދެންނެވުމުގެ ސަރުކާރު ފުރުސަތު ކޮށްދެއްވުމަށް ދެންނެވީއެވެ އެފަދަ ފުރުސަތު މިބޭނުމުގައި ހިފައިދެއްވާ ގޮތަށް ނަންބަރު މިއުޅުގެ ފޯނު ނަންބަރު 3315926 ނުވަތަ hana@cde.com.mv އަށް ގުޅުއްވައި ދެއްވުން އެދެމެވެ.

އިޚްލާސްތެރި ގޮތުން ދަންނަވަމެވެ.

12 މޭ 2016

މާރިޔާކާ

[signature]

ސިމާދު ސާއިދު

މެނޭޖިންގ ޑިރެކްޓަރ

ދ. އަތޮޅު ކައުންސިލް، ކުޑަ

ޔޫ.އެސް.އޭ ދިރާސާ ލިޔުން ކުރުމުގެ ފިޔުން

ދިރާސާގެ ނަން: އެޑިއު ޑިވެލޮޕްމަންޓް އިން ތަރައްޤީގައި އަދި ސަޕޯޓްދިނުން ކާބަފުގެ ދަށުން މިމަސައްކަތް ކުރުވާނެ އަސާސީ ފަރާތްތަކުގެ މަސައްކަތް:

ހަވާލުވި ފަރާތް: [illegible]

މަޤާމް: [illegible]

އިދާރާގެ ނަން: ދ. އަތޮޅު ކައުންސިލް [illegible]

ބަލައިގަތް ތާރީޚް: 15 މޭ 2016

ބަލައިގަތް ގަޑި: 10:55

ތައްގަނޑު:

ސޮއި: [signature]

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REG NO: C-282/2001

بسم الله الرحمن الرحيم

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ނަންބަރު: CDE-L/0516/60

އައްޑޫ ސިޓީ ކައުންސިލްގެ ރައީސަށް،

ވުދުން ސަލާމަށްފަހު ދަންނަވަމެވެ.

ރާއްޖޭގައި ސަބްސިޑީން ކާބޯތި އެތުރުމުގެ މަސައްކަތް، އެސްޓީއޯ ޕީއެލްސީއިން ކުރަމުންދަނީ ހަމަޖެހިފައެވެ. އަދި އެސްޓީއޯ ޕީއެލްސީއިން ވަނީ މިމަޝްރޫއުގެ ސަބަބުން ތިމާވެށްޓަށް އަސަރުކުރާނެ މިންވަރު ބަޔާންކުރާ ރިޕޯޓު (އީ.އައި.އޭ ރިޕޯޓު) ތައްޔާރުކުރުމުގެ މަސައްކަތް މިކުންފުންޏާ ހަވާލުކޮށްފައެވެ. އެގޮތުން މިމަޝްރޫއުގެ ކާބޯތި ވެއަރހައުސް ސައިޓު ހިތަދޫގައި އެޅުމަށް ހަމަޖެހިފައިވާތީ، ލާމަރުކަޒީ ޤާނޫނުގެ 69 ވަނަ މާއްދާ ގައިވާ ގޮތުގެ މަތިން، މި އީ.އައި.އޭ ރިޕޯޓު ތިޔަ ކައުންސިލާއި ހިއްސާ ކުރުމުގެ ގޮތުން މިސިޓީއާއެކު ފޮނުވީމެވެ. ވީމާ، މިސިޓީގެ ތިރީގައި އެވާ މި ރިޕޯޓު ކައުންސިލުން ލިބުނުކަމުގެ ސްލިޕް ފުރިހަމަ ކޮށްދެއްވުމަށްފަހު ވީއެންމެ އަވަސް ފުރުސަތެއްގައި މިސްލިޕް ހިފައިގެންދާ ފަރާތަކުން ނުވަތަ މިއޮފީހުގެ ފެކްސް ނަންބަރު 3315926 ނުވަތަ hana@cde.com.mv އަށް ފޮނުއްވައި ދެއްވުން އެދެމެވެ.

އިޙްތިރާމް ގަބޫލުކުރައްވުން އެދެމެވެ.

12 މޭ 2016

ޚާދިމުކުމް

[signature]

ސިމާދު ސަޢީދު

މެނޭޖިންގ ޑިރެކްޓަރ

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މަޤާމު: މޭޔަރ

އިދާރާގެ ނަން: "އައްޑޫ ސިޓީ ކައުންސިލްގެ އިދާރާ"

ބަލައިގަތް ތާރީޚު: 16 މޭ 2016

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Date: 12th May 2016

No: ORD -TECH/16/024

Mr. Ibrahim Naeem
Director General,
Environmental Protection Agency,
Male', Republic of Maldives.

Dear Sir,

<u>Sub: EIA for the proposed Nationwide Submarine Cable by Ooredoo Maldives</u>

Please find attached the EIA report for the above titled project.

Sincerely,

Ahmed Haleem

Project Manager (NaSCOM)

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އީ.އައި.އޭ ޑޮކިއުމަންޓުގެ ދަށުން ހުށަހަޅާ ރިޕޯޓުތައް ހުށަހަޅާ ފޯމު

އާންމު މައުލޫމާތު

ރިޕޯޓުގެ ނަން: EIA for the proposed Nationwide submarine cable by Ooredoo Maldives

ރިޕޯޓު ތައްޔާރުކުރި ކޮންސަލްޓަންޓުގެ ނަން: Dr. Ahmed Shaig — މޯބައިލް ނަންބަރު: 7788758

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އެޕްލިކަންޓް: Ooredoo Maldives — މޯބައިލް ނަންބަރު: 9611740

މުރާޖަޢާކޮށް ގޮތެއް ނިންމުމަށް އެދޭ ދަރަޖަ: ދަރަޖަ 1 (5000ރ) ☐ ދަރަޖަ 2 (10000ރ) ☐ ދަރަޖަ 3 (20000ރ) ☑

ރިޕޯޓުގައި ހިމެނޭ މައުލޫމާތު

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މި ފޯމުގައި ފުރިހަމަކޮށްފައިވާ އީ.އައި.އޭ ރިޕޯޓް އެޕްރޫވަލަށް ހުށަހަޅަމެވެ.

އެޕްލިކަންޓްގެ ނަން: Ooredoo Maldives — ތާރީޚް: 11/5/2016 — ސޮއި: [signature]

ooredoo
Technology Department

އިދާރީ ބޭނުމަށް

ރިޕޯޓު ރިސީވްކުރި ނަންބަރު .... ތާރީޚް ....

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ނަން .... ސޮއި ....

ރިޕޯޓު [illegible] ☐

ނަން .... ސޮއި ....

[illegible]

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އީމެއިލް:
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