



Ministry of National Planning,  
Housing and Infrastructure

# Gulhifalhu Dredging, Land Reclamation and Revetment Works



# Introduction

The Government of Maldives (GoM) has proposed the development of a port in Gulhifalhu Lagoon to alleviate the traffic load and congestion at the existing Male Commercial Harbour (MCH), which will be executed in phases:

## PHASE 1

Dredging, land reclamation and revetment works

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## PHASE 2

Construction of port infrastructure

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## PHASE 3

Construction of warehousing and ancillary facilities

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## PHASE 4

Construction of connecting bridge from Malé to Thilafushi

The Ministry of National Planning, Housing and Infrastructure (MNPHI) is the Proponent for Phase 1. Boskalis Westminster Contracting will be the main Contractor undertaking the work. The activities are being undertaken in 2 stages, of which stage 1 has already been completed in March 2021.

# The Project

Stage 2 of Phase 1, hereafter 'The Project', has been divided into the following four activities:

## PREPARATORY WORKS

- Mobilization of equipment and personnel, installing environmental mitigation measures (i.e. southerly containment bund, silt screens, etc.)

## DREDGING & RECLAMATION

- Dredging of 18 million m<sup>3</sup> of sand sourced from the borrow areas in North Malé Atoll using a Trailing Suction Hopper Dredger (TSHD), reclaiming Gulhifalhu lagoon to create a 192 hectare island

## SHORE PROTECTION

- Construction of rock revetments to protect all ocean facing sides of the reclamation works

## DEMOBILIZATION

- Dismantle and demobilize equipment and personnel from Gulhifalhu and handover to the MNPHI

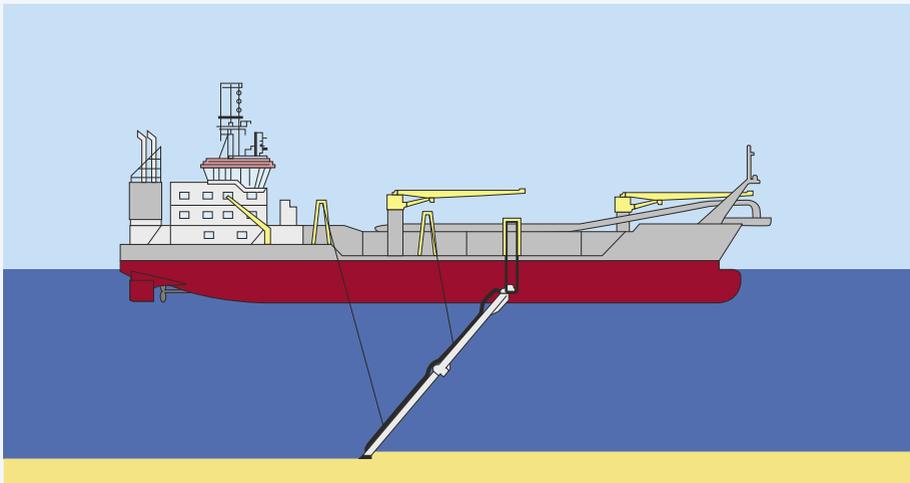
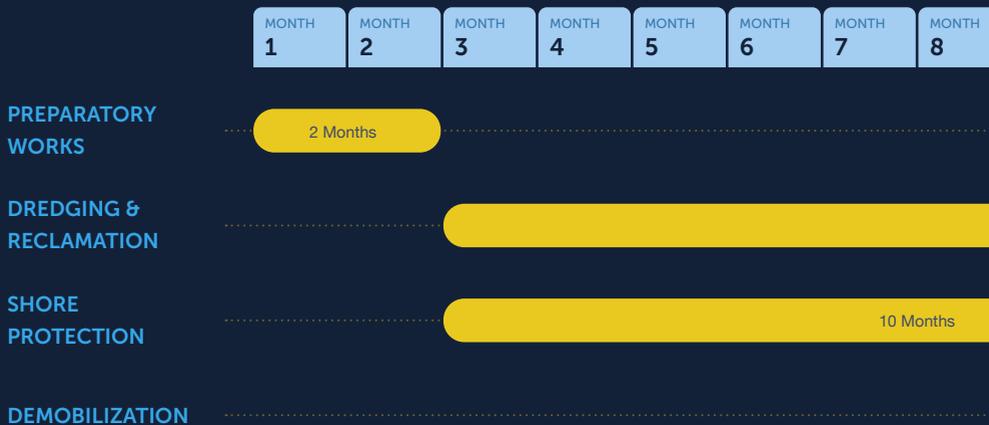


Figure 1. Trailing Suction Hopper Dredger

Upon start of The Project, the schedule is expected to be as follows:



# 3

## Summary of the Environmental and Social Impact Assessments

In preparation for The Project, the environmental and social impacts of the project activities have been assessed, after which mitigation measures and monitoring have been defined where necessary. The Environmental Impact Assessment Regulation (2012) requires an EIA for all major construction projects in the Maldives. The Project also requires compliance to international Environmental and Social (E&S) standards, specifically the IFC Performance Standards (IFC PS) and Equator Principles 4 (EP 4). As per these standards, additional E&S assessments were undertaken as part of a Supplementary ESIA.

MONTH 9 MONTH 10 MONTH 11 MONTH 12 MONTH 13 MONTH 14 MONTH 15 MONTH 16 MONTH 17

14 Months

1 Month

The following studies have been undertaken:

- Environmental Impact Assessment (EIA), CDE Consulting (2020)
- First Addendum to the EIA, CDE Consulting (2021)
- Supplementary Environmental and Social Impact Assessment (ESIA), ERM (2021)

The complete environmental and social assessments and management plans can be found at

[www.gulhifalhu.mv](http://www.gulhifalhu.mv)

This leaflet provides a summary of the main impacts, mitigation measures and monitoring.

# 3.1

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## Predicted impacts

The main impacts on the marine environment are from dredging and reclamation, and resulting turbidity and sedimentation. Immobile marine life and substrates capable of supporting marine life within the reclamation footprint will be permanently lost. The inner lagoon of Gulhifalhu is lost as a coral reef and sandy lagoon habitat.

Dredged sites (sandy areas used by bottom dwelling organisms, without coral growth) will recover over time. Reefs, in proximity to the dredging sites may be affected by turbidity and sedimentation depending on the season and reef location. Effects of turbidity may reach beyond the boundaries of the borrow areas especially close to the reef passes. Underwater visibility may be affected to multiple kilometres distance. The tidal patterns in Maldives and proximity of dredging sites to reef passes are likely to assist in flushing the Atoll lagoon of turbid waters faster but since the project will undertake 24 hour dredging and reclamation, there may always be an area of turbid waters within project vicinity for the duration of the project.

The projects activities are likely to have a socioeconomic impact on marine traffic safety, tourism facilities and activities in the region. Receipts from activities related to diving, snorkeling and possibly submarine operations may decline during dredging works. Aesthetic impacts from the constant presence of a large ship and sediment plumes may affect nearby resorts, residents of Male Region and tourists flying in and out of the airport.

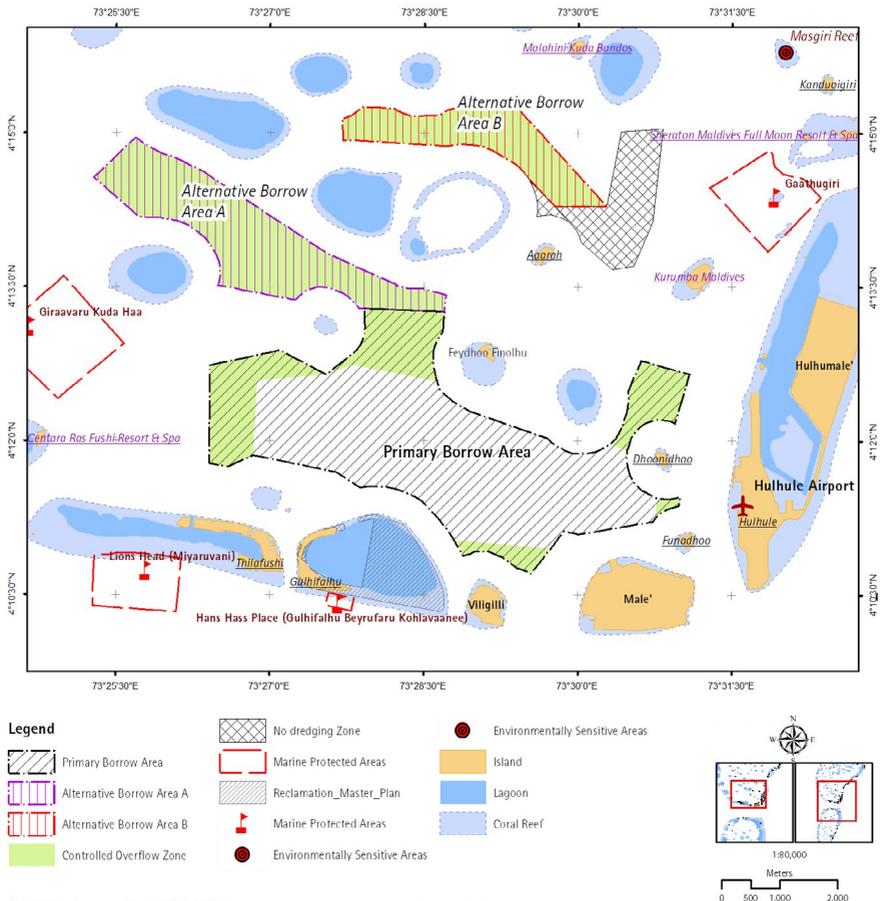
There will however also be significant socioeconomic benefits from this project. Removing the bottlenecks at MCH is fundamental for economic growth in Maldives as its ability to process cargo in a timely manner is at the heart of business operations (e.g. tourism) and new developments. Easing of congestions in Malé and more land being available for residential activities by removing port, warehousing, light industrial and logistical facilities from Malé is expected to improve the quality of life in Malé.

# 3.2

## Mitigation Measures

To minimise the impacts from turbidity and sedimentation, reclamation works will take place behind a sand bund, complemented where necessary and practical by silt screens. This helps to contain the sediment within the reclamation area as much as possible. In sections of the borrow area close to sensitive reefs, 'Controlled Overflow Zone' specified in figure 2, the dredge vessel will make use of a green valve: a device installed on the dredge vessel that decreases turbidity generated during dredging works.

Figure 2. Sand Borrow Areas, Gulhifalhu Lagoon, North Malé Atoll



Specific controls are in place to minimise impact during periods of coral spawning and/or coral bleaching. The loss of Gulhifalhu lagoon as coral reef habitat is compensated for through Biodiversity Offset, which is currently under development with the relevant authorities.

To minimise the impacts on marine traffic safety and people dependent on tourism activities, e.g. dive operators and resorts, the planning of construction activities will be communicated throughout the duration of the Project, to help stakeholders plan and prepare. Dredging closest to resorts will be executed during night-time as much as possible, to limit visual impact on tourists. Borrow Area B has been amended to mitigate the risk of exceeding environmental limits at Aarah and Kurumba Island Resort. Dredging in the remaining section of Borrow Area B will be avoided during peak tourism season (15-Dec to 15-Jan). Livelihood Surveys are undertaken to determine any residual socioeconomic impacts.

## 3.3

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### **Monitoring**

Water quality and sedimentation rate will be monitored to determine the extent of impacts and the effectiveness of mitigation measures. The complete monitoring schedule, including all environmental and social monitoring, can be found in the EIA on the Project website.



## How can you contact us?

Below are the ways that you can contact the Project to provide feedback or lodge a grievance. Your grievance will be kept confidential and you can file a grievance anonymously, if you wish to do so.

**Phone** Please call our Community Liaison Officer on +960 732 5376

### **Viber / WhatsApp / Telegram**

Send a message to the Project at +960 732 5376

**Email** Contact us through [clo@planning.gov.mv](mailto:clo@planning.gov.mv)

**Website** Fill in the feedback and grievance form on the website at [www.gulhifalhu.mv/feedback/](http://www.gulhifalhu.mv/feedback/)

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