



#### MINISTRY OF TOURISM

REPUBLIC OF MALDIVES

# INFORMATION SHEET/GUIDELINE BATHYMETRIC SURVEY



#### 1. Location:

Atoll: Kaafu

Island: Kaashidhoo

Locations:

- 4°57'28.83"N, 73°26'17.69"E

- 4°57'43.06"N, 73°27'05.43"E

- 4°58'26.38"N, 73°27'20.96"E

- 4°58'24.32"N, 73°27'02.21"E

- 4°58'15.94"N, 73°26'46.83"E

- 4°58'04.82"N, 73°26'32.59"E

- 4°57'47.07"N, 73°26'21.10"E

Size: 180 ha (approximate)

## 2. Bathymetry:

- a) Surveyor/contractor should survey above defined area (Google map attached).
- b) Data should be collected at 50-100 m grid with a horizontal accuracy of not more than 1m and vertical accuracy not less than 0.25m.
- c) In case of steep slopes, boulders and pits, additional spot levels should be measured in order to draw accurate contour lines. Extrapolation based on aerial image overlay would be acceptable for areas within the 50-100m grid.
- d) Echo sounder should be used for bathymetric survey. The positioning should be done by D-GPS or Total station. Where use of echo sounder is found inappropriate like shallow water area or surf zone, Total station method, lead or leveling staff can be used.

### 3. Mapping:

- a) **Projection:** UTM Zone 43 North for areas north of the equator and UTM Zone 43 South for areas south of the equator
- b) **Spheroid:** WGS 84
- c) **Datum level for Elevation and Depths:** MEAN SEA LEVEL (MSL).

#### Additional information;

d) All the points should be measured in Northing Easting and Orthometric Height coordinates. The coordinate values (horizontal) of the four corners of the map sheet should be labeled.

- e) Major contour interval should be 1 meter and minor 0.5m.
- f) A satellite or aerial image of the area should be inserted to background and aligned to the map (Geo-referenced).
- g) The bathymetric map should be combined and incorporated in the final products (both digital and printed map).
- h) The final map should be provided in .dwg and .pdf format.
- i) The size of the map sheets should be A3.
- j) All maps should show the reference PSMs used with their approved x, y and z coordinates.
- k) All linear measurements should be in meters and all angular measurements should be in degree minutes seconds. Areas in square meters and Volume in cubic meters.

## 4. Bench mark/reference point:

Surveyor/contractor should use the existing Survey Control Station at Kaashidhoo (Kaafu Atoll) as a reference point. If Survey Control Station are not available Surveyor/contractor should provide at least one permanent bench mark (PBM). The data in the survey shall be in relation to the PSM coordinates of the PSM or PBM.

#### 5. Deliverables

## a. Final Report:

Final Report should explain the methods of surveys, survey equipments and devices, the dates of surveys, details of the Control Points, condition of the site, information about the surveyors. Reports should be signed by a registered surveyor or environmental consultant.

## b. Map Sheets:

The final map should be provided in .dwg and .pdf format fitted to A3 paper size. Map scale should be indicated on the map.

## c. Digital Copy of Final Reports and Products:

- All reports in PDF format.
- Processed data in ASCII format.
- All drawings in AutoCAD (.dwg) and PDF format.

Note: Above details area based on Maldives Land and Survey Authorly Guidelines. However, for the purpose of this survey some of the perimeters are changed.

