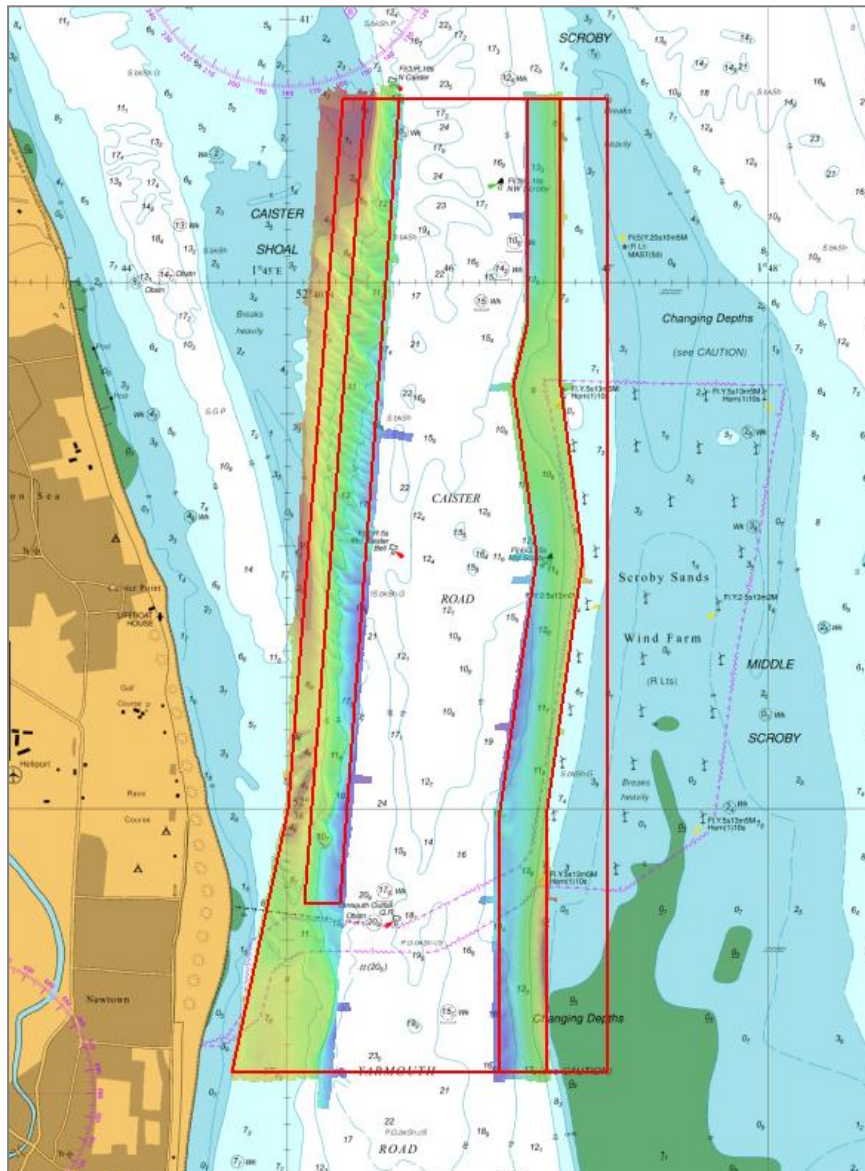




## EAST ANGLIA CAISTER ROAD

### SUMMARY ASSESSMENT ON THE ANALYSIS OF ROUTINE RESURVEY AREA EA4 FROM THE 2014 SURVEY



# EAST ANGLIA

## CAISTER ROAD

### Summary Assessment EA4/2014

A summary assessment of the 2014 hydrographic survey of the area: to monitor recent seabed movement; to identify any implications for shipping; and to make recommendations for future surveys.

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## CAISTER ROAD, 2014

### 1 Introduction

- 1.1 EA4 is scheduled to be fully surveyed every 12 years, with a focused area on the eastern side surveyed every 3 years and a focused area on the western side surveyed every 6 years.
- 1.2 In 2014, only the eastern focused area was scheduled to be surveyed under its 3-year interval. However, significant shoaling was observed just south of North Caister buoy while surveying EA3 (Cockle Shoal) and it was agreed to expand surveying to include the western side of Caister Road.
- 1.3 This summary report looks at the focused survey along the western and eastern side of Caister Road. For more details on the area, including long-term changes, the report on the last full survey, conducted in 2005, should be consulted.

### 2 Description of the Area

- 2.1 The western area covers the eastern limit of Caister Shoal and the eastern area covers the western limit of Scroby Sands.
- 2.2 Caister Road is well buoyed and shipping keeps to this marked route. Vessels drawing up to 7.8 metres are known to use Caister Road.

### 3 Survey Data

- 3.1 The 2011 survey was conducted from 15 May to 2 July in conjunction with other areas. The 2014 survey was conducted from 29 June to 16 August in conjunction with other areas and with days lost due to bad weather. The Vertical Offshore Reference Frame (VORF) and GPS heighting were used in both surveys to reduce depths to Chart Datum, with the final deliverable being a 1 metre CUBE (Combined Uncertainty and Bathymetric Estimator) gridded surface.
- 3.2 South of Mid Scroby buoy, the eastern side of Caister Road is surveyed annually by Trinity House as a buoy-line survey.

### 4 Changes since the 2011 Survey

- 4.1 Differences between the 2011 and 2014 surveys are shown in the surface difference plot at [Annex A](#). A comparison of the 10 metre contour is at [Annex B](#).

#### Area A: Western side of Caister Road

- 4.2 In the north of the area significant shoaling has occurred over Caister Shoal, with depths reducing by up to around 7 metres. This has resulted in some eastward migration of the 10-metre contour, although most of the change has taken place inside the contour as shown in [Annex C](#) cross-section A-B, with the 5-metre contour moving eastwards by up to 260 metres.
- 4.3 Further south there has been less change, with the 10-metre contour broadly in the same position in relation to Caister Road. Depths at the southern end of Caister Shoal have shoaled, as shown by the extension of the 10-metre contour shown in [Annex B](#) and cross-section E-F in [Annex C](#). This lies at the southern end of an inshore flood channel used by shallow draught craft which leads northwards to Hemsby Hole.

Within this area, depths less than 5 metres are found 600 metres further south in the 2014 survey.

#### **Area B: Eastern side of Caister Road**

- 4.4 The 10-metre contour delimiting Caister Road is broadly in a similar position across much of the area, but with a notable expansion in the northeast corner of Scroby Sands wind farm, as shown in [Annex B](#). Cross-sections K-L and M-N at [Annex C](#) show that the shoaling has occurred over a relatively flat area and the outer extent of the 10-metre contour, shown as an isolated contour in the 2011 survey, is little changed.
- 4.5 In the far south of the area, loss of sediment from the face of Scroby sand has resulted in the 10-metre contour receding by 85 metres.

### **5 Recommendations**

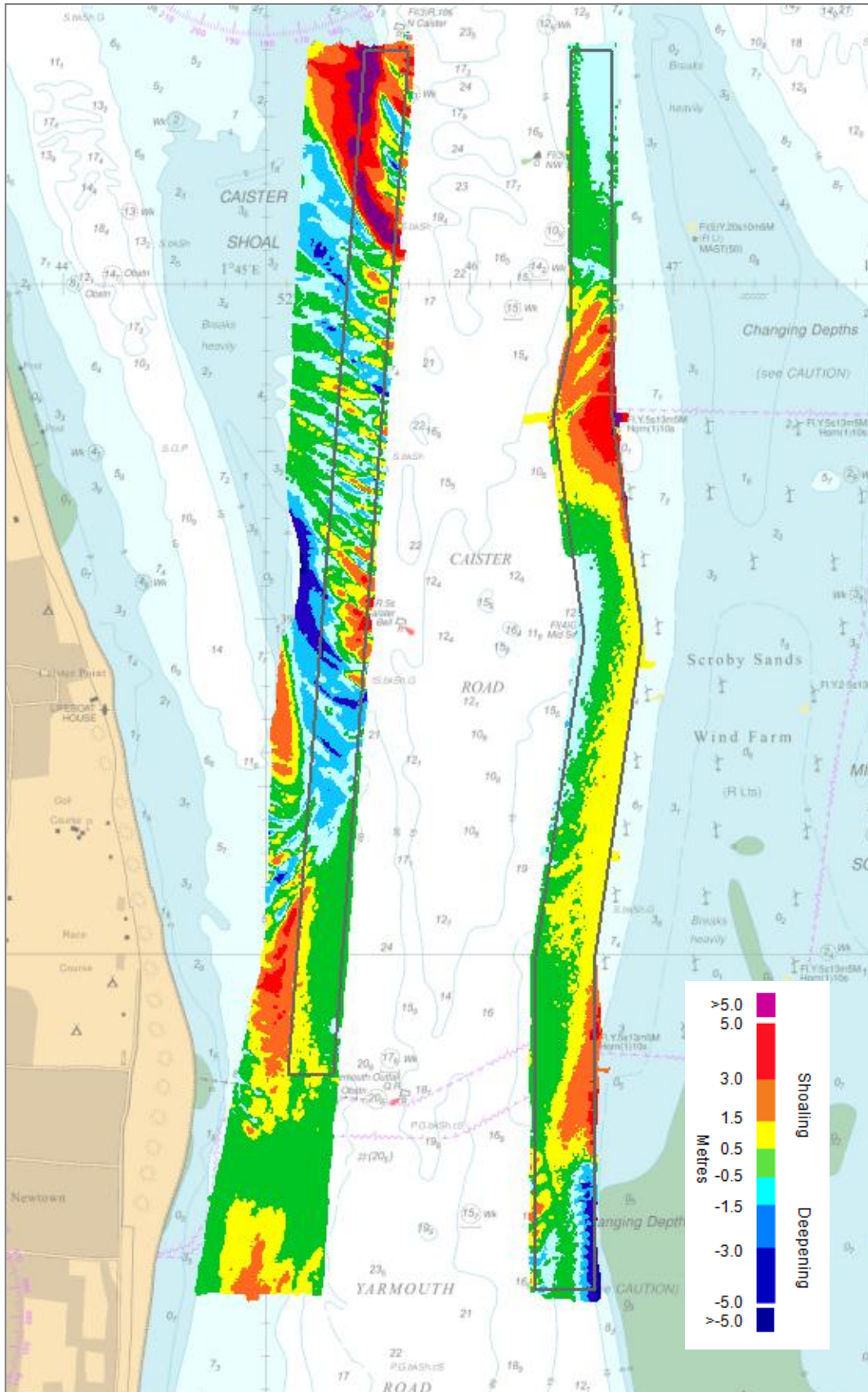
#### **Area A: Western side of Caister Road**

- 5.1 Considering the degree of change along the edge of Caister Shoal on the western side of Caister Road, it is recommended that the 6-year survey interval is reduced to a 3-year survey interval. The limits should be revised slightly to better cover changes at the southern end of Caister Shoal across the entrance to the inshore channel, as shown in [Annex D](#).

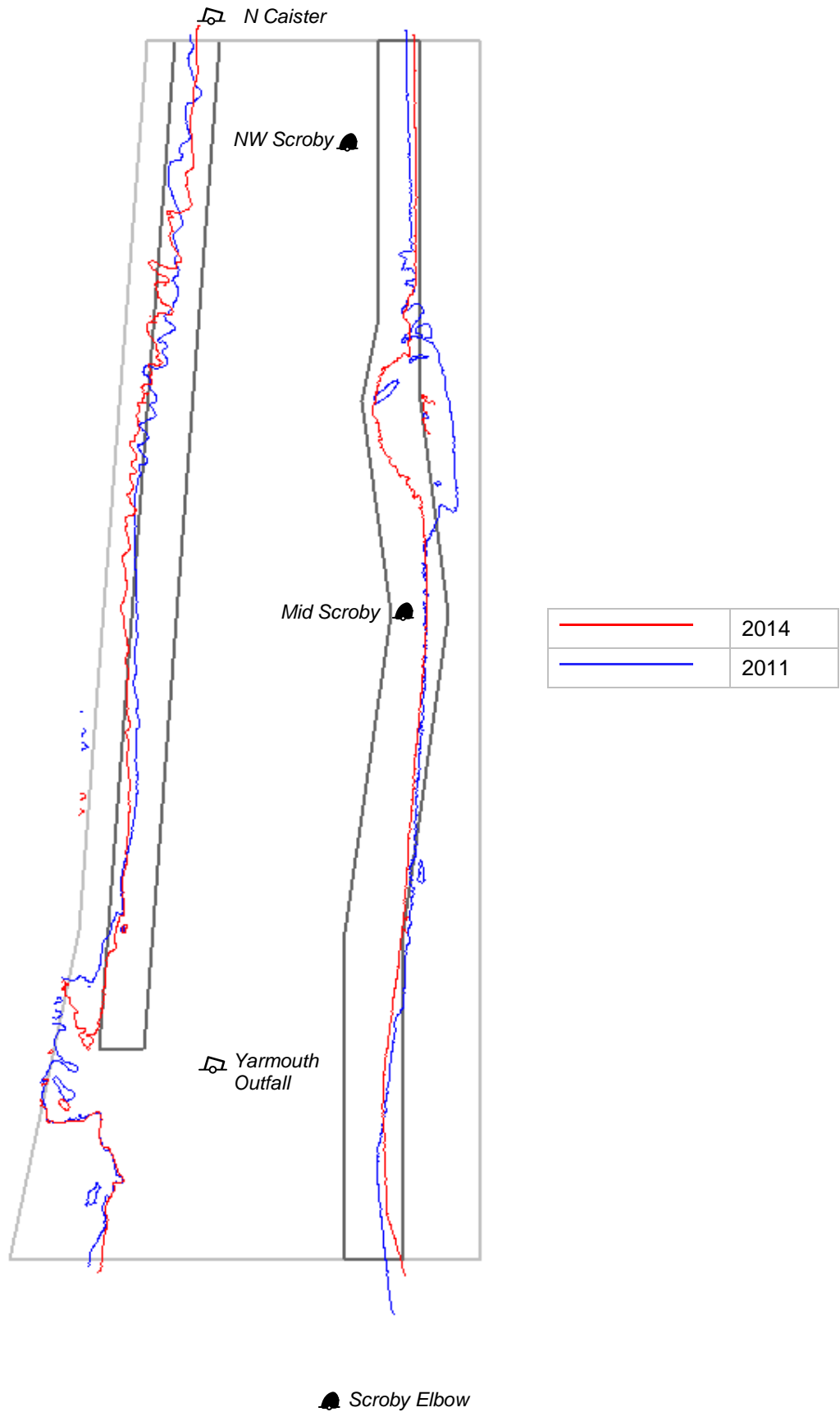
#### **Area B: Eastern side of Caister Road**

- 5.2 The 3-year survey interval is considered appropriate with unchanged limits.

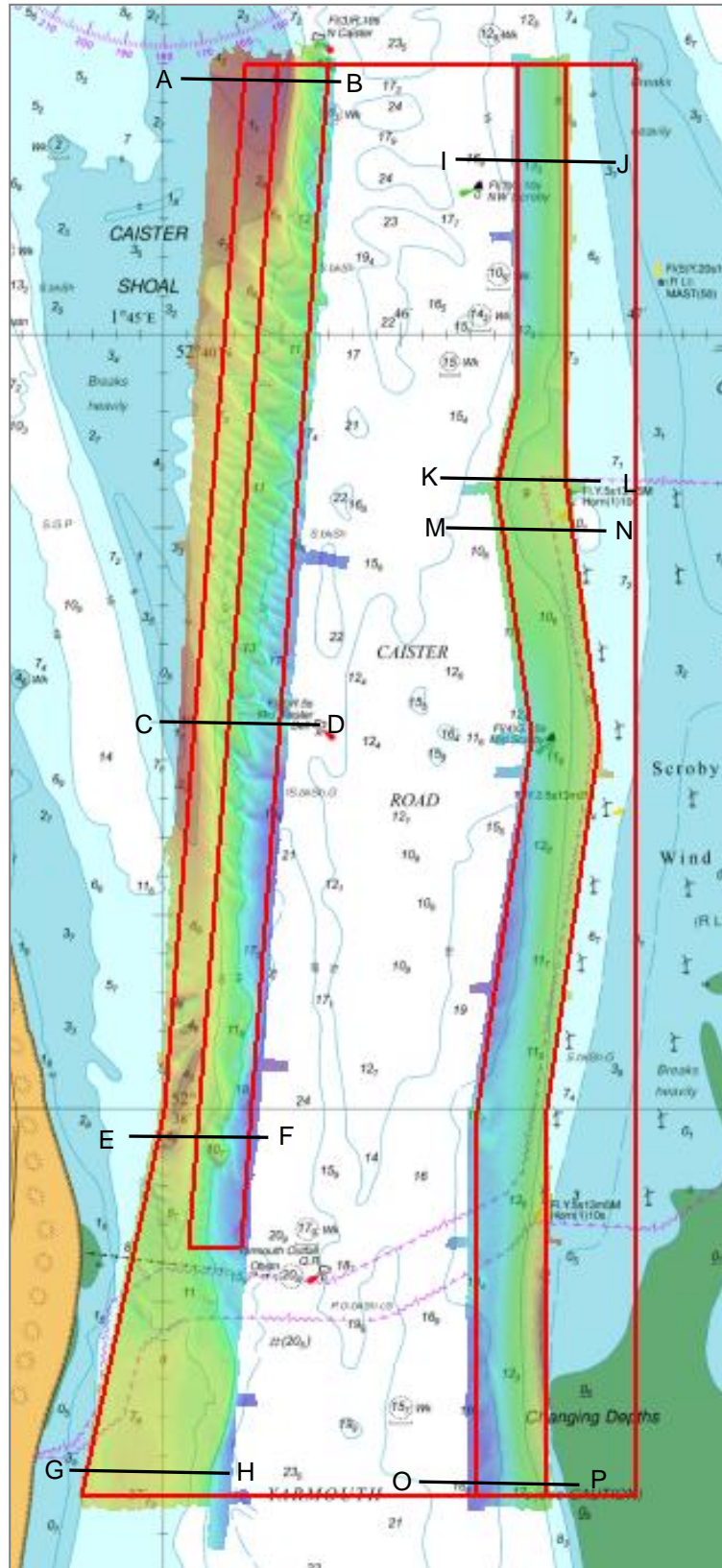
### SURFACE DIFFERENCE COMPARISONS 2011 – 2014 SURVEYS



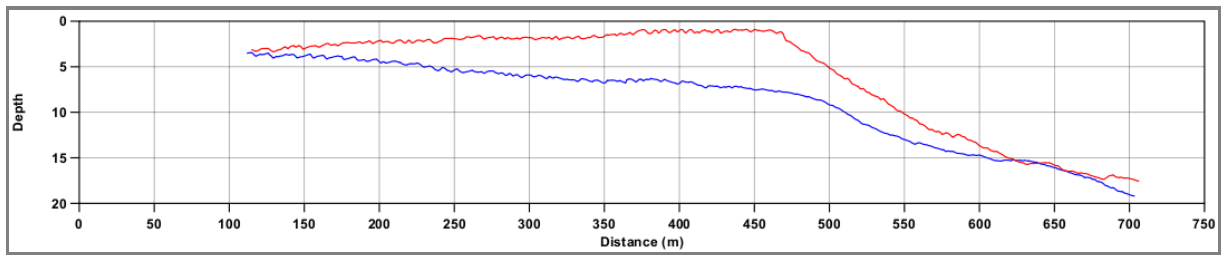
### COMPOSITE DIAGRAM OF THE 10 METRE CONTOUR FROM THE 2011 AND 2014 SURVEYS



PROFILE COMPARISONS  
2011 – 2014 SURVEYS

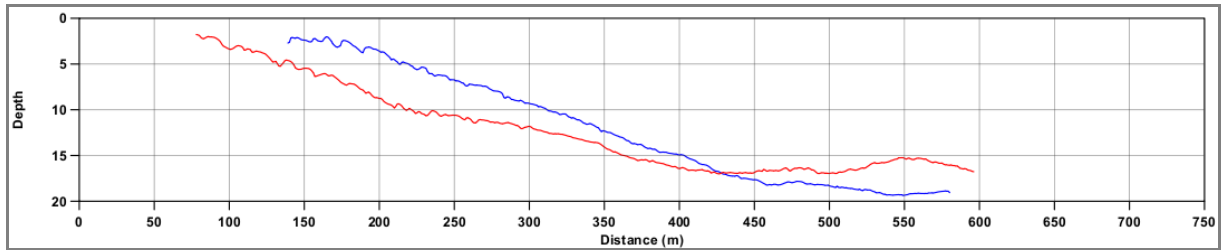


Western side of Caister Road



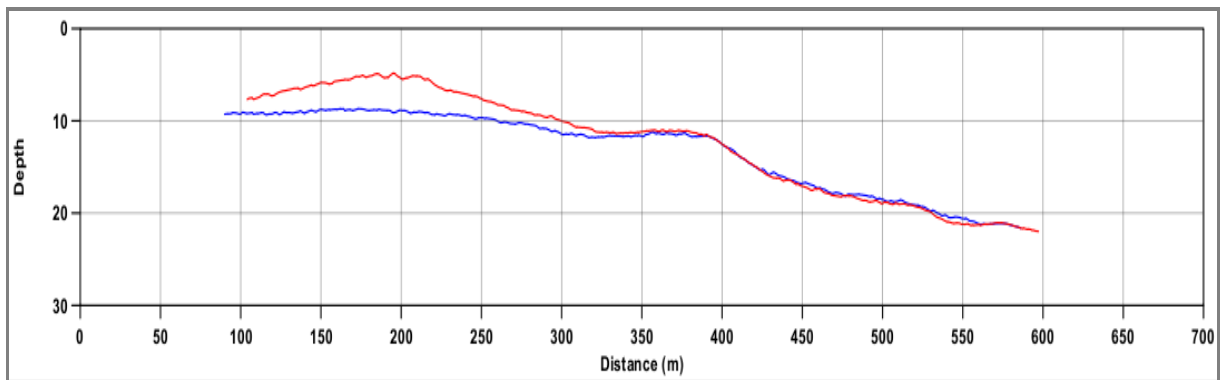
A

B



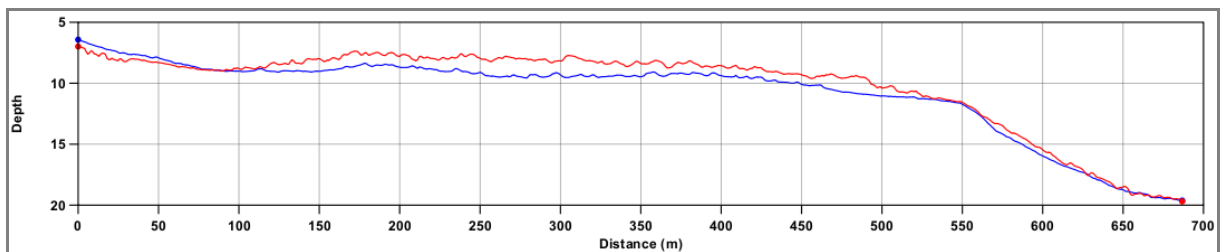
C

D



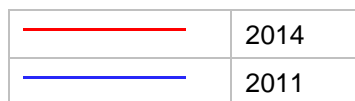
E

F



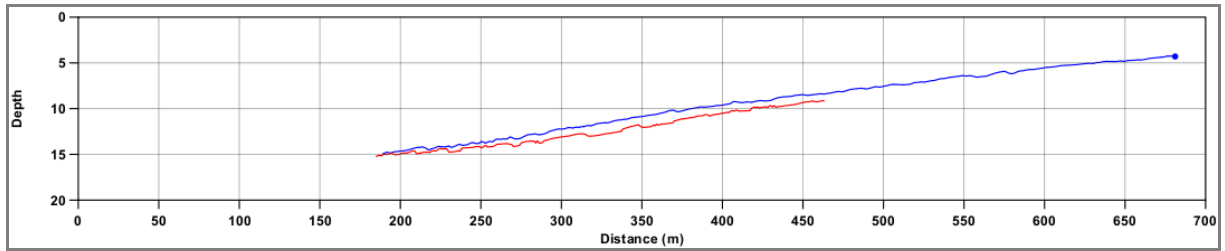
G

H



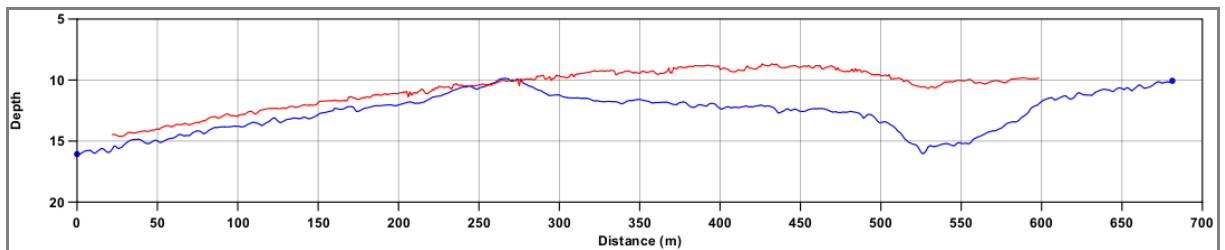


Eastern side of Caister Road



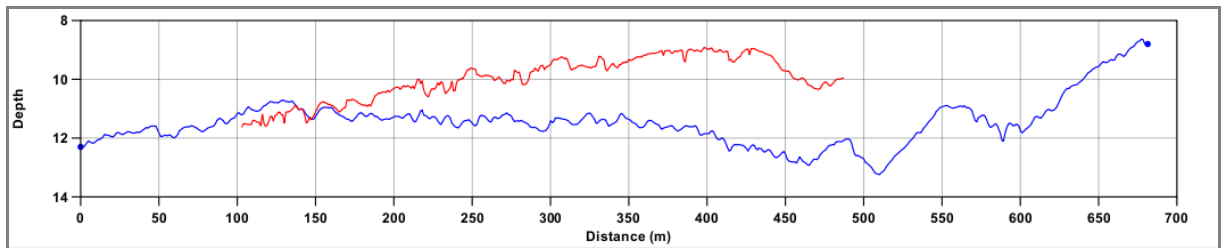
I

J



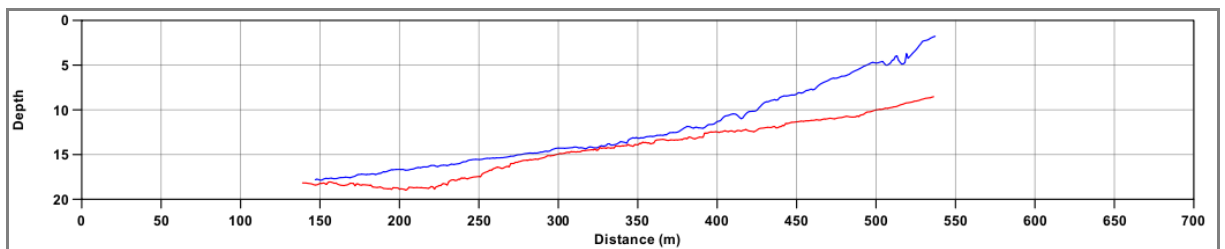
K

L



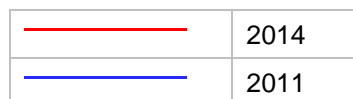
M

N

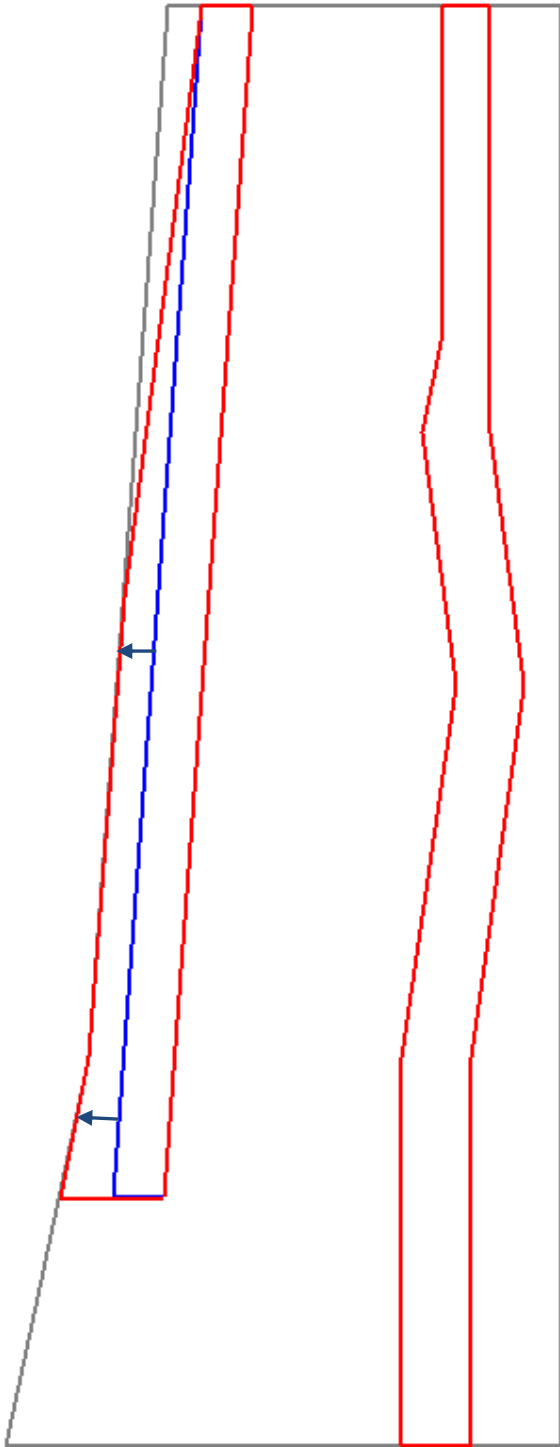





O

P



PROPOSED REVISED LIMITS TO THE FOCUSED SURVEY AREAS



	Proposed 3-year Focused survey Limits
	Current 6-year Focused Area A Survey Limits
	Full 12-year Survey Limits