

Hunstanton Coastal Defences

Section F & G Interim Works Non-Technical Summary

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Borough Council of
**King's Lynn &
West Norfolk**



Location



Summary

- Interim works are required to Section F & G to prevent structural failure of the coastal defences
- Digital laser monitoring in June has detected movement to the sea wall and concrete pads
- Beach level erosion has continued over the summer, and the whole length of the sheet piling now has at least 1m of sheet piling exposed, a trigger point for structural stability
- Recent visual signs of cracking to sea wall and concrete pads shows movement

Monitoring Data (June – July 2026)

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Beach Levels Section G

Sheet pile exposure is now between 100cm to 149cm across length of Section G

Base of seawall toe exposed adjacent to northern end of sheet piles

Exposure of sheet piles over 1m sustained for over 2 months

Up to 39cm of beach material erosion occurred between the 25th June 2026 to 3rd July 2026



Beach Levels

Section F

Sheet pile exposure is now between 101cm to 105cm across length of Section F

Exposure of sheet piles over 1m sustained period of time

Up to 25cm of beach material erosion occurred between the 25th June 2026 to 3rd July 2026

New Structural Defects

New structural defects have been observed in June 2026 which were not present in May 2026.

Appearance of these defects corresponds with exceptionally low beach levels recorded



Structural **Movement**

June 2026 structural stability monitoring identified changes in seawall height indicative of early-stage rotational / slippage failure for both Section F and G

Section F:

Up to +5mm change in height between Dec-24 and June-26

Section G:

Up to +2.1mm change in height between Dec-24 and June-26

This movement of the seawall can now visually be seen between seawall panels

Fairhust Stability Assessment

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Fairhurst - Data Assessment

Following BCKLWN review of June 2026 data outputs, Fairhurst (UK) Ltd were commissioned to undertake an urgent assessment of data to independently confirm whether: -

- (1) Whether early-stage structural failure is occurring?
- (2) Whether there is a credible risk of progressive structural failure without interim intervention?
- (3) Whether interim intervention is required to prevent structural failure?

Fairhurst – Data Assessment

Question 1 – Is early-stage structural movement occurring?

Based on the data received and reviewed, it is considered likely that early-stage structural movement of the seawall along Section F and G is occurring. This is supported by:

- (a) The rapid manner in which the beach levels are lowering due to storm events resulting in over 1m of exposed sheet piled toe. These piles are approximately 2m to 2.5m deep. Sheet piles typically required sufficient embedment to develop adequate passive resistance. This significant increase in exposed pile length reduces available passive resistance assumed within the original seawall design
- (b) Visual evidence of new concrete cracking to the seawall face and promenade
- (c) Vertical movement of the seawall panels measured at the seawall crest level. This is usually indicative of inception rotation or settlement / movement

None of these observations, taken alone, would be conclusive. However, when taken together, they consistently evidence the deterioration of structural movement and present a coherent and mutually reinforcing picture.



Diagram of sliding failure

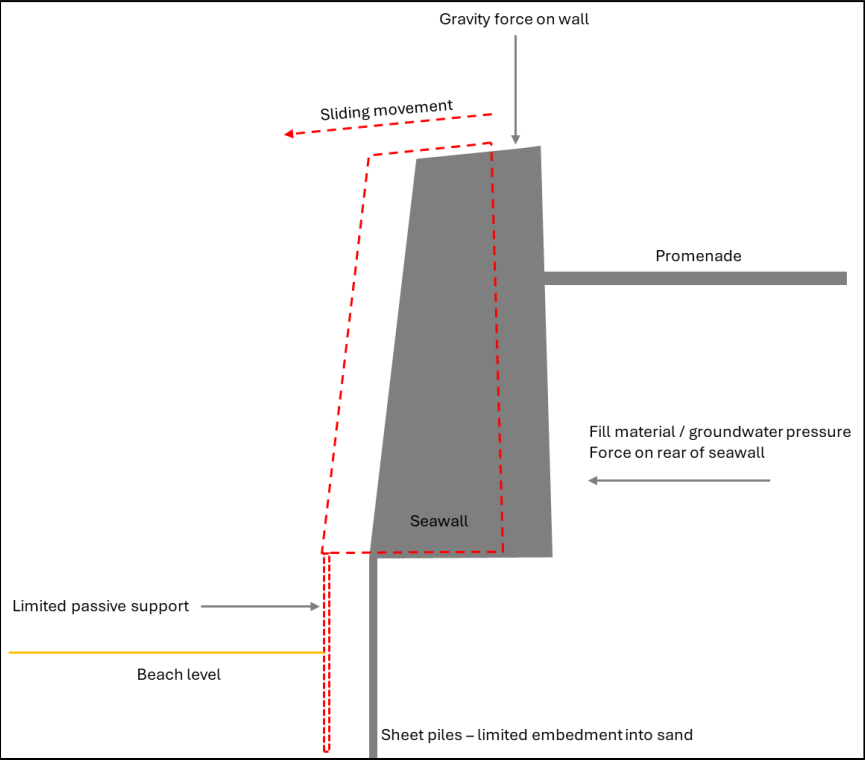
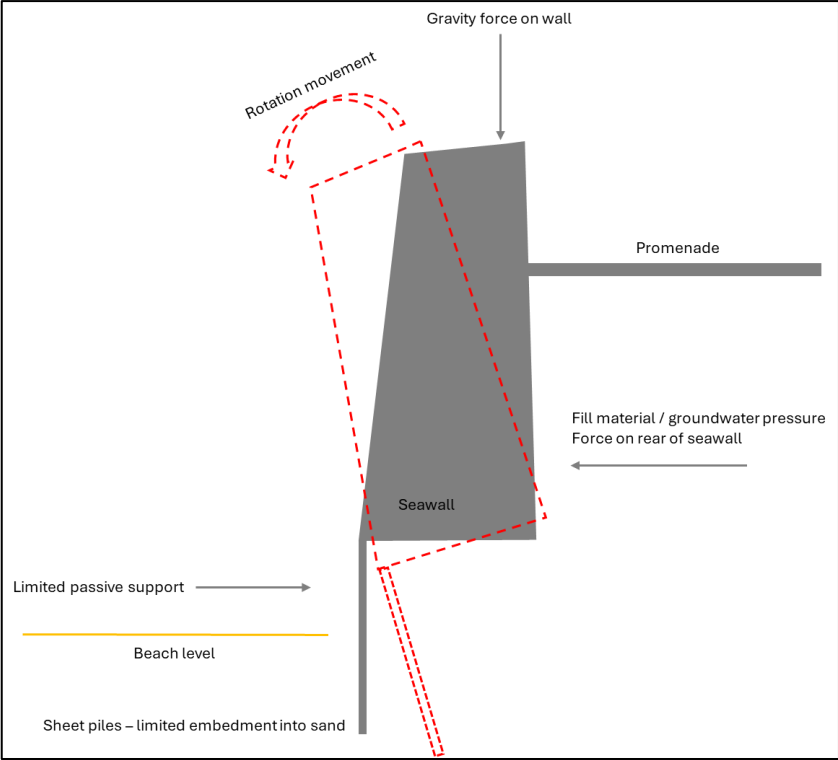


Diagram of rotational failure



Fairhurst – Data Assessment

Question 2 – Is there a credible risk of progressive structural failure without interim intervention?

Yes.

Based on the aforementioned reasons, the critical sliding failure mechanism identified is that assessment is directly driven by loss of passive resistance from the beach material in-front of the toe, continued erosion at the rate observed materially and progressively reduces the margin of safety against that mechanism.

The loss of passive resistance along Section F and G along with the reported undermining of the concrete toe over two and a half panels further north of the sheet piled toe, indicates that in places erosion has already progressed beyond the passive resistance loss mechanism modelled into direct undermining of the structures foundations. On this basis, without intervention, the risk of progressive failure is credible and increasing.



Fairhurst – Data Assessment

Question 3 – Is interim intervention required to prevent structural failure?

Yes.

It is recommended that interim intervention is required for the sheet piled section along the 170m length of Section F and G along with the seawall further north with the fully exposed seawall toe base.

Interim Works

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Interim Works Required – Rock Armour

Temporary installation of **granite rock armour at the base of the seawall toe** to provide sufficient mass to prevent further structural movement and failure until a permanent solution can be designed and constructed as part of the Hunstanton Coastal Defence capital works project.

Rock armour dimensions: 200m (L) x 9m (W) x 2-3m (h)
Primary rock layer will be 3 tonne rocks

10,000 tonnes of rock will be required

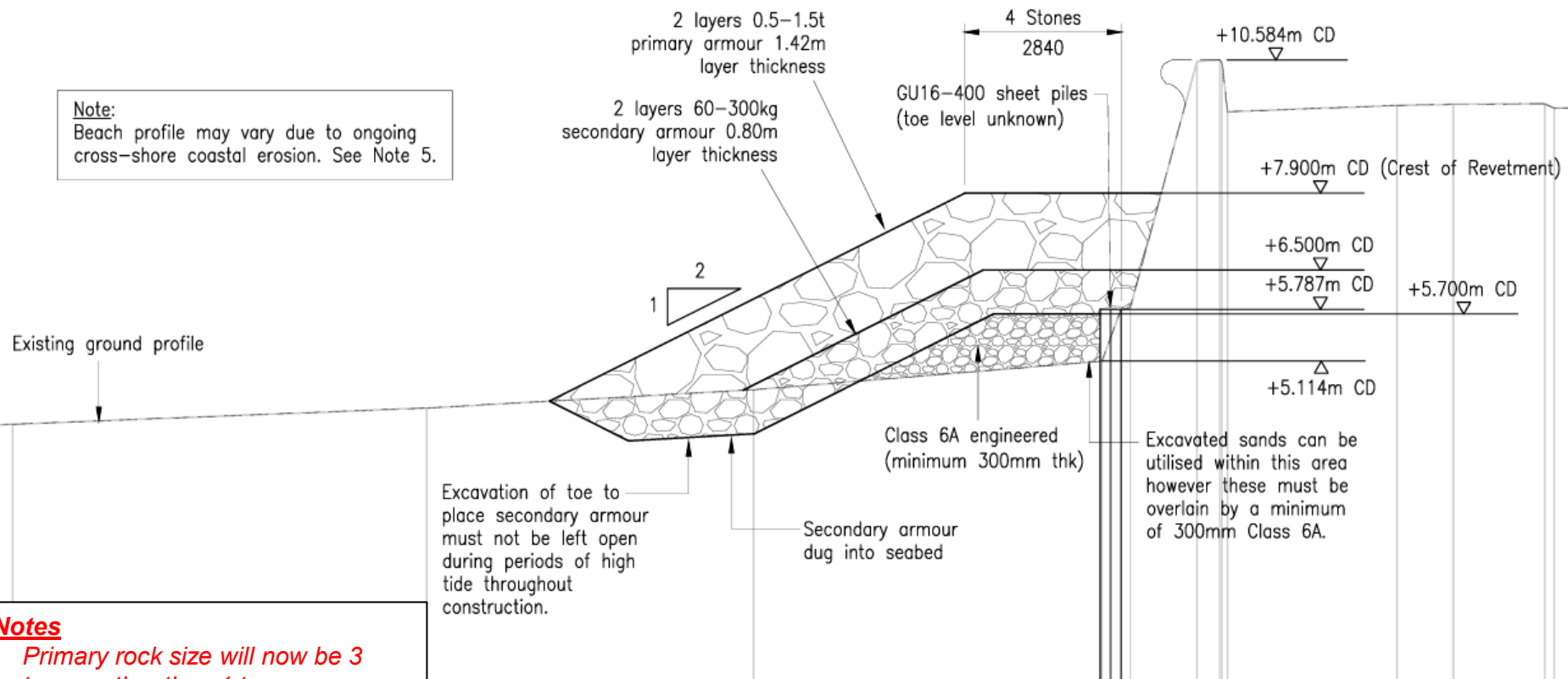
HGV delivery of 300 tonne of rock per day to site compound

Estimated 10-to-12-week programme of works

Construction to be completed by Southbay Civil Engineering Ltd
Structural Engineering & Design by Fairhurst UK Ltd

Rock Armour Design

Beach profile may vary due to ongoing cross-shore coastal erosion. See Note 5.



Notes

- *Primary rock size will now be 3 tonne rather than 1 tonne*
- *Increased Class 6A engineering fill will be needed due to the lower beach levels on site*

Planning Permission

- Planning permission for interim work and site compound will be required
- Planning Permission application started with early consultation with Planning Staff
- Fairhurst Planning Team will help with development and submitting of the planning application



Marine Licence

- Meeting held with MMO staff to advise of need for application
- Marine Licence will need to be applied for before works can start
- Work has started on preparing the Marine Licence application
- Fairhurst will assist with Marine Licence application

Natural England SSSI Assent

- Discussion held with NE officers
- Assent not required if planning or marine licence is applied for
- A Habitats Regulation Assessment will be required

Next Steps

- Fairhurst Planning Team to review permission options and confirm requirements and provide timeline for actions
- Review monitoring options going forward
- Cost circa £2.m (plus contingency amount)
- Updated Council webpage and FAQ's will be circulated to Stakeholders (including Prom Traders)