



## **Hunstanton Geotechnical Investigations – FAQs**

A series of frequently asked questions (FAQs) have been produced by the Borough Council of King's Lynn and West Norfolk regarding upcoming investigation works scheduled to take place to the Hunstanton sea defences. These FAQs are being distributed to local stakeholders, businesses and traders located on and behind the sea defences to provide information regarding what works will be undertaken.

### **What are geotechnical investigations and what will the outcomes be?**

Geotechnical investigations inspect the condition of parts of a structure which are located below the ground surface and therefore cannot be visually inspected. Outcomes of geotechnical investigations are then used to help determine the current stability of a structure, such as a seawall.

Outcomes of these geotechnical investigations will be used to assess the current structural condition of the Hunstanton sea defences which are maintained by the Borough Council. This will then be used to inform future work requirements to maintain the standard of protection the sea defences provide.

### **What geotechnical investigations will be undertaken?**

We will be undertaking three types of geotechnical investigations:

#### **1) Trial Pits:**

Trial pits involve excavating ground material, such as sand, to inspect the condition of parts of a structure which are normally buried beneath the surface.

25 trial pits will be dug into beach material along the base of the Hunstanton seawall via excavator, from the Sea Life Centre to where the defences end at the Hunstanton Cliffs. This will allow a coastal engineer to inspect the condition of the seawall foundations which are normally buried beneath beach material. Once the inspection is complete, the trial pit will be backfilled.

#### **2) Ground Penetrating Radar (GPR):**

GPR involves sending non-destructive radio waves down into a structure which then 'bounce back' when they encounter different types of material, such as concrete and metals. This process creates a digital image which helps to determine the internal condition of a structure which otherwise cannot be visually seen. This is done by hand pushing a sledge along the length of the promenade.

All 1.5km of the Hunstanton promenade, from the power boat ramp to where the defences end at the Hunstanton Cliffs, will be surveyed using GPR to confirm the promenades internal structural condition.

#### **3) Falling Weight Deflectometer (FWD):**

FWD involves simulating loads which are applied to the surface of a structure, such as vehicle movements, to determine its structural condition and weight bearing capacity. This is done by driving a small van and sledge along the length of the promenade.

All 1.5km of the Hunstanton promenade, from the power boat ramp to where the defences end at the Hunstanton Cliffs, will be surveyed using FWD to confirm the promenades current weight bearing capacity to occasional vehicle traffic.

### Why are geotechnical investigations being undertaken?

Detailed investigations which inspect areas of the sea defences which cannot be visually inspected were recommended by external consultants who undertook a visual inspection of the sea defences in 2022.

It is important to undertake more detailed investigations from time to time. Trial pits have previously been undertaken in 1996 and 2012, and GPR / FWD surveys were last undertaken in 2015. This new series of investigations will build on outcomes of previous investigations to identify any changes in the sea defences structural condition which may have occurred over time.



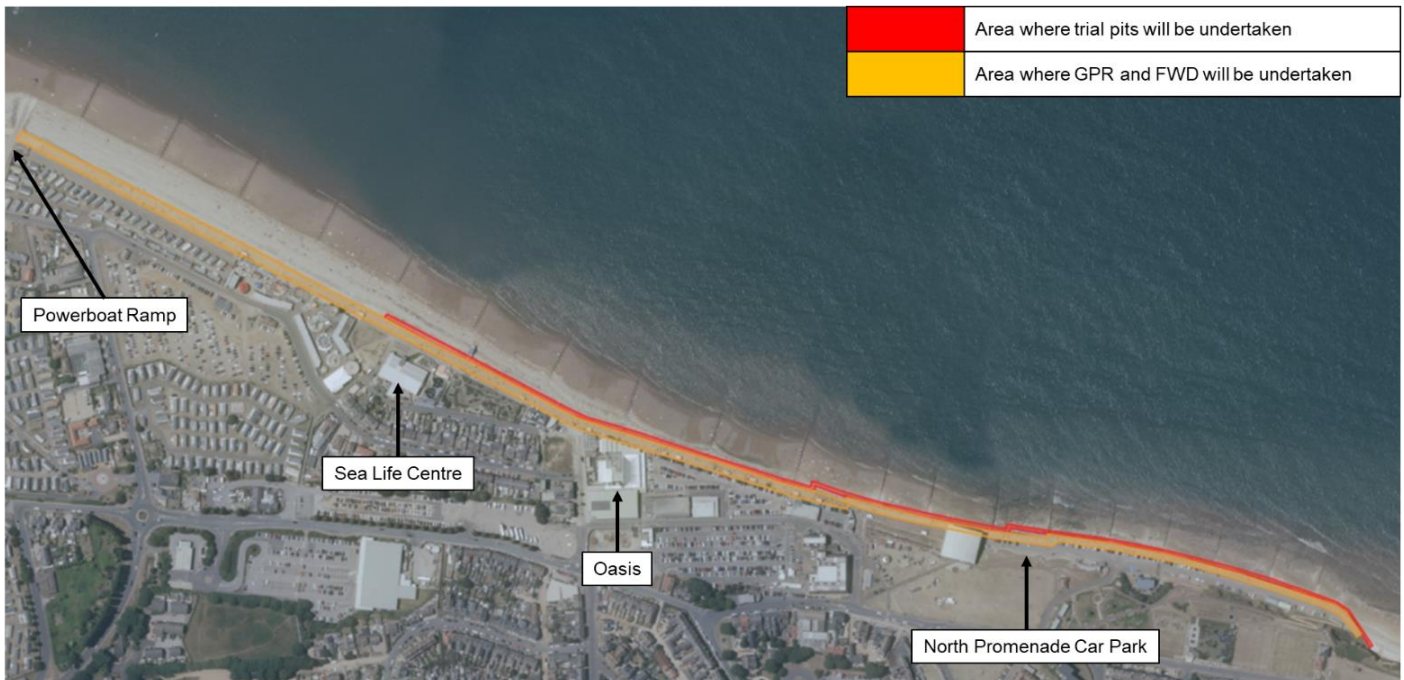
*FWD survey of Hunstanton promenade being undertaken in 2015.*



*Trial pit undertaken at base of Hunstanton seawall in 2012.*

### Where will the geotechnical investigations be taking place?

The below map shows where the geotechnical investigations will be undertaken.





### When will the investigations take place and how long will they last?

The on-site investigations will commence on **Monday 21<sup>st</sup> October 2024**. Trial pits are anticipated to take 20 working days to complete and the GPR / FWD survey taking 6 working days to complete. All works will be completed by the 30<sup>th</sup> of November 2024.

Investigations will only be undertaken Monday to Friday and will start no earlier than 8am and complete no later than 6pm or sunset (whichever is sooner).

### Will access to the promenade or beach be restricted while works are undertaken?

In order to ensure the safety of the public and contractors while undertaking the trial pit works, temporary barriers and fencing will be put in place on the beach and promenade while trial pit excavations are being undertaken. Access to the promenade and beach in locations where trial pits are not being excavated will be maintained. Appropriate warning signage will be placed around any areas which have restricted access while works are being undertaken.

There will also be intermittent movements of an excavator on the beach for the trial pits, and vehicle movements on the promenade for the FWD survey. A strict speed limit of 5mph will be followed alongside use of a banksman to guide vehicle movements and members of the public.

### Who will be undertaking the geotechnical investigations?

Following a tender exercise undertaken at the start of the year, the contract for these works was awarded to Concept Engineering Consultants who specialise in geotechnical investigations, including similar projects undertaken on the coast across the UK.

You can find out more about Concept Engineering Consultants on their website here:

<https://concepts.co.uk/>

### Will the work be noisy?

Intermittent use of an excavator will be required to undertake the 25 trial pits. It is not anticipated that noise from this will exceed occupational levels. When not in use, the excavator will be turned off in order to minimise any excess noise impacts.

No additional noise impacts are anticipated from the GPR and FWD surveys.

### What measures are being put in place to protect the environment during the work?

Protecting the environment throughout the duration of these works is of paramount importance. Before undertaking the trial pits, we have obtained a marine licence from the Marine Management Organisation (MMO) which includes due consideration for the marine environment and the associated environmental designations of The Wash. This includes mitigation measures which will be implemented in order to minimise adverse impacts on the marine environment.

You can view details of our marine licence on the MMO website using the case reference 'MLA/2024/00302' here: [www.gov.uk/check-marine-licence-register](http://www.gov.uk/check-marine-licence-register)



### **Will the investigations damage the sea defences?**

No. Both GPR and FWD surveys are considered 'non-destructive' investigation methods and the trial pits will be dug using an excavator bucket with a flat edge in order to minimise any risk of damage to the seawall.

### **What works will be undertaken once these investigations are completed?**

Future work requirements to the sea defences will be determined once all investigation works and a detailed analysis of the current structural condition of the sea defences has been undertaken.

### **Do these works relate to the shingle ridge initial assessment completed by the Environment Agency between South Hunstanton and Snettisham?**

No. These investigations are looking at the sea defences at Hunstanton Town which are owned and maintained by the Borough Council only.

### **Further information?**

You can find out more information about the works we will be undertaking on our website here:

[https://www.west-norfolk.gov.uk/info/385/coastal/1088/current\\_coastal\\_works](https://www.west-norfolk.gov.uk/info/385/coastal/1088/current_coastal_works)

If you have any other queries related to these works, please contact [floodandwatermanagement@west-norfolk.gov.uk](mailto:floodandwatermanagement@west-norfolk.gov.uk)