



# Cowbar Public Consultation Meeting



# Agenda

- Introductions
- Presentation
- Q&A

# Synopsis

- Staithes Coastal Strategy. Approved by the Environment Agency.
- The Council will deliver the Strategy as the Coast Protection Authority.
- Extensive optioneering was carried out, with phased realignment over 50 years being best economically, environmentally & socially.
- The October 2024 rockfall now means that Phase 1 needs to be delivered soon. Planned for 2026.
- Consultants are providing a detailed design & Outline Business Case needed for funding.
- We do not yet have funding. Current budget estimate is £1.2m.
- Without action, Cowbar Lane will be closed, utilities will need diverting & the lifeboat station/pumping station/quay wall will be cut off.



# Staithes Coastal Defence Strategy



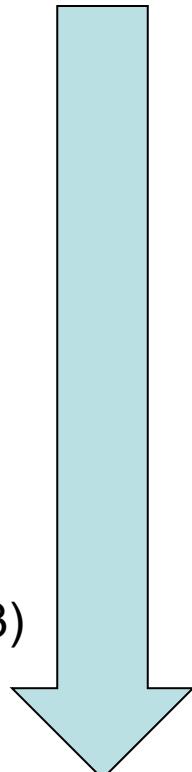
# Current Strategy (approved 2023)

- Aim: to provide up to date assessment of risks to people and built, natural and historic environment from sea flooding and erosion (including coastal slope instability (e.g. coastal landslip) as well as recession due to coastal erosion)
- 100 year appraisal period to consider the risks in the short and long term, and takes into account the impacts of climate change
- It looks at how to implement the approved policies from the Shoreline Management Plan 2 (SMP2)
- Provides a strategic framework for coastal defence projects going forwards



# History

- 1987 Road realignment at Cowbar Cottages (1 cottage demolished)
- 1997 Shoreline Management Plan
- 1999 Cowbar Strategic Study
- 2002 Cowbar cliffs rock armour works
- 2006 Road realignment scheme 1km to west of Cowbar Cottages
- 2007 Shoreline Management Plan 2
- 2023 Staithes Coastal Defence Strategy (developed between 2019 & 2023)
- 2025 Cowbar Cottage Road Realignment Outline Business Case



# Cowbar – Cliff Instability Risk

Top

- Cowbar Lane already at the edge of the cliff top
- At imminent risk of collapse in places

Upper

- ~ 30m to 40m zone
- Soft glacial till with issues of slips & mudslides triggered by heavy rainfall
- Localised slope stabilisation measures installed in areas above rock armour

Mid

- ~ 6m to 30m zone
- Direct wave attack in lower part
- Preferential erosion due to weathering of weaker beds & joints

Toe

- Foreshore to ~6m zone
- Direct wave attack causing erosion & scour
- Locally addressed by 2 short sections of rock armour (do not protect mid cliff)

# Cowbar - Impacts



Loss of access  
to 23 properties  
at Cowbar  
Cottages

Loss of access  
to 21 properties  
on Cowbar  
Bank & North  
Side

Loss of access,  
forcing  
relocation, of  
RNLI lifeboat  
station and YW  
pumping station

Direct erosion  
risk to 9  
properties

# Strategy Recommendation

## Option

- Phased Road Realignment
- Most economically viable option
- Environmentally preferred option
- Cottages retained longer than single intervention

## Timescales

- 3 phases anticipated gradually moving road back
- Timing dependent on frequency & severity of erosion episodes experienced in future

## Monitoring

- Current monitoring & inspections to remain ongoing

# Phase 1 Road Realignment - Funding

- Cost for Phase 1 of the scheme is currently estimated to be in region of £1.2 million
- Cost will be refined as the design of the works is developed further
- Funding is not yet secured but is being sought from several sources



## Partnership Funding e.g.

Grant in Aid Funding (Environment Agency)	Local Levy (RFCC)	Redcar & Cleveland Borough Council	Yorkshire Water
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# Cowbar Update Following Recent Rockfall

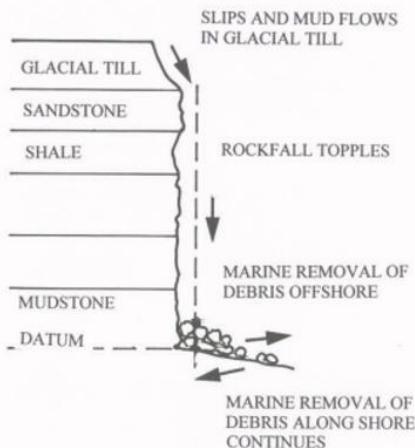
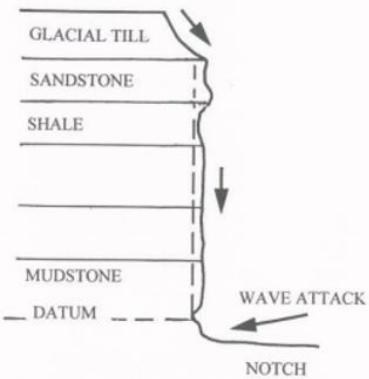
# October 2024 Rockfall Event

- On the 22<sup>nd</sup> a significant rockfall occurred on the sea cliffs, towards the northern end of Cowbar Cottages

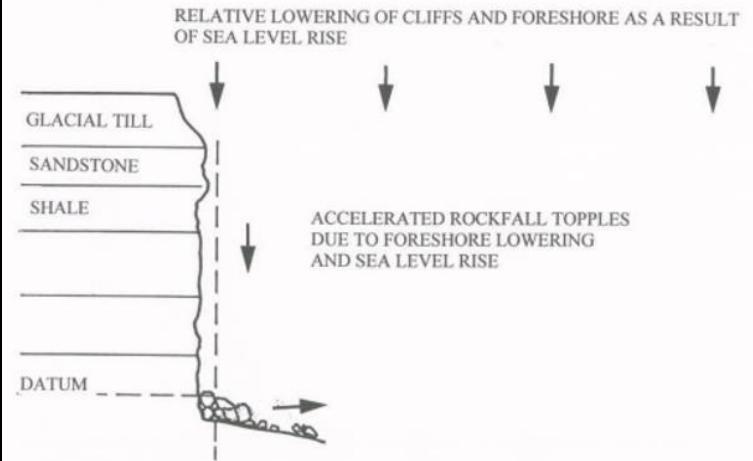


# Post rockfall inspection findings

## PRESENT SCENARIO



## FUTURE SCENARIO



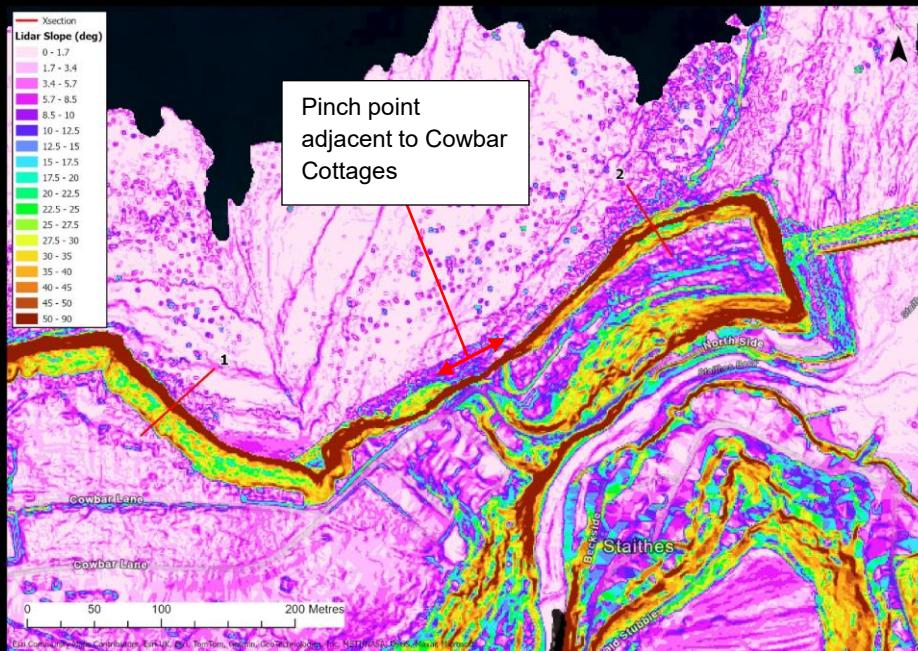
# Post rockfall inspection findings

- Any remaining previous soil stabilisation measures to upper glacial till layer appear to no longer be providing any support.



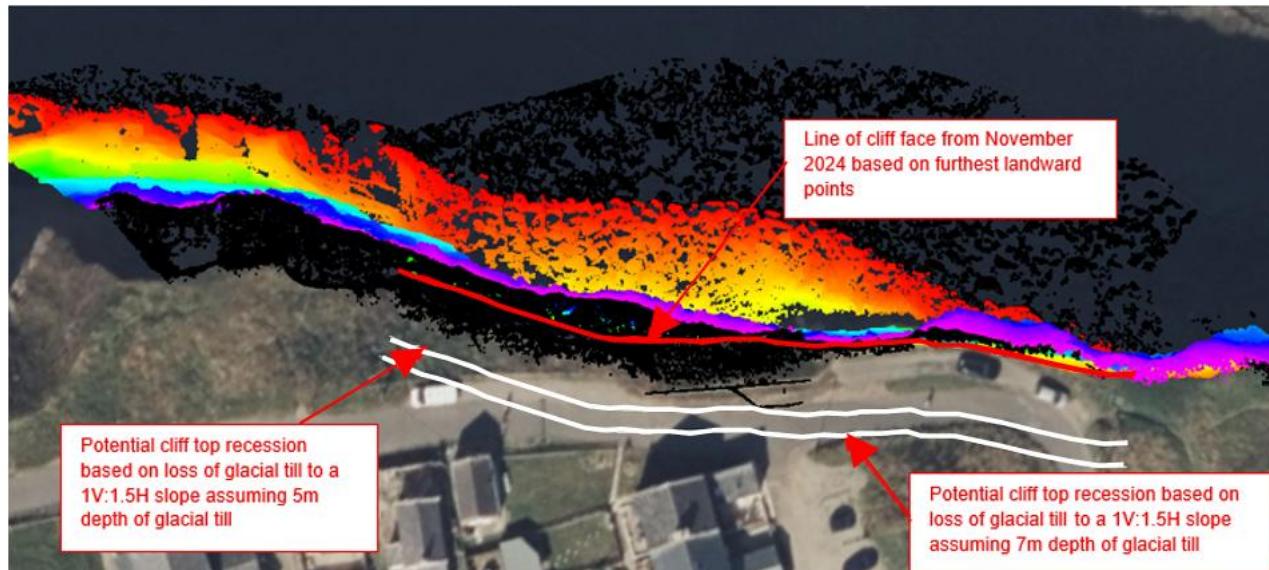
# Review of pre & post rockfall survey data

- Material at top section of cliff adjacent to pinch point alongside Cowbar Cottages (50 - 90° to the horizontal) is much steeper than that on the upper till sections of cliff to the east and west (20 - 40° to the horizontal) where section markers 1 and 2 are shown below.



# Review of pre & post rockfall survey data

- The shallower angle of the upper soft material at the top of the cliffs on the sections to the east and west of Cowbar Cottages, where vegetation is established, provides an indication of the more stable angle of the material.
- The over steepened soft material alongside the pinch point at Cowbar Cottages is at risk of recession to the shallower more stable angle in the short term.





#### LEGEND

##### Cliff top erosion lines

- Baseline Nov 2024
- - - Potential glacial till recession
- 25 years
- 50 years
- 100 years
- 3m buffer



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Client:	Project:
North Yorkshire Council	Cowbar Rockfall

Title: Updated linear extrapolation erosion rates near Cowbar Cottages of 0.1m /year rate (long term average)

Figure: 3

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
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Co-ordinate system: British National Grid



© HaskoningDHV UK Ltd. Aerial photography 2023 courtesy of North East Coastal Observatory ([www.northeastcoastalobservatory.org.uk](http://www.northeastcoastalobservatory.org.uk)). World Street Map: Esri Community Maps Contributors, Esri UK, Esri, TomTom, Garmin, GeoTechnologies, Inc. METI/NASA, USGS

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Figure:4

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