Royal HaskoningDHV
Enhancing Society Together

Thorpeness

Detailed Option Assessment & Appraisal

Community Steering Group – 25/05/21
Project related

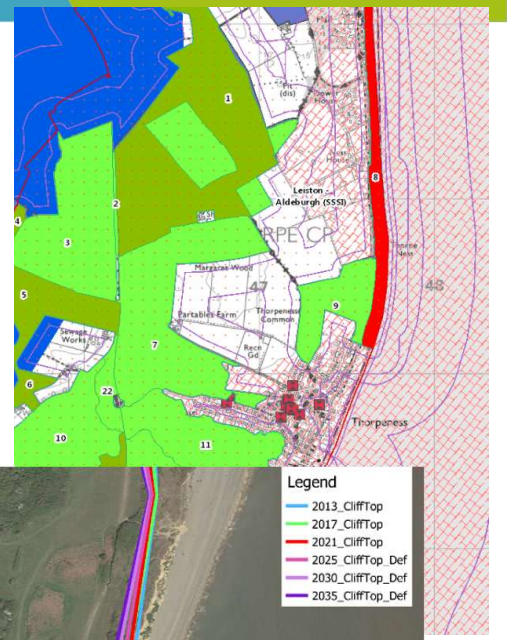
Agenda

- Introductions
- Coastal processes constraints
- Update of ‘medium rock’ design
- Design conditions & tipping points
- Thoughts about way forward
- Next steps

Coastal processes constraints

- Positive meeting on 20 May with Natural England

- No firm outcomes, but useful indications:
  - ‘Obstacle to southward longshore transport’ unlikely to be dominant
  - Local impact to the north (hard point holding the bay)
    could become a factor



Coastal processes constraints

- Impacts on coastal processes
  - Locally already the case
  - Ness: not currently, but possibly in the long term
  - Southward: not currently, but possible if processes change (southward transport)

- Impacts on vegetated shingle
  - NE views to be confirmed
  - Vegetated shingle needs width and dynamics – locally constrained by hard point…
  - …but bay shape could create opportunity for biodiversity gains
  - Opportunity to enhance through awareness, signage etc - part of Thorpeness' offering?

Coastal processes constraints

- If obstruction of southward transport is no longer critical, then rock is back as a realistic option
- Northern ‘hard point’ could become the key indicator:
  - Location: landward / southward reduces impact & exposure (vice versa)
  - Longevity: impact and exposure will increase over time until trigger is reached
- Two potential triggers for end of life / removal of structures:
  - Impact on coastal processes & vegetated shingle unacceptable - tbc with NE
  - Technically unsustainable (/ unaffordable) – from engineering design

- How to predict when these will be reached, to inform the investment decision:
  - Extrapolation of existing data and identification of erosion rates (see next page for preliminary analysis)

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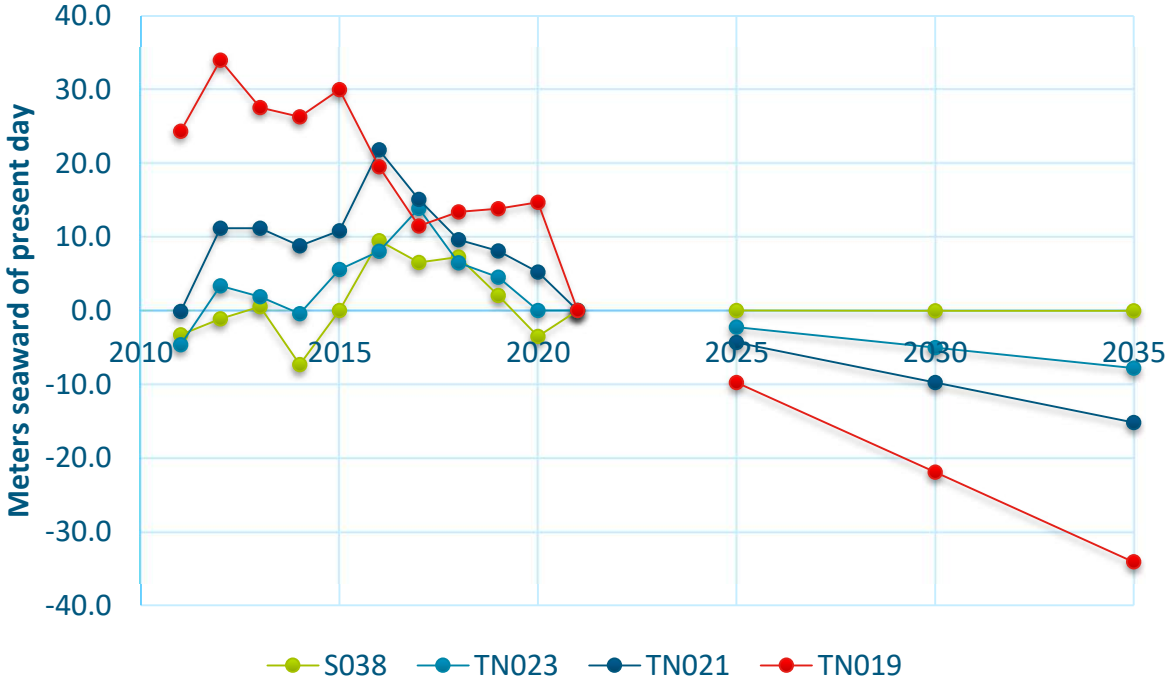
Coastal processes constraints

1.2m (MHWS)



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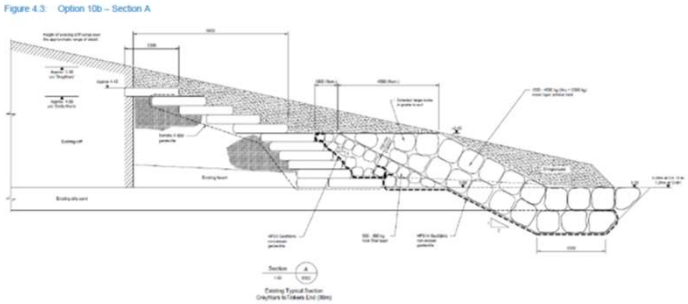
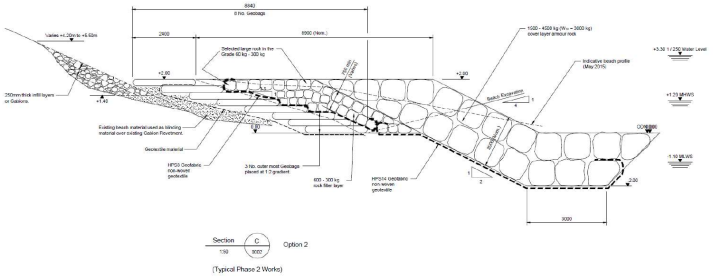
Updating the medium rock design

- Changes needed due to:
  - Damage to the Phase 2 geobags & gabions
  - Lower beach (now and in the future)
  - Review of water levels and waves
  - Northern extent discussions





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Updating the medium rock design

- Changes to the cross-section
  - Removal of the Phase 2 geobags
  - Lower beach

Updating the medium rock design

- Mott Macdonald's Solution

Wave H: 2.7m (1:50-1:100yr event Present Day). Damage = Slight. 1.5-4.5T Rock Size

Wave H: 2.7m (1:50-1:100yr event Present Day). Damage = Mod-Serious. 1-3T Rock Size

- RHDHV developing solution

Wave H: 2.4m (1:20yr event Present Day). Damage = Slight. 1-3T Rock Size

Rock sizing - options

- Mott Macdonald's Solution (amended extent) – approx. £1.4m
  - 5,000T – Phase 1
  - 6,000T – Phase 2

- RHDHV developing solution (same extent) – approx. £1.7m
  - 5,000T – Phase 1
  - 8,500T – Phase 2 (lowered toe)

Further Considerations

- Beach erosion for 20yrs.
- Present Day hydraulic conditions (e.g. waves).
- Overtopping & joint probability.
- Exceedance events & acceptable damage.
- Beach profile uncertainty.
- Existing structures (management, repairs & tie-ins).
- Construction methodology / risks.

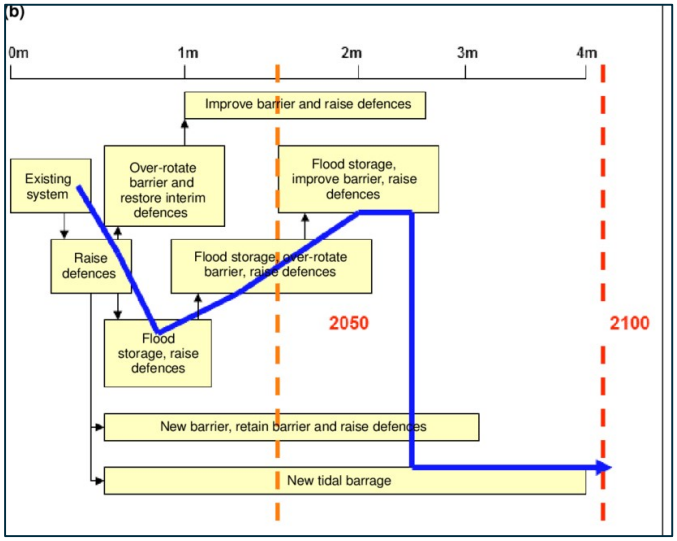
Thoughts about the way forward

- Options to be developed to focus on those variables:
  - Location of the northern end
  - How strong, deep & long

- Future phasing:
  - will have to be decided in future – not now
  - better addressed through a decision pathway – could be part of Thorpeness Masterplan
  - ongoing monitoring & review to support future decisions

- Use of material in the ‘meanwhile’ solution

  → Timescales?



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Next steps

- Confirm approach for triggers / end of life prediction – and feasibility of rock
- RHDHV to develop options
- Complete environmental and landscape baseline assessment
- Firm up appraisal criteria

  → Breakpoint 1 – ~25th June – date TBC

- …Presenting options and supporting investment decision (options visualiser)