

01st November 2022

Our ref: Hoylake Beach Management Options



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Dear Mr Gardiner,

Thank you for providing Natural England with the opportunity to provide comment on Hoylake beach management options.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

Royal Haskoning DHV Limited and Wirral Borough Council have requested Natural England provide initial comments on short-listed beach management options for Hoylake beach. Natural England have reviewed the short-listed options and have provided comments within this letter.

Headline comments

After discussion of all six short-listed options, Natural England suggests that Options 1, 2, 5 and 6 would be difficult for us to assent due to the extent of habitat loss suggested at this stage. Options 3 and 4 still presents challenges but may be an option with refinement. Natural England have provided comment on each individual option below.

Presentation comments

- It would be visually helpful if the short-listed options could be highlighted within the long-list of options appraisal table.
- With regards to Map 4 (p17) – Option 1 – Do nothing/Do everything (strip) (RNLI – Alderley Road) / Do nothing (Alderley Road – Red Rocks) the map shows existing vegetation (light green) larger than exists but should also represent potential vegetation (dark green).
- Map 5 (p18) – Option 4 – this map has the wrong title, the title reads Maintain (RNLI – Alderley Rd) / Do nothing (Alderley Rd – Red Rocks), however it should read Maintain (RNLI – King’s Gap) / Do nothing (King’s Gap – Red Rocks).
- Map 6 (p19) – Option 2 – Do nothing/ Do everything (strip) (RNLI – King’s Gap) / Do nothing (King’s Gap – Red Rocks) The map colouring is wrong on this map as existing and potential vegetation zones are merged.
- With regards to terminology, Natural England recommends that the term Maintain should be substituted with a term such as “Maintain and Remove” as this describes the option more appropriately.

Beach Management Options Discussion

Map 1 (p14) - Option 3 – Maintain (RNLI station – Alderley Road) / Do nothing (Alderley Road – Red Rocks)

Natural England have concerns regarding the loss of potential vegetation on the outer side of the existing vegetation and the constraints imposed on the development of the natural ecosystem. Build up of sand will still continue with this option and it is unclear how this may influence the existing vegetation or contribute to windblown sand on the North Parade. From a protected sites perspective, this option will result in a loss of potential vegetation but no loss for existing vegetation. It remains unclear if we could support the extent of ongoing clearance of the frontal zone between RNLI station and Alderley Road. This highlights the need for refinement of the option and to continue ongoing discussions with Natural England.

It is possible that there could be a much more restricted clearance option focussed to ensuring an appropriate access from the slipway for RNLI access. It is unclear if vegetation development is impacting on RNLI access currently, so we recommend further discussions with the RNLI regarding whether this is needed and understand what habitat conditions restrict RNLI access.

Map 2 (p15) – Option 5 – Do everything (RNLI Station – Alderley Road) / Do nothing (Alderley Road – Red Rocks)

This option results in a higher degree of loss as we will lose potential vegetation and existing vegetation. This could result in a loss of important plant components of the habitat; this includes Shore dock (*Rumex rupestris*) (which is known to be present in this area), as this is a highly protected plant it will prevent Wirral Borough Council clearing locations with this species. Wirral Borough Council will need to be clear on the locations of Shore Dock before removing vegetation to avoid removal of this species. The clearance zone also includes less common wetter areas which are an important component of the habitat. Removal of the vegetation is likely to result in increased volumes of sand reaching North Parade and, with a limited height difference between the beach and top of the promenade wall, beach levels could quickly exceed the promenade level. This is something to consider when assessing the impacts of removing existing vegetation.

It is unlikely that Natural England could support the extent of vegetation loss outlined in this option and it would need considerable refinement.

Map 3 (p16) – Option 6 – Beach nourishment (RNLI – Alderley Road) / Do nothing (Alderley Road – Red Rocks)

There is currently a limited height difference between the beach level and the top of the promenade wall. Clearance of vegetation and 'nourishment' (adding sand to the upper beach) is likely to increase the amount of windblown sand to North Parade – this should be considered carefully including volumes and source of sand. Shore dock is known to be present in this area and as it is a highly protected plant, any sand smothering and vegetation clearance would have to avoid this species. The upper beach zone is already subject to high recreational pressure from walkers/dog walkers, therefore this area already has large patches of bare sand, for example see your cover photo. This option would change the zonation and remove the important upper transitional habitats across a significant part of the frontage. There is likely to be high costs associated with this option which will need to be taken into consideration. There could be potential to use windblown sand from the adjacent road for this option, although the amount of sand required would need to be calculated to determine if there is enough windblown sand for the area proposed to be 'nourished'.

This option has a high degree of loss from losing both existing and potential vegetation. It is unlikely that Natural England could support the extent of vegetation loss outlined in this option and it would need considerable refinement.

Map 4 (p17) – Option 1 – Do nothing/Do everything (strip) (RNLI – Alderley Road) / Do nothing (Alderley Road – Red Rocks)

This option will result in a strip of existing vegetation being removed, the location of the existing vegetation will include removing a significant proportion of the upper transition zone. Shore dock is present in this

area, as this is a highly protected plant, Wirral Borough Council would need to be clear on where Shore Dock is present and avoid those locations. Managing to avoid only Shore Dock presents a risk of highlighting the presence of this species which could encourage illegal 3rd party removal. This option will allow vegetation to develop so there will be an overall increase in vegetation potential, however there will be a loss of existing vegetation in the upper transition zone. There will need to be refinement of the overall vegetation removal option to account for some more important patches of vegetation e.g. wet areas and shore dock.

This option will result in a loss of existing vegetation, it is unlikely that Natural England could support the loss of existing vegetation outlined in this option.

Map 5 (p18) – Option 4 – Maintain (RNLI – King’s Gap) / Do nothing (King’s gap – Red Rocks) (correct title given here)

This option is similar to option 3 but will manage a bigger area. This will result in a larger loss in vegetation potential.

Map 6 (p19) – Option 2 – Do nothing/ Do everything (strip) (RNLI – King’s Gap) / Do nothing (King’s Gap – Red Rocks)

This option is similar to option 1 but involves more clearance in the upper transition zone. This will result in a larger loss of existing vegetation.

This option has a high degree of loss of existing vegetation, it is unlikely that Natural England could support the loss of existing vegetation outlined in this option.

General comments from Natural England

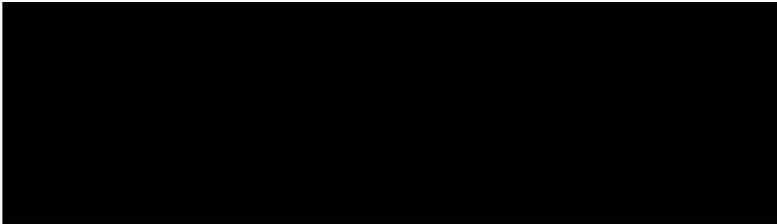
- As the statutory adviser and regulator for nature conservation and protected sites, Natural England favours options that limit vegetation removal and allow natural development of the beach.
- We consider natural development provides a range of wider benefits for people and society and do not consider it incompatible with wider use and enjoyment of the beach. The public survey evidence appears to also support this.
- NE considers the options that reduce the least amount of vegetation (existing and potential) to be the better options, although they could still represent adverse effect on the integrity of the Dee Estuary Special Area of Conservation due to the rarity of this habitat (subject to assessment).
- The short list options will at the next stage need further refinement; for example does an area showing clearance mean that whole area would be cleared or can smaller interventions within a wider area deliver the same benefits?
- Natural England would want to see other options included that have less impact, are ‘softer’ (ie more sensitive to features of local distinctiveness and more natural in appearance) and are more adaptive. Adaptive options could start smaller, prioritising the more important needs and doing the minimum required and then monitoring to inform later options.
- The options may also not adequately account for the dynamism of the foreshore system – how will it change and how could options impact on that change or limit the foreshore’s ability to respond to changes.
- Targeted removal to avoid Shore Dock may highlight its presence so increase the risk of illegal 3rd party removal.
- There is no assessment yet of what proportion of the habitats and zones are proposed for removal in each option. This will be important to help assess the impact on the protected sites.
- It is not clear how public access is currently restricted by the vegetation and therefore how much vegetation clearance is required. Where there are issues for public access then the least impactful interventions should be considered eg limited paths, board walks etc.
- What is the purpose of removing vegetation in the first instance? There is an amenity value associated with the vegetated beach as both the vegetated beach and open sandy area beyond the vegetation is regularly used recreationally. If the survey results favour natural processes is there any need to remove vegetation at all?

- Hoylake beach vegetation is an almost unique and rare habitat and appears to represent a transition between saltmarsh and dunes with species indicating both habitats being present, this is a highly unusual habitat and adds to the local importance/distinctiveness. Pioneer/early successional and upper transition zones seen at Hoylake are rarer so need to be considered of higher value – this needs to be taken into consideration when considering management.
- There needs to be further discussions with the RNLI – does current vegetation prevent their access? Are there distinct areas which must be kept clear for RNLI access? These zones should clearly be shown on a map.
- The area King's Gap to RNLI is used regularly by walkers/dog walkers so is under high recreational pressure currently. Regular footfall will result in control of the vegetation and patches of bare sand as already seen at Hoylake. Does any vegetation need to be removed in this instance or could smaller targeted interventions work?
- Costings need to be accounted for – how often would they need to do removal? Over how many years?
- It is important that the impacts of removing vegetation are considered further, as removing vegetation will result in only bare sand remaining.
- We advise that a Habitat Regulations Assessment is iteratively developed as the options develop this will help ensure developing options are acceptable or how they can be refined.

Many thanks again for engaging with Natural England early on the beach management options.

If you have any queries relating to the content in this letter then please do not hesitate to contact me:
Cheshire2.Lancashire@defra.gov.uk.

Yours sincerely



Cheshire, Greater Manchester, Merseyside and Lancashire Area Team

Holylake Beach Management Plan

Long list options appraisal

Project related

Jamie Gardiner

21 October 2022



Overview

- BMP Objectives
- Beach Management Scenarios
- Beach Management Options
- Long List of Options
- Options Appraisal Methodology
- Long List Options Appraisal
- Short Listed Options

BMP Objectives

The objectives of the BMP take account of the findings of the Hoylake Beach Geomorphology and Ecology Study, the views expressed on the management of the Beach (particularly the consultation exercise carried out on the study and the DAS consultation with Natural England).

The objectives of this BMP are to:

- Not compromise or adversely impact on the integrity of designated sites.
- Promote biodiversity and contribution to mitigating climate change.
- Minimise disturbance to wildlife.
- Maintain and enhance the amenity benefit, wellbeing and health of the local community and visitors.
- Ensure the safety of users and access across the beach.
- Contribute to the reduction in the risk of flooding and/or erosion to local property and infrastructure.
- Provide recommendations on further studies and monitoring to inform future management.

Beach Management Scenarios

Scenario A

- MA1a - Whole frontage

Scenario B

- MA1b - RNLI station to Alderley Road Slipway
- MA2b - Alderley Road Slipway to Red Rocks

Scenario C

- MA1c - RNLI station to Alderley Road Slipway
- MA2c - Alderley Road Slipway to King's Gap
- MA3c - King's Gap to Red Rocks

Scenario D

- MA1d - RNLI station to King's Gap
- MA2d - King's Gap to Red Rocks



Beach Management Options

- **Do Nothing** - Hoylake Beach develops naturally with no management.
- **Maintain** - the current extent of vegetation on Hoylake Beach is maintain and its seaward expansion is prevented using mechanical means.
- **Do Everything** – continued removal of all vegetation using mechanical means.
- **Do Everything (strip)** – continued removal of a strip of vegetation immediately seaward of the seawall by mechanical means. This option would for part of either the Do Nothing or Maintain options.
- **Beach Nourishment** - placement of appropriately sized sand to a specified thickness on top of the existing vegetation. This would create a sandy beach at a higher elevation than the current vegetated beach. Vegetation would be continually removed, on the nourished area, if required, and seawards.

Long List of Options

Whole frontage options discounted as do not meet the BMP objectives.

In applying the beach management options, the character and usage of Hoylake Beach has been taken into account, with Do Everything, Do Everything (strip) and Beach Nourishment options being applied only from the RNLI Station to King's Gap as this is considered to represent the amenity section of the beach.

Resulting in 23 options

No	Beach Management Area	Do Nothing	Maintain	Do Everything (strip)	Do Everything	Beach Nourishment
1	RNLI to Alderley Road Slipway		✓			
	Alderley Road Slipway to Red Rocks	✓				
2	RNLI to Alderley Road Slipway				✓	
	Alderley Road Slipway to Red Rocks		✓			
3	RNLI to Alderley Road Slipway				✓	
	Alderley Road Slipway to Red Rocks	✓				
4	RNLI to Alderley Road Slipway					✓
	Alderley Road Slipway to Red Rocks		✓			
5	RNLI to Alderley Road Slipway					✓

Options Appraisal Methodology

The effect of each option has been considered according to the following symbols, as appropriate, based upon the anticipated magnitude of the effect and sensitivity of the receptor:

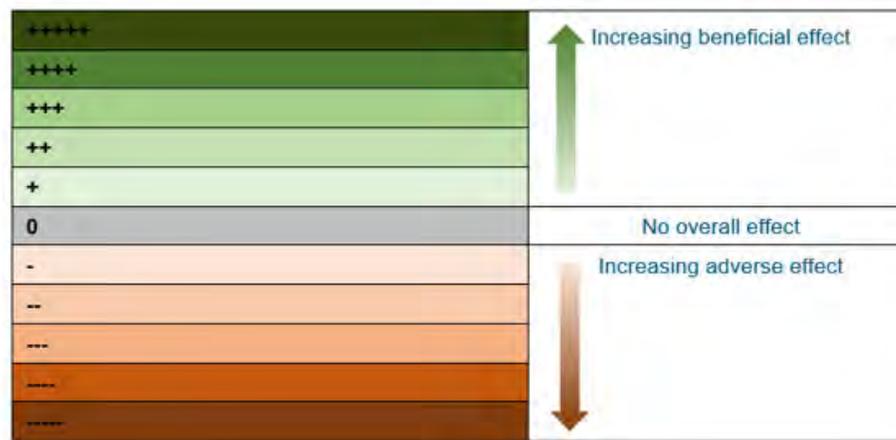
Symbol	Effect
+++	Major beneficial effect
++	Moderate beneficial effect
+	Minor beneficial effect
0	Neutral / Not significant / No effect
-	Minor adverse effect
--	Moderate adverse effect
---	Major adverse effect

Options Appraisal Methodology

In order to understand the cumulative effect of the options across the entirety of Hoylake Beach, the effect of individual options have been combined. For example:

- if the effect of two options is ++/-, the - cancels out one of the +'s and the cumulative effect is +
- if the effect of two options is ++/+, the +'s combine to +++

Depending on the result of the cumulative assessment, the following colour coding has been applied:



Long List Options Appraisal

Receptor	Criteria	Rationale to determine effect of each option ¹
Population and human health	Will the option protect and enhance human health through provision of improved coastal erosion and flood protection to people and property?	Do Nothing would have a major beneficial effect on coastal protection. Maintain would have no effect. Beach Nourishment would have a minor beneficial effect. Do Everything would have a moderate adverse effect.
	Will the option contribute to wider amenity value of the frontage?	Do Nothing would have a major adverse effect on amenity value, health and safety and public access. Do Everything and Beach Nourishment would have a moderate beneficial effect. Maintain would have no effect.
	Will the option enhance health and safety on the beach?	Do Everything and Beach Nourishment would have a moderate beneficial effect on tourism and recreation and open space. Maintain would have no effect. Whilst Do Nothing would have a beneficial effect on wildlife tourism and recreation, and open space, it is considered to have a major adverse effect on all other tourism and recreation activities resulting in a moderate adverse effect overall.
	Will the option enhance recreation and tourism?	
	Will the option limit public access to coastal areas?	Over the long term Do Nothing could have an adverse effect due to an increase in pests, such as mosquitos. Do Everything and Beach Nourishment would have a moderate adverse effect from windblown sand. Maintain would have no effect.
	Will the option enhance human health through the provision of open space for recreational activities?	
	Does the option have the potential to increase nuisance (e.g. pests, windblown sand) and pollution on the beach?	
Critical Infrastructure and Material Assets		Do Nothing would have a major beneficial effect from the reduction of windblown sand. Do Everything and Beach Nourishment would have a moderate adverse effect. Maintain would have no effect.
	Will the option result in the windblown sand issues to services, drains and/or transport	Maintain would have no effect on beach access. Do Everything and Beach Nourishment would have a major beneficial effect.
Biodiversity	Will the option affect beach access to emergency services?	
	Will the option cause loss or damage to a designated wildlife site?	Do Nothing would have a major beneficial effect on designated wildlife sites, protected habitats, biodiversity and Natural Value Capital, and through reduced disturbance. Do Everything and Beach Nourishment would have a moderate adverse effect.
	Will the option cause loss or damage to a protected habitat?	Maintain would have no effect on biodiversity or Natural Value Capital but would have a minor adverse effect on designated wildlife sites, protects habitats and through preventing the beach developing naturally.
	Will the option reduce biodiversity?	
	Will the option result in increased disturbance to wildlife from recreational activities?	
	Will the option reduce the Natural Value Capital of the beach?	

¹ Where Do Everything (strip) has been proposed, the effect is not considered to be as significant as the Do Everything option, given its reduced magnitude. For example, where Do Everything results in a major effect, Do Everything (strip) results in a minor effect.

Beach Management Scenario		RNLI Station to Alderley Road to Red Rocks								
BMP Option		Maintain (RNLI Station - Alderley Rd) / Do Nothing (Alderley Rd - Red Rocks)	Do Everything (RNLI Station - Alderley Rd) / Maintain (Alderley Rd - Red Rocks)	Do Everything (RNLI Station - Alderley Rd) / Do Nothing (Alderley Rd - Red Rocks)	Beach Nourishment (RNLI Station - Alderley Rd) / Maintain (Alderley Rd - Red Rocks)	Beach Nourishment (RNLI Station - Alderley Rd) / Do Nothing (Alderley Rd - Red Rocks)	Maintain / Do Everything (strip) (RNLI Station - Alderley Rd) / Do Nothing (Alderley Rd - Red Rocks)	Do Nothing / Do Everything (strip) (RNLI Station - Alderley Rd) / Maintain (Alderley Rd - Red Rocks)	Maintain / Do Everything (strip) (RNLI Station - Alderley Rd) / Maintain (Alderley Rd - Red Rocks)	Do Nothing / Do Everything (strip) (RNLI Station - Alderley Rd) / Do Nothing (Alderley Rd - Red Rocks)
Receptor	Criteria									
Population and human health	Will the option protect and enhance human health through provision of improved coastal erosion and flood protection to people and property?	0 / +++	- / 0	- / +++	+ / 0	+ / +++	(+/- = 0) / +++	(++/- = +) / 0	(+/- = 0) / 0	(+/- = +) / +++
	Will the option contribute to wider amenity value of the frontage?	0 / --	++ / 0	++ / --	++ / 0	++ / --	(-/+ = 0) / --	(-/+ = -) / 0	(-/+ = 0) / 0	(-/+ = -) / --
	Will the option enhance health and safety on the beach?	0 / --	++ / 0	++ / --	++ / 0	++ / --	(-/+ = 0) / --	(-/+ = -) / 0	(-/+ = 0) / 0	(-/+ = -) / --
	Will the option enhance recreation and tourism?	0 / --	++ / 0	++ / --	++ / 0	++ / --	(-/+ = 0) / --	(-/+ = 0) / 0	(-/+ = 0) / 0	(-/+ = 0) / --
	Will the option limit public access to coastal areas?	0 / --	++ / 0	++ / --	++ / 0	++ / --	(-/+ = 0) / --	(-/+ = -) / 0	(-/+ = 0) / 0	(-/+ = -) / --
	Will the option enhance human health through the provision of open space for recreational activities?	0 / --	++ / 0	++ / --	++ / 0	++ / --	(-/+ = 0) / --	(-/+ = 0) / 0	(-/+ = 0) / 0	(-/+ = 0) / --
	Does the option have the potential to increase nuisance (e.g. pests, windblown sand) and pollution on the beach?	0 / --	- / 0	- / --	- / 0	- / --	(-/- = -) / --	(-/- = -) / 0	(-/- = -) / 0	(-/- = -) / --
Critical Infrastructure and Material Assets	Will the option result in the windblown sand issues to services, drains and/or transport?	0 / +++	- / 0	- / +++	- / 0	- / +++	(+/- = 0) / +++	(++/- = +) / 0	(+/- = 0) / 0	(+/- = +) / +++
	Will the option affect beach access to emergency services (RNLI Station - Alderley Rd area only)?	0	+++	+++	+++	+++	+	--	+	--
Biodiversity	Will the option cause loss or damage to a designated wildlife site?	- / +++	- / -	- / +++	- / -	- / +++	(-/- = -) / +++	(++/- = +) / -	(-/- = -) / -	(+/- = +) / +++
	Will the option cause loss or damage to a protected habitat?	- / +++	- / -	- / +++	- / -	- / +++	(-/- = -) / +++	(++/- = +) / -	(-/- = -) / -	(+/- = +) / +++
	Will the option reduce biodiversity?	0 / +++	- / 0	- / +++	- / 0	- / +++	(-/- = -) / +++	(++/- = +) / 0	(-/- = -) / 0	(+/- = +) / +++
	Will the option result in increased disturbance to wildlife from recreational activities?	- / +++	- / -	- / +++	- / -	- / +++	(-/- = -) / +++	(++/- = +) / -	(-/- = -) / -	(+/- = +) / +++
	Will the option reduce the Natural Value Capital of the beach?	0 / +++	- / 0	- / +++	- / 0	- / +++	(-/- = -) / +++	(++/- = +) / 0	(-/- = -) / 0	(+/- = +) / +++
Climatic Factors	Does the option contribute to mitigating climate change?	0 / +++	- / 0	- / +++	- / 0	- / +++	(+/- = 0) / +++	(++/- = +) / 0	(+/- = 0) / 0	(+/- = +) / +++
Water	Does the option have the potential to significantly alter coastal processes?	0	0	0	-	-	0	0	0	0
	Will the option have adverse impacts upon water quality?	0	0	0	-	-	0	0	0	0
	Will the option have the potential to affect the status of WFD a waterbody?	- / +++	- / -	- / +++	- / -	- / +++	(-/- = -) / +++	(++/- = +) / -	(-/- = -) / -	(+/- = +) / +++
Landscapes/ Seascape	Will the option avoid adverse effects on and, where appropriate, enhance landscape/seascape character?	0 / ++	- / 0	- / ++	- / 0	- / ++	(+/- = 0) / ++	(++/- = +) / 0	(+/- = 0) / 0	(+/- = +) / ++
Overall effect of option		+10	-13	+8	-12	+7	+1	-2	-17	+16

Long List Options Appraisal

Beach Management Scenario		RNLI Station to Alderley Road to King's Gap to Red Rocks				
BMP Option		Do Everything (RNLI Station - Alderley Rd) / Maintain (Alderley Rd – King's Gap) / Do Nothing (King's Gap - Red Rocks)	Beach Nourishment (RNLI Station - Alderley Rd) / Maintain (Alderley Rd – King's Gap) / Nothing (King's Gap - Red Rocks)	Beach Nourishment (RNLI Station - Alderley Rd) / Do Everything (Alderley Rd - King's Gap) / Maintain (King's Gap - Red Rocks)	Beach Nourishment (RNLI Station - Alderley Rd) / Do Everything (Alderley Rd – King's Gap) / Do Nothing (King's Gap - Red Rocks)	Maintain/ Do Everything (strip) (RNLI Station - Alderley Rd) / Maintain (Alderley Rd - King's Gap) / Do Nothing (King's Gap - Red Rocks)
Receptor	Criteria					
Population and human health	Will the option protect and enhance human health through provision of improved coastal erosion and flood protection to people and property?	- / + / ++	+ / + / ++	+ / - / +	+ / - / ++	(+/- = 0) / + / ++
	Will the option contribute to wider amenity value of the frontage?	++ / - / --	++ / - / --	++ / ++ / -	++ / ++ / -	(-/+ = 0) / - / --
	Will the option enhance health and safety on the beach?	++ / - / --	++ / - / --	++ / ++ / -	++ / ++ / -	(-/+ = 0) / - / --
	Will the option enhance existing recreation and tourism?	++ / - / -	++ / - / -	++ / ++ / -	++ / ++ / -	(-/+ = 0) / - / -
	Will the option limit public access to coastal areas?	++ / - / --	++ / - / --	++ / ++ / -	++ / ++ / -	(-/+ = 0) / - / --
	Will the option enhance human health through the provision of open space for recreational activities?	++ / - / -	++ / - / -	++ / ++ / -	++ / ++ / -	(-/+ = 0) / - / --
	Does the option have the potential to increase nuisance (e.g. pests, windblown sand) and pollution on the beach?	- / - / -	- / - / -	- / - / -	- / - / -	(-/- = -) / - / -
Critical Infrastructure and Material Assets	Will the option result in the windblown sand issues to services, drains and/or transport	- / + / ++	- / + / ++	- / - / +	- / - / ++	(+/- = 0) / + / ++
	Will the option affect beach access to emergency services? (RNLI- Alderley Rd)	++	++	++	++	++
Biodiversity	Will the option cause loss or damage to a designated wildlife site?	- / - / ++	- / - / ++	- / - / -	- / - / ++	(-/- = -) / - / ++
	Will the option cause loss or damage to a protected habitat?	- / - / ++	- / - / ++	- / - / -	- / - / ++	(-/- = -) / - / ++
	Will the option reduce biodiversity?	- / - / ++	- / - / ++	- / - / -	- / - / ++	(-/- = -) / - / ++
	Will the option result in increased disturbance to wildlife from recreational activities?	- / - / ++	- / - / ++	- / - / -	- / - / ++	(-/- = -) / - / ++
	Will the option reduce the Natural Value Capital of the beach?	- / - / ++	- / - / ++	- / - / -	- / - / ++	(-/- = -) / - / ++
Climatic Factors	Does the option contribute to mitigating climate change?	- / + / ++	- / + / ++	- / - / +	- / - / ++	(+/- = 0) / + / ++
Water	Will the option have the potential to significantly alter coastal processes?	0	-	-	-	0
	Will the option have adverse impacts upon water quality?	0	-	-	-	0
	Will the option have the potential to affect the status of WFD a waterbody?	- / - / ++	- / - / ++	- / - / -	- / - / ++	(-/- = -) / - / ++
Landscape/Seascape	Will the option avoid adverse effects on and, where appropriate, enhance landscape/seascape character?	- / 0 / ++	- / 0 / ++	- / - / 0	- / - / ++	(0/- = -) / 0 / ++
Overall effect of option		-8	-8	-30	-10	-12

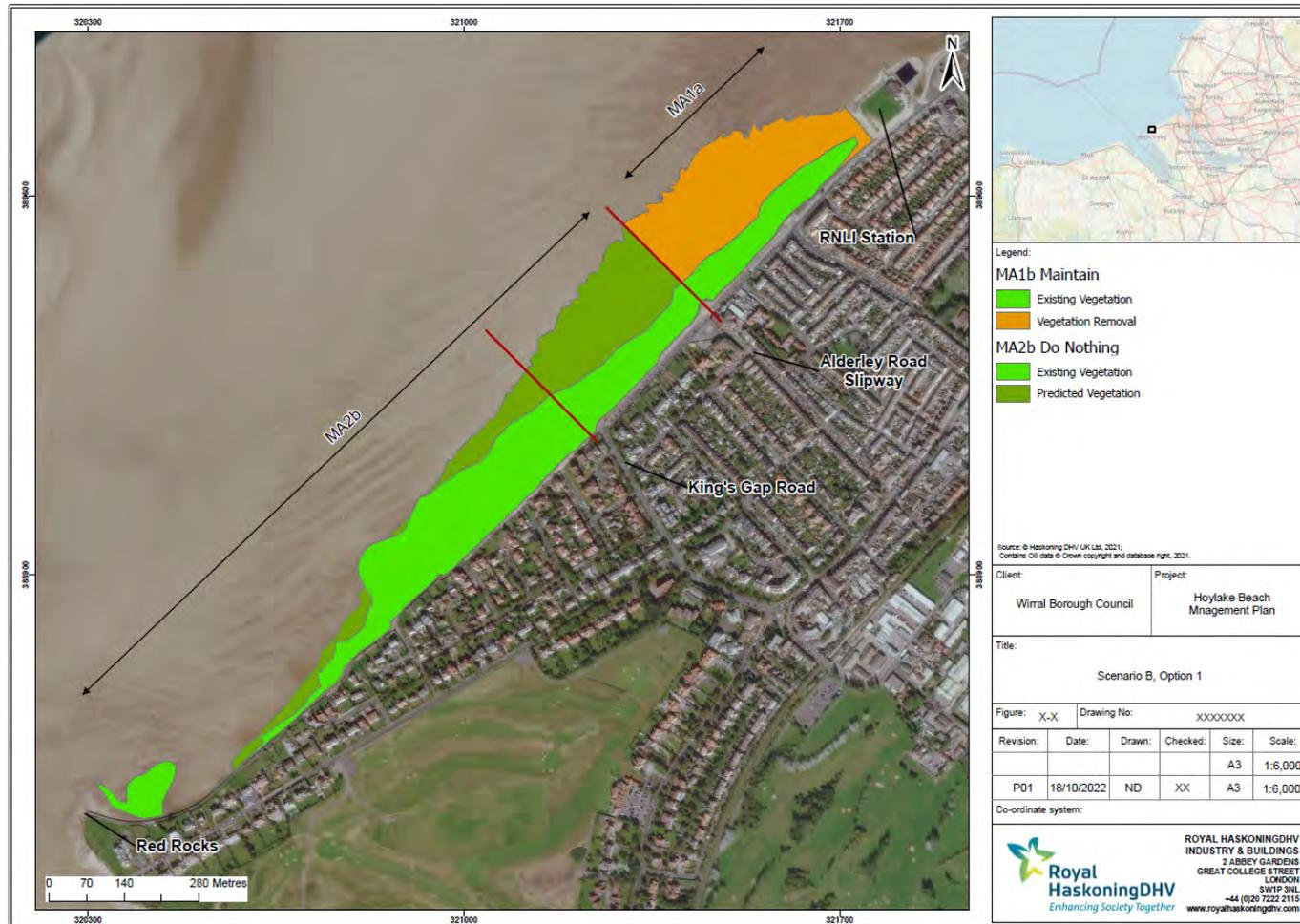
Beach Management Scenario		RNLI Station to Kings Gap to Red Rocks								
BMP Option		Maintain (RNLI Station - King's Gap) / Do Nothing (King's Gap - Red Rocks)	Do everything (RNLI Station - King's Gap) / Maintain (King's Gap - Red Rocks)	Do Everything (RNLI Station - King's Gap) / Do Nothing (King's Gap - Red Rocks)	Beach Nourishment (RNLI Station - King's Gap) / Maintain (King's Gap - Red Rocks)	Beach Nourishment (RNLI Station - King's Gap) / Do Nothing (King's Gap - Red Rocks)	Maintain/Do Everything (strip) (RNLI Station - King's Gap) / Do Nothing (King's Gap - Red Rocks)	Do Nothing/ Do Everything (strip) (RNLI Station - King's Gap) / Maintain (King's Gap - Red Rocks)	Maintain/Do Everything (strip) (RNLI Station - King's Gap) / Maintain (King's Gap - Red Rocks)	Do Nothing/Do Everything (strip) (RNLI Station - King's Gap) / Do Nothing (King's Gap - Red Rocks)
Receptor	Criteria									
Population and human health	Will the option protect and enhance human health through provision of improved coastal erosion and flood protection to people and property?	0 / ++	--- / 0	--- / ++	++ / 0	++ / ++	(++/- = +) / ++	(+/- = 0) / 0	(+/- = 0) / 0	(+/- = 0) / ++
	Will the option contribute to wider amenity value of the frontage?	0 / --	+++ / 0	+++ / --	+++ / 0	+++ / --	(-/+ = -) / --	(-/+ = 0) / 0	(-/+ = 0) / 0	(-/+ = 0) / --
	Will the option enhance health and safety on the beach?	0 / --	++ / 0	++ / --	++ / 0	++ / --	(-/+ = -) / --	(-/+ = 0) / 0	(-/+ = 0) / 0	(-/+ = 0) / --
	Will the option enhance existing recreation and tourism?	0 / -	+++ / 0	+++ / -	++ / 0	++ / -	(-/+ = 0) / -	(-/+ = 0) / 0	(-/+ = 0) / 0	(-/+ = 0) / -
	Will the option limit public access to coastal areas?	0 / --	+++ / 0	+++ / --	++ / 0	++ / --	(-/+ = -) / --	(-/+ = 0) / 0	(-/+ = 0) / 0	(-/+ = 0) / --
	Will the option enhance human health through the provision of open space for recreational activities?	0 / -	+++ / 0	+++ / -	++ / 0	++ / -	(-/+ = 0) / -	(-/+ = 0) / 0	(-/+ = 0) / 0	(-/+ = 0) / -
	Does the option have the potential to increase nuisance (e.g. pests, windblown sand) and pollution on the beach?	0 / -	-- / 0	-- / -	-- / 0	-- / -	(-/- = -) / -	(-/- = -) / 0	(-/- = -) / 0	(-/- = -) / -
Critical Infrastructure and Material Assets	Will the option result in the windblown sand issues to services, drains and/or transport	0 / ++	--- / 0	--- / ++	--- / 0	--- / ++	(+/- = 0) / ++	(++/- = +) / 0	(+/- = 0) / 0	(++/- = +) / ++
	Will the option affect beach access to emergency services? (RNLI Station-Alderley Rd)	0	+++	+++	+++	+++	(0/- = -) / --	(-/+ = -) / 0	(0/+ = +) / 0	(-/+ = -) / --
Biodiversity	Will the option cause loss or damage to a designated wildlife site?	- / ++	--- / -	--- / ++	-- / -	-- / ++	(-/- = -) / ++	(++/- = +) / -	(-/- = -) / -	(++/- = +) / ++
	Will the option cause loss or damage to a protected habitat?	- / ++	--- / -	--- / ++	-- / -	-- / ++	(-/- = -) / ++	(++/- = +) / -	(-/- = -) / -	(++/- = +) / ++
	Will the option reduce biodiversity?	0 / ++	--- / 0	--- / ++	-- / 0	-- / ++	(-/- = -) / ++	(++/- = +) / 0	(-/- = -) / 0	(++/- = +) / ++
	Will the option result in increased disturbance to wildlife from recreational activities?	- / ++	--- / -	--- / ++	-- / -	-- / ++	(-/- = -) / ++	(++/- = +) / -	(-/- = -) / -	(++/- = +) / ++
	Will the option reduce the Natural Value Capital of the beach?	0 / ++	--- / 0	--- / ++	-- / 0	-- / ++	(-/- = -) / ++	(++/- = +) / 0	(-/- = -) / 0	(++/- = +) / ++
Climatic Factors	Does the option contribute to mitigating climate change?	0 / ++	--- / 0	--- / ++	-- / 0	-- / ++	(+/- = 0) / ++	(++/- = +) / 0	(+/- = 0) / 0	(++/- = +) / ++
Water	Will the option have the potential to significantly alter coastal processes?	0	0	0	--	--	0	0	0	0
	Will the option have adverse impacts upon water quality?	0	0	0	--	--	0	0	0	0
	Will the option have the potential to affect the status of WFD a waterbody?	- / ++	--- / -	--- / ++	-- / -	-- / ++	(-/- = -) / ++	(++/- = +) / -	(-/- = -) / -	(++/- = +) / ++
Landscape/ Seascape	Will the option avoid adverse effects on and, where appropriate, enhance landscape/seascape character?	0 / ++	-- / 0	- / ++	-- / 0	-- / ++	(0/- = -) / ++	(++/- = +) / 0	(0/- = -) / 0	(++/- = +) / ++
Overall effect of option		+7	-18	-1	-13	+2	-9	+2	-18	+15

Short Listed Options

- Do Nothing / Do Everything (strip) (RNLI Station - Alderley Rd) and Do Nothing (Alderley Rd - Red Rocks)
- Do Nothing / Do Everything (Strip) (RNLI Station - Kings Gap) and Do Nothing (Kings Gap - Red Rocks)
- Maintain (RNLI Station - Alderley Rd) and Do Nothing (Alderley Rd - Red Rocks)
- Maintain (RNLI Station - King's Gap) / Do Nothing (King's Gap - Red Rocks)
- Do Everything (RNLI Station - Alderley Rd) / Do Nothing (Alderley Rd - Red Rocks)
- Beach Nourishment (RNLI Station - Alderley Rd) / Do Nothing (Alderley Rd - Red Rocks)

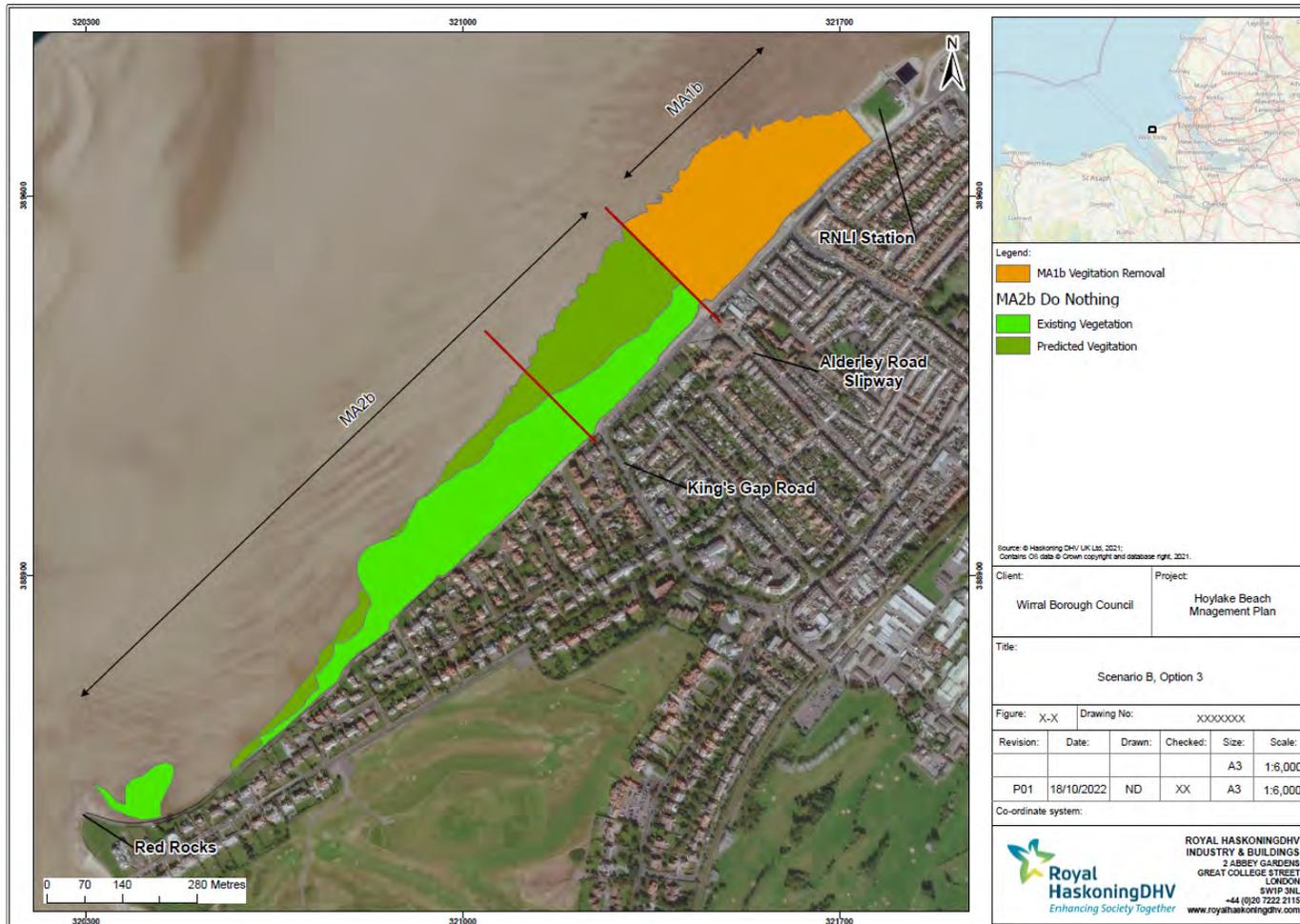
Short Listed Options

Maintain (RNL Station - Alderley Rd) and Do Nothing (Alderley Rd - Red Rocks)



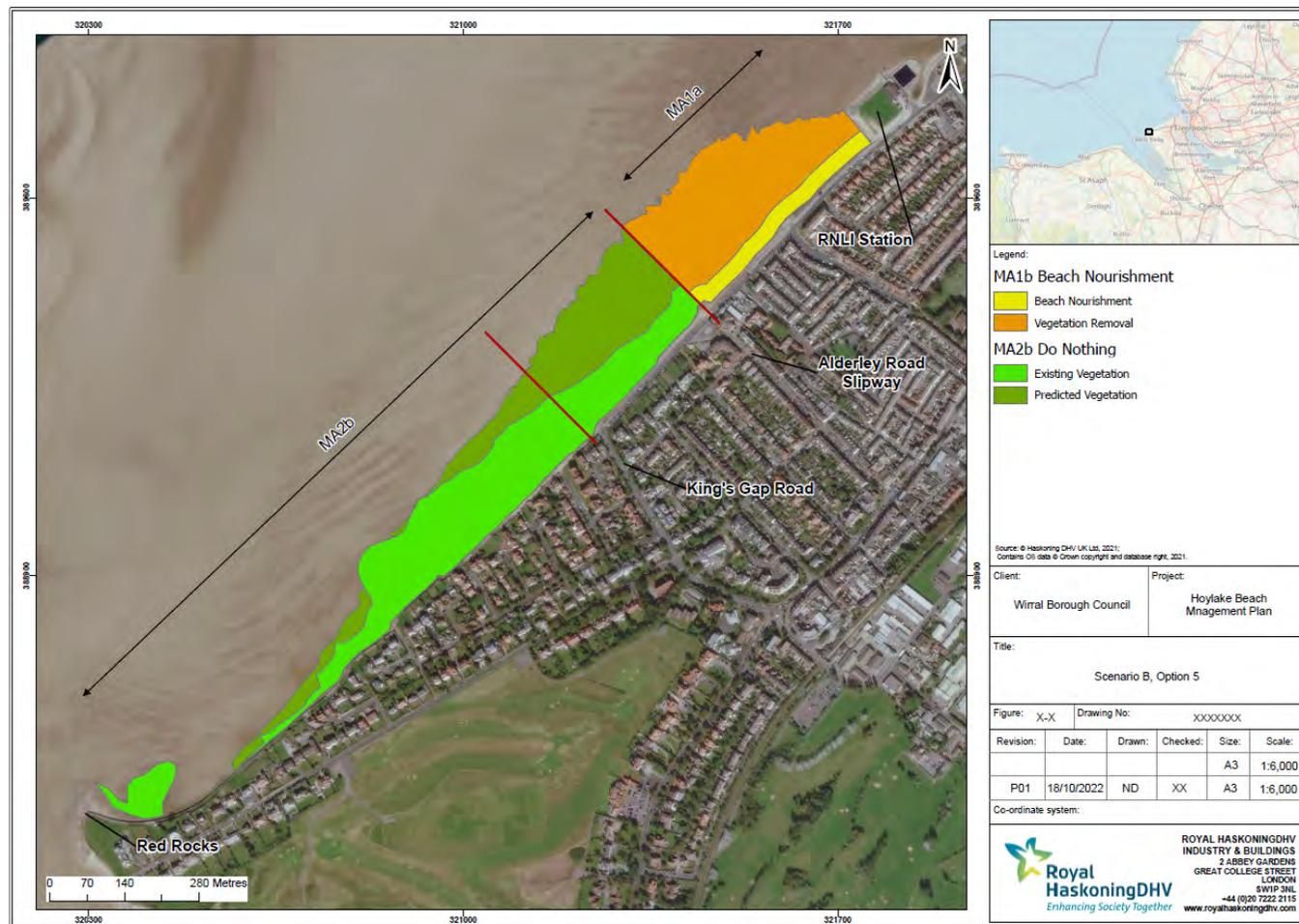
Short Listed Options

Do Everything (RNLI Station - Alderley Rd) / Do Nothing (Alderley Rd - Red Rocks)



Short Listed Options

Beach Nourishment (RNLI Station - Alderley Rd) / Do Nothing (Alderley Rd - Red Rocks)



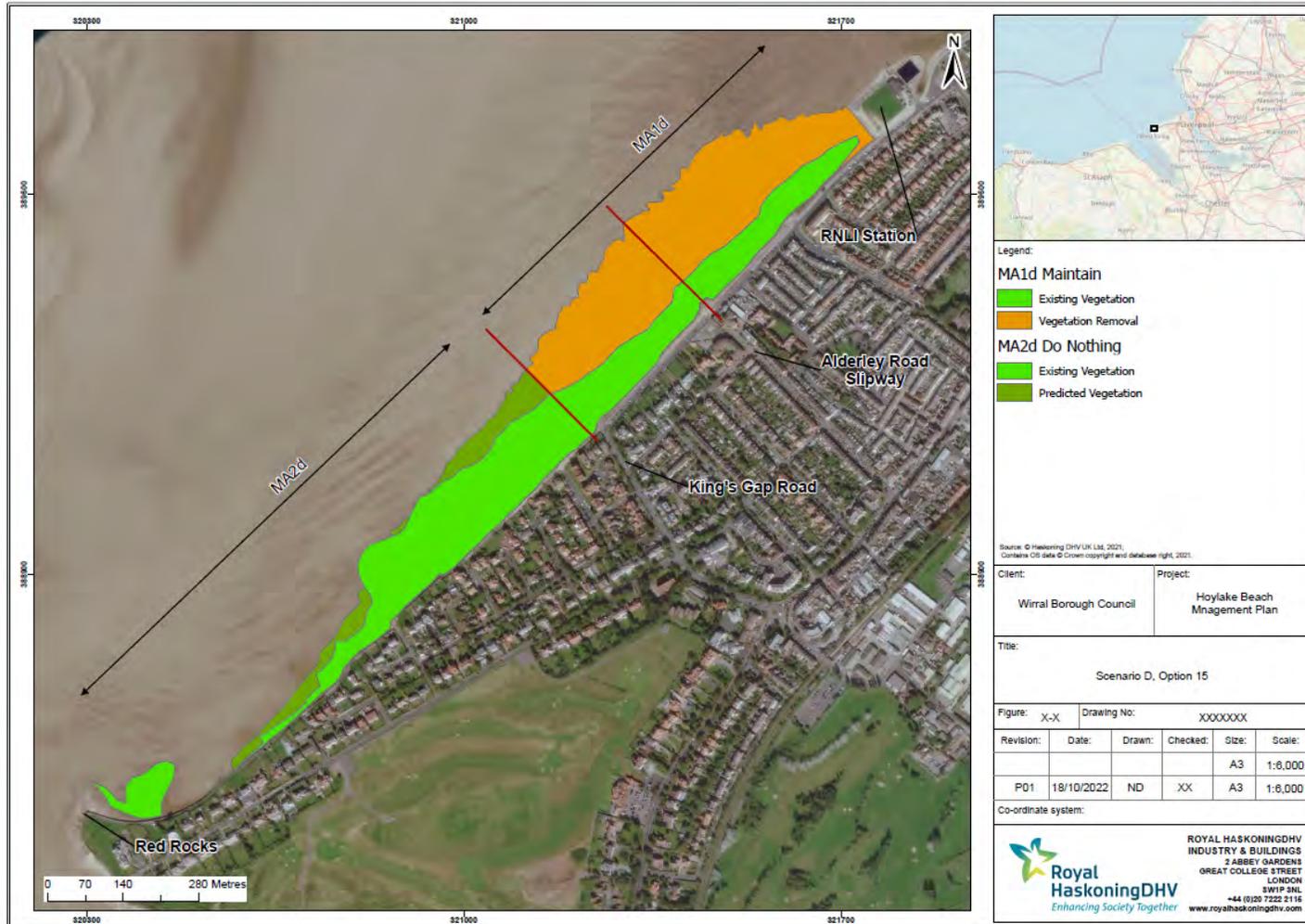
Short Listed Options

Do Nothing / Do Everything (strip) (RNLI Station - Alderley Rd) and Do Nothing (Alderley Rd - Red Rocks)



Short Listed Options

Maintain (RNLI Station - Alderley Rd) and Do Nothing (Alderley Rd - Red Rocks)



Short Listed Options

Do Nothing / Do Everything (Strip) (RNLI Station - Kings Gap) and Do Nothing (Kings Gap - Red Rocks)

