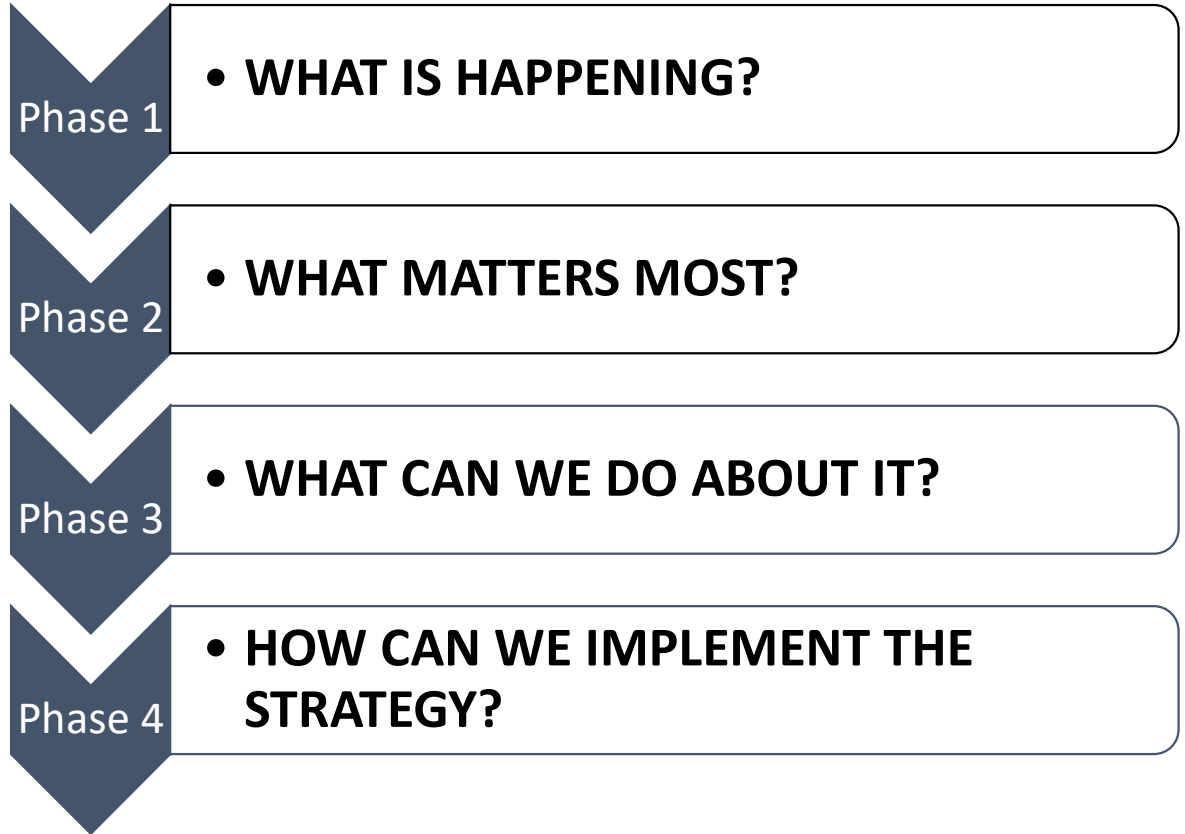
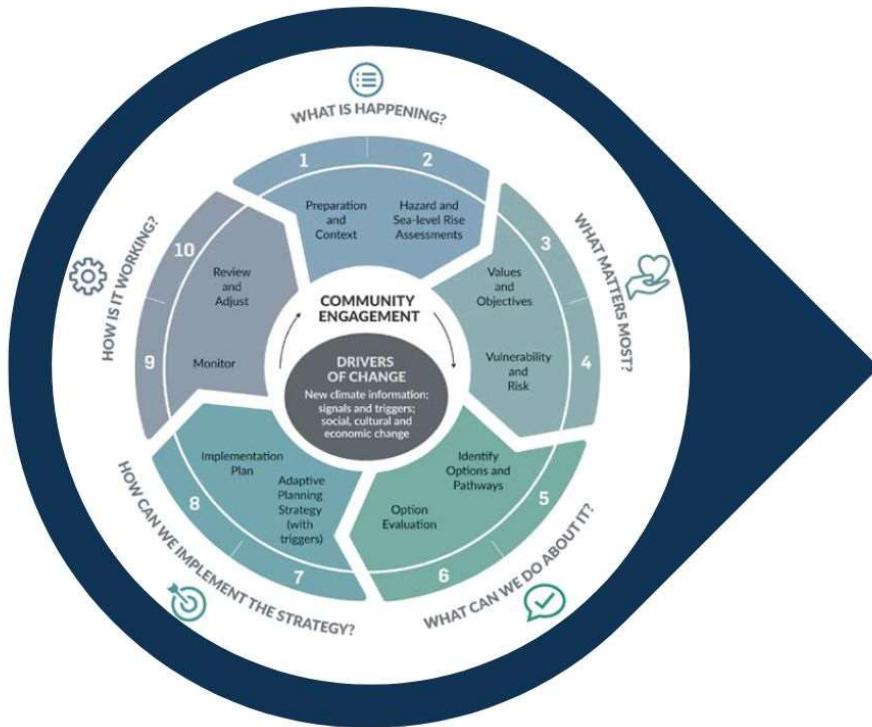


COASTAL CONVERSATIONS

Motunau
22 May 2023

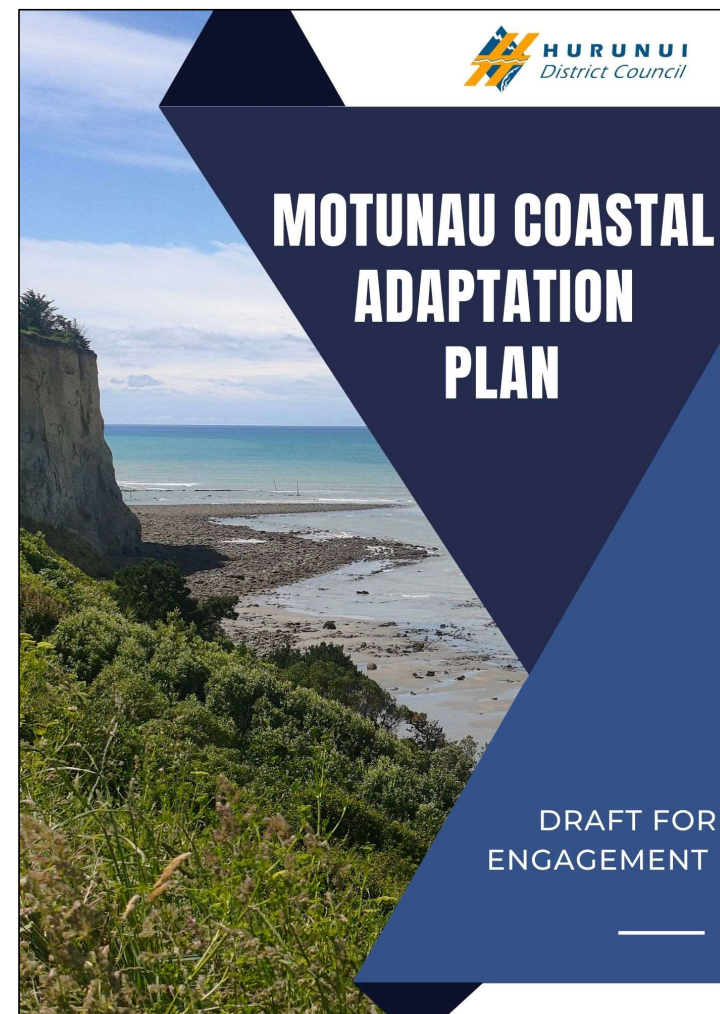


The project



Adaptive Planning

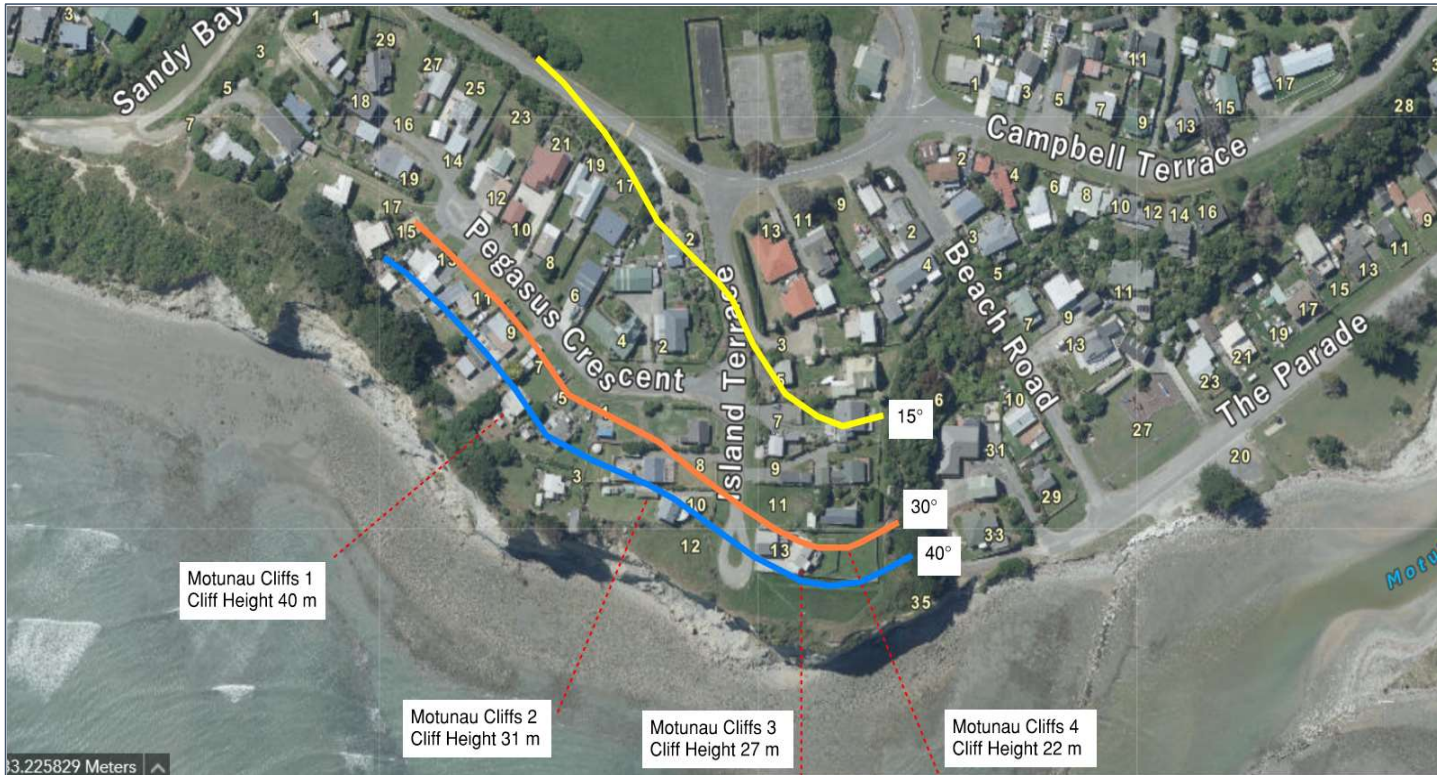
- Takes a long-term planning approach
- Enjoy an area for as long as possible
- The future is uncertain
- Don't want to lock in options – but want to know they exist and can be implemented
- Trigger based not time based
- Allows us to monitor change and act before things deteriorate
- Funding



What is happening?



What is happening?



What matters most?

- Public and private assets are protected where it is cost effective to do so.
- Safe access is provided to and along the foreshore.
- The Motunau River mouth remains accessible for boating.



What can we do about it?

Most options have been disregarded

Motunau Beach
COASTAL ADAPTATION EXPLORER

Choose Erosion and Flood Management Options

Option	2020	2050	2070	2120
Wave Wall (Rocks)	✓	✓	✓	✓
Wave Wall (Blocks)	○	○	○	○
Wave Wall (Concrete)	○	○	○	○
Reinstate Rocks	○	○	○	○
Stormwater Controls	✓	✓	✓	✓
Sandy Bay Renourishment (sand)	✓	✓	✓	✓
Sandy Bay Rock Toe	○	○	○	○
Maintain District Plan (floor levels and setbacks)	○	○	○	○
Managed Retreat	○	○	○	○

Choose a Future Scenario

- How Will You Measure Success?
- Climate Change Scenario

Location

Option Pathway Summary

- Total Cost of Options: \$5M
- Damage Avoided: \$6.5M
- Total Benefit: \$1.5M**
- Buildings Protected from Flooding: 0
- Buildings Protected from Erosion: 14
- Roads Protected: 19%

Multiple Criteria

- Ecology
- Landscape
- Cultural Heritage
- Social & Cultural Wellbeing
- Public Access & Recreation
- Legal Risk
- Coastal Erosion Risk
- Coastal Flooding Risk
- Adaptability

Properties at Risk of Erosion

Epoch	Do Nothing	With Options
2020	0	0
2050	10	0
2070	15	0
2120	40	30

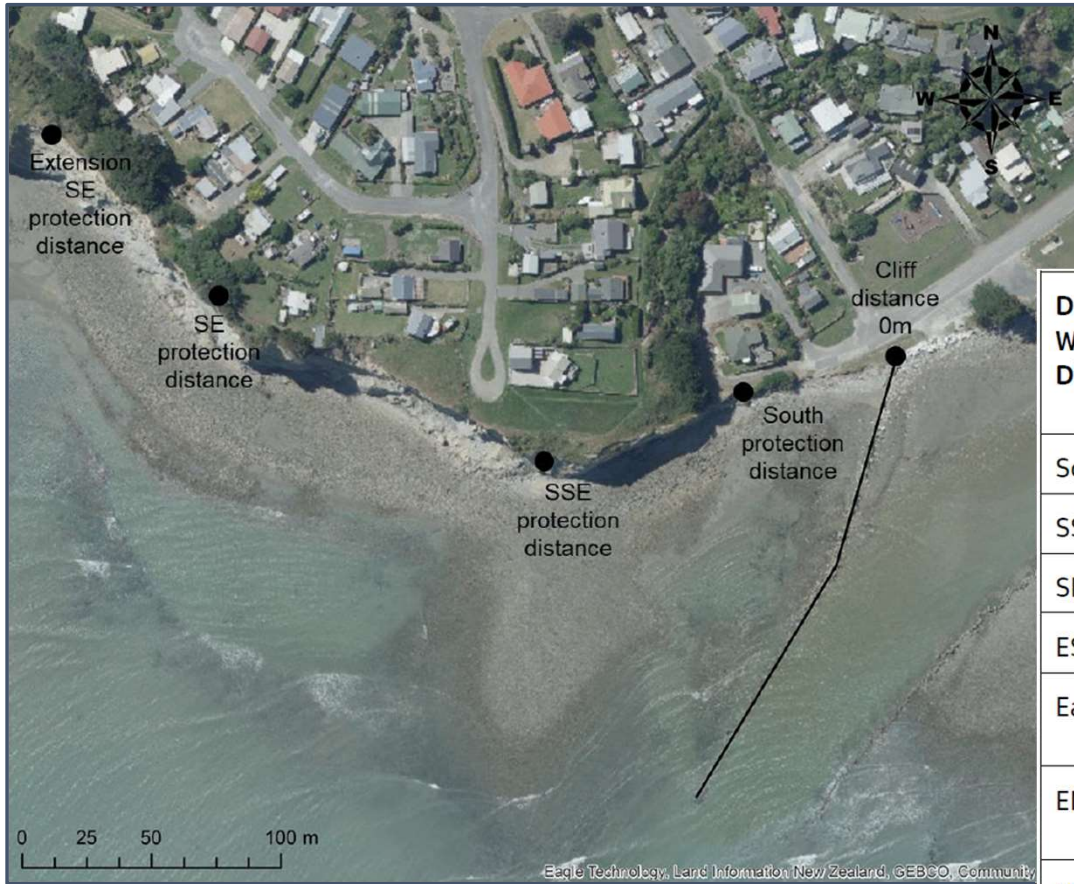
Properties at Risk of Flooding

Epoch	Do Nothing	With Options
2020	10	10
2050	12	12
2070	13	13
2120	14	14

Critical Roads at Risk

Epoch	Do Nothing	With Options
2020	0%	0%
2050	1%	0%
2070	2%	0%
2120	32%	0%

Option 1 – Extension and maintenance of the training wall



Deep Water Storm Wave Approach Direction	Refracted Inshore Wave Approach Direction	% of storm waves	Cliff Protection Lengths for existing wall length	Cliff Protection Lengths for wall length extended by 20 m
South	SSE	18%	140 m	160 m
SSE	SE	9%	280 m	370 m
SE	SE	9%	280 m	370 m
ESE	SE	9%	280 m	370 m
East	ESE	14%	>400 m (Total length)	>400 m (Total length)
ENE	ESE	4%	>400 m (Total length)	>400 m (Total length)
NE	ESE	33%	>400 m (Total length)	>400 m (Total length)

Option 2 – Stormwater management

- Longer term expensive projects
- Short term easy cheap fixes
- Hard projects
- Private property issues

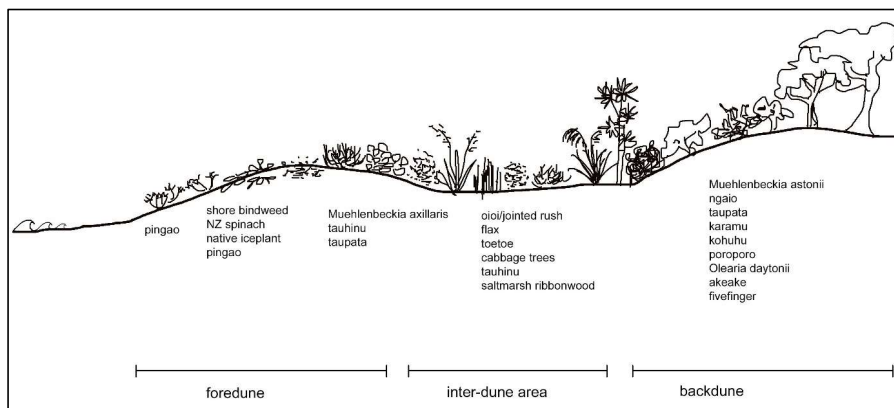


Option 3 - Maintain / enhance planning provisions

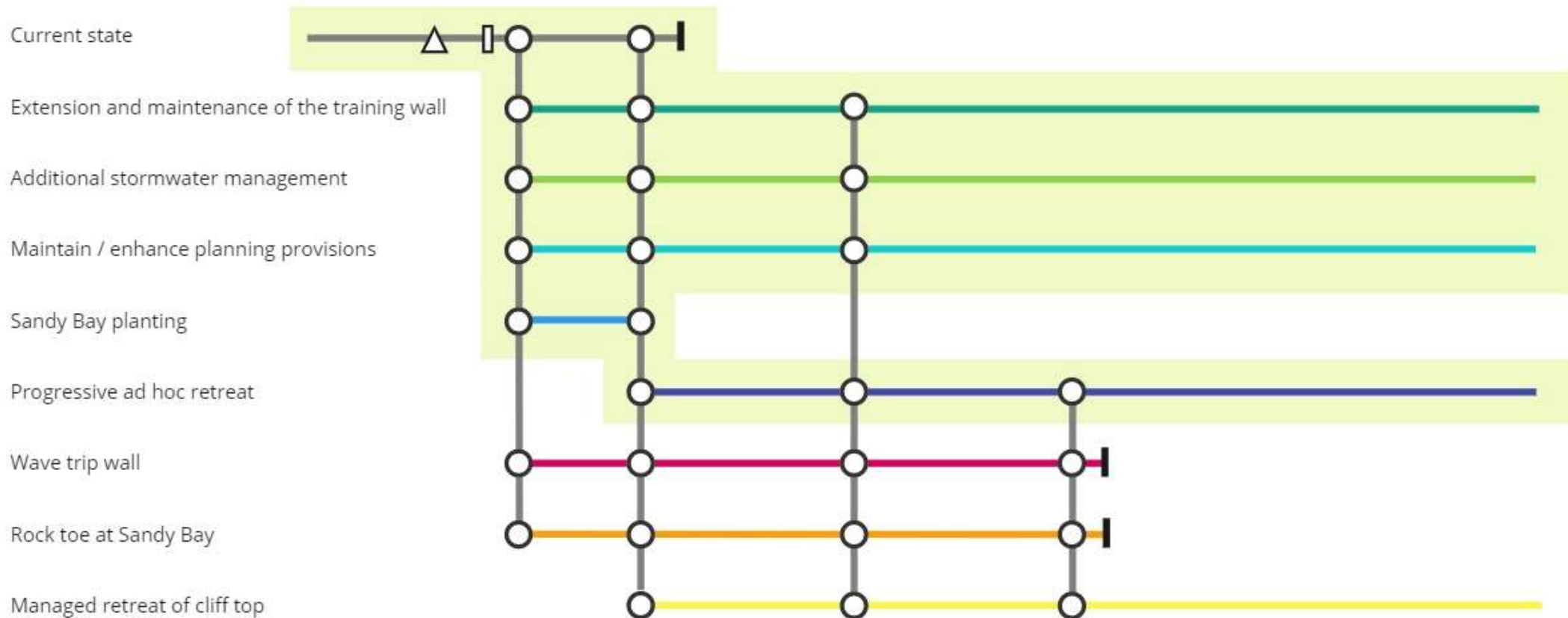
Updating provisions to enable adaptive planning



Option 4 – Sandy Bay planting



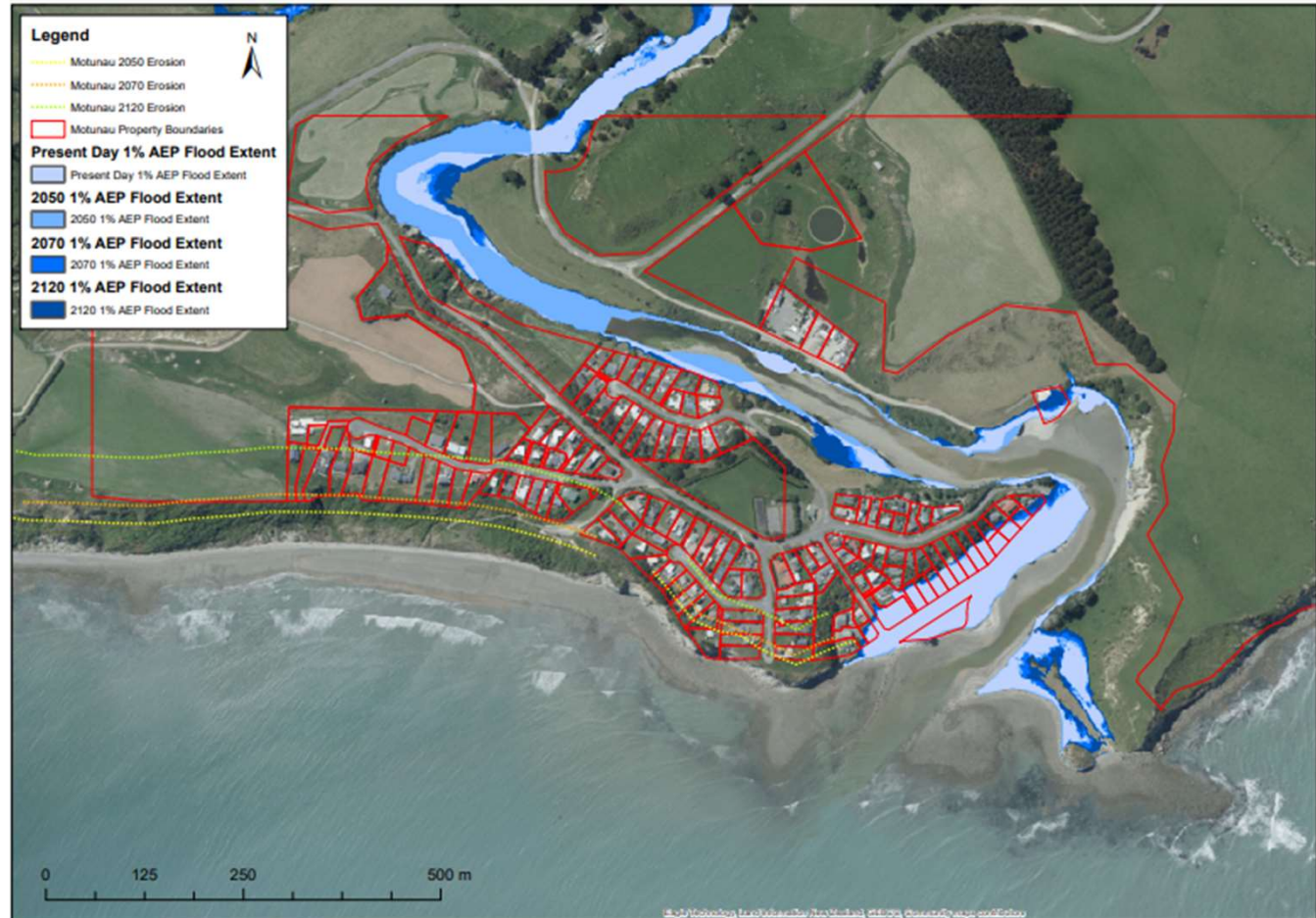
Proposed plan



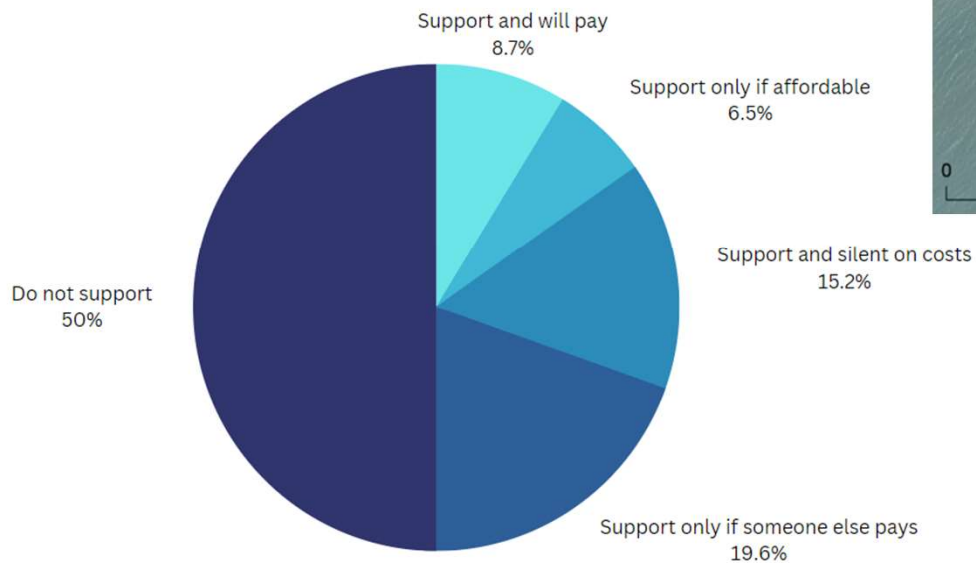
Option 5 – Retreat ad hoc or supported?

Seaward of the erosion lines:

- Around 13 properties in the next 50 years
- Around 40 properties in the next 100 years



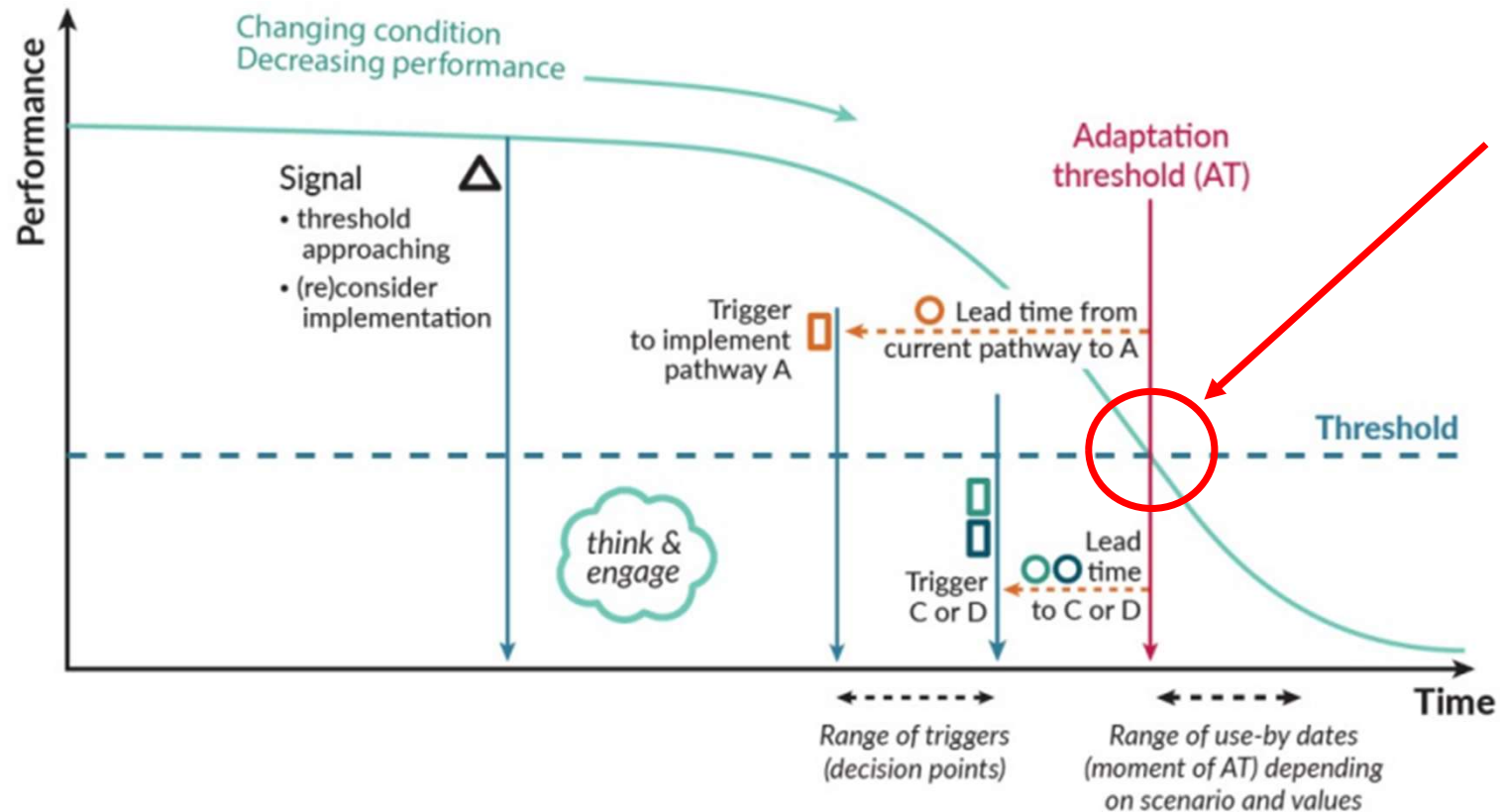
Option 6 – Wave trip wall

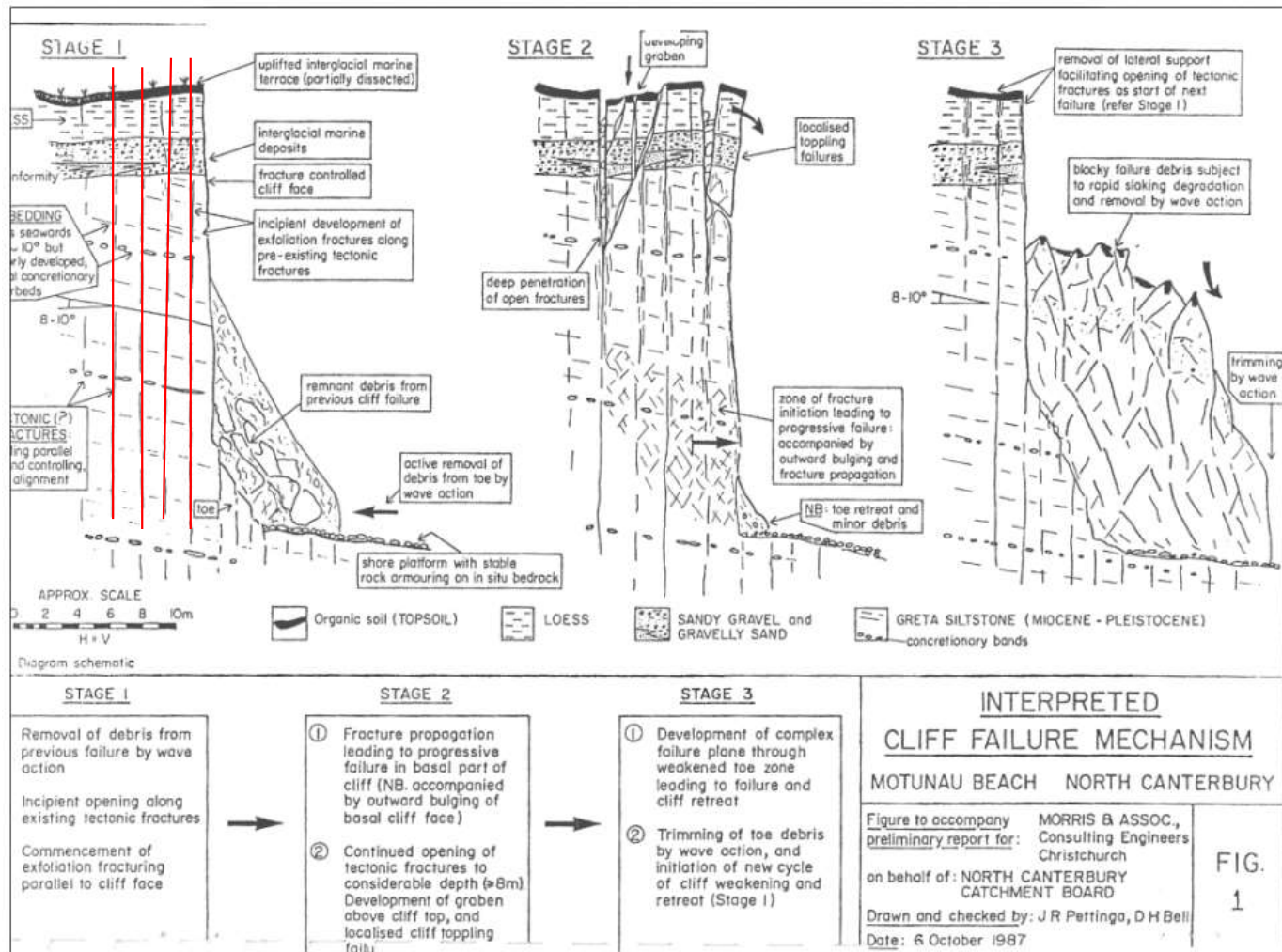


Option 7 - Sandy Bay Rock Toe

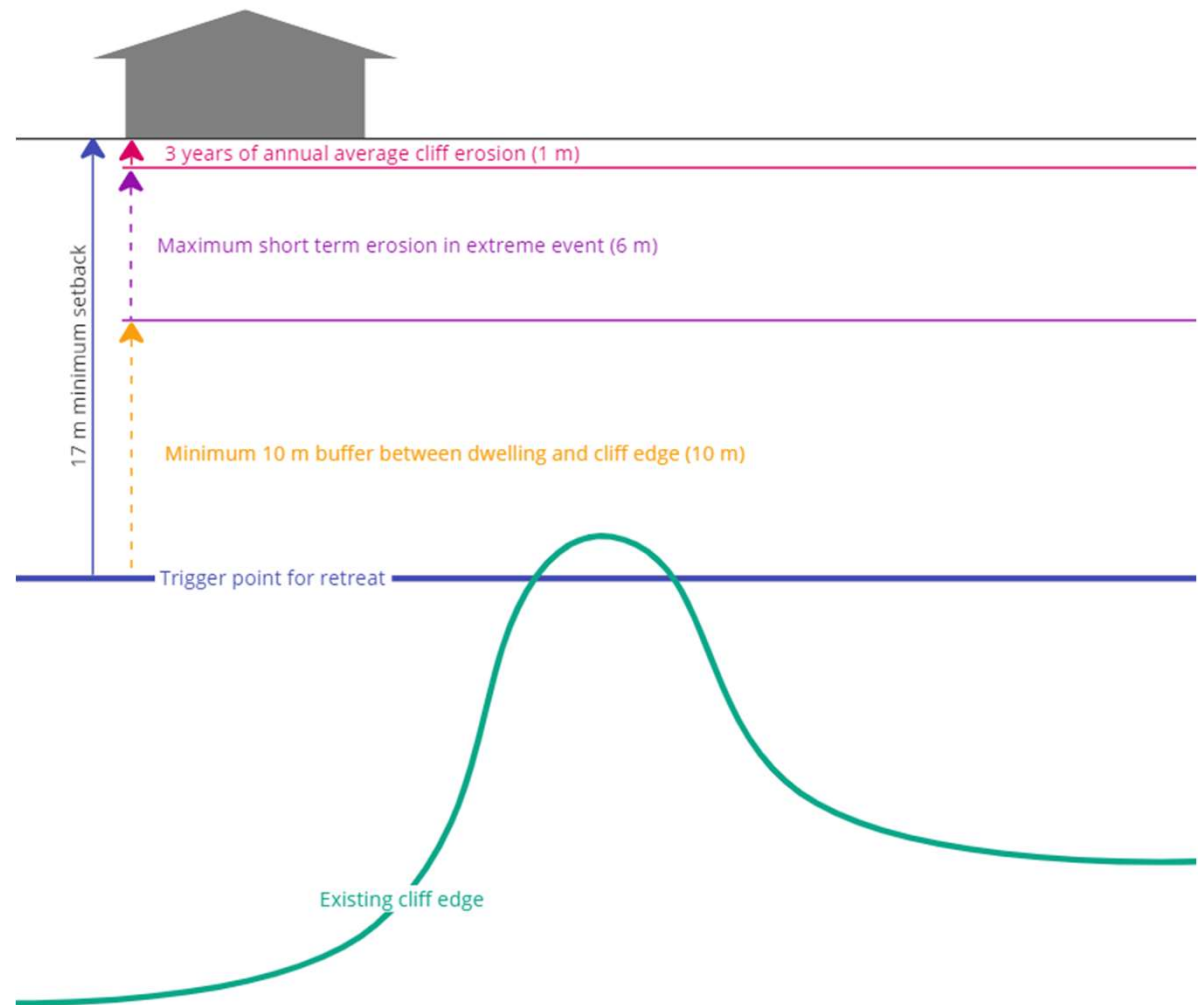


Phase four: How can we implement the strategy?





(Annual average rate of erosion x 3 years)
+ short term erosion rate
+ safety area
= Minimum setback



Next steps

- Stormwater projects for LTP
- Stormwater maintenance works
- Engagement on CAP

