Moffat Beach Seawall Reconstruction Project

Community Focus Group

Meeting 23 October 2024

Sunshine Coast COUNCIL

Meeting Agenda

Item no.	Agenda Topics	Time	By Whom
1.	Introduction and Apologies	4:30pm	Chairperson
2.	Acknowledgement of Country	4:35pm	Open to Floor
3.	Acceptance of Previous Minutes	4:40pm	Chairperson
4.	Previous meeting action items and CFG Member feedback from previous meeting	4:45pm	Adam Connell
5.	Coastal Erosion Model Outcomes	5:00pm	Project Team
6.	Geotech Assessment	5:10pm	Project Team
7.	MCA Assessment Process	5:20pm	Project Team
8.	Concept Design Plans	5:30pm	Project Team
9.	Place Plan Update	5:50pm	Erin Johnston
10.	Q&A Discussion	6:00pm	Adam Connell
11.	Next Steps	6:20pm	Adam Connell
12.	General business and next meeting	6:25pm	Chairperson

Acknowledgement of Country

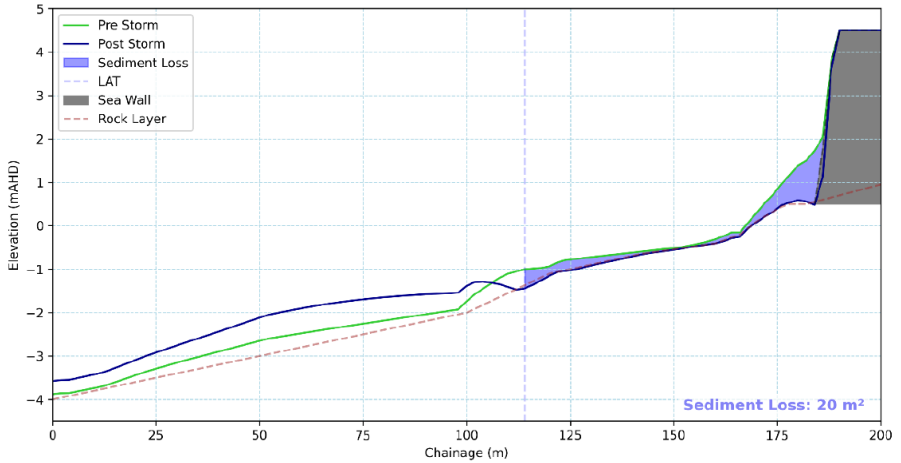
Acceptance of Previous Minutes

Previous Meeting

- Action items
- Feedback from meeting

Coastal Erosion Modelling Outcomes

Types Of Modelling: Seawall Design



Computer based models (top)

Useful for:

- beach morphology (erosion)
- wave overtopping
- surf break/wave modelling

Physical models (built to scale 1:15 or 1:20) (bottom)

Useful for:

- validating computer models in a wave flume or miniature version of a local area

*Not useful to check beach morphology as issues arise with scaling. Also very expensive $70,000-$200,000 typically.

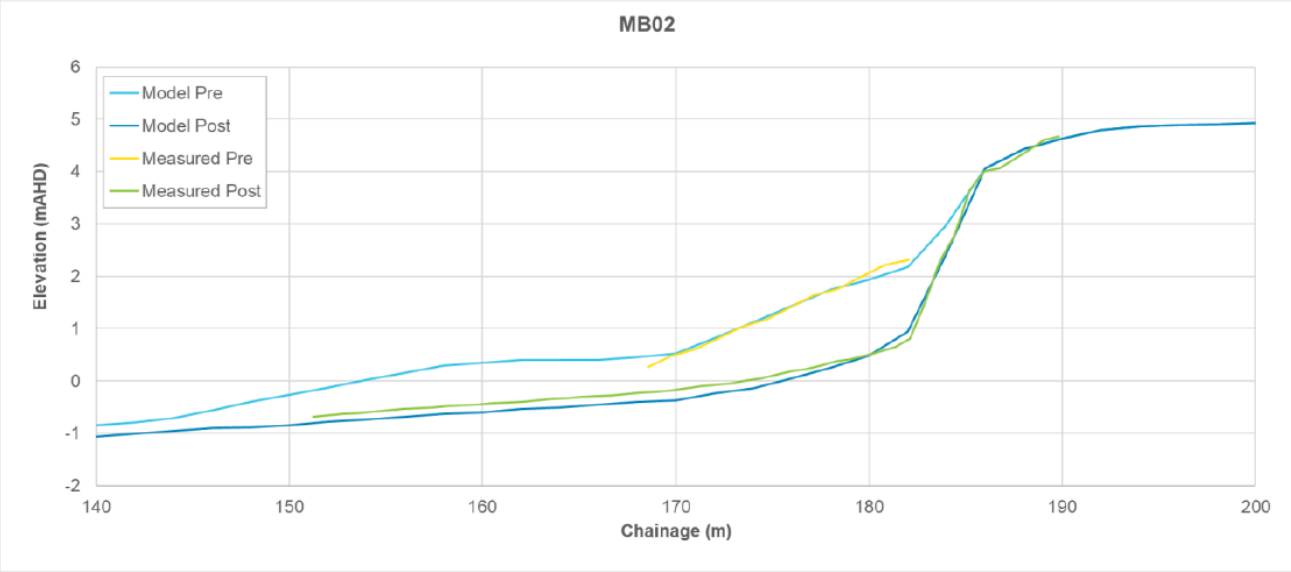
Moffat Beach Modelling

Modelling completed to date:

- Litpack cross shore/morphological modelling (shown right)
- EurOtop wave overtopping modeling

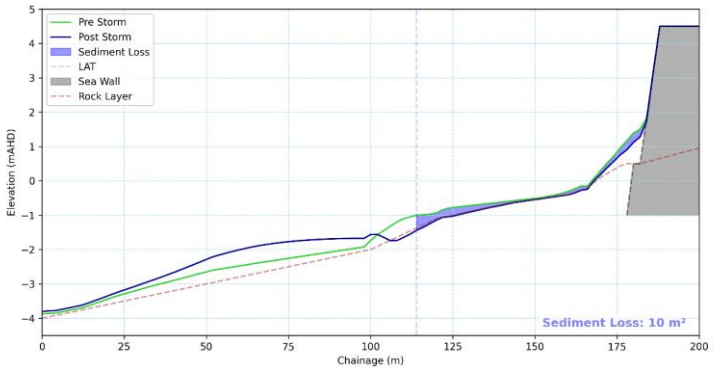
Modelling to be completed:

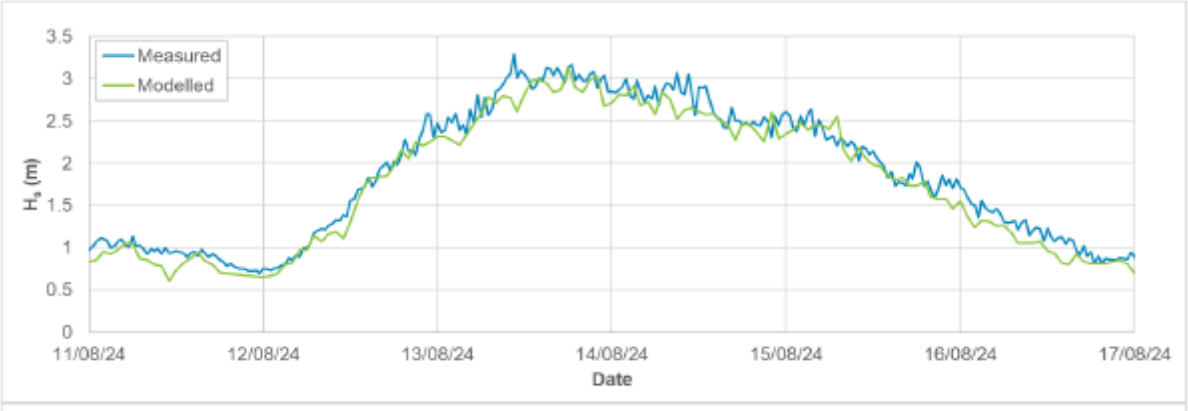
- Wave impact modelling
- Review of modelling by James Carley (UNSW)



Coastal Erosion Model Setup

- Involves construction of a virtual wave domain.
- 3 cross shore profiles used (west, central and east).
- Model calibrated with available satellite bathymetry of Moffat Beach and Caloundra.
- Calibration showed area more sensitive to higher water levels than larger waves as waves are depth limited.
- Design storms run at the following annual recurrence intervals (ARI) for seaward, landward and existing seawall layouts at various wave/water levels (2yr, 20yr, 100yr, 500yr wave heights combined with present day and 2075 water levels)





Coastal Erosion Model map of cross sections

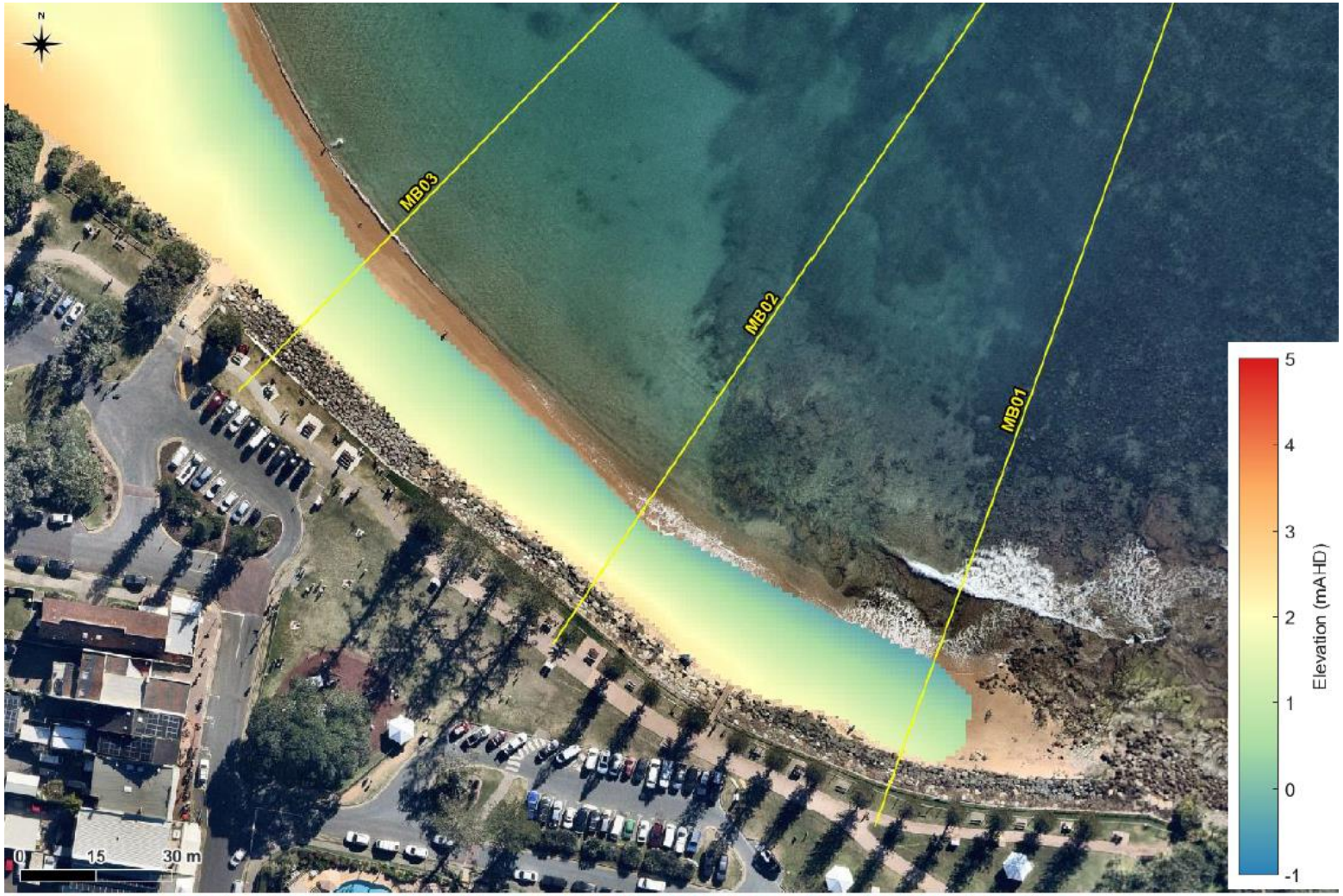


Figure 5. Pre-storm beach bathymetry, collected on 4th June 2024, along with cross-shore beach profile locations.

Notes:

MB01 – Eastern Section

MB02 – Middle Section

MB03 – Western Section

Coastal Erosion Model Summary

- Overall, the results indicate that the differences in the seawall alignment result in negligible impacts to the storm erosion of the beach adjacent to the middle and eastern sections of the seawall.
- Seaward alignment shows greater erosion in the western section of the seawall if seaward alignment was chosen.
- High sandstone and clay layer = beach is easily erodible.
- Most available sand lost from beach in front of wall at most large modelled storm events.
- Sand stays in the shallow areas of the bay and will likely migrate back onshore with accretion conditions.

Wave Overtopping Modelling - EurOtop

- Modelling is being completed for wave overtopping and impacts to the park and pedestrian safety at present day water levels and 2075 water levels (+0.5m).
- Australian Standards determine maximum design storm, 500 year determined to be the worst design case.

Geotechnical Assessment

Summary:

- Base of clay in the west half of the site and base of bedrock (sandstone) in the east half of the site.
- Mix of fill types behind the seawall.
- Seawall will need to be 'keyed' into both layers. 0.5-1m into the sandstone and 0.75-1.5m into clay.
- Previous geotechnical assessment has determined the existing seawall to have a low factor of safety around 1.0 (min FOS of 1.5 required long term)

Multi-Criteria Analysis Assessment Process

MCA Assessment Process

- Broken up into Western section and Eastern + Middle Sections.
- Weightings for each assessment criteria are derived by assessing the relative importance of each criteria, against all other criteria using the matrix below.
- I.e. criteria are "pitted" against each other to work out which is more important.

Selection Criteria		Construction cost	Public beach safety impacts	Beach amenity/access impacts	Coastal processes impacts (beach erosion amount)	Norfolk Pine Trees impacts (risk of loss)	Park amenity impacts	Weighting (%)
		1	2	3	4	5	6	
Construction cost	1							
Public beach safety impacts	2							
Beach amenity/access impacts	3							
Coastal processes impacts (beach erosion amount)	4							
Norfolk Pine Trees impacts (risk of loss)	5							
Park amenity impacts	6							
	Total							

MCA Assessment Process – what are your values?

No.	Criteria	Definition
1	**Construction cost**	The total costs to council in building the seawall.
2	**Public beach safety impacts**	To what extent is public beach safety impacted.
3	**Beach amenity impacts**	To what extent is beach amenity impacted.
4	**Coastal processes impacts (beach erosion amount)**	To what extent are coastal processes (beach erosion amount) impacted.
5	**Norfolk Pine tree impacts (risk of loss)**	To what extent will the trees be impacted (risk of immediate loss or result in poor health of trees long term).
6	**Park amenity impacts**	To what extent is park amenity impacted.

Moffat Beach Place Plan update

Project Area

- Place Plan Project Area - Moffat Beach
- Place Plan Project Area - focus on primary commercial /recreation area
- Seawall Project
- Road Safety Review and Traffic Assessment Study Area 2022
- Active Transport Corridor Project

Project Aims

- Guide wholistic development investigating opportunities – current and future state.
- Consider infrastructure investment.
- Provide place character and activation guidance.
- Enable council to make informed decisions about the future investment.
- Give the community clarity around future revitalisation.
- Consider the interests of all relevant stakeholders.

Project Scope

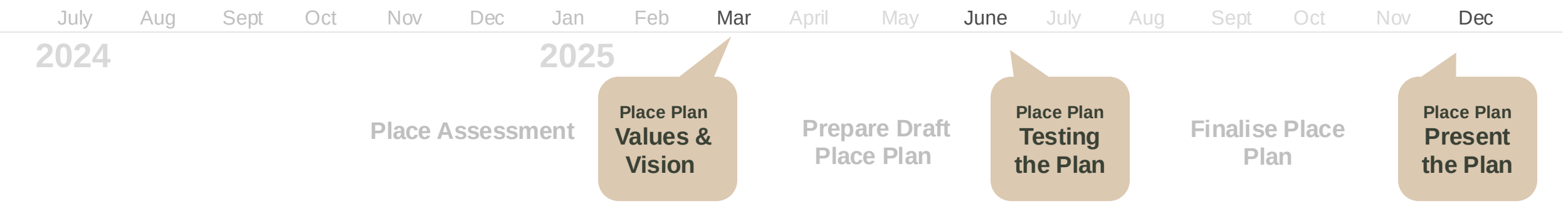
1. Summary of aligning projects past and present
2. Summary of investigation and analysis
3. Technical studies
4. Community and stakeholder engagement
5. Vision and values
6. Place Activation and Character Guidelines
7. Place Plan - a long-term plan illustrating the design direction for the project area
8. Recommendations
9. Implementation

*Noting that there are no scheduled budget allocations in the Placemaking Program to deliver the Place Plan recommendations

Project Staging

Stage one	**Planning** • Establish relevant project governance. • Investigation and analysis, data collection and site studies to gain knowledge of the project area. • Project alignment. • Early ideas testing. • Develop Engagement and Communications Plan.
Stage two	**Values and vision - Community and Stakeholder Engagement Phase 1** • Engagement with respective internal and external stakeholders to understand issues, needs and desires.
Stage three	**Draft Place Plan** Development of the Draft Place Plan and Place Activation and Character Guidelines.
Stage four	**Have we got it right? Community and Stakeholder Engagement Phase 2.** Engagement on the DRAFT Place Plan and Place Activation and Character Guidelines.
Stage five	**Place Plan Report** • Finalisation and presentation to Council for consideration.

Proposed Project Timing



Next Steps

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- Wave impact study to be completed (boundary within headland to headland and includes Tooway Lake).
- Council to review concept drawings, values assessment and internal feedback by early November.
- James Carley (UNSW) to review concepts, detailed designs and attend next meeting – send questions in prior to meeting.
- Council to make final decision on alignment by mid-November.
- Approvals (Council and State Gov) to be submitted by end of November.
- Continuation of meetings with CFG group and updates provided to the community, discuss negotiable design items at next CFG meeting, chance for landscape architect to attend.
- IFC drawings are due end February 2025 .
- Works start April 2025.
- QRA funding currently September 25 (extension being sought to Dec 2025, hard end of NEMA funding package).

Q&A Discussion

General Business and Next Meeting

- Review arising actions.
- Agree on meeting date, time and location.
- Nominations for agenda items.

Thanks for your time

Sunshine Coast COUNCIL

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