

STAFF REPORT

TO: Mayor and Councillors

FROM: Engineering Manager

REFERENCE: C404

DATE: 30 March 2005

SUBJECT: Mapua/Ruby Bay Foreshore Protection – Old Mill Walkway Reserve

PURPOSE

This report reviews feed back from the Mapua/Ruby Bay community and looks at funding options for the proposed capital works at Ruby Bay to protect the Council's Old Mill Walkway Esplanade Reserve from coastal erosion.

BACKGROUND

This project was promoted by the Mapua Ruby Bay Residents & Ratepayers Assn during 2003 and has been subject to several public meetings, consultations and most recently a survey of public views through a Council newsletter feedback form sent out to the community earlier this year. A copy of the newsletter is attached for information.

Council has identified a targeted rating area of approximately 900 properties, from which a rate of \$10 per property is being collected this financial year to assess the feasibility or options to address existing erosion and inundation problems.

Ongoing weather events continue to erode the 700 metres of Ruby Bay foreshore along the Old Mill Walkway reserve. It is less than 10 metres in width at its southern end. Council staff are working with a neighbouring landowner to look at options to carry out some limited, probably temporary works to limit the immediate erosion threat at the southern end. Funds will be drawn from existing budgets for this work if it proceeds.

Information to the community has stressed that the preferred option to create an initial rock revetment along the reserve is only seen as an initial urgent response to halt erosion, and is part of a wider solution for long term coastal protection against erosion and inundation. The revetment "solution" will create the requirement for future work to be carried out including gravel nourishment of the beach, bunding to protect against inundation, foreshore monitoring and analysis, and additional coastal control structures.

A broad 20 year programme of possible works has been presented to the community at public meetings and is set out below.

TASK	Year																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Urgent Erosion Protection Work																				
Investigations, Design, Resource Consents, Coastal Permits	x																			
Construct Rock Revetment Old Mill Walkway		X																		
Long Term Management Works																				
Identify Gravel Source			x																	
Planning Approvals			x																	
Beach Nourishment				x																
Monitoring				=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=
Mtce Gravel Transfer							x			x			x			x			x	
Flood protection bund Old Mill Reserve								X												
Performance Review														x						
Northern end rock revetment: Consents, design, construction									x	x										
Control Structure: Consents, Design, Construction															x	x				

Preliminary estimates for the urgent erosion protection works to construct a rock revetment along the Old Mill Walkway Reserve total \$900,000 and may be completed over about a two year period.

Other long term management works have not yet been fully costed but it is suggested total estimates could be in the order \$4 – 8 M over the 20 year period.

Tasks and processes that will be required to implement urgent protection rock revetment works will include:

- Coastal investigations, monitoring
- Assessment of options and environmental effects
- Community and affected party consultation
- Site investigations, survey, design
- Obtaining resource consents, coastal permits and approval from Minister of Conservation for restricted coastal activity

Public Survey Response

The newsletter was posted out to all ratepayers in the targeted rating area. There were 269 responses in writing received.

Support

157 responses were generally in support of the preferred option of constructing a rock revetment. Many feedback forms included detailed comments which have been summarised as follows:

- Include backfill as some areas already lost due to erosion
- Would like to know how much the proposed levy on rates will be
- Only immediate landowners should pay
- Suggest funding comes from river works
- Because work is protecting Council land a rate should be struck covering the full TDC area, with one charge per ratepayer, not on each rateable property. Council ratepayers be offered a lump sum option instead of rate over fixed period
- Support subject to commitment by adjacent property owners to an agreed contribution
- Request permanent steps for access to beach
- Asking for assurance it will be maintained and access is available for pedestrians and horse riders
- Suggest placing rubber tyres on top of the wall filled with soil and succulents, seaside daisy etc. Wooden steps and boardwalks be built at regular intervals for easy access to beach, especially for children and disabled
- Protect walkway, cycleway linking Broadsea Avenue to the school walkway/ estuary
- Steps over the wall don't allow access for disabled/prams/horses
- Request walking track from Mapua School to coast be upgraded in conjunction with works.
- Suggest using broken concrete at clean up site behind the rock. Lack of information regarding payments. Will project be put out to tender. Use community facilities rate funding as reserve is for all community
- Be sure the cloth mat goes right over the top and is secured in place by pegs every 200 m at least
- Two existing rock walls need to be connected to restore dynamics of the bay
- ongoing monitoring to ensure desired results, if not, work and expenditure should cease
- Rock wall only solution – concrete wall would not fit into landscape
- What affect will rock wall have on Ruby Bay?
- Three coastal properties immediately east of proposed rock wall should not be exempt from paying
- Recommend a groyne used in conjunction with rock wall to encourage accretion.
- Consider using wire mesh containers of rocks to give added stability
- Not in favour of using gravel on beach as difficult to walk on
- Erosion protection measures to retain a high tide beach
- Less effort put into saving the land of Old Mill Walkway and more into obtaining all-tide coastal walkway from Mapua to Ruby Bay
- Where are rocks to be sourced from? The rocks there already are not aesthetically pleasing as they don't blend with natural surroundings
- Don't like the idea of breakwaters
- These structures are banned in parts of the world as they just change the problem area
- Requesting length of wall
- Rock wall should extend whole length of Ruby Bay beach including the eastern end as far as the existing wall that extends from Leisure Park boundary
- Has Council investigated using reef balls at Ruby Bay to prevent erosion and provide habitat for fish stocks

- Prefer dredging of Mapua channel and bar and along front of Ruby Bay
- Private rock wall in place now has hastened the erosion along the reserve and dumped large rocks along the tidal walkway
- Don't mind Mapua stop bank rate as long as we don't have to pay river rates
- Cement boulders down
- Would like rock revetment of similar quality to one at Marahau, with suitably coloured rock used
- Small size of rock used on existing wall is proving to be inadequate
- Concerned about heavy traffic on Broadsea Avenue when work begins – consider other routes for access to the beach

Do Not Support

112 responses do not support the preferred option of constructing a rock revetment. Many feedback forms included detailed comments which have been summarised as follows:

- Not enough information provided
- struggling to pay rates now
- What guarantee that revetment will work? People who live directly on endangered coastline should expect to be levied more than those not directly at risk.
- Cost should be spread over whole district or those directly affected
- Stopbanks won't stem rising sea levels – need to plan to resite properties on that that is vulnerable to rising sea
- First remedy infrastructure problems e.g. water supply
- Forget about protecting the highway and concentrate on building the bypass and improving pedestrian safety along Stafford Drive
- Sell off spare Council land in the area to pay for other projects
- Urgent need for water supply and footpath along Tahi Street
- Fighting the power of the sea will be pouring money down the drain – let nature take its course.
- Port dividend money should be used
- Proven that rock walls bring on loss of sand. Gravel replenishment will not bring back the sand
- Suggested a marina, with a groyne to protect Ruby Bay
- Information on environmental impact and future sea rises and movements is not available
- Suggestions made that a breakwater be built from the area of McKee Domain such that incoming waves in storm events would be deflected eastward. Proposal is old fashioned and proven inefficient and not cost effective
- Short term measure
- Explanation needed about effect of the wall on the beach
- Council has no mandate for proposed wall
- Suggestion of extensive "Boom" which could be utilised for recreation
- Suggesting gravel wall and plantings about two metres back from edge of reserve
- Rock revetments work best on rocky shorelines, not sandy/mixed shorelines

Comment

While a majority of responses support the preferred option, there is clearly concern in the community regarding the method of funding for this project.

Council's LTCCP and draft annual plan estimates for 2005/2006 assume that all project funding will come from the targeted rating area (Mapua Stop Bank Rate).

Council representatives have met with landowners who immediately adjoin the Old Mill Walkway reserve. Collectively these property owners have agreed in principle to fund about \$300,000 towards the capital cost of the revetment project.

Council does not have an existing policy for funding coastal protection works of this type. The nearest example or precedent is the funding of the Ruby Bay seawall constructed on Council's Recreation Reserve along the front of 15 Broadsea Avenue properties, Tait Street and Chaytor Reserve in 2002/2003 at a total capital cost of \$180,000. The Council funded 20% of this capital project through general rates and 80% funded by the 15 private properties through a targeted rate. [Note that these properties have been excluded for the new Mapua Stop Bank targeted rating area.]

If Council funded the Old Mill Walkway revetment on a similar basis the split in capital costs would be:

Council funds, general rate (loan funded)	\$180,000	20%
"At Risk" Private landowners, cash contribution	\$300,000	33%
Mapua/Ruby Bay Community, targeted rate (loan funded)	\$420,000	47%
TOTALS	\$900,000	100%

A targeted annual rate of about \$60 to \$70 including GST per property would be required to service the loan over a 20 year period, based on the above funding split. In future years when other long term foreshore management works are required Council would need to determine the appropriateness of this funding allocation method, or whether to consider other funding mechanisms.

Recommendations

- 1. That Council receive this report and the findings from the public survey.**
- 2. That Council include in its 2005/2006 Draft Annual Plan a capital budget of \$900,000 for the purposes of constructing a rock revetment along the foreshore of the Old Mill Walkway Esplanade Reserve at Ruby Bay, and that Council make provision to:**
 - use general rates to fund 20% or \$180,000 of the capital value of this project through a loan**
 - use the targeted Mapua Stop Bank Rate to fund up to 47% or \$420,000 of the capital value of this project through a loan**
 - fund at least 33% or \$300,000 of this project through direct capital contributions from landowners**

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