

MEETING MINUTES**COMMUNITY INFORMATION SESSION – TWO ROCKS COASTAL MANAGEMENT****18 MARCH 2015, PHIL RENKIN CENTRE****ATTENDEES**

Mayor Tracey Roberts (City of Wanneroo)
Harminder Singh (City of Wanneroo)
Rory Ellyard (City of Wanneroo)
Brian Gee (City of Wanneroo)
Councillor Winton (City of Wanneroo)
Councillor Aitken (City of Wanneroo)
Trent Hunt (M P Rogers & Associates)
Fangjun Li (Department of Transport)
Rose Murphy (Department of Transport)
Two Rocks Community (29 Registered Attendees)

MEETING OPENING

Mayor Roberts opened the meeting at 7:15PM and introduced Elected Members, City of Wanneroo staff members, Department of Transport representatives and M P Rogers & Associates Representative. Mayor then invited Trent Hunt to present the outcomes of the M P Rogers study on Two Rocks Coastal Management and Fangjun Li to present the findings of the Two Rocks Geotechnical Study.

PRESENTATION OF COASTAL STUDIES

Trent Hunt (M P Rogers & Associates)	Coastal Engineer from M P Rogers & Associates presented power point slides summarising the recently completed coastal management study including: <ul style="list-style-type: none">• Recap of 2006 study and outcomes;• Summary of coastal processes;• Summary of conceptual coastal management options; and• Summary of the preferred preliminary design options including managed retreat and stage groynes.
Fangjun Li (Department of Transport)	Department of Transport's Manager Coastal Infrastructure presented a summary of the geotechnical study along the Two Rocks coast, explaining that buried limestone rock beneath the existing sand dunes is now expected, which will minimise the extent of erosion and provide some protection to adjacent infrastructure.

QUESTIONS FROM THE FLOOR

- Resident Can a section of the marina wall be removed to allow sand to pass through the marina?
- Trent Hunt Trent explained that this would not be a viable option as it would lead to sediment deposition inside the marina.
- Resident Managed retreat is not an acceptable option. It appears that rock is only 0.5m AHD in front of my house.
- Trent Hunt Trent ran through the slides showing estimate limestone levels beneath the sand dunes and explained that the presence of rock will slow rates of erosion landward of the rock.
- Rory Ellyard Rory explained that the City has implemented an ongoing coastal monitoring programme including quarterly photographic beach monitoring and quarterly beach profile surveys. This will allow the City to track rates of erosion and compare with predictions and identify when additional coastal management measures will be required.
- Resident Has wind erosion been considered?
- Trent Hunt Trent explained that the main factors driving coastal erosion north of the marina are water levels and waves. There is no specific allowance for wind erosion.
- Resident Is the rate of erosion increasing?
- Trent Hunt Trent explained that the rate of erosion is likely to slow over time as the coastline reaches a new equilibrium.
- Resident Is cost the biggest factor supporting managed retreat? Why not construct the groynes now?
- Trent Hunt Trent explained the multi-criteria analysis and net present value analysis undertaken to assess the options to show that construction of the groynes in the future is a better option.
- Resident What can prevent erosion of the berm area? Has a seawall option been considered?
- Trent Hunt Trent explained the beach erosion processes where erosion is initially focussed on the beach berm which then results in collapse of dune batter as the coast retreats. Details of the seawall option was also further discussed.
- Resident Will the groynes act as a seaweed trap increasing the problem of rotting and smelly seaweed?
- Trent Hunt Trent explained that the trapping of seaweed along two rocks is a complex process which is increased to the south of the marina due to the presence of the large rock. Some seaweed may be trapped between groynes; however the shoreline between the two groynes would be exposed to direct wave action which should act to disperse the seaweed.

- Resident If we wait before building anything we might lose too much foreshore. Build the seawall now.
- Trent Hunt Trent explained that construction should commence at the appropriate time and that by building a seawall now, the loss of foreshore up to the location of the seawall would not occur any slower. Additionally, the rock encountered in the geotech survey sits at +4 or 5m AHD in most locations which is comparable with the proposed crest of the seawall and will act as a seawall when uncovered by erosion.
- Resident Will offshore breakwater be a better option to stop erosion to the north and trapping of seaweed?
- Trent Hunt Offshore breakwaters result in the build up of sand on the landside of the structure (tombolo formation) which will then result in erosion to the north of the structure, similar to a groyne field. Trapping of seaweed is also likely to occur to a similar extent with offshore breakwaters, plus with additional wave protection of the breakwaters, wave action may not be sufficient to disperse the trapped seaweed. Offshore breakwaters are also more costly to construct and maintain.
- Resident What about submerged breakwaters?
- Trent Hunt This was not considered for this site due to the exposure to storm waves and they would not provide protection to the coast during significant storms.
- Councillor Winton Is the marina design a main factor contributing to erosion? Can we modify the marina to reduce the problems?
- Trent Hunt Trent explained that changes to marina design to improve bypassing of sand is likely to result in the deposition of sediment in the deeper areas of the marina entrance which would then require costly maintenance dredging to enable continued use of the marina.
- Resident What is the timeframe for a decision?
- Harminder Singh Harminder explained that the plan is to report to Council in May 2015 and once a decision is made, the City will be approaching State government for funding and management of the site since the construction of the marina is the clear cause of erosion.
- Resident If funding was not an issue, what is the best option?
- Trent Hunt Due to the presence of rock beneath the sand dunes, the best option moving forward is still ongoing monitoring and managed retreat with the intention for additional works (groynes) in the future as and when required.
- Trent also explained that in every coastal management option, relocation of the stairs will be required at some point in time.
- Resident Has sand nourishment been included?
- Trent Hunt No, sand nourishment has not been included and is not anticipated to be required in any of the options (excluding sand re-nourishment and

bypassing). Groynes are designed to lock up sediment in between the structures and minimise transport.

- Resident
Trent Hunt
- Why not construct full length groynes straight away?
By constructing partial length groynes and monitoring, in addition to a cost saving, the City can be surer of the outcome of the groynes and then make an informed decision in the future to extend them if required.
- Councillor
Winton
Trent Hunt
- Has dredging been considered for nourishment?
This option would be more costly than transporting sand from the southern side of the marina, plus requirements for environmental approvals for dredging works introduces another complication.
- Resident
Trent Hunt
- Is the only option to completely stop erosion a seawall?
Yes, but if a seawall is put in, over time there will be no beach left in front of the structure at this location.
- Resident
Trent Hunt
- Put in a “retreating line” at the back of the beach in the form of buried rocks or sandbags?
A retreating line is the same idea as a buried seawall and costs would be similar to the seawall option as ultimately the structure would need to be large enough to withstand waves once exposed from continued erosion.
- Resident
Trent Hunt
- It will be devastating to lose the beach.
Trent explained that the managed retreat option will still result in a beach area, however the beach and dune would simply retreat back as erosion continues.
- Resident
Fangjun Li
- Is the decision dependent on State Government?
Department of Transport support the coastal management investigation and are optimistic of a long term plan for two rocks including expansion of boat harbour and management of the coast. The City and State are working close together to ensure there is a usable beach and harbour into the future.
- Harminder
Singh
Mayor Roberts
- The City and State are continuing to work closely together on coastal management issues and Department of Transport have contributed 50% funding for the coastal management consultancy study.
The City is taking this issue very seriously and will leave no stone unturned regarding funding for coastal management of Two Rocks in discussion with State government. Mayor Roberts then explained that works at Quinns Beach could not wait due to immediate risks to private and public infrastructure and as a result the City copped the full cost and acted quickly to protect the coast without delay.
- Resident
- All options push the problem north, what about extending the marina breakwater?

Trent Hunt Extending the marina breakwater will have significantly higher costs due to the construction in deeper water and there would also be issues with environmental approvals and impacts on marina operations.

MEETING CLOSURE

Harminder Singh reiterated that the final outcomes of the coastal management study and preferred coastal management approach will be presented to Council at its meeting in May 2015 and that funding and management responsibilities will be sought from State government to allow for the implementation of any coastal management measures. He then thanked The Mayor, Cr Winton, Cr Aitken, all meeting attendees and representatives from the City of Wanneroo, Department of Transport and M P Rogers & Associates.

Mayor reiterated that coastal erosion at Two Rocks is taken very seriously by the City and funding will be sought from State government and that the City and State will continue to work together to ensure continued protection of the coast.

Mayor closed the meeting at 9:00PM.