



SUBMISSION TO THE INDEPENDENT ADVISORY PANEL

Re

ADELAIDE BEACH MANAGEMENT REVIEW DRAFT SHORT LIST

15 October 2023

The Western Adelaide Coastal Residents' Association (WACRA) appreciates the opportunity to make this submission to the Independent Advisory Panel (IAP) on the draft short list presented by Bluecoast Consulting Engineers (Bluecoast) to the stakeholder workshop on 27 September 2023.

Executive Summary

WACRA is profoundly disappointed in the information presented by Bluecoast and considers that it fails to meet the objectives of the Adelaide Beach Management Review (ABMR) or the expectations of the community. WACRA considers that significantly more scientific analysis is required of all of the original longlist options before arriving at recommended options.

If the Government refuses to commission that further scientific analysis, Bluecoast should, at least, be required to provide scientific support for each of the seven options it has put forward in the draft short list and to answer specific questions relating to each of them. Without this input, it is impossible for the community to offer informed comment on the options.

Subject to being provided with that analysis, and having the specific questions fully answered, WACRA offers its conditional support for Option 1.2 Dredge Using Large Offshore Sand Deposits.

Given the mass filling required for West Beach and the need to retain as much sand as possible from the effects of storms and tidal drift, consideration should be given to modelling or trialling off-shore geotextile groynes.

Failure of Process

On 9 June 2023, WACRA responded to the invitation to lodge a submission to the ABMR after publication of the long list of options and having attended the first community workshop on 15 May 2023. Our comments included:

- The Review must identify the combination of approaches that will deliver the best solution and not be constrained by the financial capacity of the Government to deliver each approach. (The terms of reference of the Review make no mention of costing or budgeting but Bluecoast inserted it as part of its coarse filtering process and has provided projected 20-year cost estimates for each option. We challenged that aspect at the time and still consider it inappropriate to identifying the objectively best outcome.)

- Bluecoast must provide detailed reasons justifying the discarding of each approach in the long list, by reference to the coarse filtering approach criteria. It will not be sufficient for there to be a mere statement that a particular option was considered not effective, or not practical or not acceptable. Detailed reasons for any such conclusion must be provided.
- The West Beach boat harbour is the root cause of many of the problems being addressed by the ABMR and its potential removal should be seriously considered, including comparing the loss of amenity to a relatively small group of boat owners with the potential benefit to the environment, marine life, fauna and flora, and a vastly larger segment of the population, along with a detailed cost analysis comparing the potentially significant but one-off cost of removing the boat harbour with the large and ever-expanding cost of managing the sand replenishment which its continuing existence will require in perpetuity.
- A request for an explanation of how the role of the Kurna representatives on the IAP, including consultation with the wider First Nations Peoples community affected by the Review and engagement with them in the processes of the Review, is being undertaken.
- Our view that climate change (and, in particular, sea level rise and the increased frequency and intensity of storm events) should be a paramount consideration in the assessment of sand management approaches. At the very least, the Review should adopt as its working assumption, the mid-range estimates of climate-induced changes when assessing the impacts of each option.
- Our view that the effectiveness of particular approaches should be tested by scientific modelling, including tank testing.

We received no reply to our submission and there is no evidence in the information published by Bluecoast that any of those suggestions have been considered.

The “scientific review” to be undertaken by Bluecoast as part of the ABMR was required to include consideration of:

1. How to manage sand on Adelaide’s beaches to achieve the following goals:
 1. Minimise disruption for all communities
 2. Avoid environmental harm; and
 3. Maximise sand staying on beaches.
2. The Adelaide community’s views on sand management options and on the impact of the current sand management approaches including trucking and pipelines.
3. Lessons from international examples of sand management on metropolitan beaches.
4. What can be learned from the most up to date analysis of climate science about future management of Adelaide’s beaches. (see www.environment.sa.gov.au/topics/coasts/adelaide-beach-management-review)

The information published by the Department for Environment and Water (DEW) to date includes the seven options outlined in the discussion paper published at [Adelaide Beach Management Review Options Shortlist | YourSAy](#), the cover note of 20 September 2023 from Bluecoast to the IAP and a brief half page description on DEW’s website of “Why weren’t some options shortlisted?” None of those documents contain reference to any science. The cover note provides “draft technical information”, but this merely relates to engineering matters, not scientific analysis. There is no reference to lessons from international sand management or analysis of climate science.

If Bluecoast has conducted the scientific analysis as required by its terms of reference, this should be published immediately. Without that information, the community will have no more confidence in the outcome of the ABMR than it had in the former Government's proposal to build the pipeline.

The AMBR was intended to remedy the fundamental flaw in the previous Government's approach by basing the identification of the best solution to the problem on an independent, objective, scientific analysis. In this way, there would be confidence that the preferred solution would deliver the best possible outcome according to scientific analysis of the best available data, unaffected by political or emotional vested interests.

Furthermore, while implementing the outcomes of the ABMR is a State Government role, responsibility for maintaining the amenity of our coast falls to the coastal Local Governments – specifically, the Councils of the City of Port Adelaide Enfield, the City of Charles Sturt and the City of West Torrens. These have significant resources, expertise and experience in coastal management yet have not been engaged in the review process in a collaborative process, or in any meaningful way other than providing submissions such as this one.

As the matter currently stands, the community is being asked to support or oppose options that are apparently unsupported by scientific analysis. Predictably, community groups and local governments up and down the coast are reverting to their respective well-rehearsed self-interests to advocate for different options. The opportunity for the ABMR to overcome those self-interests has not, yet, been achieved.

Short List to Long List

The long list of options was comprehensive and represented considered input from many well-credentialed experts and well-informed residents along the coast. Bluecoast adopted a "coarse filtering" approach which, in summary, asked whether each option was effective and/or practical and/or acceptable. We are concerned that the process seems to strive for a one-fix, magic bullet solution. In reality, a combination of approaches is more likely to be successful and any implementation must be carefully monitored, assessed and continuously evaluated.

WACRA's submission of 9 June 2023 requested that Bluecoast provide detailed reasons justifying the discarding of each approach in the long list. This recognised that each of the long list options had different claims to effectiveness, practicality and acceptability but expected that a *scientific* analysis of each would determine how it ranked.

The web page "Why weren't some options shortlisted?" does not even come close to achieving this. It claims that "the assessment of the long list of options used an evidence-based approach drawing on information and data from previous coastal monitoring, studies and research on Adelaide's beaches, and the impacts of climate change ..." but there is no published information proving that process was undertaken. There is merely a list of the options that "were not shortlisted for further analysis." The validity of those decisions must be proven by publishing the bases on which they were made.

Some examples illustrate the shortcoming:

- Where is the analysis of the pros and cons of removing West Beach boat harbour, including the aspects referenced by WACRA in our 9 June 2023 submission? When challenged on this at the 27 September 2023 workshop, Bluecoast's representative simply said removing the boat harbour "could not be done".

- The progressive destruction of the seagrass beds has had an adverse effect on the condition of the beaches. Small scale efforts to re-establish them are underway. Where is the scientific analysis of the benefits or otherwise of their large-scale re-introduction?
- Retaining any sand delivered to West Beach (and others) on the beach is of paramount importance and specifically mentioned in 1.3 of Bluecoast’s terms of reference. Temporary (sand-filled geotextile bag) groynes were one long list option – one supported by considerable analysis by the proponent. Where is Bluecoast’s scientific analysis of this option? When challenged on this aspect, Bluecoast’s representative claimed that groynes are unacceptable because they prevent people walking on the beach and are unsightly. Hard (rock or concrete) groynes perpendicular to the beach may be, although they may also be effective to retain the sand. But the proposal for temporary groynes, of different lengths and heights and placed at different angles to the beach may not offend in the same way and, being temporary, may be acceptable if they achieve the desired retention of sand and re-form the beach. (Such groynes deployed between Glenelg and Kingston Park beaches have been successful.) Without proper assessment, perhaps including the tank test modelling advocated by WACRA, the viability of this option cannot be known.

At the 27 September 2023 workshop, Bluecoast’s representative presented a slide showing “Table 12: Summary of coarse filter results”. It showed a “Stop” rating for fixed bypassing systems, removal of existing harbour structures, groynes and reduction of wave climate. No evidence was presented as to why these options rated a “Stop” rating but it suggests that no analysis of the types noted in the bullet points above was undertaken. Bluecoast’s representative seemed to confirm that, if an option scored a “Stop” rating against any one of the criteria (effective, practical or acceptable), it was excluded from further consideration. This approach would prevent such an option being included in an effective suite of options to obtain the best outcome. The filtering process does indeed seem to be “coarse” and seems to pre-emptively preclude the possibility of any of these options contributing to the solution.

Short List

WACRA considers that the process for deriving the short list was flawed and that the expected scientific analysis of each of the long list options should be undertaken.

Should the Government refuse to commission that analysis, however, WACRA considers that Bluecoast must provide, at least, a proper scientific analysis of the short list options. In the absence of such an analysis, the community simply cannot provide an informed assessment of the options. Many of the options contain unassessed assumptions and some propose actions that have previously been expressly declared non-viable by DEW in the reports Bluecoast purports to have reviewed. These include, but are not limited to:

Dredging

During the Community Reference Group discussions relating to the former pipeline project, DEW repeatedly advised that dredging was not an option, though without detailed explanation. Historical dredging has caused terrible damage through turbidity and other effects in Gulf St Vincent but more recent dredging of Outer Harbour was completed without such damage through the implementation of strict environmental controls.

- Where is Bluecoast’s analysis of the expected impacts of proposed dredging on marine life (fish stocks, sub-floor fauna, seagrass etc) and turbidity and the effect of the re-shaped sea floor on the adjacent beaches?

- What are the prospects of obtaining environmental approvals for the dredging?
- What are the probabilities and practicalities of hiring appropriate dredges?

Land-based Quarries

- Sand from these quarries is not an infinite resource. Has Bluecoast confirmed the ongoing availability of the required volumes?

20-Year Cost

- Why was a 20-year period chosen?
- What is the projected life of each option and what is planned for its end-of-life?

Option 1.1 – Near-shore dredging

- What will be the effect on Bird Island and Section Bank?

Option 1.2 – Off-shore dredging

- DEW has repeatedly advised that the remaining sand at Port Stanvac is contaminated and therefore unsuitable and that it is interspersed with clay which makes retrieval impractical. If this is correct, why is it in Bluecoast's option? Does Bluecoast have information that contradicts DEW?
- Has Bluecoast confirmed that there are adequate supplies of sand offshore Largs Bay and Outer Harbour?

Option 1.3 – Off-shore dredging and quarry sand

- Port Stanvac – see above questions

Option 2.1 – Pipeline and trucks on beaches

- This option is apparently the halted pipeline option proposed by the former Government. It was the unacceptability of this option to the community that gave rise to the ABMR. Bluecoast's representative suggested that it was included because it had already been proposed and DA approved. Has Bluecoast addressed all of the objections to the former pipeline proposal, particularly the environmental damage to the dunes which will be caused by the construction? The design is not exactly as previously proposed. The original pipeline was to commence at Semaphore - what are the consequences of moving the start point North to Largs Bay? What are the practicalities of connecting the proposed pipeline to the existing but non-operational pipeline from the Torrens Outlet to West Beach?

Option 2.2 – Pipeline and jetty dredge pumps

- Has Bluecoast assessed the structural strength of the jetties to accommodate the dredge pump?
- Has Bluecoast quantified the impact of closing the jetties for 3-4 months?

Option 2.3 – Pipeline with temporary near-shore dredge

- What is the proposed impact on the beaches adjacent to the sand intake points?

Option 3 – Beach sand carting

- What are the environmental impacts of this Business As Usual option?

Conditional Support

Because of the lack of scientific analysis and evidence, WACRA is not able to provide unconditional support for any of the short list options. However, subject to obtaining the additional information and assurances requested above, WACRA would give conditional support to Option 1.2 (Off-shore dredging) because:

- It leaves the dunes along the coast untouched – no destruction caused by the pipeline construction
- It removes the environmental damage and safety risks associated with collecting sand on beaches and trucking it to destinations
- It avoids the adverse effects of dredging from jetties
- It minimises the impact on the enjoyment of beachgoers
- It is flexible as to where the sand is deposited, making it possible to replenish not just West Beach but others as required
- It avoids depleting a finite resource in quarry sand, along with the environmental damage caused by trucking it to the coast
- It is relatively climate change proof – it avoids the inevitable consequences of sea level rise on hard infrastructure such as a pipeline
- It avoids the environmental contamination of microplastics which will inevitably result from a pipeline
- It enables the inclusion of measures trialled to maximise sand staying on beaches such as geotextile parallel groynes.

Clearly, any proposed dredging must be done to best environmental practice. It is likely that it would be contracted to one of the major international dredging operators, all of whom are equipped for, and experienced with, working to high environmental objectives. That is now standard practice overseas.

Environmental protection for seagrasses must include having all actual dredging done within silt screens of appropriate grade, based on testing samples from the likely dredge grounds. In the 1980s, port works at Port Pirie were done within silt screens, and were, for the most part, successful in keeping the badly contaminated fines from being remobilised.

The works must be carried out under rigorous, independent, monitoring. Previous dredging for sand was at one time supposedly monitored by ‘work experience’ personnel, with no experience and little practical authority. The monitors should be able to carry out underwater inspection, at times of their choosing.

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In conclusion, WACRA is disappointed with the failure of the process to address its stated purpose or fulfil its terms of reference. We expect to provide a verbal submission to the IAP and look forward to the publication of the Bluecoast report due to go to the IAP later this year.