pba

peter blacker + associates

consulting civil structural hydraulic engineers

PETER BLACKER AND ASSOCIATES PTY LTD ABN 34 088 044 062 ACN 088 044 062
t: 02 9899 7923 e: peterblacker@bigpond.com m: 0416 022 883

Our Reference No: 21053

20 October 2023

Sandy and Steve Speter
55 Robertson Road
SCOTLAND ISLAND

Dear Sandy and Steve

Re: Design of a wall across the rear of the landing behind lower sea wall
Subject: STRUCTURAL DESIGN

You have requested I comment on the wall to be built at the rear of the landing at the water's edge at the above address behind the lower or outer sandstone log sea wall.

I did not design the log sea wall but I designed an inner reinforced concrete wall formed in a Dincel formwork system as an extension to the design and construction of the existing outer log sea wall and to work in unison with the lower wall for the protection of the hinterland.

I have been to site a couple of times and I am aware of the erosion at this location and of other coastal locations from some wave actions and primarily from inundation at high tides and specifically with king high tides.

And further, in line with the general principles of global warming and inherent sea level rise then structures at high tide level and above are to be designed for the immediate and the future long term affects from such high tides and the associated scouring wave actions.

To this end I make the following comments:

1. The structural integrity of the existing lower sandstone log sea wall remains vulnerable to extraordinary but to expected or anticipated weather events due to its close proximity to the steep topography behind that area where erosion of that hill can lead to landslip that can have a deleterious effect on the existing lower sea wall.
2. The existing lower outer sea wall is at a low discrete level and it is expected that some overtopping of the lower wall by waves will or can occur such that the inner wall is really an extension of protection with some offset of the existing lower sea wall.
3. From an engineering perspective, the best solution to ensure the structural integrity of the existing lower sea wall is a secondary wall behind the lower sea wall.
4. The secondary inner retaining like wall forms an integral part of the design of the existing sea wall, because it is necessary for the long-term structural integrity and viability of the existing lower sea wall and the protection of the hill.
5. In the absence of the secondary inner wall, the existing lower sea wall as constructed will remain vulnerable to failure in an extreme weather event.

I would inspect at various points in the construction of this inner wall allowing me to certify it on completion. And if I find anything else that needs attention at the inspection I would advise you accordingly.

If you have any questions then please call me.

Yours sincerely
Peter Blacker and Associates

Peter Blacker
BE(Civil), MIEAust, CPEng, NER, APEC Engineer, IntPE(Aus)
EA Id: 284752 Registered for Structural and Civil engineering