

# 1. COASTAL ENGINEERING REPORTS 1977 to 1994

## (1) HARBOURS AND MARINE BOAT HARBOUR FEASIBILITY STUDY 1977: SITE "NOT SUITABLE"

*2 Recommendation (8) The area at Oyster Point should not be developed as a boat harbour.*

*5.2.7 (b) Siltation of the boat harbour could necessitate regular and costly maintenance dredging...*

*5.3.1 The excess of spoil really implies that the levels of the site are generally too high for boat harbour development.*

*5.3.4.1 Excessive siltation of mooring basin: ... may thereby result in high siltation rates within the mooring area.*

*5.3.9 The boat harbour mooring area and entrance channel would be subject to severe siltation.*

## (2) COASTAL ENGINEERING INVESTIGATION 1988: NOT YOUR NORMAL SITE

This study was carried out by Winders Barlow Morrison (WBM) for the original development on the site, "Resort Village Cardwell". Without referring to the warnings in the 1977 Harbours and Marine Study, WBM nevertheless noted:

- the coastal processes of the site were unusual:

*Also, the location and wave exposure of this beach is such that the wave conditions and coastal processes at the site are **unique and not easily related to other previously studied areas** (4.1, Methodology )*

- the marine silts were "cohesive", ie would not readily drain or dry out:

*... these dredging costs may be high, but have been adopted to allow for difficulties with excavation and disposal of the **cohesive fine sediments and silts** expected to be involved [p.36].*

- and they concluded:

*There is a **high potential for channel and marina siltation** by the very fine silty sediments which comprise the nearshore seabed in the vicinity of the site [p.49].*

## (3) GOVERNMENT REVIEWS 1989 and 1994 QUESTION MARINA VIABILITY

In 1989, in a GBRMPA-commissioned expert review of the WBM studies, the late Professor Kevin Starke (James Cook University, Marine Modelling Unit) questioned the viability of a marina in this location:

*"This would require the use of prohibitively large ponds ..."* (S 4.4 p10)

*"Is a marina in the Hinchinbrook channel viable compared to a marina in a location with less of a siltation problem?"* (S 5.2.4 p13)

In Feb 1994 the GBRMPA faxed comments on the development proposal to the Department of Environment Head Office marine section. Even the developer's own distinctly over-optimistic figures added up to bad news:

*... if the total capital dredging is 32,000 metres (p44), and siltation is 15,000-20,000 metres per year (conceivably more) maintenance of navigable depth will be difficult – the channel may completely fill in every two years, and could require maintenance dredging, with its concomitant environmental effects,*

*every year! Either there is a mistake in the figures or the channel concept needs a rethink; to go public with these parameters is not recommended...*

**In May 1994** Keith Williams' released his consultants' (Cardno Davies) *Compilation of Information*. On p.45 it discusses the problematic quality and quantity of silt, with optimistic guess work:

[entrance channel] *Dredging of this marine clay may produce a slurry of fine sediments in suspension, with the potential colloidal influences of these fine clay particles requiring extensive detention periods to enable deposition ... The quantity of material to be dredged will be approximately 64,000m<sup>3</sup>, which following dredging may be equivalent to a volume of dredge spoil of between 140,000 and 160,000 m<sup>2</sup>.*

*... series of detention ponds ... Ideally, from an environmental viewpoint, it would be desirable to operate these ponds in a no overflow" situation, however for the potential quantity of dredge spoil, this would require the use of prohibitively large ponds.*

*A series of 4 ponds is proposed, with a total capacity of the system being approximately 100,000m<sup>3</sup> with an additional effluent detention pond with a capacity of 10,000m<sup>3</sup>...*

**In July 1998**, Keith Williams revealed his own intimate understanding of the problems of the site when he wrote to former Senator Graham Richardson (Macquarie Network):

*"... the large canal ... (800 metres long - 100 metres wide - average 6 metres deep), is acting as a silt trap whereas the three creeks, which it has replaced, carried all of this suspended sediment into the Hinchinbrook Passage for millions of years. Any geologist would be aware that Oyster Point exists because of the build-up of these sediments since the beginning of time."*