

# CITY OF PORT PHILLIP REPORT

## STATUTORY PLANNING COMMITTEE

9 JUNE 2009

### SUPPLEMENTARY REPORT

<b>B2</b>	<b>ST KILDA HARBOUR</b>
<b>ADDRESS:</b>	<b>2 Jacka Boulevard, St Kilda</b>
<b>PROPOSAL:</b>	<b>Replacement of existing RMYS Marina, installation of breakwater extensions and wave attenuator.</b>
<b>AUTHOR:</b>	<b>Richard Schuster</b>

#### 1. EXECUTIVE SUMMARY:

To provide additional information regarding potential impact of the proposed works on nearby beaches.

#### 2. ADDITIONAL DISCUSSION

In response to a Councillor query raised in the briefing on 4 June 2009, the applicant's report states in summary:

- The pattern of wave movements (through the open reinforced concrete pier and wave diffraction around the northern tip of the breakwater) resulting from the construction of the breakwater in 1956 has moved sand from St.Kilda and Middle Park to create the "cusplate" spit at Westbeach.
- Beach renourishment has had to be used to rectify the erosion impact.
- Any works within the wave "shadows" have no impact on coastal processes.
- The marina itself is in the wave shadows.
- Most of the proposed new works are within the wave shadows.
- Small changes to the breakwater will only slightly modify the existing coastal process.
- This assessment is supported by numerical modelling of before and after wave parameters.
- Section 6.6: "A hydrodynamic model of coastal processes of the harbour has been carried out. It determined no impact on existing coastal processes along the beachfront".

The applicant's Principal Marine Engineer, Ray Tyshing has been asked to further respond to the query given that he has had to provide similar advice to the Department of Sustainability and Environment (DSE) in order to achieve the Coastal Management Act Consent. His response is below. DSE is also the project manager of the Middle Park Beach renourishment works.

"The essential fact about the proposed St Kilda Safe Harbour marina development that needs to be kept in mind is that the development is within the existing "shadow zone" cast by the existing rock breakwater. All subsequent coastal changes which impacted on Middle Park Beach and the St Kilda beach to the south of the pier were caused entirely by the changed wave patterns caused by the rock breakwater post its construction in 1956. This area of influence at the coast is what I call the shadow zone.

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The proposal at St Kilda harbour is analogous to that at nearby Brighton harbour when Royal Brighton Yacht Club did their marina development in 2003. Again, this development was entirely within the shadow zone of the Brighton rock breakwater and the geometry of both sites is similar, ie a large rock breakwater nearly parallel to the coast, linked to shore by a piled concrete pier. Three years of post construction monitoring of the beach at Brighton showed no measurable beach change.

At St Kilda, we assume that the designers of the new beach at Middle Park have properly allowed for the effects of the existing breakwater. In our unsuccessful bid to DSE we proposed to allow for this in our coastal modelling work.

To the south, the beach is one that was formed by renourishment using imported coarse grained sand to provide the necessary stability. It is anchored in place by the large rock groyne that runs parallel and adjacent to the pier, and hence one would reasonably not expect any beach change from the proposed marina development.

To stop wave leakage into the proposed floating marina, we propose a small spur groyne off the existing rock breakwater (same as at Brighton) This is within the shadow zone too and hence we expect no coastal impacts.

Extension of the breakwater shorewards along the line of the pier to protect the marina is essential. This will reflect some wave energy in storm events, including a component back towards the beach south of the pier. However as pointed out above, this beach is well anchored by the rock groyne and hence no changes are expected.”

**3. RECOMMENDATION**

That this supplementary report be noted and considered in conjunction with the officer's report and recommendations to the Statutory Planning Committee Meeting on 9 June 2009.