

Report No:	RESC11-12-02
File No:	C351
Date:	28 November 2011
Decision Required	

REPORT SUMMARY

Report to: Engineering Services Committee
Meeting Date: 8 December 2011
Report Author: Peter Thomson, Engineering Manager
Subject: **Port Motueka Groyne – Jakkett Island Erosion:
Identification of Preliminary Practicable Options**

EXECUTIVE SUMMARY

The purpose of this report is to provide information on the Port Motueka Groyne and Jakkett Island Erosion Project and to seek the Committee's agreement to the preliminary practicable options and consultation with stakeholders.

RECOMMENDATION/S

Staff recommend that the Engineering Services Committee adopts the recommendations contained in this report.

DRAFT RESOLUTION

THAT the Engineering Services Committee receives the Port Motueka Groyne-Jakkett Island Erosion Report RESC11-12-02; and

THAT the Engineering Services Committee agrees to the nine preliminary practicable options for the project outlined in the report, RESC-11-12-02; and

THAT the Engineering Services Committee approves that staff undertake consultation with stakeholders as noted in the report RESC-11-12-02.

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Subject: **Port Motueka Groyne – Jackett Island Erosion:
Identification of Preliminary Practicable Options**

1. Purpose

- 1.1 The purposes of this report are to:
- Provide information on the Port Motueka and Jackett Island erosion problem;
 - Seek the Engineering Services Committee’s agreement to the identified preliminary practicable options for the project; and
 - Seek the Engineering Services Committee’s agreement that staff undertake consultation with stakeholders on the preliminary practicable options.

2. Background

- 2.1 As Councillors will be aware from previous reports the Environment Court issued an Interim Decision (ENV-2010-WLG-000080 & 81) in the matter between the Van Dyke Family Trust and the Tasman District Council in March 2011. The Court found that the placement of the Port Motueka geotextile groyne structure on the Motueka sandspit by the Council in 1996 has led to the formation of the spit in its present form which in turn, has brought about the erosion on Jackett Island.
- 2.2 On the basis of this finding the Court is able to consider the making of enforcement orders against the Council.
- 2.3 The Court has received submissions on costs and these are currently being addressed as part of the proceedings.
- 2.4 During the 1990s the Council attempted to create a more permanent direct entrance to Port Motueka. In 1996 the Council constructed a groyne in the form of a sand filled geotextile “sausage” some 700m long and 1.5m in diameter, on the spit offshore of the northern side of the channel entrance. The groyne was

designed to lie at an angle to the prevailing waves and to direct the southerly travelling sand offshore and so maintain a channel into the Port. However it was constructed on an angle nearly perpendicular to the wave direction and is now substantially buried under sand on the spit. A proposed complementary dredged channel was never undertaken or established.

- 2.5 Since construction of the groyne, the spit has extended south of the Moutere Inlet. The Court concluded that the groyne has influenced the ability of the spit to grow, extend and resist erosion. It has provided a stable feature right in the previously dynamic position where the eroding forces of the Moutere River cause breaches of the spit. It has captured virtually all the sand moved by the littoral currents in the initial years and the enlarged and reshaped spit continues to grow and retain sand.
- 2.6 The Court agreed that little sand presently passes the spit to deposit on the downstream shore of Jackett Island. Without there having been a recent breach of the spit and consequential replenishment of beach sand from the remnant spit, erosion of the Jackett Island shore by waves and outlet currents has occurred. Erosion is progressing in a southerly direction along the Jackett Island foreshore. In particular the extreme southerly position of the distal end of the spit is the cause of the erosion on Jackett Island, which was the subject of the Court proceedings.
- 2.7 The Jackett Island foreshore has retreated about 30m since 2002 at the Van Dyke Family Trust property.
- 2.8 The Court has directed the parties to consider the implications of its findings and to discuss whether or not there is a mutually acceptable solution or way forward.
- 2.9 The Council has engaged coastal engineer and expert on coastal processes Richard Reinen-Hamill, Director of Tonkin & Taylor Limited, to investigate and determine an appropriate interim works action plan to immediately address ongoing erosion on Jackett Island and a timeline for such works; and to report on recommended permanent remedial works with a view to long-term resolution of the erosion issue.
- 2.10 The Court also directed a caucus of the Van Dyke's (Shaw Mead) and the Council's (Richard Reinen-Hamill) coastal experts to resolve an action plan for interim works, and to discuss future possible actions with a view to long term resolution of the erosion issue. Expert caucusing was held with a Court Commissioner on 3 June 2011.

- 2.11 At a judicial conference on 19 September 2011, the Council filed a memorandum setting out a proposed timetable for developing a formal proposal intended to address immediate concerns over the long term erosion. The submitted timetable for undertaking works is:
- i. 15 September 2011 for presentation of the problem and project objectives report (complete);
 - ii. 8 December 2011 for the preliminary practicable options report;
 - iii. February/March 2012 for the practicable options report;
 - iv. June 2012 for the preferred options report; and
 - v. November 2012 for the recommended option report following receipt of a decision on the resource consent application.
- 2.12 The latest decision of the Environment Court issued on 24 November 2011 is attached for information. The specific Interim Enforcement Order included in the decision is also set out below:

“The Tasman District Council shall undertake and maintain works to maintain the existing shoreline position along the Van Dyke Family Trust property on Jakkett Island (Lot 9 DP 7208) as set out in the attached report dated 26 August 2011 prepared by Tonkin & Taylor Ltd (Jakkett Island-Action plan for Interim Works).

The Tasman District Council shall undertake investigations as set out in the attached Schedule setting out the process for the identification and assessment of works required for longer term protection, including milestones with identified outcomes and reporting to the Court where paragraph 2.3 is amended by adding the removal of the whole of the groyne if that proves to be necessary and where November 2012 is the date for the recommended option report.

This interim order shall remain in force until further order of the Court.”

- 2.13 The Council completed the geotextile sandbag wall interim works along the front of the Van Dyke property in September 2011 and continues to undertake routine monitoring of the Jakkett Island foreshore.

3. Definition of Problem and Objectives

- 3.1 At its meeting on 15 September 2011 the Committee approved the following objectives required to form the basis of any long term resolution of the erosion issue at Jakkett Island:

3.2 Objectives

- i. Reduce risk of erosion hazard affecting human life and physical assets;
- ii. Restore the shoreline position to approximate the year 2000 shoreline;
- iii. Removal of the emerged parts of the existing groyne from the coastal marine area; and
- iv. Any solution must also be sustainable and practicable in the long-term.

3.3 For the purpose of determining a long-term sustainable solution in order to address the long-term effects of the groyne, the Council is currently undertaking the following studies:

- i. Topographic and bathymetric surveys of the channel separating Jackett Island from the spit in order to develop a beach/spit profile;
- ii. Sediment sampling and analysis for mapping of existing distributions, selection of re-nourishment material and numerical modelling;
- iii. Study of tidal and other currents entering and leaving the Moutere Inlet, including river flow data;
- iv. Hydrodynamic and sediment transport modelling to develop an understanding of the existing environment and assess the feasibility, performance and impacts of the potential solutions listed below;
- v. The geological composition of Jackett Island, including at least three cross sections.

3.4 These studies, combined with aerial photography, analysis of historical material and LiDAR information analysis will be used to project the expected behaviour of the spit and to assist in the consideration of the effects of the preliminary practicable options identified below.

4. Preliminary Practicable Options for Consideration

4.1 Attached is a report from our consultants Tonkin & Taylor “Jackett Island Long Term Erosion Management Preliminary Practicable Options”. The options discussed in the report include the following approaches:

- i. Do nothing
- ii. Asset relocation
- iii. Planning responses
- iv. Existing channel maintenance
- v. New small channel dredging (Port Motueka User Group Option)
- vi. Reset of channel position
- vii. Training groynes with nourishment from existing channel maintenance
- viii. Seawall (land protection)
- ix. Alternatives options

4.2 Richard Reinen-Hamill will be in attendance at the meeting to speak to his report and answer questions from Committee members.

5. Significance

- 5.1 This is not a significant decision according to the Council's Significance Policy because the value of the works is not above the Policy thresholds.

6. Recommendation

- 6.1 Staff recommend that the Committee endorses preliminary practicable options set out in the attached report from Tonkin & Taylor, and directs that staff undertake consultation with stakeholders on these options.

7. Timeline/Next Steps

- 7.1 Staff will report back to the Committee in February/March 2012 on progress with stakeholders, studies, further investigations, and a practicable options report for the Committee to consider.
- 7.2 Staff will also report back on any Environment Court matters and any Enforcement Orders received from the Court. Staff will also advise the agreed timetable for future tasks that the Council will be required to undertake.
- 7.3 Staff will also consider and report back on the funding implications for the current year, and for Council's Long Term Plan 2012-2022 for identified future works and cost estimates.

8. Draft Resolution

- 8.1 THAT the Engineering Services Committee receives the Port Motueka Groyne: Jackett Island Erosion Report RESC11-12-02; and**
- 8.2 THAT the Engineering Services Committee agrees to the nine preliminary practicable options for the project outlined in the report, RESC-11-12-02; and**
- 8.3 THAT the Engineering Services Committee approves that staff undertake consultation with stakeholders as noted in the report RESC-11-12-02.**

Appendices

Appendix 1 – Tonkin & Taylor Report: Jackett Island Long Term Erosion Management Preliminary Practicable Options, November 2011.

Appendix 2 – NZ Environment Court Decision No. [2011] 374, ENV-2010-WLG-000080 & 81 between Van Dyke Family Trust and Tasman District Council, issued 24th November 2011.