



**XVIII
2003**

BILLET D'ÉTAT

WEDNESDAY, 30th July, 2003

STATES BOARD OF ADMINISTRATION

Alderney Breakwater and Alderney Harbour

NOTE: The item intended to be included in a separate Billet d'Etat to be numbered XVII is not now to be laid before the July 2003 meeting of the States. Accordingly there will be no Billet d'Etat bearing the number XVII of 2003.

de V G Carey
Bailiff and President of the States

BILLET D'ETAT

TO THE MEMBERS OF THE STATES OF THE ISLAND OF GUERNSEY

I have the honour to inform you that a Meeting of the
States of Deliberation will be held at **THE ROYAL COURT
HOUSE on WEDNESDAY, the 30th JULY, 2003**, immediately
after the Meetings already convened for that day.

27 June 2003

The President
States of Guernsey
Royal Court House
St Peter Port
Guernsey
GY1 2PB

Dear Sir

ALDERNEY BREAKWATER AND ALDERNEY HARBOUR

1. Executive Summary

1.1 The States of Guernsey assumed responsibility for the Alderney Breakwater in 1987. The States directed the Board of Administration to be responsible for the “*repair, maintenance and management*” of the Breakwater from that time. The Breakwater provides shelter for the existing facilities within Alderney Harbour.

1.2 In recent years, the Breakwater has been retained through an annual maintenance programme and the repair of breaches as they occurred. However, in 1994, the States recognised that it might be necessary for a major capital project, involving civil engineering works, to be undertaken as part of a longer-term strategy. This Report is the latest stage in the formulation of that long-term strategy.

1.3 In 1997, the Board proposed the construction of a new breakwater and marina, providing moorings for up to 150 vessels, within the lee of the existing Breakwater at a construction cost not exceeding £16,600,000 (please also refer to Paragraph 2.7). However, on that occasion, the States resolved to surmise the proposals.

1.4 Subsequently, in accordance with the States’ Resolutions of November 1999, the Board invited tenders for a project that would involve either the retention of the existing Breakwater or, “*any alternative arrangements which will secure, as far as possible, the continued provision of at least the current level of harbour facilities, such arrangements to ensure that the best value is obtained having regard to the economic impact of the proposals on both Alderney and Guernsey.*”

1.5 Following receipt and evaluation of tenders in accordance with the requisite tender process, the original recommendation of the Advisory and Finance Committee's engineering consultants, Babbie Group Limited, was that the proposal from E Pihl & Søn to undertake a full-length armouring of the existing Breakwater structure represented less financial and contractual risk to the client than the other available tendered alternatives. The total possible cost in the order of £30,000,000 comprised the adjusted tender sum, with allowances for contingencies, fees and currency fluctuations.

1.6 Notwithstanding the States' Resolutions of November 1999, which formed the context in which the current tenders were invited, the Board considers that to undertake remediation of the full Breakwater is unnecessary and commercially unsustainable. There would be major works and costs incurred in any such remediation and the resulting harbour would not meet the practical needs of Alderney within the financial capability of the Bailiwick. The Board is particularly concerned that this option would still leave the existing harbour and moorings unnecessarily exposed to strong north-easterly winds, whilst offering no additional operational or commercial benefits. The results of the tender process, which the States had directed the Advisory and Finance Committee and Board of Administration to undertake and which was carried out in an independent and proper manner, confirm that the costs for a full-length remediation of the Breakwater are untenably high. The Board considers that the tender process, although undertaken in full compliance with the States' Resolutions of November 1999, produced a scheme that did not represent best value for the Bailiwick.

1.7 The Board is of the opinion that the chief requirement, in regard to the Breakwater and Alderney's harbour, is that the end result should be based on the practical needs of Alderney within the financial capability of the Bailiwick. The following elements are considered to be desirable outcomes, in order of priority: (1) the provision of a harbour that is capable of docking and unloading commercial supply vessels of a size and design expected to operate to Alderney; (2) the provision of sheltered water moorings for the lifeboat and fishing boats; (3) the provision of an area of sheltered water capable of being developed as a marina and the installation of pontoons sufficient to hold up to at least two hundred boats (including those in (2) above). [Outcome (3) would only be recommended if it is feasible within available funds and if it is considered to offer the potential to boost the Alderney economy]; (4) the preservation of as much of the existing Breakwater as economically possible.

1.8 Following post-tender negotiation by Babbie Group Limited with the two preferred tenderers, the Board recommends a tender design scheme from E Pihl & Søn which satisfies the desirable outcomes defined by the Board of Administration (as in Paragraph 1.7 above). That offer (see Paragraph 8.11), recommended by the Advisory and Finance Committee's engineering consultants, was considered at the meeting of the Advisory and Finance Committee, Board of Administration, and Alderney Policy and Finance Committee at a meeting held on 9 June 2003. The scheme (referred to in this Report as "Pihl Option 3") is for an armoured truncated

length of Breakwater, together with a sheltering spur arm in the lee of the Breakwater. The costs are summarised as follows:

	£
Tender	24,115,000
Add for currency changes to 03/06/03	<u>873,177</u>
Revised sum	24,988,177
Add for design risk	50,000
Add for enhanced modelling	<u>75,000</u>
Sub-total	25,113,177
Contingency (10%)	2,511,318
Fees to date	710,000
Fees to completion	<u>750,000</u>
Total	<u>29,084,495</u>

1.9 However, the Board is aware that the precise specification for the works will not be determined until the selected contractor has undertaken full design testing. For example, the exact length of the retained Breakwater and the exact location and dimensions of the proposed spur have not yet been fixed. Accordingly, the Board is seeking States' approval for an approach to Breakwater remediation along the lines of the 'Pihl Option 3' scheme (as outlined in this Report) with a truncation of approximately 125 metres and a spur, subject to the agreement of the Advisory and Finance Committee to a detailed scheme following post-contract negotiation and appropriate modelling.

1.10 The Board of Administration only recommends the 'Pihl Option 3' scheme subject to receiving assurances from the States of Alderney that appropriate works will be carried out to refurbish the Commercial Quay and for the future provision (by private funding, in whole or in part, if necessary) of a marina, if commercially justified. Further, the Board seeks assurance that Alderney's harbour charges will be reviewed to ensure that a reasonable contribution is made by Alderney to the repayment of capital costs incurred for the works to the Commercial Quay and associated future projects and that such payments will be made to the proposed trading account for Alderney Harbour (see Paragraph 15.8).

1.11 It is noted that, in the long-term, financial modelling has shown a capital project to be a more cost-effective solution than the continuation of the existing Breakwater maintenance-only programme, with its inherent risk of a significant structural failure or failures. However, the Board can only recommend that 'Pihl Option 3' be constructed if Alderney is prepared to commit to the assurances outlined above (Paragraph 1.10). Further, the Board is firmly of the view that commitment to a capital project can only be made if the requisite funds are both available and economically justified.

2. Introduction

2.1 The Alderney Breakwater was originally built to provide an anchorage for the Royal Navy from which the fleet could watch, and if necessary blockade, the French port of Cherbourg. Construction of the 1,430 metre (m) long structure began in 1847 and, following various changes to the specification, was completed in 1864. In 1872, in order to limit its financial commitment, the Admiralty abandoned the outer portion. The superstructure of that outer section subsequently collapsed leaving a submerged mound that extends some 500m beyond the head of the existing Breakwater about 4m below the low-water mark.

2.2 Responsibility for the maintenance of the Breakwater remained with the United Kingdom until 1 April 1987 when it was assumed by the States of Guernsey, as part of its contribution to H M Government towards the costs of defence and international representation. The States of Guernsey (at its meeting of 25 March 1987) directed that the Board of Administration should become responsible for the, “*repair, maintenance and management*” of the Breakwater from that date. An explanation of the Board’s responsibilities in this regard is included as Section 9 (and in correspondence attached to this Report as Appendix I).

2.3 When the States of Guernsey took responsibility for the Breakwater, it consisted of two basic elements, being: “(a) a rubble mound, which because of tidal action is gradually being depleted; and (b) a masonry superstructure.” (taken from Board of Administration’s Report of July 1994, as published in Billet d’Etat XVII, 1994). Annual maintenance to date has concentrated on the upkeep of the superstructure of the Breakwater, with any breaches thereof being repaired as required.

2.4 Subsequent expenditure on maintenance of the Breakwater, including the revenue costs for staff and supplies and services and the associated cost of capital equipment is discussed in Section 11 and summarised in Appendix II. The States of Alderney has made an annual contribution of £15,000 per annum towards meeting these costs.

2.5 In 1990, the Breakwater suffered a substantial breach. The nett cost incurred by the States of Guernsey in that year was £1,140,560. However, this does not reflect the total cost of the breach, as the repairs were partly funded by the States’ insurers. As one result of the breach, the insurer withdrew the insurance cover for the Breakwater. Thereafter, from January 1998, the Breakwater has not been insured, nor is it insurable due to the depletion and instability of the mound on which it is constructed. Therefore, all costs since that time have been, and will need to continue to be, met from public funds. However, the Board intends to review with its insurance advisers the possible future insurability of the Breakwater following remediation.

2.6 In September 1994, the States of Guernsey directed the Board of Administration to report back with detailed proposals for a long-term maintenance strategy for the Breakwater following completion of physical and mathematical

studies and, in conjunction with the Advisory and Finance Committee, concerning the funding of any major capital project that might be proposed.

2.7 In 1997, the Board's subsequent Report presented the results of those studies, considered alternative options and, because of the untenably high costs for full-length remediation, recommended the abandonment of the existing Breakwater. The Board proposed instead the construction of a new breakwater and marina within the lee of the existing Breakwater (described in that 1997 Report as 'Option B'; a diagrammatic plan of which is reproduced in Appendix III for ease of reference). The proposed marina would have accommodated approximately 150 boats. In its letter of comment, the Advisory and Finance Committee considered at that time that the Capital Reserve was an appropriate source of funds for the proposals. The Board recommended a total capital vote of £18,741,000 for the new breakwater and marina, including associated costs, and a further £250,000 to be set aside for future coastal defence works in Braye Bay.

2.8 The States resolved (on 25 June 1997) to surse the proposals and establish an independent panel of inquiry (hereinafter referred to as "the Inquiry Panel") to consider the future of the Alderney Breakwater, including, but not limited to, the Board's proposals.

2.9 In 1999, the Board of Administration presented a further Report, entitled 'Long Term Strategy for Alderney Breakwater' (Billet d'Etat XIX, 1999), which included the report of the Inquiry Panel and recommended the States to direct the Board to prepare documentation and invite tenders for options to retain the existing structure, to construct a new breakwater and marina or to offer alternative proposals for assessment.

2.10 At its meeting of 25 November 1999, the States considered the Report, dated 14 October 1999, from the Board of Administration. Following debate and acceptance of an amendment proposed by Alderney Representatives Brigadier J Russell and L Jean, the States resolved:-

- "1. To direct the States Board of Administration to prepare documentation and invite tenders for a project involving-*
 - (a) the retention of the existing breakwater; or*
 - (b) any alternative arrangements which will secure, as far as possible, the continued provision of at least the current level of harbour facilities, such arrangements to ensure that the best value is obtained having regard to the economic impact of the proposals on both Alderney and Guernsey.*
- 2. To authorise the States Board of Administration to appoint appropriately qualified consulting engineers subject to the approval of the States Advisory and Finance Committee as to the terms of appointment, to prepare the necessary documentation for the invitation to tender, the costs of such appointment to be charged initially to the capital vote for*

consultants' fees and site investigations and recharged in due course to any subsequent capital vote that may be approved by the States in connection with the retention of the existing breakwater or the construction of any alternative arrangements.

3. *To direct the States Advisory and Finance Committee, after consultation with the States Board of Administration and the Alderney Policy and Finance Committee -*

- (a) to identify and appoint appropriately qualified consulting engineers, (who must be independent of the consulting engineers appointed by the States Board of Administration to prepare the necessary documentation for the invitation to tender), to advise on the preparation of the documentation for the invitation to tender and, thereafter, on the assessment of tenders received; and*
- (b) to agree, having regard to that Report, terms of reference for those consulting engineers, the costs of such appointment to be met initially from the States Advisory and Finance Committee's vote for consultants' fees and site investigations and recharged in due course to any subsequent capital vote that may be approved by the States in connection with the retention of the existing breakwater or construction of any alternative arrangements."*

2.11 Although the Resolutions of November 1999 anticipated that a, "*subsequent capital vote ... may be approved by the States*", no specific direction was given to either the Advisory and Finance Committee or the Board of Administration to report to the States on the action taken. However, as the Board had been given responsibility for the Breakwater in 1987, it was considered appropriate for this Report to be from the Board.

3. Appointment of Consulting Engineers for the Board of Administration and the Advisory and Finance Committee

3.1 In January 2000, in accordance with the States' Resolutions of November 1999, the Advisory and Finance Committee approved the Board of Administration's appointment of Posford Duvivier (later, Posford Haskoning) as consulting engineer to prepare the necessary documentation for the invitation to tender.

3.2 With agreement from the Advisory and Finance Committee, the Board of Administration and the Alderney Policy and Finance Committee (hereinafter referred to as "the three Committees"), a staff-level Panel (hereinafter referred to as "the Panel") was established to agree an approach to the appointment of a consultant engineer to advise on the preparation of tender documentation and the assessment of tenders received. The Panel comprises the Advisory and Finance Committee's Strategic Property Advisor as chairman, the Board of Administration's Chief Executive, the Guernsey Harbour Master, the Alderney

States' Engineer and Mr G Rankine, a marine consulting engineer retained by the States of Alderney.

3.3 Following a tendering exercise and recommendation from the Panel, the three Committees approved the appointment of Babtie Group Limited (hereinafter referred to as "Babtie") to advise on the preparation of the documentation for the invitation to tender (such documentation itself being prepared by the Board of Administration's consulting engineer, as stated in Paragraph 3.1) and to assess the tenders subsequently received on behalf of the Advisory and Finance Committee. The Advisory and Finance Committee's consultant (Babtie) and the Board of Administration's consultant (Posford Haskoning) were totally independent of each other, in accordance with the Resolutions of the States.

4. Cost of Consultants

4.1 In accordance with the States' Resolutions of November 1999, the costs of the appointments of Posford Duvivier (later, Posford Haskoning), on behalf of the Board of Administration, and of Babtie Group Limited, on behalf of the Advisory and Finance Committee, have been met from the States Advisory and Finance Committee's vote for consultants' fees and site investigations.

4.2 In addition to these appointments, the Advisory and Finance Committee approved a request from the Panel to fund site investigation works to identify more fully the condition of the existing Breakwater superstructure and mound. The Committee also approved the further appointment of Babtie Group Limited to supervise the site investigations. The costs (for site investigations and supervision thereof) have also been met initially from the States Advisory and Finance Committee's vote for consultants' fees and site investigations.

4.3 The Resolutions of November 1999 provided for the costs to be recharged, in due course, to any subsequent capital vote that may be approved by the States in connection with the retention of the existing Breakwater or construction of any alternative arrangements. In that regard, it would be appropriate for the following sum, including estimated costs to completion of the pre-contract stage of the project, to be recovered.

Posford Haskoning	143,100	
Babtie Group	380,300	
Site Investigation	<u>186,600</u>	
Total		<u>710,000</u>

5. Tendering Procedure

5.1 In accordance with the States' Resolutions of November 1999, the Board of Administration invited tenders for a project involving either, *“(a) the retention of the existing breakwater; or (b) any alternative arrangements which will secure, as far as possible, the continued provision of at least the current level of harbour facilities, such arrangements to ensure that the best value is obtained having regard to the economic impact of the proposals on both Alderney and Guernsey.”*

5.2 Subsequent to the appointment of the Advisory and Finance Committee's consulting engineer, the Panel has overseen the preparation of tender documentation, the seeking of tenders and the evaluation of tenders received. At key stages throughout the process the Panel has reported to, and received agreement to its actions from, the three Committees.

5.3 Advertisements seeking initial expressions of interest were placed in August 2001 in the New Civil Engineer, the Financial Times, Construction News, Contract Journal, Guernsey Evening Press and the Alderney Journal. More than forty responses were received.

5.4 Pre-qualification packs were sent to all parties that had expressed interest in the project and thirteen submissions were received. These submissions were assessed independently by Babbie, acting on behalf of the Advisory and Finance Committee, and by Posford Haskoning, on behalf of the Board. Following receipt of those assessments, the Panel recommended that seven of the organisations should be invited to attend an interview by, and make presentation of their proposals to, political representatives from the three Committees and their technical advisors.

5.5 Following the interviews, the Panel agreed to recommend that four of the potential contractors be invited to submit tenders for the project. The four firms were: Besix; John Mowlem & Company; Van Oord ACZ and E Pihl & Søn A.S. The Panel's recommendation was ratified by each of the three Committees.

5.6 Tenders for 'design and construct' projects were received from all of the four firms so invited. In accordance with the States' Resolutions of November 1999, the invitation to tender did not prescribe the nature of the works for the remediation of the Breakwater, nor did it present a preferred or benchmark design. However, all of the offers presented were for capital works.

5.7 The evaluation process is described in detail in the enclosed Executive Summary from the 'Alderney Breakwater Remediation – Tender Evaluation Report' prepared by Babbie for the Advisory and Finance Committee (as Appendix IV). In total, twelve options were presented for consideration; eight of which were from one firm. For technical, commercial and associated risk reasons, it was recommended that the offers received from Besix and John Mowlem & Company should not be considered further. However, Babbie recommended that the offers from Van Oord ACZ and E Pihl & Søn A.S. merited further examination due to the

superiority and maturity of their designs together with the fact that they were more financially attractive.

5.8 Consultants from Babtie subsequently presented and explained the recommendation, for further consideration of the tenders from Van Oord ACZ and E Pihl & Søn A.S., to a meeting of political and staff representatives from each of the three Committees, following which each Committee ratified the recommendation for a detailed evaluation of the two final shortlisted tenderers.

6. Evaluation of Final Shortlisted Tenderers

6.1 The Advisory and Finance Committee's consulting engineers, Babtie, then undertook the next phase of their contract, the independent evaluation of the two final shortlisted tenderers. This was in accordance with the States' Resolutions of November 1999. Babtie carried out both technical and commercial evaluations of the proposals submitted by the two tenderers.

6.2 Whilst the Executive Summary of the Tender Evaluation Report is enclosed as Appendix IV, the full Report has been deposited at the Greffe for the information of Members of the States.

6.3 Technical evaluation of the offers from Van Oord ACZ (hereinafter referred to as "Van Oord") and E Pihl & Søn A.S. (hereinafter referred to as "Pihl") took account of the level of justification and validation for the proposals, whilst recognising that detailed design work had yet to be undertaken during the post-contract phase of the project. Commercial evaluation centred on tender sums, taking full account of future maintenance commitments and the cost of other works not directly attributable to the remediation process but considered essential to an equitable whole life comparison between the offers. Future price increases were also considered.

6.4 The principal areas of difference between the two offers were identified as shown in Table 1 below:

Table 1: Principal differences between tenders received from Pihl and Van Oord (as identified in the Alderney Breakwater Remediation – Tender Evaluation Report)

Pihl	Van Oord
Full-length retention of existing breakwater	Part length (\approx 60%) retention of existing breakwater
No marina required	Protected marina is essential
Braye Bay unaffected	Braye Bay shoreline ultimately affected by erosion
Core price “fixed”	Core price subject to fluctuation
Construction by combination of marine plant and land-based methods	Construction by marine plant
No additional works necessary to fulfil the requirements of States’ Resolution 1(a)* of November 1999	Additional works necessary in order to fulfil the requirements of States’ Resolution 1(b)* of November 1999
Final effective tender sum of £24,988,000	Final effective tender sum of £33,643,000

** The States’ Resolutions of November 1999 required the Board of Administration “to invite tenders for a project” that ‘involved’ the requirements of either Resolution 1(a) or 1(b).*

6.5 The Tender Evaluation Report, with endorsement from the Panel, recommended acceptance of the offer from E Pihl & Søn in preference to the ‘hockey stick’ option from Van Oord ACZ. The Pihl offer was identified as being significantly more attractive than the Van Oord offer in financial terms. Commercially and contractually, Pihl’s offer (as clarified through Babbie’s tender evaluation process) was more straightforward, and attracted less risk in this respect, than that of Van Oord.

6.6 The total possible costs associated with the appointment of E Pihl & Søn to undertake a full-length armouring of the existing structure are summarised as follows:

	£
Tender	23,990,000
Add for currency changes to 03/06/03	<u>2,055,182</u>
Revised sum	26,045,182
Add for design risk	50,000
Add for enhanced modelling	<u>75,000</u>
Sub-total	26,170,182
Contingency (10%)	2,617,018
Fees to date	710,000
Fees to completion	<u>700,000</u>
Total	<u><u>30,197,200</u></u>

7. Consultation on Preferred Option Identified in the ‘Alderney Breakwater Remediation – Tender Evaluation Report’

7.1 Babbie presented its evaluation method and preferred option to a further meeting, on 16 April 2003, which was attended by political and staff level representatives from the Advisory and Finance Committee, the Board of Administration and the Alderney Policy and Finance Committee.

7.2 The consensus of that meeting was to accept Babbie’s recommendation that the Pihl option, to armour the full length of the existing Breakwater, was the most favourable of the offers received. The meeting also agreed that the matter should be submitted to the States of Guernsey at the earliest opportunity as the prices for both of the final shortlisted tenders were only held for a limited time.

7.3 Additionally, it was agreed to approach Pihl in order to explore the possibility of providing an additional spur to afford protection to the area of water where any future marina development might be situated. This was conditional on no delay occurring to the project. Initial estimates for such a spur to be added to a full-length armouring of the Breakwater were in the order of £3million.

7.4 The Board noted that the original Pihl full-length armouring solution would retain the existing Breakwater; provide a low maintenance option for the foreseeable future; and offer the possibility of a future substantial marina development, subject to further extensive capital works being carried out to provide shelter from north-easterly winds. However, the Board considers that to undertake remediation of the full Breakwater is unnecessary and commercially unsustainable, as there would be major works and costs incurred in any such remediation and the resulting harbour would not meet the practical needs of Alderney within the financial capability of the Bailiwick.

7.5 The tender process, which the States had directed the Advisory and Finance Committee and Board of Administration to undertake, was carried out in an independent and proper manner and in full compliance with the States’ Resolutions of November 1999. However, the scheme resulting from the tender process did not represent best value for the Bailiwick.

7.6 The Board is particularly concerned that remediation of the Breakwater alone would still leave the harbour and moorings unnecessarily exposed to the northeast. Indeed, Braye Harbour can be dangerous in strong winds from any direction. In the last ten years, one life and five yachts have been lost in onshore northeast winds and another four fatalities have occurred through being swept out to sea in offshore winds. One fishing boat, one rigid inflatable boat and numerous other vessels have broken free from their moorings and been recovered from the beach with various ‘sail away’ damage. Additionally, various cases of injury and severe seasickness have been sustained whilst on the moorings. To perpetuate this dangerous situation and gain no additional operational or commercial benefits from such a substantial investment is, in the Board’s view, unacceptable.

7.7 Following that meeting (referred to in Paragraph 7.1), the Board requested the Advisory and Finance Committee to consider another alternative, whereby both of the preferred tenderers (being E Pihl & Søn and Van Oord ACZ) would be asked whether they would be prepared to make an offer on a truncation of the existing Breakwater in conjunction with the provision of a sheltering spur (whether that spur were to be situated at the end of the truncated Breakwater or at some other suitable point along it). This would have similarities to a proposal included by the Board in its Report dated 15 May 1997 for “*Armouring a shortened length of the breakwater and constructing a spur breakwater into Braye Bay in order to maintain the required shelter of the Commercial Quay*”. A copy of the diagrammatic plan thereof is reproduced in Appendix III).

7.8 The Advisory and Finance Committee did not consider that it was in a position to judge whether or not the possibility of truncated Breakwater length with spur would be technically feasible, whether it would have unacceptably high associated risks or whether it would provide value for money. However, it did agree that the tenderers should be approached in this regard.

8. Post-Tender Negotiations

8.1 Accordingly, the Advisory and Finance Committee’s engineering consultants entered into discussions with E Pihl & Søn and Van Oord ACZ. Babbie subsequently issued an Addendum to Tender Evaluation Report dated June 2003 (hereinafter referred to as the “Addendum Report”). The main text of the Addendum Report is shown at Appendix V but a full copy, including technical appendices, has been deposited at the Greffe for the information of Members of the States.

8.2 The alternative development strategy put to the two tenderers sought to provide:

- facility for a potentially smaller, but well-protected harbour that offered improved operational safety;
- facility for a viable Commercial Quay with appropriate infrastructure;
- for the mooring of vessels (recognising that existing moorings may be lost);
- a protective breakwater.

A schematic sketch development of the Board’s earlier proposals was provided to the tenderers in order to ascertain whether they would be prepared to develop such an arrangement and to provide associated costs and a clear indication of any conditions that might attach to those offers.

8.3 There were a number of resultant offers from the two tenderers. Van Oord’s offers were essentially an ‘L-shape’ design, whilst Pihl’s offers were a ‘T-shape’.

8.4 Van Oord developed six alternatives, being variations on its earlier incomplete proposal of a ‘boomerang’ shape. Copies of the layout of each proposal are included in the Babbie Addendum Report that has been deposited at the Greffe for the information of Members of the States. In these proposals, the Breakwater

would be truncated with armouring on its seaward side, the outer abandoned portion being left to decay, and a new oblique angled arm would be constructed landward at the outermost point of the retained and armoured length of Breakwater. The six options show alternatives as to whether or not it was necessary to break through the existing structure at the point where the return arm commenced and whether a quay wall of 118m or 140m was required on the lee-side of that return arm. For those options where the existing structure was not being broken through, the designs show the new structures abutting the existing Breakwater structure. A summary of those options is shown below:

Table 2: Summary of offers received from Van Oord in Post-Tender Negotiation Phase

Van Oord Option	Quay on leese side of return arm?	Breakthrough existing structure?	Estimated cost* (see Paragraph 8.5)	Is navigation/ approach maintained?	Are the existing moorings affected?	Is berth area better protected?	Is future expansion possible?
1	No	Yes	£25,192,236 plus £4m for marina and £1m for Braye Bay	Worsened	Yes – marina required	No	No
2	No	No	£24,636,229 plus £4m for marina and £1m for Braye Bay	No further analysis (see Paragraph 8.6)			
3	118m	Yes	£29,241,404 plus £4m for marina and £1m for Braye Bay	Worsened	Yes – marina required	No	No
4	118m	No	£28,575,610 plus £4m for marina and £1m for Braye Bay	No further analysis (see Paragraph 8.6)			
5	140m	Yes	£30,908,708 plus £4m for marina and £1m for Braye Bay	Worsened	Yes – marina required	No	No
6	140m	No	£30,197,708 plus £4m for marina and £1m for Braye Bay	No further analysis (see Paragraph 8.6)			

8.5 The estimated costs, shown in Table 2 above, are the tender sum together with allowances for price fluctuation, currency changes, design risk, enhanced modelling (which was included in the tender sum), a contingency of 10% and fees. They do not provide for any works to the Commercial Quay or for pre-contract consultants' fees to date. However, all of these Van Oord options require a marina from the outset, as the existing moorings will be affected and require relocation to the inner harbour area, and for coastal defence works to Braye Bay. At Babtie's presentation on these options at the three Committees' meeting of 9 June 2003, it was considered that allowances of £4,000,000 and £1,000,000 respectively should be provided for such works.

8.6 Babtie advised that the options which do not break through the existing structure (Van Oord Options 2, 4 and 6) have a greatly enhanced risk of failure as there is vulnerability at the interface between the existing structure and the newly constructed portions. The lack of coverage of the existing superstructure's foundation could trigger undermining of the mound. Additionally, HR Wallingford identified that the armour stability would be reduced where the new outer construction reaches the existing wall, particularly where waves can reflect from the pre-existing wall. There are also increased risks relating to wave overtopping where the armour slope drops down against the existing wall. Accordingly, the Van Oord Options 2, 4 and 6 were not recommended by the engineering consultants.

8.7 Pihl developed five alternatives, being variations on its earlier proposal of a full-length armoured Breakwater. Copies of the layout of each proposal are included in the Babtie Addendum Report (see Paragraph 8.1) that has been deposited at the Greffe for the information of Members of the States. In these proposals, the Breakwater would be armoured on its seaward side with additional armouring at its outermost point, the outer abandoned portion of the Breakwater would be removed (where appropriate), and a new spur would be constructed on the landward side of the retained and armoured length of Breakwater. The spur would be situated some distance inward from the outermost point of the retained and armoured length of Breakwater. Option 1 is the original full-length armouring proposal. Option 2 was a development of an earlier proposal from the Board as described in Paragraph 7.7 and as shown in Appendix III. The other three options show alternatives as to the extent of the truncation. A summary of those options is shown below:

Table 3: Summary of offers received from Pihl in Post-Tender Negotiation Phase

Pihl Option	Quay provided in design?	Extent of truncation	Estimated cost* (see Paragraph 8.8)	Is navigation/ approach maintained?	Are the existing moorings affected?	Is berth area better protected?	Is future expansion possible?
1	No	None (full-length retained)	£30,197,200	Maintained	No	Unchanged	Yes
2	No	N/a	Not priced	No further analysis (see Paragraph 8.8)			
3	No	125m	£29,084,495 plus £100,000 for Braye Bay	Possibly improved	Few	Yes (due to sheltering spur)	Yes (due to length of retained Breakwater and spur)
4	No	325m	Not specifically priced	No further analysis (see Paragraph 8.8)			
5	No	425m	£20,868,967 plus £4m for marina and £1m for Braye Bay	Worsened	Yes – marina required	Little changed	No

8.8 Option 2 was not favoured by Pihl, citing additional potential risks. The tenderer did not wish to offer this option and it was not priced. Additionally, Option 4 was not specifically priced (being an intermediate truncation between Options 3 and 5). The estimated costs, shown in Table 3 above, are the tender sum together with allowances for currency changes, design risk, enhanced modelling, a contingency of 10% and fees. They do not provide for any works to the Commercial Quay or for pre-contract consultants' fees to date. However, Pihl Option 5 requires a marina from the outset as the existing moorings will be affected and require relocation to the inner harbour area. At Babtie's presentation on these options at the three Committees' meeting of 9 June 2003, an allowance for the provision of a marina was estimated at an additional £4,000,000. Pihl Options 3 and 5 would also necessitate coastal defence works to Braye Bay from the outset (estimated by Babtie at £100,000 for Pihl Option 3 and at £1,000,000 for Pihl Option 5, as the Breakwater would be more truncated in Option 5).

8.9 The Advisory and Finance Committee's engineering consultants have reminded the three Committees that the detailed design phase has not been commenced in respect to any offer received. Any proposal must be thoroughly validated through physical and mathematical modelling, including examination of navigational effects, following the States' decision and prior to commencement of construction. Independent checking and design approval will be features of the contract itself.

8.10 The Advisory and Finance Committee's engineering consultants, with endorsement from the Panel and endorsement from the three Committees at the meeting of 9 June 2003, stated that the Options received from E Pihl & Søn

(referred to herein as Pihl Options 1, 3, 4 and 5; Pihl Option 2 having been discarded by the tenderer) were preferable to those received from Van Oord ACZ (referred to herein as Van Oord Options 1, 2, 3, 4, 5 and 6). The Pihl Options were identified as being significantly more attractive than the Van Oord Options in financial terms. Commercially and contractually, the Pihl Options (as clarified through evaluation by Babtie) were generally more straightforward, and attracted less risk in this respect, than the Van Oord Options. The Van Oord Options were subject to uncertainty with regard to potential price fluctuations and unresolved assignment of design risks.

8.11 At a meeting of the three Committees on 9 June 2003, Babtie recommended the Pihl Option 3 as offering best value. The spatial extent of the protection was superior to any of the other options; it maintained vessel approach; it retained potential for future development/expansion; it was possible to maintain existing moorings - allowing the construction of a marina within the lee of the remediated Breakwater to be deferred; and the tenderer offered financial and contractual clarity which was superior to any of the other options.

8.12 Notwithstanding that design responsibility for any Breakwater remediation contract was to remain with the contractor, the Board of Administration requested the Advisory and Finance Committee to have the technical aspects of the offers received independently assessed by HR Wallingford. HR Wallingford was to review the technical competence of the received tenders, primarily from a modelling and environmental viewpoint, and would not have access to the financial offers from the two tenderers. HR Wallingford had been involved in previous work (in 1963, 1982, 1988/89 and 1995/96) on Alderney Breakwater, both to analyse the present structure and to devise solutions to maintenance problems, and had been the only organisation to undertake full tank testing in the past. Accordingly, HR Wallingford was asked to comment on the various proposals from Van Oord and Pihl and it concluded that the designs for the armouring from both tenderers are reasonably based.

8.13 The two tenderers have extended their tender validity periods in order to accord with the submission of this Report to the States of Deliberation meeting of July 2003.

9. The States of Guernsey's Responsibilities in Respect of the Breakwater

9.1 It should be emphasised that the matter of the States of Guernsey's responsibilities in respect of the Breakwater have been misunderstood in the past. For ease of reference, on 25 March 1987, the States resolved, *"to inform the Secretary of State for the Home Department that the States of Guernsey are willing to assume responsibility for HM Breakwater in Alderney from 01 April 1987."* This has been misinterpreted in the past as an obligation on the States of Guernsey to maintain the Breakwater in perpetuity to 1987 standards and regardless of the costs incurred.

9.2 As explained in the Board's Report 'Long Term Strategy for Alderney Breakwater' published in Billet d'Etat X, June 1997, there is no absolute obligation

to maintain the Breakwater in its present form. The Advisory and Finance Committee in its letter of comment at that time (the letter is dated 21 May 1997) stated that, *“The States of Guernsey has undoubted responsibility for the Breakwater. However, there is no absolute obligation to maintain it in its present form and in this it should be noted that the States are in no different position from HM Government previously. Indeed, it can be seen from the content of the report [that of the Board of Administration in 1997] that such an obligation would have been untenable from the outset, given the virtual impossibility of an economy the size of Guernsey’s being able to fund the reinstatement of the Breakwater after an extreme event involving the loss of a major part of the structure.”*

9.3 Moreover, the Advisory and Finance Committee emphasised that it was, *“...important that the duty of the States in this respect is understood and accepted. From this it follows that the Board is entirely justified in putting forward options other than retention of the existing structure and it is on this basis that the issues should be debated.”*

9.4 The legal position in regard to the Breakwater is explained in detail in a letter, dated 20 December 1996, from the Advisory and Finance Committee to the President of the States of Alderney (a copy of this letter was appended to the Board of Administration’s Report of 1997 and is also included in Appendix I to this Report, for ease of reference). In that letter, the Advisory and Finance Committee stated that, *“An assumption of responsibility for repair, maintenance and management certainly cannot be interpreted as an irrevocable obligation to keep the Breakwater, for ever, irrespective of the Bailiwick’s financial circumstances or the Breakwater’s condition, in the same state as it was in 1987.”* Further, it specified that, *“...Alderney was on notice in 1948 [by way of a letter from HM Government at that time] that they could not expect the Breakwater to be maintained to any particular historical structural condition, or at all, in perpetuity. This fact was restated in an Alderney Billet d’Etat in 1978. It is an established constitutional principle that a Parliament cannot bind its successors. This, of course, applies equally in the United Kingdom, Guernsey and Alderney.”*

9.5 The Board has noted that the Alderney authorities have repeatedly expressed a wish to retain the full length of the currently existing Breakwater. However, the possibility of abandoning some, or all, of the existing Breakwater due to cost considerations and a prudent approach has been mooted on previous occasions. For example, on 1 February 1985, the Home Office wrote to the President of the States of Alderney to advise that, with regard to technical advice and escalating maintenance costs, *“there is little option but to shorten the breakwater.”* The Home Office also stated its position that, *“should a disaster occur, ... you would not be able to look to us with confidence for money to remedy the situation.”* (a copy of the letter is included in Appendix I, for ease of reference).

9.6 On 29 January 1987, the Advisory and Finance Committee wrote to the President of the States of Alderney (in regard to the Committee’s preparation of the Report which was considered by the States of Guernsey at its meeting of 25 March 1987, as mentioned in Paragraph 2.2). That letter (which was incorporated in the

text of the Advisory and Finance Committee's Report of 20 February 1987 as published in Billet d'Etat VII, 1987) included a statement such that, "*Should at any time the States of Alderney wish to take over the responsibility for the Alderney Breakwater, they shall be at liberty to do so provided always that they give at least three years and not more than five years notice of their desire so to do, subject always to the financial and other arrangements that may exist from time to time between the States of Guernsey and the States of Alderney and subject always to the consent of the Secretary of State.*"

9.7 Should Alderney consider that the preservation of the full Breakwater has a higher priority than the provision of core strategic infrastructure, the Alderney authorities have the option to take responsibility for the Breakwater (as stated in Paragraph 9.6 above).

9.8 As previously stated (in Paragraphs 7.4, 7.5 and 9.1 - 9.6 above and in previous Reports to the States of Guernsey (including that considered by the States of Guernsey on 25 June 1997)), the Board of Administration considers that it is neither necessary, nor financially feasible, nor obligatory, for it to maintain the Breakwater at its full length.

10. The Provision of a Viable Commercial Harbour for Alderney

10.1 The Board is of the opinion that the core concern about Alderney's harbour is that the end result should be based on the practical needs of Alderney within the financial capability of the Bailiwick. The following elements are considered desirable outcomes, in order of priority:

- (1) the provision of a harbour that is capable of docking and unloading commercial supply vessels of a size and design expected to operate to Alderney;
- (2) the provision of sheltered water moorings for the lifeboat and fishing boats;
- (3) the provision of an area of sheltered water capable of being developed as a marina and the installation of pontoons sufficient to hold up to at least two hundred boats (including those in (2) above). [Outcome (3) would only be recommended if it is feasible within available funds and if it is considered to offer the potential to boost the Alderney economy];
- (4) the preservation of as much of the existing Breakwater as economically possible.

10.2 In Sections 11, 12, 13 and 14 below, the Board examines in more detail the three options which it considers would secure a harbour that meets the practical needs of Alderney within the financial capability of the Bailiwick. Those options are the maintenance-only option, Pihl Option 5 and Pihl Option 3 (the latter two having arisen from the post-tender negotiations, as described in Section 8).

11 The Maintenance-Only Option

11.1 In its previous Reports concerning the long-term strategy for the Breakwater, the Board has considered the possibility of continuing its maintenance programme rather than undertaking major capital works. In view of the considerable costs involved in, and in order to make comparison with, the tendered proposals on this occasion, the Board has revisited this option. In fully recognising that the retention of a viable commercial harbour in Alderney must not be put at risk, the Board considers that a maintenance-only option must ensure that a proper programme is in place for a substantial period of time. The existing Breakwater has been in place for over 150 years. The design life of the tendered options is 50 years and it is confidently expected that they will last for more than 100 years. It follows that maintenance costs must be examined in that context.

11.2 If no further maintenance work was carried out nor any major project undertaken, the superstructure of the Breakwater would gradually deteriorate and the future viability of the harbour and of Braye Bay would be severely constrained.

11.3 The Board is also well aware from professional advice that the mound beneath the Breakwater continues to deplete, to the probable detriment of the masonry superstructure above. The Board considers that it is not a question of if there will be another breach but when, how often and how severe those breaches will be.

11.4 Since 1987, when the Board took responsibility for the Breakwater, maintenance costs have totalled more than £8,000,000 (see Appendix II). Consideration would also need to be given, in future, to the costs of the inevitable replenishment of the mound, without which the Breakwater could not be retained in its existing form.

11.5 It should be noted that future climate change might also affect conditions in the environment of the Breakwater. ‘Global warming’ is likely to have many impacts including the increased height of seawater and the possibility of increasing frequency and severity of storms. Therefore, if no capital works were to be undertaken, an increased incidence of breaches in the Breakwater can be expected with a consequential increase in annual maintenance costs.

11.6 Historically, breaches have been caused by the ‘plucking’ of stones from the masonry superstructure of the Breakwater during storm events. However, as the mound depletes, which it continues to do in the absence of replenishment works, the probability of a breach being caused by undermining of the mound (and collapse of the superstructure above) increases.

11.7 As part of the ‘Alderney Breakwater Remediation – Tender Evaluation Report’, Babbie undertook financial modelling in regard to the costs that might be incurred in future for a maintenance-only option. Probabilities relating to breaches (howsoever caused) were included in this model. It should be noted that in the short- to medium-term, particularly in the absence of a major breach, the maintenance-only option could actually result in an effective positive balance

compared to capital investment. However, it can be concluded that, over time, a maintenance-only option would likely be a more expensive option than a civil engineering solution. Additionally, it should be noted that the maintenance-only approach would result in either the same extent of structure having survived at the end of a certain period or, more likely, much of the existing Breakwater being irretrievably lost or damaged.

11.8 The above factors are unpredictable and, therefore, it is difficult to quantify them with precision. However, Babbie have indicated that a medium to long term investment in the order of £29million for a civil engineering solution, such as that recommended in this Report, represents the best value for the States when compared to a maintenance-only solution in regard to the current Breakwater and the cost of repairing the inevitable breaches in the structure.

11.9 Under a maintenance-only option the current size, position and extent of the Breakwater remains as at present (see Appendix VI). It should be noted that, under this option, the Board would recommend that any breach which might occur in the outer portion of the Breakwater then be permitted to erode. However, any breaches in the inner portion of the Breakwater would be repaired in the same manner as was followed during the period 1987 to date.

11.10 If a maintenance-only approach were adopted, there would be no immediate effect on either the existing harbour or the coastline of Braye Bay. However, there would be resultant impacts in the event of any breach or catastrophic failure of the Breakwater. The maintenance-only option offers future flexibility, as construction options could be reviewed and implemented in the future, as considered necessary.

11.11 For the period from 1 April 1987 to 31 December 2002, the total cost of maintaining the Breakwater (for both annual maintenance and the repair of any breaches) was £8,019,714. The States of Alderney makes an annual contribution to the upkeep of the Breakwater, in the sum of £15,000 per annum. The annual expenditure in respect of maintenance and repair works to the Breakwater is summarised in Appendix II. In the same period, a further £239,397 of capital expenditure was incurred on items of equipment associated with the maintenance of the Breakwater including, for example, a replacement crane, compressor and forklift.

11.12 Maintenance costs have decreased in recent years due, primarily, to the reduction in size of the workforce retained by the Board of Administration for the maintenance of the Breakwater. The reduction has occurred through 'natural wastage', i.e. as employees retired or left the Board's employ, replacements were not appointed. The Board considered this to be an appropriate course of action whilst it was actively involved in the process of seeking a more permanent construction/engineering solution in accordance with the States' Resolutions of November 1999.

11.13 If a maintenance-only programme were to be carried out in the future it might be preferable to undertake certain works at the outset in order to establish a

satisfactory base condition for the Breakwater (both masonry superstructure and mound) from which the programme could continue.

11.14 To illustrate the likely future costs of a maintenance-only option, the Board has considered the historical information shown in Appendix II to represent a mean annual cost at 2002 values of £800,000. This sum allows for a single breach in a ten year period but takes no account of depletion to the supporting mound nor of any effects of climate changes.

11.15 It follows that, for comparison with construction options using a design life of 50 years, a maintenance-only option will cost £40,000,000 at 2002 values. Clearly, the actual cost of annual maintenance will be subject to the increasing cost of labour, plant and materials for which changes in inflation rates can only be speculated. If inflation continued at, say, 3%, the cost in Year 50 would be in the order of £3,400,000 with total payments over the period exceeding £90,000,000. Again, such figures exclude provision for depletion of the mound, which is regarded as an inevitable process.

11.16 If the maintenance-only option were adopted, the Board would consider it prudent to establish a 'Maintenance Fund' to service the requirements of the Breakwater. The length of time that such a fund could be sustained would depend upon the initial size of the fund, the extent of maintenance and repairs required, the inflation rate applicable to those works and the interest rates applicable to the investment of the fund, assuming that it is available for long-term investment.

11.17 The Board is very much aware that even small changes in the value of one or more of those variables will have a significant effect on the anticipated lifetime for a maintenance fund. It is, of course, inevitable that frequent changes will occur in the value of each variable and it is important to recognise that the figures shown in the tables below must not be regarded as a precise forecast, but serve only as an illustration of the possible effect that such changes in the variables might have.

11.18 In the examples given in Table 4, the Board has assumed, first, an initial maintenance fund of £29,000,000, a sum approximately that of the total cost of the proposed Pihl Option 3 remediation project. The figures illustrate the effect of an annual spend of £800,000 on maintenance with varying rates of inflation and interest. The example in the first line uses the Guernsey RPI figure of 4.7% as at 31 March 2003 and 4% to represent current interest rates. If no changes occurred in those figures, the fund would last for approximately 33 years before it would need to be replaced.

Table 4: Effect of changes to interest rates on the fund period for maintenance-only option

Fund value at outset	Year 1 spend	Inflation rate	Interest rate	Fund exhaustion (years)	Total payments over period
£29,000,000	£800,000	4.7%	4%	33	£60,466,000
£29,000,000	£800,000	4%	4%	36	£62,079,000
£29,000,000	£800,000	4%	5%	45	£96,824,000
£29,000,000	£800,000	4%	6%	64	£226,130,000

The figures indicate that for a given inflation rate, a rise of just 1% in interest rates leads to a material increase of several years in the life of a fund. Conversely, a fall of 1% leads to a material decrease.

11.19 However, it is inevitable that the mound will deplete and it is imperative that this should not threaten the Breakwater over the design life period. It is therefore essential to provide, at least in some measure, for replenishment. This will involve different techniques and plant if it is to be done effectively and would also involve a continuing programme of survey and site investigation to identify zones to be targeted for replenishment. If it is assumed that the Year 1 spend is increased to, say, £1,250,000 for this purpose, the above figures can be restated as shown in Table 5:

Table 5: Effect of changes to interest rates on the fund period for maintenance-only option (if spend in year 1 is greater than that shown in Table 4)

Fund value at outset	Year 1 spend	Inflation rate	Interest rate	Fund exhaustion (years)	Total payments over period
£29,000,000	£1,250,000	4.7%	4%	21	£43,178,000
£29,000,000	£1,250,000	4%	4%	23	£45,772,000
£29,000,000	£1,250,000	4%	5%	26	£55,390,000
£29,000,000	£1,250,000	4%	6%	31	£74,160,000

The same trends are identified but, in each case, the effect of additional annual expenditure on maintenance and repairs leads to a major reduction in the life of the fund by between one third and one half.

11.20 These examples assume that the nature and extent of maintenance work remains broadly unchanged throughout the period. However, it is known that the existing mound is depleting and, as it continues to do so, a threshold might be reached where the extent of depletion threatens the Breakwater to an extent that is has not experienced so far, necessitating additional expenditure. Further, it is possible that the frequency and severity of storms will increase in coming years as a result of environmental changes, again, increasing the risk to the Breakwater and the potential need for additional works. Again, the effect of such additional expenditure will be to reduce significantly the effective life of a maintenance fund.

11.21 The Board has considered the specific example where significant expenditure on, say, a breach to the superstructure needs to be repaired at the outset

of a maintenance-only programme. The initial value of a maintenance fund would be reduced accordingly. The effect of a reduced initial fund is illustrated in Table 6 using the Guernsey RPI figure of 4.7% as at 31 March 2003 and an interest rate of 4% as constants for the purposes of illustration. It is also assumed that routine annual maintenance to the superstructure and the mound will be required, notwithstanding the additional work to the breach.

Table 6: Examples of different initial fund values, and the related period after additional funding would be required)

Fund value at outset	Year 1 spend	Inflation rate	Interest rate	Fund exhaustion (years)	Total payments over period
£29,000,000	£1,250,000	4.7%	4%	21	£43,178,000
£27,000,000	£1,250,000	4.7%	4%	20	£40,046,000
£25,000,000	£1,250,000	4.7%	4%	18	£34,197,000
£20,000,000	£1,250,000	4.7%	4%	15	£26,372,000

Although inevitable that a smaller initial fund will have a reduced life, the figures show clearly the extent of that reduction and, therefore, the earlier need to apply new funding to enable a maintenance-only programme to continue.

11.22 The Board is aware that it is not possible make a direct comparison between expenditure associated with a maintenance and repair option and expenditure for a capital works remediation project. In particular, a competent remediation project would substantially improve the Breakwater's existing condition and remove the present risk of breaching. Furthermore, the present maintenance regime cannot offer any improvement, as it does not address depletion of the underlying mound, which is universally acknowledged as a limiting feature of the present structure. Even with a degree of replenishment of the mound, the most that an enhanced maintenance programme could be expected to achieve would be to keep pace with further depletion, while the risk of breaching and undermining would remain. In any event, once a 'Maintenance Fund' was exhausted it would require the process to be repeated with a further substantial investment.

11.23 For the reasons outlined above, the Board considers it likely that a maintenance-only programme would cost more (even in the short- to medium-term) than a civil engineering solution. Furthermore, it believes that a capital project would be a pro-active option that would safeguard against possible future increases in storm frequency and intensity and the resultant impacts on the harbour and Braye Bay over the proposed design life of the remediated Breakwater. Accordingly, the Board will not recommend a maintenance-only option.

12. Pihl Option 5 – Truncated Breakwater with Sheltering Spur (425m truncation)

12.1 The Pihl Option 5 proposal is for the Breakwater to be armoured on its seaward side with additional armouring at its outermost point, the outer abandoned 425 metre portion of the Breakwater would be left to decay, and a new spur would be constructed on the landward side of the retained and armoured length of

Breakwater. The spur would be situated some distance inward from the outermost point of the retained and armoured length of Breakwater.

12.2 A schematic diagram indicating the size, position and extent of the proposed works is included in Appendix VI to this Report. As detailed in Paragraph 8.10, the detailed design phase in regard to this option has not yet been undertaken. If the States were to direct the construction of Pihl Option 5, the proposal would be subject to thorough validation through appropriate modelling, including examination of navigational effects, independent checking and design approval.

12.3 The cost of Pihl Option 5 can be summarised as follows:

	£
Tender	17,530,000
Add for currency changes to 03/06/03	<u>(10,485)</u>
Revised sum	17,519,515
Add for design risk	50,000
Add for enhanced modelling	<u>75,000</u>
Sub-total	17,644,515
Contingency (10%)	1,764,452
Fees to date	710,000
Fees to completion	<u>50,000</u>
Construction costs	<u>20,868,967</u>
Marina (required to replace lost moorings)	4,000,000
Coastal defence works (Braye Bay)	<u>1,000,000</u>
Total	<u>25,868,967</u>

12.4 The Advisory and Finance Committee's engineering consultants have advised that the future maintenance costs associated with Pihl Option 5, for the design life period of 50 years, may be in the order of £1.5million at 2002 price levels. In order for comparison with the maintenance-only option costs detailed in Section 11, the construction and maintenance costs for Pihl Option 3 need to be considered in total.

12.5 Pihl Option 5 retains an armoured truncated section of the Breakwater. That truncated section, together with the sheltering spur to the lee of the existing structure, provides shelter to Alderney Harbour. The Harbour is thereby more sheltered, particularly in relation to winds from the northeast, the shelter provided to the berth area is little changed in comparison to the current situation. However, the navigation/ approach is worsened (as detailed in Section 14). Additionally, the remaining Breakwater section beyond the position of the spur would be less effective in reducing diffracted wave energy effects in the harbour than Pihl Option 3.

12.6 The truncation of the Breakwater under Pihl Option 5 results in the loss of existing moorings. Therefore, in order to ensure that the required levels of mooring provisions are available in Alderney Harbour, a marina is required from the outset of this scheme (at a cost of £4,000,000 (estimated)). There would be pressures on

the harbour area, as portions would dry out and a wave screen would be required. Issues relating to berthing manoeuvres in the Harbour are examined in Section 14. Pihl Option 5 results in a more limited harbour facility, with less space and manoeuvrability, than Pihl Option 3 or the maintenance-only option.

12.7 The Board has noted that any option which results in the truncation of the Breakwater, which is certainly the case for Pihl Options 3 and 5 (and probably would occur through non-repaired breaches in the outer-portion of the Breakwater in a maintenance-only option – as in Paragraph 11.9), would have an impact on the coastline of Braye Bay. The estimated costs for appropriate coastal defence works/replenishment, with respect to Pihl Option 5, are in the order of £1,000,000.

12.8 Pihl Option 5 offers extremely limited future flexibility, as the resultant Harbour area is much reduced in size and a marina is required from the outset. Of the three options (maintenance-only, Pihl Options 3 and 5), Pihl Option 5 is the most limited in terms of potential for future development

12.9 The review by HR Wallingford of the revised offers from the two tenderers concurs with the issues raised by Babbie in respect to Pihl Option 5 (see Paragraph 8.12). The approach protection is reduced and vessel approach and entry to the Harbour, and manoeuvring therein, is more challenging than that for Pihl Option 3 or the maintenance-only option. Further, that there are pressures on the harbour area such that portions dry out, a marina is required from the outset due to loss of existing moorings, a wave screen would be required. Additionally, HRW has stated that, *“Erosion in Braye Bay will again increase, and vessel approach towards the protected area will be more affected by increased wave action over the abandoned length.”*

13. Pihl Option 3 – Truncated Breakwater with Sheltering Spur (125m truncation)

13.1 The Pihl Option 3 proposal is for the Breakwater to be armoured on its seaward side with additional armouring at its outermost point, the outer abandoned 125 metre portion of the Breakwater would be removed, and a new spur would be constructed on the landward side of the retained and armoured length of Breakwater. The spur would be situated some distance inward from the outermost point of the retained and armoured length of Breakwater. Pihl Option 3 is less truncated than Pihl Option 5.

13.2 A schematic diagram indicating the size, position and extent of the proposed works is included in Appendix VI to this Report. As detailed in Paragraph 8.11, the detailed design phase in regard to this option has not yet been undertaken. If the States were to direct the construction of Pihl Option 3, the proposal would be subject to thorough validation through appropriate modelling, including examination of navigational effects, independent checking and design approval.

13.3 The cost of Pihl Option 3 can be summarised as follows:

	£
Tender	24,115,000
Add for currency changes to 03/06/03	<u>873,177</u>
Revised sum	24,988,177
Add for design risk	50,000
Add for enhanced modelling	<u>75,000</u>
Sub-total	25,113,177
Contingency (10%)	2,511,318
Fees to date	710,000
Fees to completion	<u>750,000</u>
Construction costs	<u>29,084,495</u>
Coastal defence works (Braye Bay)	<u>100,000</u>
Total	<u>29,184,495</u>

13.4 The Advisory and Finance Committee's engineering consultants have advised that the future maintenance costs associated with Pihl Option 3, for the design life period of 50 years, may be in the order of £2million at 2002 price levels. In order for comparison with the maintenance-only option costs detailed in Section 11, the construction and maintenance costs for Pihl Option 3 need to be considered in total.

13.5 Pihl Option 3 retains an armoured truncated section of the Breakwater. That truncated section, together with the sheltering spur to the lee of the existing structure, provides shelter to Alderney Harbour. The Harbour is thereby more sheltered, particularly in relation to winds from the northeast, the shelter provided to the berth area is improved in comparison to the current situation and is greater than that provided by the Pihl Option 5 proposals. It is likely that the navigation/approach would be improved following implementation of Pihl Option 3 (as detailed in Section 14). Additionally, the Breakwater section that extends beyond the position of the spur would reduce the diffracted wave energy reaching the harbour, as compared to the existing arrangement.

13.6 The truncation of the Breakwater under Pihl Option 3 results in the loss of very few (if any) existing moorings. Therefore, a marina would not be required from the outset of this scheme in order to ensure that the required levels of mooring provision are available in Alderney Harbour. Issues relating to berthing manoeuvres in the Harbour are examined in Section 14. Pihl Option 3 does not restrict manoeuvrability in the Harbour, as compared to the restrictions that would be imposed by Pihl Option 5.

13.7 The Board has noted that any option which results in the truncation of the Breakwater, which is certainly the case for Pihl Options 3 and 5 (and probably would occur through non-repaired breaches in the outer-portion of the Breakwater in a maintenance-only option – as in Paragraph 11.9), would have an impact on the coastline of Braye Bay. The estimated costs for appropriate coastal defence works/replenishment, with respect to Pihl Option 3 are in the order of £100,000.

13.8 Pihl Option 3 offers future flexibility, as the resultant Harbour area is much the same as at present. A marina is not required from the outset of this scheme, as the required number of moorings is maintained and current moorings generally unaffected. The shelter provided to the Harbour is greater than that for the maintenance-only option or that for Pihl Option 5. There is the potential for the future development of a marina facility, if it is considered commercially viable. Such a marina would not require the same level of wave screening as for Pihl Option 5.

13.9 The review by HR Wallingford of the revised offers from the two tenderers concurs with the issues raised by Babbie in respect to Pihl Option 3. The approach protection is increased and vessel approach and entry to the Harbour, and manoeuvring therein, little affected in comparison to the existing arrangement. The harbour conditions are improved by the spur and the portion of the Breakwater that extends beyond the spur position. Additionally, HRW has stated that the, *“Vessel approach will be slightly affected by increased wave penetration over the abandoned length.”*

13.10 Pihl Option 3 is the least disruptive of the two construction options, it has a relatively simple construction phase, results in the least initial change to existing facilities (of the two construction options, as Pihl Option 5 does not allow the deferral of marina construction, offers most protection to the Harbour (compared to Pihl Option 5 and the maintenance-only option) and has the least risks associated with the design at this stage.

14. Navigational issues

14.1 The Alderney Breakwater, which is currently some 900m in length, provides shelter to both the Commercial Quay and the navigational fairway that leads to the Commercial Quay.

14.2 The Harbour is situated on the northwest side of Alderney and because of this is particularly exposed to west/north-westerly winds and wave action. The shelter provided by the Breakwater from these elements is critical for both the approach phase and the berthing manoeuvres of vessels. The presence of strong tidal flows in the area also increases the difficulty of navigation during the approach.

14.3 Navigational studies were carried out during HR Wallingford's Stage 4 work (in 1995/96) to confirm the viability of navigation in regard to 'Option B2' (as outlined in the Board's 1997 Report), which provided for a new Breakwater some 400m shorter than, and constructed within the lee of the existing Breakwater. Ships approaching the Harbour outside the protection of the Breakwater need to maintain sufficient speed to navigate safely and in adverse weather/sea conditions they can only start to reduce speed once they gain the shelter of the Breakwater. Clearly for the larger vessels, in particular the tankers, the distance taken to bring the vessel to a controlled stop becomes critical and this stopping distance was studied carefully in HR Wallingford's simulation work.

14.4 These studies showed, and it has now generally been accepted, that the length (c.500 metres) of the Breakwater that was retained in Option B2 (as in Paragraph 14.3 above) was the minimum acceptable length to ensure that access to the Commercial Quay could be maintained, although there might be some increase in weather limitations over those experienced at present. It must be stressed however that the Breakwater provides shelter for the approach from winds in the westerly and north-westerly sector and, therefore, these limitations would only apply for winds from this direction. For winds from the north east through east to south the length of the Breakwater would not affect navigation.

14.5 The tankers that serve Alderney are the same ones that operate to Guernsey and Jersey. The tankers are required to replenish stocks in the larger islands on a weekly basis, but the requirement to service Alderney is only on a monthly basis. Storage tanks ashore have the capacity to hold 519,000 litres (approximately 450 tonnes) of Kerosene and 519,000 litres of diesel. These tanks are replenished when they are approximately at 50% capacity, theoretically leaving a further month before they become exhausted.

14.6 Operations in many ports are subject to weather or tidal restrictions and, for example, St Sampson's harbour is restricted by both tide and weather. Tankers visit St Sampson's harbour much more frequently than they visit Alderney's harbour. Despite this, weather disruptions at St Sampson's are very rare. Therefore, if the Breakwater in Alderney were to be shortened to a length no shorter than that of Option B2 (c.500 metres), it should still be possible for Alderney's harbour operations to work around any occasional disruptions caused by weather. Nevertheless, any Breakwater design that significantly reduced the length of sheltered water would require careful study to ensure that commercial shipping operations would not be unacceptably disrupted.

Navigational Issues – Maintenance-Only Option

14.7 Whilst the existing Breakwater continues to survive, the navigational issues relating to commercial vessels would be unchanged from the present conditions. In the event of a breach to the Breakwater, navigation by commercial vessels could be seriously affected depending on the position and size of the breach. A breach near to the root of the Breakwater, in the area of the Commercial Quay and the moorings for essential service vessels such as the Alderney lifeboat and pilot boat, would have an immediate and very serious impact on commercial operations and might result in the closure of the Port for a significant period whilst repairs to the Breakwater were carried out. There would be a risk that supplies of fuel and essential commodities on the Island could become exhausted following such a breach. It should be noted that the majority of the breaches that have occurred to date have been in the area adjacent to the Commercial Quay.

Navigational Issues - Pihl Option 5

14.8 Pihl Option 5 provides for a Breakwater that is truncated by some 425m and is, therefore, of similar length to that included in the Board's 1997 Report as Option

B2 (as in Paragraphs 14.3 and 14.4 above). It would appear to provide similar levels of protection for vessels approaching the Commercial Quay and could provide more shelter for the berthing manoeuvre. The spur on the lee side of the Breakwater would provide improved wave conditions within the Harbour area and more shelter for the berthing phase, particularly in relation to winds from the northeast. The spur, however, extends to the limit of the approach fairway and, therefore, could be an additional hazard for commercial vessels during the critical phase during which they reduce speed to make their approach to the berth.

14.9 As with the studies relating to Option B2, it would have to be accepted that there might be some increase in weather limitations in comparison to the present situation.

14.10 Pihl Option 5 is not expected to affect adversely the viability of commercial operations, but this would need to be confirmed by further navigational studies. The truncated length of Breakwater, which is retained in Pihl Option 5, must also be considered as the minimum length that could provide for safe commercial operations. This option gives little flexibility and no scope for any further expansion in the size of vessels wishing to use the port.

Navigational Issues - Pihl Option 3

14.11 Pihl Option 3 provides for a Breakwater which is truncated by some 125m and, although the position of the spur has yet to be confirmed, it is likely to be significantly further out along the Breakwater than that provided in Pihl Option 5. Therefore, vessels approaching Alderney Harbour would benefit from the shelter provided by both the existing Breakwater and the spur, during the approach phase as well as during berthing.

14.12 Pihl Option 3 retains a significant length of Breakwater and combined with the spur this is expected to result in improvement to navigational access over the current Breakwater. Pihl Option 3 also retains sufficient length of Breakwater to provide shelter for all the existing moorings and small ship anchorages in Braye Bay. This would retain the option for small cruise liners to visit the Island and allows scope for use by larger ships in the future.

15. Related States of Alderney Harbour Projects

15.1 There are a number of possible future projects for Alderney Harbour, of which the Board is aware. These essentially form two sets: one project (refurbishment of the Commercial Quay) is considered to be vital for the economic and social sustainability in Alderney; other projects (including the provision for and development of a marina capable of holding at least 200 boats, including the lifeboat and fishing vessels) could be undertaken in the future, if the commercial case for them is proven.

15.2 The States of Alderney has advised that there is an urgent need for substantial repair works to the Commercial Quay. The quay was strengthened approximately 20 years ago using sheet steel piles as a cladding, anchored at the top

and bottom. The piles have since corroded in the middle and are at risk of failing, in which event the quay will become unusable.

15.3 The quay is the only one in Alderney that can be used for commercial traffic and is, therefore, an essential facility. Alderney Airport is not a suitable alternative for the delivery of essential goods to the Island, as it is unable to handle and service large freight aircraft. Furthermore, bulk cargoes such as sand, shingle, oil, petrol, avgas, building products, cars, lorries, cattle etc could only be carried as sea-borne freight.

15.4 The estimated cost of the works to ensure the continued operational viability of Commercial Quay is £3,300,000, subject to design and competitive tendering. The refurbishment works to the Commercial Quay are required at the earliest possible opportunity and, to this end, it is understood that the Alderney Policy and Finance Committee is taking appropriate measures.

15.5 The Board is aware that refurbishment works to the Commercial Quay will not be sufficient in themselves. Adequate protection for Alderney Harbour needs to be provided in order to ensure the safety of vessels on the Commercial Quay and harbour moorings and for other harbour facilities such as pontoons, walkways and slipways.

15.6 The Board believes that it is appropriate for the States of Alderney to prepare a master plan for the future use of the Alderney Harbour. The Board believes that such a plan should include a review of both present and future harbour activities, together with fees charged for commercial operations and moorings.

15.7 The Board understands that the Alderney Policy and Finance Committee has already undertaken some initial work in regard to an overall strategic plan for Alderney Harbour and its environs.

15.8 The Board is only able to recommend to the States the 'Pihl Option 3' scheme (as described in Section 13) subject to assurances from the States of Alderney that appropriate works will be carried out to refurbish the Commercial Quay and to provide, in future, a marina, if commercially justified, which could be financed, in whole or in part, if necessary, by private funding. Furthermore, the Board strongly urges, and seeks assurances from, the Alderney authorities in this regard to operate the harbour on a more commercial basis and to establish an Alderney Harbour trading account for its capital and revenue operations. The Board understands that in 1998 an independent report commissioned by the States of Alderney advised that part of the shortfall between the income generated by the harbour and the running costs (some £80,000 per year at the time) could be attributed to the fact that charges for use of the Commercial Quay were set at comparatively low levels, approximately one-third of those charged in Guernsey. The Board considers it reasonable to anticipate that charges be increased sufficiently to ensure that a reasonable contribution is made by Alderney to the repayment of capital costs incurred for the works to the Commercial Quay. The Board proposes that the detailed arrangements for the Alderney Harbour trading account should be subject to consultation between the Alderney Policy and Finance

Committee and the Advisory and Finance Committee. However, it recommends that such account should identify all capital and revenue income and expenditure, presently published within the accounts of the States of Alderney General Services Committee, with the net operating surplus or deficit being transferred to the accounts of that Committee.

16. Detailed Design and Construction Phases

16.1 The Board is aware that the precise specification for the works will not be determined until the selected contractor has undertaken full design testing. For example, the exact length of the retained Breakwater and the exact location and dimensions of the proposed spur have not yet been fixed. Accordingly, if the States approves the Board's recommendation for remediation works along the lines of 'Pihl Option 3' with a truncation of approximately 125 metres and a spur, subject to certain assurances from the States of Alderney and to the subsequent agreement of the Advisory and Finance Committee to a detailed scheme, the Board, with its advisers, intends to negotiate with the tenderer for variations and refinements to the design. This phase of the project will provide for thorough validation of the proposals through physical and mathematical modelling, including examination of navigational effects.

16.2 The Board will ensure that the agreed revised tender will not exceed £25,113,177 (at 3 June 2003 exchange rates) and that neither the functionality nor the overall quality of Alderney's harbour are affected. The revised tender sum will include an allowance for currency fluctuations up to 3 June 2003, design risk, modelling, etc. It will not include any allowance for contingencies or associated fees, as these will be subject to agreement from the Board and approval from the Advisory and Finance Committee.

16.3 The Board wishes to emphasise that an allowance for contingencies is specifically to meet unforeseen costs for items not included within the remit of the design and build remediation contract project. Examples of possible contingencies might include, say, the effects of currency fluctuations since 3 June 2003; costs associated with addressing any unforeseen deterioration in the mound since the last survey or the consequences of extreme adverse weather conditions on the progress of the project.

16.4 If the States approves the construction works associated with Pihl Option 3 (as outlined in Section 13), it will be necessary to appoint a consultant to undertake post-tender negotiations on behalf of the States of Guernsey and to oversee the resulting detailed design and construction phases. Much detailed planning will be required to progress the project following States' approval. That work will include defining the various roles and responsibilities for the project team, checking the design testing undertaken by the contractor; finalising the contract details between the contractor and the Board of Administration; liaison with the contractor and the Harbour authorities on operational matters throughout the project, and supervising the work in progress during the construction period to the conclusion of the works.

16.5 Accordingly, the Board requests the States' approval to appoint a suitable consultant or consultants as set out above at an estimated cost not exceeding £750,000, subject to the approval of the Advisory and Finance Committee, such costs to be met from the funding approved by the States for the remediation project.

17. Breakwater Project Funding and Accounting

17.1 The Advisory and Finance Committee has considered the method of accounting for the capital and revenue aspects of the Alderney Breakwater. It has concluded that the existing method is no longer appropriate in that, in particular, it takes no account of accounting best practice as regards capital assets with a long life.

17.2 Accordingly, the Advisory and Finance Committee has recommended a revised approach whereby a separate Alderney Breakwater Account would be established that would show the depreciated value of the asset and spread the cost of the asset more appropriately over its useful life. It would also provide a readily accessible statement of the net cost of the Breakwater to the Bailiwick of Guernsey as an element of its contribution to United Kingdom defence costs.

17.3 The new Account would be published in the States of Guernsey's year-end accounts Billet d'Etat as a Miscellaneous Account and would record the capital cost of the remediation project depreciated over its estimated design life of fifty years. Associated capital and revenue expenditure and recoveries would also be charged to the Account.

17.4 The depreciated value of the asset would also appear in the States' Summary of Balances. The total charge for depreciation, repairs and maintenance and administration costs would appear as a separate line in the appropriate Department's General Revenue expenditure. An outline of the proposed Account is shown at Appendix VII.

17.5 The Board concurs with this approach and recommends the States to approve the revised accounting method.

18. Legal Aspects

18.1 Any works to maintain the viability of Alderney's harbour, whether that be through the continuation of a maintenance-only programme or the construction of Pihl Options 3 or 5, would not require the introduction of new legislation nor the amendment of any existing legislation. The Board of Administration will ensure that all aspects of the construction, commissioning and operational maintenance (as applicable) will comply with all Bailiwick legislation. As outlined in Paragraph 9.4, the States of Guernsey is not obliged to, "*keep the Breakwater, for ever, irrespective of the Bailiwick's financial circumstances or the Breakwater's condition, in the same state as it was in 1987.*" The proposal to undertake works to ensure the continued viability of Alderney's harbour does not, therefore, breach the conditions of the States' agreement with the United Kingdom.

19. Impact Assessments

Impact on staffing resources

19.1 The proposal for works to construct Pihl Options 3 and 5 in order to ensure the continued feasibility of Alderney harbour, within the resources of the Bailiwick, should have no impact on staffing levels for established staff, although there might be an impact on non-established or contracted staff. In particular, there will be a decrease in the number of public sector employees retained for the Breakwater's annual maintenance and repair works, as there would be a reduced resultant level of required maintenance. The interests of the existing staff would be properly safeguarded by the States of Guernsey.

19.2 If the proposal to continue the maintenance-only option were to be pursued, there would be an impact on staffing levels. The number of personnel required to maintain the Breakwater would be increased in order to take account of the continued risks associated with damage to the superstructure, failure of the supporting mound and the enhanced incidence and severity of breaches (as described in Section 11). Additionally, any supplementary works required in order to establish a satisfactory base condition of the Breakwater (both masonry superstructure and mound) sufficient for a maintenance-only programme to continue, would temporarily necessitate a larger workforce.

Impact on strategic objectives of the States

19.3 In the 2002 Policy and Resource Planning Report, the States recognised that the Capital Reserve, established in 1994 to contribute to the costs of unusually large capital projects foreseen for future years which cannot reasonably be financed from annual allocations without detriment to the ongoing capital programmes, was an appropriate source of funding for the remediation of the Alderney Breakwater.

19.4 The Board of Administration, with the agreement of the Advisory and Finance Committee now recommends that the project be funded by charge to a newly established Alderney Breakwater Account (see Section 17).

19.5 The Statement of Principles, adopted by the States of Guernsey in July 1996 (Billet d'Etat XIV, 1996), outlined the States' undertakings "*to facilitate economic activities which make best use of available resources to create wealth for the community*" and "*to secure the maintenance of the environment of the Island.*" For the purposes of the Report, which includes the Statement of Principles, 'the community of Guernsey' to which that Statement refers, "*is generally taken to be those who are legally, ordinarily resident in the Island and members of their household. Its application to others, including residents of Alderney and Sark, is determined by appropriate legislation or resolution of the States.*" In regard to the Alderney Breakwater and to the Board's preferred option of works to ensure the continued viability of Alderney harbour, those undertakings reiterated above could be considered to apply to the Alderney economy and community in the light of the agreement with the United Kingdom regarding responsibility for the Breakwater and the subsequent Resolutions of the States' in November 1999 concerning the

retention of the Breakwater or “*any alternative arrangements which will secure, as far as possible, the continued provision of at least the current level of harbour facilities, such arrangements to ensure that the best value is obtained having regard to the economic impact of the proposals on both Alderney and Guernsey.*”

19.6 The Board has submitted its proposals for the remediation of the Breakwater for analysis using the Economic Model developed by the Board of Industry to measure supply and demand in the construction industry as a basis for forward planning. The analysis has concluded that the “*Alderney Breakwater project can be considered in isolation from Guernsey’s construction industry. It is not expected to increase the pressures overheating the construction industry in the years 2003 to 2005; neither will it have any benefit in stimulating the Island’s construction industry in the forecast deficit years following 2006*”.

19.7 The Board is firmly of the view that the provision of continuing protection to Alderney Harbour for the foreseeable future and the provision of potential for future development and enhancement of the Harbour to meet potential usage demands and generate additional revenue are of vital importance and are consistent with the Island’s strategic objectives.

Impact on the environment

19.8 Works to ensure the continued viability of Alderney’s harbour (either through remediation works to a portion of the Breakwater or through the continuation of a maintenance-only programme) would have a minimal impact on the environment of Alderney, as they would primarily occur immediately adjacent to the existing structure and mostly below the waterline. Alderney Harbour and Braye Bay benefit from the shelter of the existing artificial breakwater structure and would continue to benefit from certain levels of shelter either with the continuation of a maintenance-only programme or following construction works associated with Pihl Options 3 and 5. If the option of a strengthened, truncated length of Breakwater plus an associated spur were to be constructed, the shelter would be more complete than at present as the area would be protected from two directions.

19.9 Further, if no action were taken in regard to the Breakwater in the future (either the maintenance-only option or construction works with maintenance thereafter) then there would be an increased wave action and storm impact potential in Alderney Harbour and in Braye Bay with resultant damage to the Harbour and erosion of the more friable material on the shoreline of Braye Bay.

19.10 There would be an impact on the immediate area surrounding the Harbour/Breakwater during any requisite construction phase (for Pihl Options 3 and 5) consisting of noise, dust and other such standard impacts. However, it is intended to reduce such impacts to a minimum level wherever feasible.

20. Financial Implications

20.1 If the maintenance-only option were to be considered, the total costs could be in the order of over £100million for a 50 year period. If Pihl Option 3 were to be

approved, the total capital costs would be in the order of £29,184,495 (including an estimate for coastal defence works to Braye Bay). The estimated total maintenance cost over a 50 year period is £2million at 2002 price levels. If Pihl Option 5 were to be approved, the total capital costs would be in the order of £25,868,967 (which includes an estimate of £4,000,000 for a marina which would be required from the outset due to the removal of all existing moorings and coastal defence works to Braye Bay). The estimated total maintenance cost over a 50 year period is £1.5million at 2002 price levels. All of the costs detailed in this section would include the costs incurred for consultants and site investigations carried out to date and those required during the detailed design and construction phases of the project. The costs for the construction of Pihl Option 3 and Pihl Option 5 also include an allowance for currency fluctuation, design risk, enhanced modelling and a contingency sum. As previously stated, in Section 15, there are also costs associated with works to make the Commercial Quay structurally sound (estimated at £3,300,000 subject to design and competitive tendering) and, for Pihl Option 3, for the future provision of a marina.

20.2 The Board considers that the sum of £32,484,495 is the absolute maximum that it should cost for all the elements required to enable the continued commercial viability of Alderney's harbour, through works to the Breakwater and the Commercial Quay. If the States of Guernsey was to approve Pihl Option 3, and the States of Alderney were to decide at any time in the future that it wished to arrange the construction of a marina, at its cost, the sum would increase to an estimated total of £36,484,495.

20.3 The Board intends that the costs of the project shall be charged to the proposed Alderney Breakwater Account (see Paragraph 17.5).

20.4 The Board also intends to request the States of Alderney to establish an Alderney Harbour trading account (see Paragraph 15.8)

21. Ownership of Land

21.1 The Board is aware that the proposed construction of a spur will be on land owned by the States of Alderney. In view of the scale of capital investment proposed, the Board considers that the States of Guernsey should have complete control of all aspects of the Breakwater and spur. Accordingly, the Board, proposes to request the States of Alderney to agree that, once the precise location and dimensions of the spur have been determined, ownership of the area of land on which the spur is to be built shall be transferred to the control of the States of Guernsey.

22. Consultation with the States of Alderney Policy and Finance Committee

22.1 The Board has welcomed the close working relationship with the Alderney Policy and Finance Committee during each stage leading to this Report. This has proved to have been particularly effective in the Breakwater Panel (see Paragraph 3.2) and in the tri-partite meetings, in which Members and staff of the Advisory and Finance Committee also participated.

22.2 On 18 June 2003, the Board forwarded a near final draft of this Report to the Chairman of the Alderney Policy and Finance Committee inviting formal comments on the proposals. The Board acknowledges that, unfortunately, it was not possible to allow a longer period of time for this stage and is grateful to that Committee for its prompt reply, dated 23 June 2003, which is included in this Report at Appendix VIII.

22.3 The Board is pleased to note the assurances provided by the Alderney Policy and Finance Committee as regards the proposed review of the operation of the Alderney harbour and agrees that, *“the detailed financial issues ... can only be worked out through close liaison between the States of Alderney and the Advisory and Finance Committee.”*

22.4 In particular, the Board welcomes and endorses the final paragraphs in the Committee’s letter where the Chairman states:

“In summary, the Policy and Finance Committee supports the recommendations of the Board of Administration, and can give assurances that it will work with the Advisory and Finance Committee and other parties to ensure that Alderney harbour is run on a commercial basis, the necessary works to the Commercial Quay are progressed, to explore further the opportunities for a commercially viable marina facility and to seek to make an appropriate contribution towards the return on capital costs of the major works to the Commercial Quay.

It is hoped that the States of Deliberation will support the Pihl 3 proposal, which the Committee believes to represent the best compromise solution, and one that will derive the greatest benefit to the Bailiwick in the medium to long-term.”

23. Conclusions

23.1 Options in regard to Alderney’s Harbour and the Breakwater adjacent thereto have been under consideration for a number of years, with particular references having been made to the implementation of a pro-active capital project rather than the existing reactive maintenance and repair works. The Harbour is of vital importance to the continuing viability of Alderney. The Breakwater is recognised as providing protection to the harbour at this time but full-length remediation works are not considered to offer the best outcome or the best value in respect of the continuing feasibility of the harbour. The Board recommends that an option be pursued that would provide the Bailiwick of Guernsey with the opportunity to safeguard the future of the harbour by means of a best value technical option, offering additional operational and commercial benefits.

23.2 The Board wishes to give scope for Alderney to develop facilities for the further benefit of the Island's economy and population in the future. Additionally, it is fully satisfied that it does not contravene the requirements of the States of Guernsey's agreement with the United Kingdom as regards responsibility for the Breakwater being an element of the Islands' annual contribution towards the costs of defence and international representation.

23.3 It is for the reasons outlined above, that the Board of Administration recommends that Pihl Option 3, to ensure the continued viability of Alderney Harbour, be approved by the States. This position is supported by the Alderney Policy and Finance Committee. The Board considers that that it is neither necessary, nor financially feasible, nor obligatory, for it to maintain the Breakwater in its present form.

23.4 The Board of Administration only recommends the 'Pihl Option 3' scheme subject to assurances from the States of Alderney to ensure that appropriate works are carried out to refurbish the Commercial Quay and for the future provision of a marina (by private funding, in whole or in part, if necessary). The Board asks that Alderney's harbour charges be reviewed to ensure that a reasonable contribution is made by Alderney to the repayment of capital costs incurred for the works to the Commercial Quay and the marina, if commercially justified. Further, the Board requests that the States of Alderney, in consultation with the Advisory and Finance Committee, reviews the operation of Alderney harbour so that it is put on a more commercial basis and that a trading account be established for its capital and revenue operations.

24. Recommendations

The States Board of Administration, therefore, recommends the States:

1. subject to the receipt of the requested assurances from the States of Alderney with regard to the operation of, and accounting for, the facilities within the Alderney harbour, to agree to works to Alderney Breakwater along the lines of Pihl Option 3 (subject to any post-contract modelling and design refinement), as set out in this Report, at a total cost, including a contingency allowance of 10% plus pre-contract and post-contract consultants' fees and site investigations, not exceeding £29,084,495;
2. to request the States of Alderney, in consultation with the Advisory and Finance Committee, to review the operation of Alderney harbour so that it is put on a more commercial basis and to establish a trading account for its capital and revenue operations;
3. to agree the establishment of the Alderney Breakwater Account, as set out in this Report;
4. to authorise the Board of Administration to accept a negotiated tender in a sum not exceeding £25,113,177 from E Pihl & Søn A.S. for the

remediation of the Breakwater along the lines of Pihl Option 3, as set out in this Report, subject to the satisfactory finalisation of details for design, construction methodology and contractual arrangements, which matters shall also be subject to the approval of the Advisory and Finance Committee;

5. to authorise the States Board of Administration to appoint suitable consultants for the supervision of the project at a cost not exceeding £750,000, subject to the approval of the Advisory and Finance Committee;
6. to recover pre-contract consultants' fees and site investigation costs totalling £710,000, as set out in this Report;
7. to agree that the costs of this project shall be charged to the Alderney Breakwater Account.

I should be grateful if you would lay this matter before the States, together with appropriate propositions.

Yours faithfully

R C Berry OBE
President
Board of Administration

APPENDIX I

CORRESPONDENCE RELATING TO THE STATES OF GUERNSEY'S RESPONSIBILITIES IN RESPECT OF ALDERNEY BREAKWATER

Copies of the following correspondence are attached for ease of reference:

Letter, dated 20 December 1996, from the Advisory and Finance Committee to the President of the States of Alderney

Letter, dated 01 February 1985, from the Home Office to the President of the States of Alderney



STATES OF GUERNSEY
**ADVISORY
& FINANCE
COMMITTEE**

The President
The States of Alderney
Queen Elizabeth II Street
Alderney
GY9 3AA

Sir Charles Frossard House
P.O. Box 43 · La Charroterie
St. Peter Port · Guernsey
GY1 1FH · Channel Islands
Switchboard (01481) 717000
Direct Line (01481) 717
Fax No. (01481) 712520

20 December, 1996

Dear

The President of the States Board of Administration has copied to me a letter to him from the Chairman of the Alderney Transport Committee dated 2 September 1996 concerning the future of the Alderney Breakwater.

In his letter the Chairman wrote:

'My Committee have had considerable debate on the future of Alderney Breakwater and the various proposals that have been made by your Board for its future treatment. The various reports from Wallingford have also been noted.

At its last meeting, my Committee were unanimous that, in view of the various problems that will arise in Braye Bay in general, from the shortening of the Breakwater, they require the Board to abide by the Resolution made at the States of Guernsey and Alderney in 1987 that "the States of Guernsey would seek to place themselves in the same position as HM Government and continue the maintenance and repair of the Breakwater as it exists to present standards".

The purpose of my letter is to clarify what appears to be a misunderstanding of the position established in 1987.

The Committee has been advised by the Law Officers that the legal position regarding the Alderney Breakwater is as follows:

1. The Breakwater is the property of the States of Guernsey having been vested in them by Order in Council;
2. The States of Guernsey have never resolved that they would continue maintenance and repair of the Breakwater to 1987 standards;
3. Since 1 April 1987 the States of Guernsey have assumed responsibility for the repair, maintenance and management of the Breakwater.

Firstly, I should clarify the position regarding the Resolution of the States of Guernsey in regard to the Breakwater. The Resolution made on 25th March, 1987 regarding the Breakwater is in the following terms:

"To inform the Secretary of State for the Home Department that the States of Guernsey are willing to assume responsibility for HM Breakwater in Alderney from 1st April, 1987."

The Chairman of the Transport Committee is in fact referring to the letter dated 29 January, 1987 from my predecessor to your predecessor which contains the following paragraph:

"In informing the Secretary of State of the willingness of the States of Guernsey to assume responsibility for HM Breakwater in Alderney it was clearly in mind that the States of Guernsey would seek to place themselves in the same position as HM Government and continue the maintenance and repair of the Breakwater as it exists to present standards."

The first part of that sentence is clear. My predecessor was simply stating that Guernsey proposed to step into the shoes left vacant by HM Government. In 1948 HM Government had advised Alderney that it would "retain responsibility for the Breakwater though they cannot bind their successors in perpetuity". Similarly, the States of Guernsey would not be bound in perpetuity.

The second part, to "continue the maintenance and repair of the Breakwater as it exists to present standards" was, in retrospect a somewhat ambiguous statement. In his policy letter my predecessor wrote that "a realistic estimate of the annual cost of maintaining the Breakwater is extremely difficult in view of the nature of the structure and the unpredictability of storm damage". When the two statements are taken together it is clear that they cannot be read as being consistent with an obligation upon Guernsey and Alderney taxpayers to meet unquantified, and indeed unquantifiable, future repairs.

An assumption of responsibility for repair, maintenance and management certainly cannot be interpreted as an irrevocable obligation to keep the Breakwater, for ever, irrespective of the Bailiwick's financial circumstances or the Breakwater's condition, in the same state as it was in 1987.

As indicated above Alderney was on notice in 1948 that they could not expect the Breakwater to be maintained to any particular historical structural condition, or at all, in perpetuity. This fact was restated in an Alderney Billet d'État in 1978. It is an established constitutional principle that a Parliament cannot bind its successors. This, of course, applies equally in the United Kingdom, Guernsey and Alderney.

I have written at some length in the hope that this letter will assist in future discussions which will no doubt take place between the Board of Administration and the Transport Committee. It might also be appropriate to include the Breakwater on the agenda of the next Joint Alderney/Guernsey Consultative Council.

Yours sincerely

P J H Morgan
President
Advisory and Finance Committee



HOME OFFICE

Queen Anne's Gate, LONDON, SW1H 9AT

Direct line: 01-213 3466

Switchboard: 01-213 3000

Our reference:

Your reference:

J Kay-Mouat Esq
The President's Chambers
States Building
ALDERNEY
Channel Islands

1 February 1985

Dear Jon,

I am afraid I have to press you in respect of the breakwater. I have received a letter from Cruttenden, PSA, who reports that last year they were not able to complete all the breakdown maintenance on either the sea wall or the roadway, that they were unable to execute any preventive maintenance on the sea wall to prevent the formation of cavities and they were unable to close a major cavity at Section 40. This cavity poses the threat of major failure, local collapse or a breach.

The options he presents are a much bigger, more complex and costly maintenance programme, a disaster with a request for a massive injection of funds, or shortening the breakwater.

The current maintenance programme is running at some £600,000 a year and we now find that we are in an untenable position in seeking this amount. It follows that the more costly programme judged necessary by Cruttenden is not a starter. Equally, should a disaster occur, I fear that you would not be able to look to us with confidence for money to remedy the situation.

To complete the bad news, I am being pressed to take steps to withdraw UK financing for the breakwater and to run down our contribution over the next few years by seeking progressive significant increases in the Alderney contribution.

In these circumstances, I think there is little option but to shorten the breakwater. Further delay could mean a disaster - if Cruttenden is correct, but he has no axe to grind - and you could then be in dire straits. Shortening would also strengthen the Home Office position in trying to help you, bearing in mind your financial position. Shortening itself will involve capital expenditure, followed by continued maintenance of the near section and it is necessary to show at the very least that we have taken positive steps with you to contain expenditure.

As I have mentioned previously, I fear we have no chance of finding

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- 2 -

money for a stub arm and arguments that this would be justified to protect some yacht moorings cannot stand up in the face of the finance involved.

I am sorry to have to write in these terms but I am sure you appreciate that the situation is now becoming urgent.

With kind regards,

Yours ever,



S S BAMPTON

APPENDIX II

ANNUAL MAINTENANCE EXPENDITURE

Alderney Breakwater – Board of Administration Costs

Year	Actual Gross	<i>less</i> Alderney Contribution	<i>less</i> Other Recoveries	Nett Cost	Capital Equipment
	£	£	£	£	£
1987	450,561	(15,000)	0	435,561	0
1988	528,561	(15,000)	0	513,561	119,630
1989	580,623	(15,000)	0	565,623	30,281
1990	1,155,560	(15,000)	0	1,140,560	9,936
1991	476,429	(15,000)	(175,247) *	286,182	0
1992	444,469	(15,000)	0	429,469	0
1993	501,451	(15,000)	0	486,451	7,444
1994	417,269	(15,000)	0	402,269	0
1995	437,262	(15,000)	(836)	421,426	18,850
1996	497,718	(15,000)	(963)	481,755	36,336
1997	472,074	(15,000)	0	457,074	0
1998	422,456	(15,000)	0	407,456	0
1999	402,725	(15,000)	0	387,725	16,920
2000	412,386	(15,000)	(560)	396,826	0
2001	413,287	(15,000)	0	398,287	0
2002	406,883	(15,000)	(145)	391,738	0
Totals	8,019,714	(240,000)	(177,751)	7,601,963	239,397

* Other recoveries in 1991 included insurance claim payment of £174,595

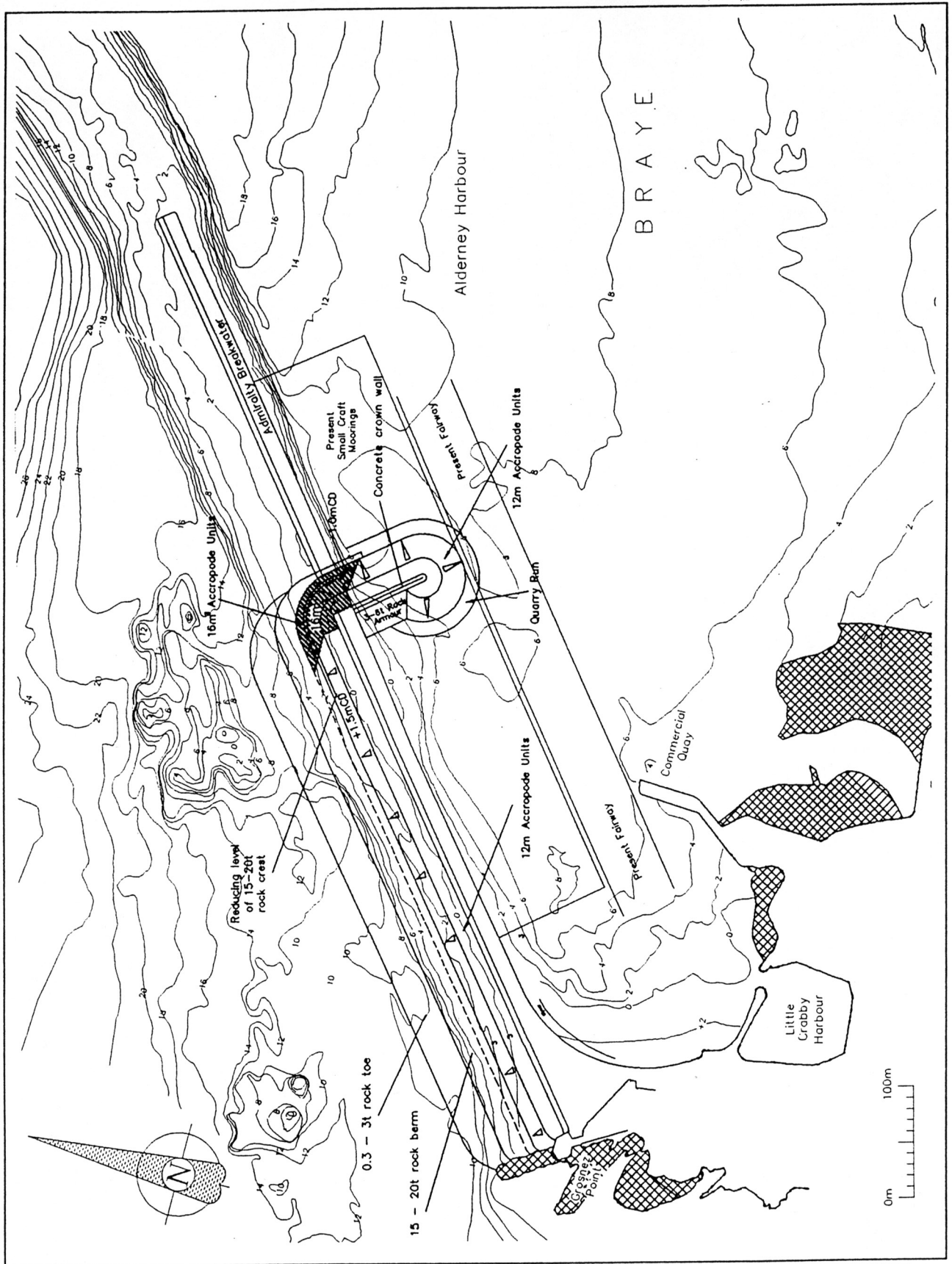
Source: Annual Accounts - Billets d'Etat

APPENDIX III

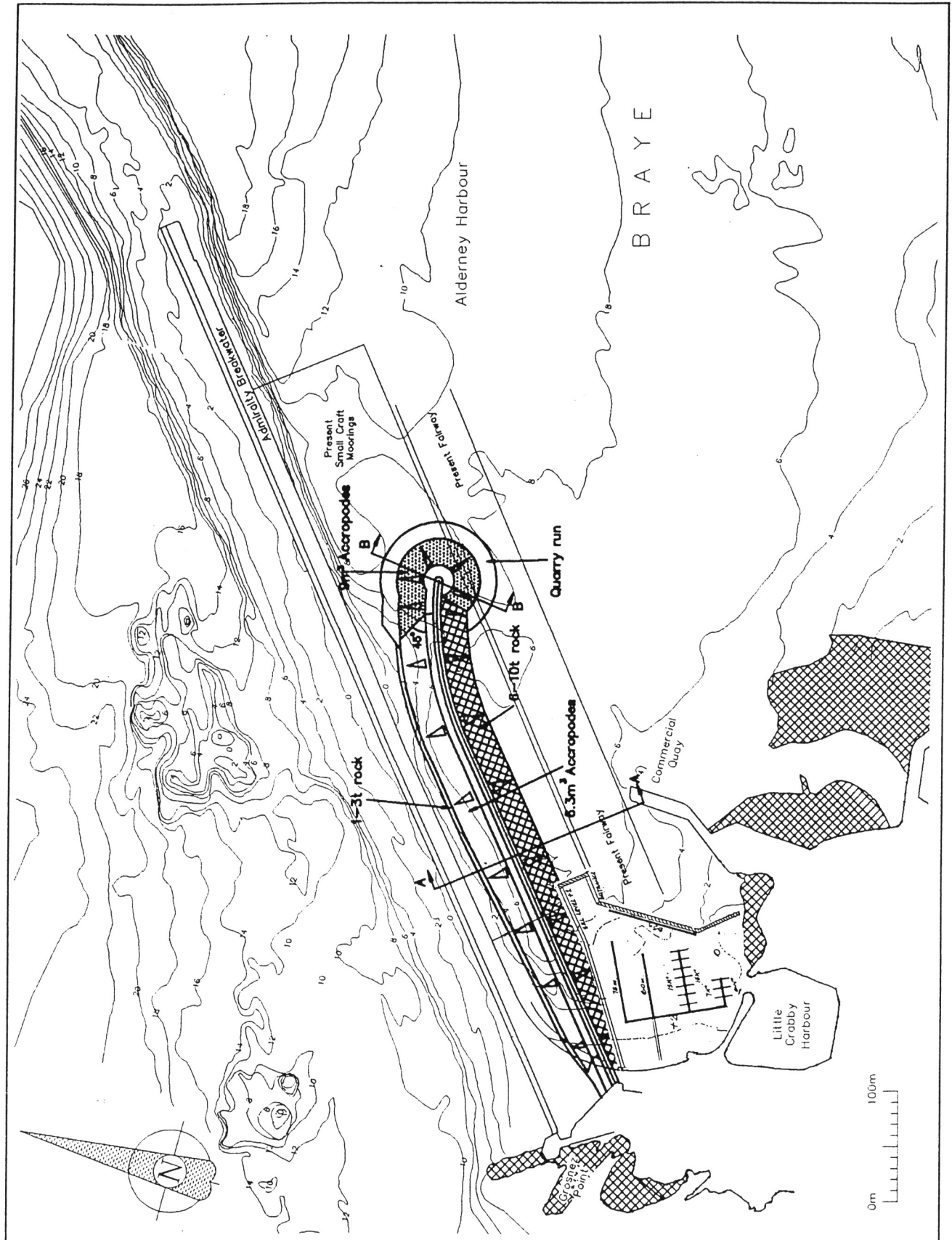
TWO OF THE OPTIONS IDENTIFIED IN THE BOARD OF ADMINISTRATION'S REPORT, 'LONG TERM STRATEGY FOR ALDERNEY BREAKWATER' (BILLET D'ETAT X, 1997)

Diagram of Option A – Armouring shortened length of breakwater and constructing new spur and marina

Diagram of Option B – Abandon existing breakwater and construct new breakwater and marina – Preferred Option



LONG TERM STRATEGY FOR ALDERNEY BREAKWATER
FIGURE 1 - 'OPTION A' - GENERAL LAYOUT



LONG TERM STRATEGY FOR ALDERNEY BREAKWATER
FIGURE 2 - 'OPTION B' - GENERAL LAYOUT

PREFERRED OPTION

APPENDIX IV

‘ALDERNEY BREAKWATER REMEDIATION – TENDER EVALUATION REPORT’

Executive Summary of the ‘Alderney Breakwater Remediation – Tender Evaluation Report’, dated 18 March 2003

The ‘Alderney Breakwater Remediation – Tender Evaluation Report’ was prepared by the Advisory and Finance Committee’s engineering consultant, Babbie Group Limited, in accordance with the States’ Resolutions of 25 November 1999.

NB The full Report has been deposited at the Greffe for the information of Members of the States.

States of Guernsey Advisory & Finance Committee Alderney Breakwater Remediation

Tender Evaluation Report

Executive Summary

This report reflects the findings of an evaluation exercise carried out by Babbie Group Ltd and is presented to inform the Breakwater Panel of that received and Babbie Group's view of it.

The report reviews submissions received from Contractors invited to tender for remediation works at Alderney's Admiralty Breakwater. The review and evaluation process has to be considered within the context of the invitation to tender and as such it must be recalled that the nature of the works was not prescribed and therefore the submissions differ not only in cost but also in technical approach and detail; there was no preferred or benchmark design presented to the Tenderers.

Design responsibility lies with the Tenderers in this Design and Construct project. Any review of the various proposals should recognise this and, in making comparisons between offers, determine what relative levels of risk attach to the Client.

In terms of the technical proposals presented by the Tenderers, it must be stressed that what is reviewed here is a Tender Design. The proposals, their validation and completeness are subject to the time and cost constraints of the Tender period. Development of any proposal is essential in the post-award Detail Design phase of any Design and Construct project and this project is no different in that regard. In such conditions, the role of the review and evaluation process may be viewed as one that seeks to establish whether a proposal is reasonably capable of credibly being developed into an arrangement that adequately addresses the aims of the project, and that it can be so developed without undue risk to the Client. Clearly, the focus should be on the longer view, to the construction proposals and possible out-turn cost, rather than a superficial comparison of technical proposals and apparent costs contained within the initial Tender submission.

Thus, what has been presented to date by the Tenderers are not their final proposals for the Works; the maturing of the offer deemed most attractive has yet to be embarked upon. The process of advancing the current Tender Design to that to be constructed would be the subject of considerable design development, including further more rigorous mathematical and physical modelling. Significantly, it should be borne in mind that any proposals for construction must, under the Contract, be subject to both independent checking and Client approval.

All four Contractors invited to tender for the Alderney Breakwater Remediation project submitted offers to the States of Guernsey for the execution of works at the breakwater. The various offers presented are discussed and evaluated here. Although the invitation to tender did not expressly seek capital works as the means of remediation of the breakwater, all offers received were indeed of this form.

It had previously been speculated that a maintenance-only proposal might be suggested, as it had (in speculative terms) been in the past. Notwithstanding that no such proposal was offered by any of the

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Tender Evaluation Report

tenderers, and albeit it would be difficult to demonstrate that the shortfalls of the existing structure could be addressed by such an approach, this report has been expanded to consider the global issues surrounding a postulated funding of a maintenance proposal. This has shown that the longevity of such a fund can be acutely sensitive to issues that are outwith the control of the funder and that, furthermore, the residual life of the existing breakwater may be highly questionable at the exhaustion of the fund, irrespective of whether that matches the design life expectations of the alternative Capital Works solutions proposed by the tenderers.

Two of the Tenderers prepared single options; one Tenderer offered two options. The other Tenderer offered eight options, albeit they all shared the same design concept but offered different degrees of protection. Thus a total of twelve options were presented for consideration.

The submissions generally showed that much effort had been expended by the Tenderers in formulating their proposals and in presenting them in considerable detail within their submissions. As might be anticipated, some offers were more rigorously prepared than others. Where the approach had been logical and thorough there was enhanced confidence in the ability to deliver this challenging project. Conversely, there were instances where offers were less clearly developed and were therefore considered to attract greater risk.

The technical evaluation process has awarded good marks to proposals that were accompanied by appropriate levels of justification/validation, but has appropriately down-graded offers where such attributes were deemed to be unduly lacking or other aspects of the technical proposal were considered to be deficient (while recognising that detailed design has yet to be undertaken).

The commercial evaluation has centred on the tender sums offered by the Tenderers, augmented by consideration of possible maintenance commitments over the design life of the project, included by the use of present value estimates as described in the agreed evaluation procedure. Also, where appropriate, the costs of works not directly attributed to the breakwater remediation, but nevertheless considered essential to an equitable through-life comparison between offers, have been recognised. Further, some consideration has also been given to the risk of price increases due to possible upward fluctuations in price indices in the case where a Tenderer has indicated that price fluctuation would be applied to their advised Tender Sum.

Albeit the Design and Construct format of the project might suggest that Tenderers would offer to carry out their proposals for a fixed or lump sum, it is noted through discussion with the Tenderers that their willingness to secure their Tender Sum as being effectively fixed varies from Tenderer to Tenderer. It is also stressed that the concept of Lump Sum should be recognised as being relevant only within the context of that which forms the contract and as such is sensitive to what unfolds on the project after Award.

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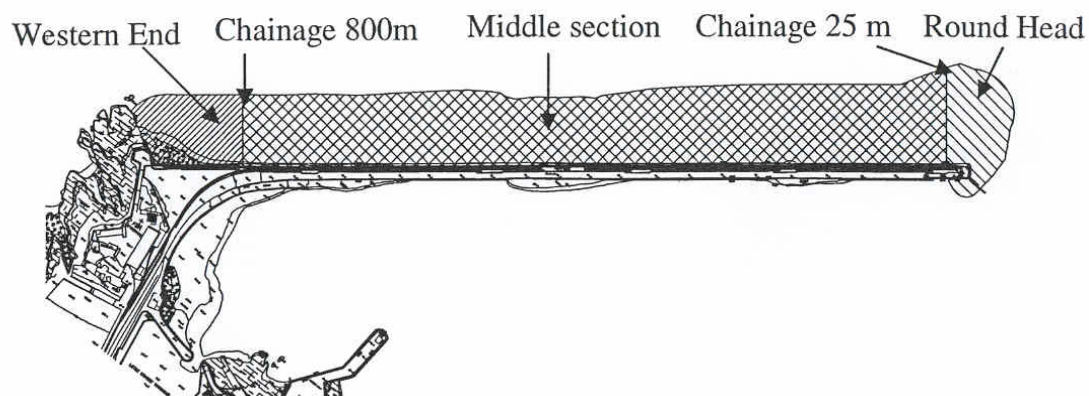
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Babtie Group's initial evaluation of the tenders received concluded that offers made by two of the Tenderers were less developed and intrinsically less appealing than those from the remaining two.

For technical, commercial and associated risk reasons it has been recommended that the offers received from Besix and from Mowlem not be considered further. The offers made by E Pihl & Søn and by Van Oord ACZ are considered to be superior and more mature. Married with the fact that the Pihl and Van Oord offers are also more financially attractive, the case for rejecting the others is convincing.

Further Examination of Offers from Pihl and Van Oord:

Pihl's offer represents rock armour protection to the entire length of the existing breakwater and as such has many attributes that would recommend it.



Schematic Layout of Pihl Proposal for Full-length Protection

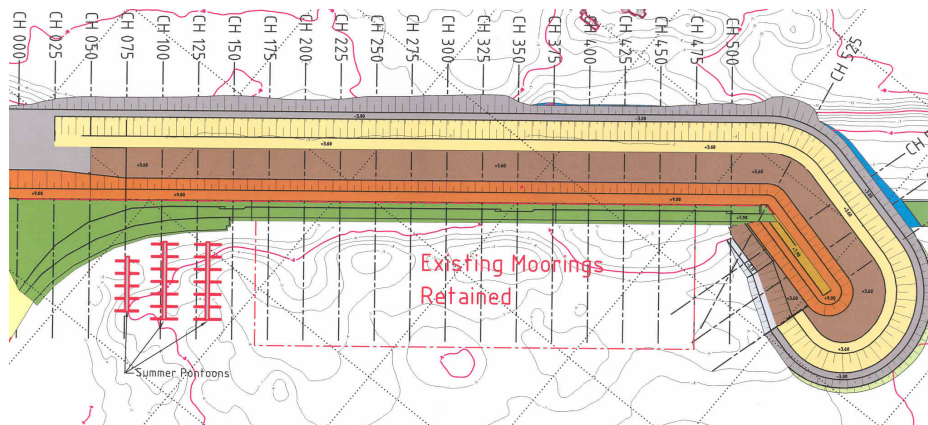
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Alderney Breakwater Remediation

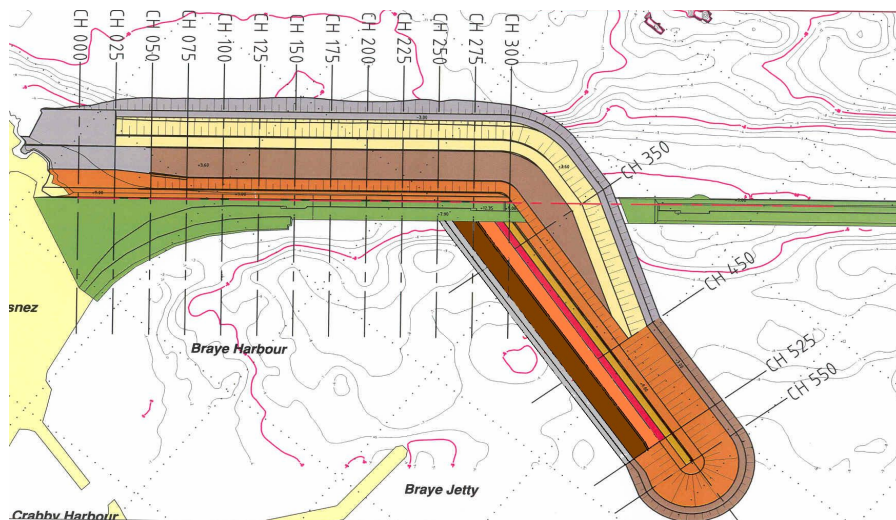
Tender Evaluation Report

Van Oord offer a well developed alternative that retains only part of the existing structure (coined the 'Hockey Stick' option) but nevertheless present a case for abandoning a sizable portion of the superstructure.



Schematic Layout of Van Oord "Hockey Stick" Proposal

A second offer from Van Oord (the 'Boomerang' option) is somewhat of a hybrid, having a substantial portion within the existing harbour and so more specifically protects the inner harbour at the expense of the outer harbour and Braye Bay.



Schematic Layout of Van Oord "Boomerang" Proposal

The Boomerang offer carries substantial risk with respect to its acceptability, technical performance and indeed its cost. It represents the lowest tender sum received but there is a clear rider from the Tenderer that the price is indicative only. The initial evaluation suggested that the Boomerang option

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be placed in abeyance at that juncture on the basis of the uncertainty (technical, commercial, navigational, political) attached to it. It remains our view that the Boomerang would be too radical a change in the harbour protection and would have serious implications on the operation of the harbour and on navigation to and from it. Notwithstanding these concerns, the lack of development of the Boomerang within the offer made by the Tenderer does in itself render it unreliable for realistic comparison with others.

The above interrogation therefore left the Pihl rock armour proposal and the Van Oord Hockey Stick (composite use of rock and concrete cubes) as the remaining contenders.

The principal areas of difference between these two offers are discussed below but may be summarised as follows:

E. Pihl & Søn A.S.	Van Oord ACZ
Full-length retention of existing breakwater	Part length (~60%) retention of existing breakwater
No marina required	Protected marina is essential
Braye Bay unaffected	Braye Bay shoreline ultimately affected by erosion
Core price “fixed”	Core price subject to “fluctuation”
Construction by combination of marine plant and land-based methods	Construction by marine plant

Comparison of Pihl and Van Oord Offers: Financial Aspects

The submitted core tender sums for these two offers are extremely close:

	Pihl	Van Oord	Difference (£)	Difference (%)
“Core” Tender Sum:	£23.990 M	£24.183 M	£0.193 M	<1%

The Tenderers each presented a payment schedule associated with their Tender Sums. This allowed an Effective Tender Sum to be calculated for each, using the concept of present value; allowing the development of a more equitable comparison of lifetime financial commitment. The Effective Tender Sum is therefore the sum that would need to be invested now, in order to meet the advised payment

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schedule over the design and construction phases of the project, based on assumed (but reasonably credible) interest rates.

	Pihl	Van Oord	Difference (£)	Difference (%)
Effective Tender Sum:	£21.546 M	£21.555 M	£0.009 M	<1%

Superficially, the similarity of these sums may suggest that the commercial scores would be too close to have a defining influence on the overall ranking. However, further interrogation of the details of the offers reveals a significant divergence in the effective costs, and hence attractiveness, of the offers.

The Effective Tender Sums presented above ignore the cost of maintenance provision, price escalation, and the cost of any ancillary works considered essential to the feasibility of the proposals.

Pihl have confirmed that their Tender Sum is effectively held provided Award is timed to allow the projected construction seasons of 2004 and 2005 to be realised. Van Oord, on the other hand, have advised that their offer would be subject to price fluctuation throughout, with them citing variations in plant, labour and fuel charges as elements that would require to be considered over the duration of the project.

Further financial variation between the two offers is established when an 'optional' marina, globally priced by Van Oord, is necessarily included. Van Oord's proposal to abandon the outer third of the existing breakwater is considered to render the provision of such a marina to be a necessity, rather than an option as supposed in the offer. The cost of a marina therefore has to be added to the Van Oord Tender Sum in order that the two offers can be considered to deliver the lifetime requirements of the project. The Pihl proposal does not prejudice the existing moorings and therefore does not necessitate the provision of a marina.

Similarly, the eventual loss of the outer third of the existing breakwater in the Van Oord proposal would, unavoidably, have an effect on conditions in Braye Bay to the extent that not only will some moorings there be in jeopardy but so too will the competence of the shoreline in portions of the Bay; a situation that will through time need to be addressed and that should therefore be recognised as a cost associated with the truncation of the breakwater.

	Pihl	Van Oord	Difference (£)	Difference (%)
Effective Tender Sum:	£22.716 M	£25.585 M	£2.869 M	13%

The Effective Tender Sums above are the sums that would need to be invested now in order to meet the design and construction payment schedule and the lifetime maintenance estimates. In the case of the Van Oord offer it also includes the cost of Summer-only pontoons, as suggested within the Van Oord submission, together with an allowance for increases due to the application of a price fluctuation condition in the Van Oord offer.

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However, while the comparisons above are largely based on the costs suggested within the Tender submissions, there is also a need to consider the adequacy of that proposed.

It has been concluded that the viability of the Van Oord proposal is not supported by Van Oord's option for Summer-only pontoons.

The current mooring provision is understood to be 114 Summer moorings (some of which can double-up in calm weather). This reduces to just 22 in Winter. It would be anticipated that this Winter quota could still be accommodated with a shortened breakwater. However, the larger Summer demand could not be met as there would be insufficient room to relocate the current Summer moorings within the protection of a shortened breakwater. A truncated breakwater places protected space at a premium, and as a result the replication of the current swing-mooring arrangement would be impracticable. The denser packing achievable through the use of pontoons or a marina has therefore been suggested.

Although this alternative mooring arrangement would allow the current Summer quota to be accommodated, the vessels and the marina pontoons would continue to be exposed to storm conditions, particularly from the North East. In this regard it should be noted that significant storms are not restricted to Winter; they do occur in Summer. The marina could not, practically, be removed ahead of each storm. Therefore a truncated breakwater without an adequately protected marina is considered untenable at any time of year.

Thus any marina facility would need additional protection against wave penetration. A wave wall or screen would have to offer protection to the full Summer quota of vessels. In so doing, the marina would also (by default) offer a year-round haven. This sizeable, year-round mooring facility would clearly represent a significant improvement on the existing situation.

Marina berths would tend to command a higher income than swing moorings and the improved mooring provision for over-wintering could also prove advantageous in attracting users. This aspect of the provision of a marina is a significant consideration when contemplating the overall development of facilities at Alderney.

The discussion presented above has demonstrated that in augmenting the Van Oord proposals to the extent that they meet the minimum requirements, it is likely that the resulting arrangement would by default exceed these and offer significant operational advantages. However, a similar augmentation of the Pihl proposal would offer similar advantages, while at the same time retaining the full length of the existing breakwater. Retention of the full length of the existing breakwater would of course offer the option for the marina to be procured as a later development, thus limiting the funding required to address the issues surrounding the breakwater while still retaining the potential of the larger protected area.

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Notwithstanding the apparent desirability of the provision of marina facilities, this Tender Evaluation is primarily concerned with remediation of the Admiralty Breakwater within a context that does not specifically seek such a provision. As such, the financial comparisons made here relate to that required for the remediation of the breakwater, augmented only by that considered necessary to render that remediation viable. Thus, as discussed above, a (150 berth) marina is seen as an essential addition to the Van Oord breakwater remediation scheme, in order to compensate for the loss of moorings attendant upon abandonment of the outer length of the breakwater. Adequate local wave protection to such a marina is considered to represent considerable additional cost. This has been included here on the basis of a £3.0M addition for this, which is broadly in line with cost estimates for such a structure in previous proposals for the harbour. In Pihl's breakwater remediation proposals the existing moorings are unaffected and therefore the proposal is viable without the provision of a marina. Pihl's costs are therefore unchanged. The revised comparison of Effective Tender Sums therefore becomes:

	Pihl	Van Oord	Difference (£)	Difference (%)
Effective Tender Sum:	£22.716 M	£28.585 M	£5.869 M	26%

Although this in itself reflects a substantial increase in the costs associated with adoption of the Van Oord proposal, a further increase may be anticipated when it is recognised that the marina provision covered by the sums above may still be insufficient as it does not necessarily recognise that the current level of mooring provision also has significant potential for future growth, and that this potential should not be prejudiced by the provision of only a limited marina. This suggests a larger (say, 250 berth) and therefore more expensive marina and protective screen wall; this has been suggested by a further £2.0M addition in the comparison presented below:

	Pihl	Van Oord	Difference (£)	Difference (%)
Effective Tender Sum:	£22.716 M	£30.585 M	£7.869 M	35%

The development of the effective sums presented above has necessitated the inclusion of items that are additional to Van Oord's core offer. These have been deemed essential to the viability of the Van Oord proposal and therefore their associated costs are essential to an equitable financial comparison with the Pihl offer. Neither sum has been inflated to allow for a degree of contingency. Adding a contingency of (say) 10% to these figures yields the following comparison, which may be considered a reasonable representation of the relative investment commitment attendant upon the Pihl and Van Oord offers:

	Pihl	Van Oord	Difference (£)	Difference (%)
Effective Tender Sum:	£24.988 M	£33.643 M	£8.655 M	35%

The considerations described above therefore create a significant element of distance between the two financial offers. Recognition of the elements "missing" from the core offer made by Van Oord has

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rendered that offer less attractive. Consequently, the Pihl offer is significantly more attractive in financial terms.

Comparison of Pihl and Van Oord Offers: Technical Aspects

Notwithstanding these cost considerations, it is the technical differences between the Pihl and Van Oord offers that represent the area that has subsequently become the principal focus of comparisons.

Albeit the Pihl proposal suggests least interference with the existing breakwater layout and appears to be the more traditional and straightforward treatment on offer, the initial evaluation process identified a need to determine whether the suggested armour size was adequate, and indeed whether the requisite size and quantities of natural material could be procured and placed. Albeit the Design and Construct ethos of the project suggests that these issues are the Tenderer's responsibility, they were pursued with them in order to determine where the associated risks lie. Dialogue with Pihl also targeted the competence of the proposed construction methodology and whether it adequately recognises the environmental conditions that can prevail at the breakwater. The perceived risk that their construction programme could be adversely affected by the suggested methodology, and that the risk of prolongation may not have been fully defined or allocated, was also examined. Thus a number of features prevented the Pihl offer from being viewed as fully-compliant at that stage.

Interrogation of the technical competence of the offer has continued since, particularly examining the design concept, coverage of design and survival events, and the construction methodology proposed. Pihl has confirmed their confidence in their proposal, citing a number of previous projects in which they have adopted similar concepts of both design and construction methodology. Clarifications sought from Pihl, reinforced by a meeting with both the Contractor and their Designer (Cowi), have confirmed the reasoning behind the approach taken.

Although originally described as comprising a combination of 'dynamically stable' and 'statically stable' design methodologies, Pihl have since clarified that this referred only to the initial means of arriving at entry-level sizes of armour to be investigated in their flume modelling. They have advised that their design intent is, rather, one that provides a berm breakwater that allows only a limited amount of reshaping, which leads to the development of a 'statically stable' structure, akin to many existing breakwaters (particularly in the Nordic countries). They have stressed that their proposed profile would not be subject to reshaping except under extreme storm conditions and that it would be statically stable under less extreme conditions. Their philosophy accepts such a change in behaviour as being a reasonable approach to the reduced probability of occurrence of the more extreme events. Notwithstanding the threshold of acceptance adopted by Pihl, further modelling would be supervised within a framework that defines such thresholds and acceptance limits with respect to overall performance and potential migration/transportation of armour units, noting that limited excursion of material over the superstructure was experienced in the most extreme conditions tested in the flume.

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The largest rocks proposed by Pihl are sized at 24 tonnes (within a wide grading of 12-24 tonne sizes). This size of rock, together with a construction methodology that is not fully dependent on marine plant is what Pihl claim has given them considerable success in winning and executing many breakwater projects. They have expressed confidence in their ability to deal with the environmental conditions at Alderney, and have underlined that confidence with an undertaking to carry the risk of any changes that are suggested by the detailed design phase. Pihl has confirmed that their offer does embrace a contingency for increasing the size of armour if this is found to be appropriate. They have also confirmed that their ongoing breakwater work gives them a good relationship with the rock suppliers they have identified for this project.

Notwithstanding the conviction of both Pihl and their designer, Cowi, their design approach is different from that of Van Oord. Van Oord have opted for an apparently more robust statically stable berm philosophy, which seeks a higher degree of stability throughout the range of routine, storm and extreme conditions. Consequently, Van Oord's proposal comprises larger material. Such is the size of primary armour proposed (40 tonnes) in the most aggressive portions of the berm that Van Oord have identified concrete armour units as more feasible than rock (albeit they have continued to allude to the possibility of sourcing suitably sized and shaped rock as an alternative).

There is of course a degree of caution to be exercised to avoid too direct an inference being made when comparing Van Oord's 40 tonne concrete cubes to Pihl's smaller rock armour. Constituent structure slopes vary, which has an influence on armour size requirements. Un-reinforced cubes are less dense than rock and are arranged as a single layer. The single layer cubes accommodate wave action in a different manner to the multi-layered rock, both as a protection system and as individual units.

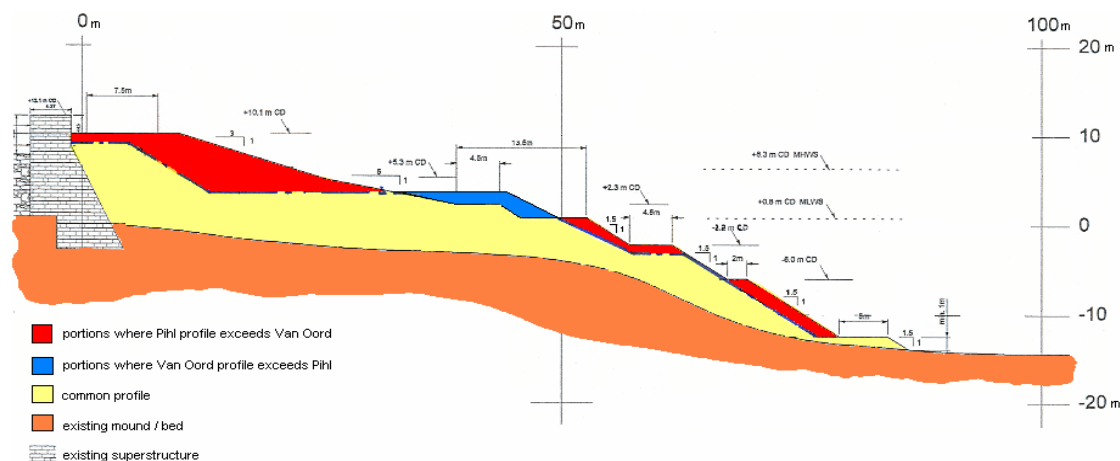
A general profile comparison is illustrated in the schematic figure below, which gives an indication of the relative geometries and quantities involved:

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Comparison of General Profiles

Van Oord's Hockey Stick proposal has been well presented in their submission. Notwithstanding this, there remains the obvious concern that a truncated breakwater has attendant performance and potential socio-political risks. Further, the use of concrete cube units in a single layer is considered relatively novel and notwithstanding that these have been examined in Van Oord's flume tests there remains a risk that their performance and longevity may not be fully demonstrable. It is however noted that there are a number of breakwaters that are protected by such units, including the remediation of an existing breakwater, similar to the aims of this project.

The technical comparisons between the Pihl and Van Oord offers therefore revolve around the adoption of different berm design philosophies, one appearing less assuredly stable than the other but, if it can be established as adequate, offering the opportunity to retain the entire length of the existing breakwater at a lesser cost than the other, that sees a substantial portion of the existing structure lost.

Initial evaluation of the tenders received ranked the Pihl offer marginally ahead of the Van Oord offer. However, it should be noted that the technical scoring that led to this interim ranking was influenced not only by the technical content of the proposals but also by reference to their perceived appropriateness/acceptability within the context of Alderney. Although subsequent presentations of the proposals have not removed the risk that the Van Oord truncation could ultimately prove politically or operationally unacceptable, they have confirmed that truncation may not be unpalatable, and indeed that the spur proposed along with Van Oord's truncation may offer some advantage to the inner reaches of the harbour and the commercial quay.

On the basis of that received in the tender submissions by Pihl and by Van Oord, neither offer was considered to represent a preferred option. This report is therefore expanded to discuss a number of issues that were subsequently raised with the two preferred Tenderers. These queries and points of

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clarification were the subject of a number of iterations of correspondence and also of specific meetings with the Tenderers.

The apparently more robust Van Oord Hockey Stick could ultimately prove unacceptable due to the attendant truncated protection, altered appearance and affect on moorings and other operations. It was further considered that even were such issues to be technically and operationally reconcilable, the acceptability of the proposal could nevertheless still founder for reasons that are neither technical nor financial. Planning, approval and ultimately construction of any Works are recognised as being dependant upon the political and social will to support their implementation. This tender evaluation process can inform the political debate but cannot substitute for it; the ultimate choice has to be dictated by what is practically achievable within the combined constraints of technology, economy and politics. Selection of the Van Oord offer as the sole option to advance to detail design could present a risk of the project potentially stalling before construction could be implemented. Delays in the consent and approval process would be likely to be expensive to the project post-award.

Such acceptability concerns are, at first review, less pressing in the case of the apparently more straightforward layout and less intrusive treatment offered by Pihl. However, some technical concerns relating to the design validation and construction feasibility of the full-length protection offered here are such that confidence in the validity of the proposal would remain incomplete in the absence of the confirmatory testing of the detail design phase of the project. It does nevertheless represent an offer whose relative protection-cost ratio recommends it be seriously considered, reinforced by Pihl's subsequent offer to effectively underwrite the risk to the Client of any changes demanded by the detail design.

Babtie Group's initial findings were presented to the Breakwater Panel and subsequently to political representatives of both Guernsey and Alderney. That exercise was helpful in concluding that aspects of the Van Oord offer that had initially been viewed as potentially insurmountable obstacles to its acceptability to the approving committees might not prove as intractable as previously perceived. Notwithstanding this revised prognosis of the Van Oord proposal's fortunes, the truncated arrangement remains a potentially controversial route to follow, with an attendant potential for opposition and potentially costly delay.

Comparison of Pihl and Van Oord Offers: Summary

It is our opinion at this juncture, through review of that received and that discussed with the two Tenderers, that the Pihl offer is likely to be the contractually more straightforward. Based on their confidence in what they have proposed and on their conviction that they have successfully applied a similar approach elsewhere, Pihl have effectively offered to underwrite any variations that are suggested by the detailed design stage and to hold their price in this respect for the duration of the project, again at their sole risk. Clearly there would be much to gain in terms of project confidence

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from confirming the technical competence of the breakwater head (traditionally seen as the most complex area) as proposed by Pihl. They have proposed some local modelling of the head and adjacent trunk that would be very useful in concluding the debate regarding the efficacy of their reshaped berm proposal. It is interesting to note that in formulating their proposals, Pihl/Cowi have noted that the existing mound has performed remarkably well for 150 years with rock that has a mean size of perhaps 2 tonnes, taking up a profile that suits its environmental loadings. On the basis of such observations Pihl/Cowi are convinced that their proposal to use 12 to 24 tonne primary armour (i.e. perhaps 6 to 12 times the weight of the existing units) should not be viewed as in any way marginal. Pihl have confirmed that there is a contingency within their offer that allows rock sizes to be increased to a degree. Pihl have also advised that it is their intention to select rock units such that the most active zones are armoured with the largest units.

Bearing in mind that the two proposals are somewhat different in their approach, the difference between the two in terms of size of primary armour should not necessarily be viewed as suggesting that only the larger size is adequate. Notwithstanding this, the proposals would be subject to supervised modelling in the detail design stage.

Nonetheless, Van Oord's statically stable berm approach may at this juncture be considered to represent a surer technical solution. However, this view has to be tempered by a degree of uncertainty regarding the need for the apparent level of stability they have targeted, also by the use of single layer cubes and certainly by the possibility that the apparent robustness of that offered has been won at the cost of abandoning a sizable length of the existing breakwater and all that that may entail with respect to mooring, navigation and general acceptability.

Commercially and contractually, Van Oord's offer appears at this stage to be less straightforward, and hence attracts more risk in this respect, than Pihl's. Van Oord have advocated a partnering approach. Although the ethos of such an approach may be laudable, its promotion here appears to coincide with conditions that guard the Tenderer against uncertainties associated with that currently offered, but perhaps has less obvious advantages to the States. Van Oord's offer imposes the risk of price fluctuations; this is despite this Design and Construct contract seeking a Lump Sum approach. Whilst, theoretically, price fluctuation formulae can yield decreases as well as increases, it is difficult to anticipate that plant, labour and fuel cost movements will be downward in the short to medium term, particularly given current concerns regarding oil supply and general price stability attendant upon the ongoing crisis surrounding Iraq.

As noted earlier, it is clear that both Pihl and Van Oord have committed a relatively large amount of funds to the production of their respective tender submissions. They have also continued to participate in the evaluation process and have been co-operative in this, researching and responding to questions raised and facilitating meetings to discuss their proposals. Inevitably, with detail design yet to be embarked upon, there are aspects of each offer that remain uncertain and which therefore constitute some risk. The suggestion had previously been made that a limited amount of pre-award

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physical modelling would be very instructive to the project, extending the modelling carried out pre-tender to more clearly investigate the adequacy of that proposed and in so doing evaluate (and in some cases remove) the risks attendant upon the current uncertainties. Whereas this might remain the ideal, the logistics and timeframes involved in executing such work ahead of Award have determined that this course of action will not be adopted.

Clearly then the project has reached the stage where interrogation of the information currently available on these relatively diverse offers is near exhaustion and a significant decision needs to be made.

Uncertainties will always be present in a Design and Construct project at Tender stage. In this case, the development of the effective Tender Sums may be sufficient to separate the Pihl and Van Oord offers to the extent that perhaps only the Pihl offer will be considered financially viable.

It is recommended that any advancement should firstly take the form of three-dimensional physical modelling under prescribed conditions that are targeted at demonstrating the adequacy of that proposed to accommodate enveloping environmental conditions. There would clearly be a need to oversee these 'proving' tests.

Based on the information available at present, and taking cognisance of the need for further design and modelling work to be carried out to confirm the adequacy of any proposals, it is our view that the offer made by E Pihl & Søn presents less financial and contractual risk to the Client.

The Van Oord proposals offer to retain 40% less of the existing breakwater than the Pihl offer, but at a price that could be appreciably more. The Pihl proposals are secured at a cost that is perhaps around £3.0M less than that necessary to procure the Van Oord proposals and install some form of compensatory mooring provision. Once this is added, the Van Oord offer becomes 13% more expensive than the Pihl offer. It is noted that this differential increases to perhaps between 25% and 35% (between about £6M and £8M) when it is appreciated that the present Van Oord offer does not deliver adequately protected moorings and therefore has to be augmented by additional protective measures in order to do so.

If the 13% differential noted above were available to the project it would represent a large contingency on Pihl's effective tender sum and as such provide a reasonable source of funding against currently unforeseen issues. Alternatively, if that contingency were to prove unnecessary, such a sum could represent a major contribution to the execution of a further phase of harbour works in the lee of the remediated breakwater. Such works might include the provision and protection of an appropriate marina facility, perhaps as part of a future integrated development plan for the harbour area. The 25% to 35% differential described above would, if it were available to this or a subsequent project, would allow the procurement of a sizeable protected marina to augment the Pihl proposal.

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Pihl's Tender Sum is considered to be as near to a Lump Sum offer as can reasonably be achieved on such a project at this juncture, and the fact that the Contractor has effectively removed from the Client the risk of detail design changes is a significant advantage.

The Van Oord offer is a competent one that has been very well presented, but the financial risks associated with it appear more significant. Price fluctuation is a feature of their offer and furthermore the Van Oord offer appears commercially less straightforward than the Pihl offer. Significantly, Van Oord have not offered to relieve the Client of the financial risk of detail design changes, albeit they have expressed confidence that little should change. There is doubt regarding the adequacy of the Van Oord offer with respect to the provision of alternative mooring arrangements that adequately replace the loss of moorings attendant upon their truncation of the existing breakwater. Van Oord's proposals only appear to be viable if considerable additional costs are applied in respect of marina provision and protection.

Further, it would appear that there can be no assurance yet that the concept of truncation of the existing breakwater will be acceptable to all approving committees.

Further detailed dialogue should take place with the preferred Contractor prior to final Award. Such discussions should be strictly confidential and would define the modelling work that would be necessary to address areas of remaining technical uncertainty. It must be appreciated that the detail design and modelling work is a critical stage in the procurement process and must be carried out at an early stage and to an appropriate standard and scope. Considering the quantities of materials involved in this project and the consequent mobilisation effort that will be required for the construction phase, the detail design must not be unduly delayed. Were Award to be so delayed, it is conceivable that the time necessary for detail design could jeopardise the planned start on site in Spring 2004. This could effectively rule out a construction start until the following Spring, invalidating the current offer and leaving the existing breakwater exposed for at least another year.

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APPENDIX V

ADDENDUM REPORT - 'ALDERNEY BREAKWATER REMEDIATION PROJECT – REVIEW OF REVISED PROPOSALS FOR ALDERNEY BREAKWATER AND HARBOUR'

Executive Summary of the Addendum Report - 'Alderney Breakwater Remediation Project- Babbie Group Limited Review of Revised Proposals for Alderney Breakwater and Harbour', dated 10 June 2003.

NB The full Report has been deposited at the Greffe for the information of Members of the States.

ALDERNEY BREAKWATER REMEDIATION PROJECT

BABTIE GROUP LTD REVIEW OF REVISED PROPOSALS FOR ALDERNEY BREAKWATER & HARBOUR

EXECUTIVE SUMMARY

Background

The procurement process for works to remediate the Admiralty Breakwater at Alderney was, naturally, centred on the breakwater. The proposals received were generally restricted to breakwater works, although some did offer the potential to address other aspects of harbour operations (albeit perhaps as a consequence of that proposed for the breakwater).

Notwithstanding the original focus of the project, in May 2003 the scope of the Works was expanded to seek offers that not only addressed the breakwater but also targeted improvements to and within the inner reaches of the harbour.

These revised aims re-characterised the Alderney Breakwater Remediation Project to target:

- protected harbour with improved operational safety
- provision of a viable Commercial Quay
- facilities for the mooring of vessels
- protective breakwater

E Pihl & Søn and Van Oord ACZ were both invited to submit offers for such works. Time constraints and a lack of full technical detail of the requirements for some of the new components of the scope meant that fresh tender documentation was impracticable and instead the two tenderers were invited to make their submissions as alternatives within the context of the existing Tender arrangements.

Pihl Proposals

In response to the revised harbour requirements Pihl have presented a number of options, all of which may be viewed as variations on what they had proposed in April (retention of existing breakwater beyond a short protective spur). These represent different degrees of truncation of the existing breakwater.

Option	Description / Comment	Tender Sum	Including Commercial Quay?	Implied Total
Existing situation, Option 1	Full length armour protection – as originally tendered	£ 23.99M	Not tendered – add £3.3M	£ 27.29M
Client's alternative, Option "A2" – "Developed"	Breakthrough and construction of combined head/spur – not adopted by Pihl	-	-	-
Pihl/Cowi alternative scheme, Option 3	Truncate at 125m from existing end & introduce spur 325m from existing end	£ 24.115M	Not tendered – add £3.3M	£ 27.415M
Pihl/Cowi alternative scheme, Option 4	Truncate at 325m from existing end & introduce spur 525m from existing end	-	-	-
Pihl/Cowi alternative scheme, Option 5	Truncate at 425m from existing end & introduce spur 525m from existing end	£ 17.53M	Not tendered – add £3.3M	£ 20.83M

The proposals concentrate on the truncation of the breakwater with a commentary on the general effects of different degrees of truncation. Pihl have opted only to prepare a financial offer for the most severe truncation (Option 5 in their submission of 15 May 2003), as they interpret this as most nearly reflecting the layout suggested by the Board of Administration. This offer, and the others described in their submission, is consistent with their earlier offer (now featured as Option 3 in their submission) in that the layout consists of a protective spur that is remote from the breakwater roundhead.

Notwithstanding that there is similarity between the options discussed, Pihl do still favour retention of a greater length of existing protection as their recommended option, citing this as beneficial to Braye Bay as a whole, with the added benefit that this also generates improved front-line protection to the harbour also.

Pihl's financial offer of **£17.53M** is exclusive of works related to the repair or replacement of the Commercial Quay. They have, quite reasonably, viewed this element of the works as being insufficiently defined at this stage. There is little or no technical information on which to base a repair strategy, neither in extent nor cost. Similarly, the infrastructure/services requirements of a new facility have not been defined to the Tenderers to a degree that would normally be expected for tender purposes.

It should be noted that Pihl's financial offer is based on 80% of the Tender Sum being paid in Euro's and 20% in Sterling. The sum is based on the prevailing exchange rate and €1.3900 per £ was adopted at submission. Pihl have confirmed that this is subject to adjustment in line with prevailing exchange rates. At the time of preparing this report Sterling has risen a little from the aforementioned base value of €1.3900 to indicate an amended Tender Sum of **£17.52M** at this juncture. Such is the relative volatility of the exchange rate that the offer effectively fell to £17.44M (i.e. an improvement of £90,000) within a week of its submission, before further fluctuations saw it arrive at the figure quoted in this report.

It may be construed from that presented by Pihl that they do not consider it appropriate to relocate the Commercial Quay and we understand that they may have a concern that it could be inappropriate to physically combine a relocated Commercial Quay in the lee of the breakwater. Again, this seems a logical concern given the general scepticism regarding the strength of the existing superstructure if this were to be utilised in any substantial way.

The wave overtopping performance of the remediated breakwater may also be an issue in this respect, both with regard to the trunk of the main breakwater and the proposed leeward spur.

If the previous cost of **£3.3M**, advised (by the States) for works to the Commercial Quay is added to Pihl's revised Tender Sum for the breakwater, a tender offer of **£20.82M** results.

Van Oord Proposals

In response to the revised harbour requirements Van Oord have presented a number of options, all of which may be viewed as variations on their earlier 'Boomerang' option. It will be recalled that this option was presented only in very indicative form at the original tender submission stage, with respect to both technical and financial aspects. The Boomerang layout is more favourably disposed toward the realigned requirements than it was perceived to be toward the earlier project aims. Consequently, Van Oord have cited the Boomerang as largely satisfying the revised aspirations and therefore have opted to retain the general intent of the Boomerang through a number of options that offer variations of construction and berthing arrangements.

Option	Description	Tender Sum	Including Commercial Quay?	Total
1	Shortened Boomerang	£18.50M	Add £4.00M	£22.50M
2	Shortened Boomerang - No Break Through	£17.50M	Add £4.00M	£21.50M
3	Shortened Boomerang with 118m of Berthing Quay	£21.90M	Add £2.60M	£24.50M
4	Shortened Boomerang with 118m of Berthing Quay – No Break Through	£20.90M	Add £2.60M	£23.50M
5	Shortened Boomerang with 140m of Berthing Quay	£23.30M	Add £2.60M	£25.90M
6	Shortened Boomerang with 140m of Berthing Quay – No Break Through	£22.30M	Add £2.60M	£24.90M

Van Oord have identified separate costs for works at the existing Commercial Quay. The proposal for the existing quay is the same throughout all options and consists of demolition and reconstruction, in sliced blockwork, as a straightened and extended berth. Although these works at the existing quay are physically the same throughout, they are more expensively provided for Options 1 and 2 than for Options 3 to 6. It is our understanding that this is because Options 1 and 2 only have sliced blockwork at the existing quay whereas Options 3 to 6 have substantial extents of such construction incorporated within the breakwater works, and hence through economies of scale (and common mobilisation and tooling etc) the same works can be offered more cheaply in these options.

Without judging the efficacy of encompassing quayworks within the leeside of the remediated breakwater, it may be relevant to observe that to also remediate the existing quay in such instances results in a potential over-provision for commercial berthing. While such an arrangement may offer improved flexibility, it is achieved at significant cost. For example, if the provision of a breakwater and a remediated Commercial Quay suffices, Option 1 seems to offer this for **£22.50M**, while a breakwater that incorporates a leeside quay can be provided for between £21.90M (Option 3) and £23.30M (Option 5). These latter two costs would of course neglect the need to address, at least in some measure, the apparent dilapidated state of the existing Commercial Quay regardless of the provision of alternative facilities in the lee of the breakwater. The figure of £2.6M may well be a reasonable allowance here and it could be that the current state of the existing structure is such that the works suggested by Van Oord would be necessary in any event. This raises the cost of the package of works that comprises a remediated breakwater, integrated quay and remediated existing quay to between **£24.50M** and **£25.90M**.

This would seem to suggest that Option 1 at £22.50M is the most cost-effective of Van Oord's revised offers, provided the improvements at the existing quay are deemed sufficient.

In the discussion just presented Options 2,4 and 6 have been omitted. These Options shadow that presented in Options 1, 3 and 5 but suggest the omission of breakthrough of the existing superstructure to create the return head/spur structure. Instead, these options propose the retention of the existing superstructure, with the remediating armoured berm 'sandwiching' this between its seaward and leeward portions. This approach has been offered at a saving of £1.00M in each case on the basis of removing the weather/exposure risk attendant upon the breakthrough proposed in Options 1, 3 and 5. This saving seems too small to be attractive when compared with the apparent reduction in technical competence, given that a discontinuous head generates a high degree of risks of progressive degradation at the very position where robustness would usually be recommended.

For this reason Options 2, 4 and 6 would not be recommended; indeed Van Oord do themselves note this approach to be technically inferior to that proposed in Options 1, 3 and 5.

General Observations

The incorporation of berthing facilities, in the form of repair, replacement or relocation of the existing commercial quay naturally complicates the procurement of the breakwater remediation works. The notion of 'killing two birds with one stone' by incorporating quayworks on the leeward side of the remediated breakwater has not been demonstrably proven to be feasible. Aspects against immediate recommendation of such an arrangement may be:

- there is still a need to address the dilapidation of the existing quay
- infrastructure is currently orientated towards the existing quay location
- there would be a reliance on the existing breakwater superstructure to provide access and support to commercial vehicles, crange, marshalling and storage
- the lower road of the existing breakwater superstructure is geometrically restricted and may also be structurally inadequate to accommodate these tasks
- The structural form of the berthing structure as incorporated in the lee of the armoured breakwater has not been presented beyond an outline description. Its appropriateness and performance as a constituent part of a composite structure has not been examined/presented.
- The wave overtopping performance of the remediated breakwater, although a considerable improvement on the existing condition, has not been demonstrated to provide conditions suitable for the siting of vessels directly in its lee. This comment applies to the trunk but is likely to be even more pertinent for any exposed return head/spur.
- There remains a question over the feasibility of providing a marina under the overtopping regime suggested by the flume testing presented to date.

These considerations suggest that the inclusion of revised berthing facilities integral with the breakwater works would be difficult to recommend at this stage. The perception at this stage is that there remains a significant risk that the provision of alternative berthing in the lee of the breakwater could fail to retain 'at least the current level of facilities' within the harbour, in that the availability of the berth/s could be curtailed by a potentially reduced performance. Of course, this could be counterbalanced if the existing quay is also remediated as part of the works; but this in itself would obviate the need for the breakwater berth/s.

Cost Comparisons

In comparing project costs it should be recognised, as before, that severe truncation of the existing breakwater is deemed to necessitate the provision of (rather than for) a marina, effectively from the outset. Therefore the costs associated with those proposals that curtail the existing protection to the current Summer Moorings have to be augmented by an allowance for the provision of a suitable marina. As before, it should be recognised that despite the improved conditions within the inner harbour, wave conditions are still such that pontoons would be at risk. Further local protection, probably in the form of a wave screen, would be required to supplement the protection offered by the proposed armoured return head or spur.

Through dialogue with Van Oord it is understood that the same conditions apply to their revised offers as did in their original submission. Therefore it is appropriate to recognise the potential for cost increases due to Van Oord's desire to incorporate a price fluctuation condition. This price fluctuation condition encompasses changes in the cost of labour, plant and fuel. Materials are subject to the effects of exchange rate variations. Van Oord have been asked to clarify their position with regard to this but their response remains somewhat guarded.

The following tables itemise the costs associated with each offer. The presented Tender Sums, discussed above, form the basis of the costs but significant additions are required to each offer to account for other project costs.

Summary of E Pihl & Son Offers at 03 June 2003

	<u>Pihl Option 1</u>	<u>Pihl Option 2</u>	<u>Pihl Option 3</u>	<u>Pihl Option 4</u>	<u>Pihl Option 5</u>
Tender	23,990,000		24,115,000		17,530,000
Add for currency changes to date	2,055,182		873,177		-10,485
Revised Sum	26,045,182		24,988,177		17,519,515
Design Risk	50,000		50,000		50,000
Enhanced modelling	75,000		75,000		75,000
Sub Total 1	26,170,182		25,113,177		17,644,515
Contingency 10%	2,617,018		2,511,318		1,764,452
Fees to Date	700,000		700,000		700,000
Fees to Complete	700,000		750,000		750,000
Sub Total 2	30,187,200		29,074,495		20,858,967
Commercial Quay: excluded, allow:	3,300,000		3,300,000		3,300,000
Sub Total 3	33,487,200		32,374,495		24,158,967
Braye Bay: excluded, allow:	0		100,000		1,000,000
Sub Total 4	33,487,200		32,474,495		25,158,967
Marina: excluded, allow:	not required		not required		4,000,000
Total	£33,487,200		£32,474,495		£29,158,967

base rate	€ 1.54000	€ 1.45400	€ 1.39000
current rate	€ 1.39104	€ 1.39104	€ 1.39104
% of tender sum affected	80%	80%	80%

'Base rate' is that which forms the basis of the Tender Sum. The different offers were presented at different times, hence the variation in this rate.

For option 5, Pihl have advised that the exchange rate to be adopted is that prevailing at the dates of certification of progress of the works; this could be advantageous if Sterling recovers from its early 2003 weakened state.

Summary of Van Oord ACZ Offers at 03 June 2003

	VO Option 1	VO Option 2	VO Option 3	VO Option 4	VO Option 5	VO Option 6	Hockey Stick
Tender	18,500,000	17,500,000	21,900,000	20,900,000	23,300,000	22,300,000	24,183,000
Price Fluctuation	1,540,371	943,402	1,823,466	1,126,692	1,940,035	1,202,164	2,013,556
Add for currency changes to date	-11,065	-10,467	-13,099	-12,501	-13,936	-13,338	-14,464
Revised Sum	20,029,306	18,432,935	23,710,367	22,014,191	25,226,099	23,488,826	26,182,092
Design Risk - EXCLUDED, allow:	1,500,000	2,500,000	1,500,000	2,500,000	1,500,000	2,500,000	1,000,000
Enhanced modelling	included	included	included	included	included	included	included
Sub Total 1	21,529,306	20,932,935	25,210,367	24,514,191	26,726,099	25,988,826	27,182,092
Contingency 10%	2,152,931	2,093,294	2,521,037	2,451,419	2,672,610	2,598,883	2,718,209
Fees to Date	700,000	700,000	700,000	700,000	700,000	700,000	700,000
Fees to Complete	800,000	900,000	800,000	900,000	800,000	900,000	880,000
Sub Total 2	25,182,236	24,626,229	29,231,404	28,565,610	30,898,708	30,187,708	31,480,301
Commercial Quay	4,000,000	4,000,000	2,600,000	2,600,000	2,600,000	2,600,000	4,000,000
Sub Total 3	29,182,236	28,626,229	31,831,404	31,165,610	33,498,708	32,787,708	35,480,301
Braye Bay: excluded, allow:	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Sub Total 4	30,182,236	29,626,229	32,831,404	32,165,610	34,498,708	33,787,708	36,480,301
Marina: excluded, allow:	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000
Total	£34,182,236	£33,626,229	£36,831,404	£36,165,610	£38,498,708	£37,787,708	£40,480,301

base rate € 1.39000 € 1.39000 € 1.39000 € 1.39000 € 1.39000 € 1.39000 € 1.39000

current rate **€ 1.39104** € 1.39104 € 1.39104 € 1.39104 € 1.39104 € 1.39104 € 1.39104

% of tender sum affected 80% 80% 80% 80% 80% 80% 80%

N.B. Currency effect has been based on assumption that VO offer is priced on same basis as Pihl's – VO have not satisfactorily clarified their position on this.

Price Fluctuation, allow: procurement and construction period:

3 years Options 1, 3 & 5
2 years Options 2, 4 & 6

portion of tender Sum applicable:

portion of this that is:

fuel: 50%
plant: 25.00%
labour: 37.50%

Baxter trend: **8.2%**
Baxter trend: **3.6%**
Baxter trend: **4.9%**

Discussion

It is noted that the revised criteria under which the current offers were invited examines the perceived needs of the harbour rather than concentrating on the remediation of the breakwater. It should be recognised that truncation of the existing breakwater (if this is socially and politically acceptable) demands the relocation of existing moorings and that this can only be safely achieved in a protected marina, within the protection of the remediated breakwater. Notwithstanding that it is considered necessary to further assess whether the performance of the breakwater is commensurate with the siting of a marina in its lee, the adoption of a truncated breakwater necessitates the provision of a marina from the outset.

From the cost presentation above, it can be concluded that Pihl's Option 5 could be implemented at the lowest cost, £27M, inclusive of allowances for works at the existing Commercial Quay and at Braye Bay, together with the provision of a marina. The breakwater arrangement in this Option represents the most severe truncation of any of Pihl's offers.

The lowest priced equivalent from Van Oord is estimated above at £33M, some 22% more expensive.

It is noted that if the works to Commercial Quay were excluded from the Pihl offer, the remainder could be implemented at around £23.5M.

The other Van Oord offers range from around £36M to £37.5M. As noted earlier, these other Van Oord offers contemplate the inclusion of berthing facilities in the lee of the breakwater, but the need to address the existing quay in any event suggests that these options are not economically achieved. Notwithstanding this, manoeuvrability and flexibility within the harbour might be improved with such an arrangement.

Without the provision of a marina, breakwater truncation is deemed infeasible. Thus, if a marina were deemed beyond the scope of the current project it is clear that none of the Van Oord offers would be viable and nor would Pihl's Option 5. Pihl's other priced options, 1 and 3, would then represent the logical choice. Pihl Option 3 (relatively minor truncation of 125m, plus introduction of a spur on the leeward side of the breakwater) is costed at around £32M with works to the existing quay included, or around £29M if this too is divorced from the current project. The provision of the spur on the harbour side of the remediated breakwater in this proposal offers the potential to develop a marina at a later date. It also offers a degree of protection for the present harbour operations under North Easterly attack. The location of the spur could be selected to suit the perceived future marina needs. Judicious siting of the spur could also offer some cost advantages in that the increased protection afforded by the projecting breakwater trunk would improve protection generally and so perhaps better attenuate waves on their approach to the marina, so allowing the marina to be more reasonably designed.

The technical competence of the offers is reasonably well determined, within the limits of that achievable in the context of a Tender Design. We have advocated a careful approach to comparisons of technical submissions and have cautioned against the adoption of too simplistic a comparison between proposals that utilise not only different materials but also differing philosophies. In support of this, and in parallel with the invitation to the Tenderers to present revised proposals, HR Wallingford have also been approached, as an independent technical specialist, to review the design and modelling aspects of that previously submitted. HR Wallingford have submitted a report summarising their review and this confirms that, despite the different design philosophies adopted by the two Tenderers, both tender designs are adjudged competent (but both also require validation in the detail design stage).

Notwithstanding the revised tender sums presented by the Tenderers, and the cost comparisons provided here, it must be stressed that there are a number of significant components within the revised criteria that remain immature. Whereas much uncertainty had been removed in the development of the earlier offers, subjectivity/uncertainty/risk has now been introduced by virtue of the lack of definition of technical and contractual criteria relating to non-breakwater items that are nevertheless central to the revised aspirations for the harbour area.

It remains our view that maximising retention of much of the primary protection to the existing harbour area is logical and that the augmentation of this with a protective spur is a sensible use of the targeted contractual arrangements to assist in future development of the inner harbour reaches, without the need to pursue that development as the primary aim. It is considered that the maturing and the letting of separate contracts which will naturally have enhanced technical definition and greatly reduced risks, aided by previously installed protective elements, could be a more cost effective way forward. This would allow contractors with the appropriate pedigree to deliver the various marine elements. It should be noted, for example, that Van Oord have, even at this juncture, looked to using another contractor for quayworks elements.

Tenderers have already been asked on three occasions to extend their Tender Validity Periods. Albeit they appear to remain committed to the project (of course, they have spent a considerable sum on their participation to date and will be anxious to pursue success), we are concerned that their patience will soon be exhausted, offers would lapse and the opportunity to address the challenges of the Admiralty Breakwater would be lost. If works are to proceed under the current Tendering arrangement, the States need to make their decision very soon. The time is rapidly approaching when it will no longer be possible for detail design, approvals and mobilisation to be achieved in time to meet the programmed start on Alderney in Spring 2004. Re-tendering at a later date not only risks deterioration in the interim but also the possibility that the same tenderers may be unavailable or even unwilling to repeat the protracted process a second time.

It is our view at this juncture that if an Award of Contract is not achieved by August 2003, the 2004 construction season will not be realised and the current Tenders would either lapse or be subject to significant amendment. It should be recognised here that contractual security is dependent upon the adequate definition of what is required, supported by the technical data on which the Tenderer can develop and validate his proposals. It is a concern that timeous Contract Award could be compromised by an imbalance in the definition of requirements if the breakwater remediation is indeed to be augmented by works to the harbour infrastructure and operations.

Recommendation

We would suggest that the offers received from E Pihl & Søn represent better value to the project. A summary of the relative attributes may be presented as:

- Spatial extent of protection is superior
- Maintenance of vessel approach
- Retains potential for future development/expansion
- Existing moorings can be retained
- Allows marina to be deferred
- Financial / contractual clarity

Of the different options presented by E Pihl & Søn, our recommendation would be to pursue Option 3:

- Pihl Option 1 represents maximum retention of the existing breakwater and the protection it offers to approaching vessels and to Braye Bay. However there is no apparent 'added value' provided by this proposal (beyond securing the future of the existing breakwater itself, which of course was the initial intent of the project).
- Pihl Option 5 is generally akin to the Van Oord proposals and, we would contend, suffers similar handicaps and therefore is not preferred. These handicaps are, generally:
 - Braye Bay and it's shoreline is significantly more exposed
 - Navigation to the harbour is made more challenging due to the extent of truncation

- A marina would have to be provided from the outset (a marina has not been tendered for by the Tenderers and there is therefore some doubt regarding its layout, cost and indeed the contractual arrangements are not currently in place for its procurement under the breakwater remediation contract)
- The overtopping performance of the remediated breakwater may not be consistent with the full aspirations of a protected marina and this would need further study
- It is questionable whether the harbour provided in such proposals is of sufficient size to accommodate:
 - Relocation of moorings
 - Further wave protection (wave attenuation is insufficient to avoid this)
 - Commercial vessel manoeuvring and its interface with marina operations
 - Access to Little Crabby harbour
 - Room for potential future expansion
- Pihl Option 3 is considered a good and practical compromise between the retention of the status quo (option 1) and the incorporation of new facilities (option 5). Moderate truncation appears to have technical and financial benefits and has been shown to allow the incorporation of useful 'added value' items without the need to address others at the outset. A marina would not be essential from the start and therefore the cost of this, and the uncertainties surrounding its requirements and procurement, could be deferred until such a facility was better defined. In the meantime, the existing moorings would be little affected by the revised layout, and the potential for future expansion of the harbour facilities would not be compromised.

Notwithstanding the suggestion that Pihl's Option 3 be put forward as the preferred option, it should be noted that there is much work to be done at detail design stage and that refinements and alterations could be a function of that stage of the project.

The preference for Pihl's Option 3 has evolved through consideration of a number of aspects of the various offers that have been submitted. Technical, financial and contractual considerations have of course contributed throughout the evaluation process. Through the recent process of inviting the revised proposals from the Tenderers, other features have also become prominent; navigational safety and simple geometry.

The revised requirements, instructed to the tenderers, adopted a more spatially constrained arrangement for the works, apparently countenancing substantial abandonment of the existing breakwater and an attendant limiting of the size of the harbour. Navigational review of the offers received in response has raised what appear to be serious concerns about loss of protection on approach to the harbour. This suggests that despite the aspiration of improving safety, conditions could well be worsened. Nor is it demonstrably proven that conditions inside the smaller harbour would be improved. The smaller harbour suggested by the Van Oord offers and by Pihl's Option 5 could be a determinant on future expansion at Alderney. While there is some doubt whether the existing capacity of moorings can be physically and/or safely relocated within the protection of the truncated breakwater of these schemes, it seems certain that any aspirations to increase from this number would be compromised.

APPENDIX VI

ALDERNEY BREAKWATER – FUTURE OPTIONS

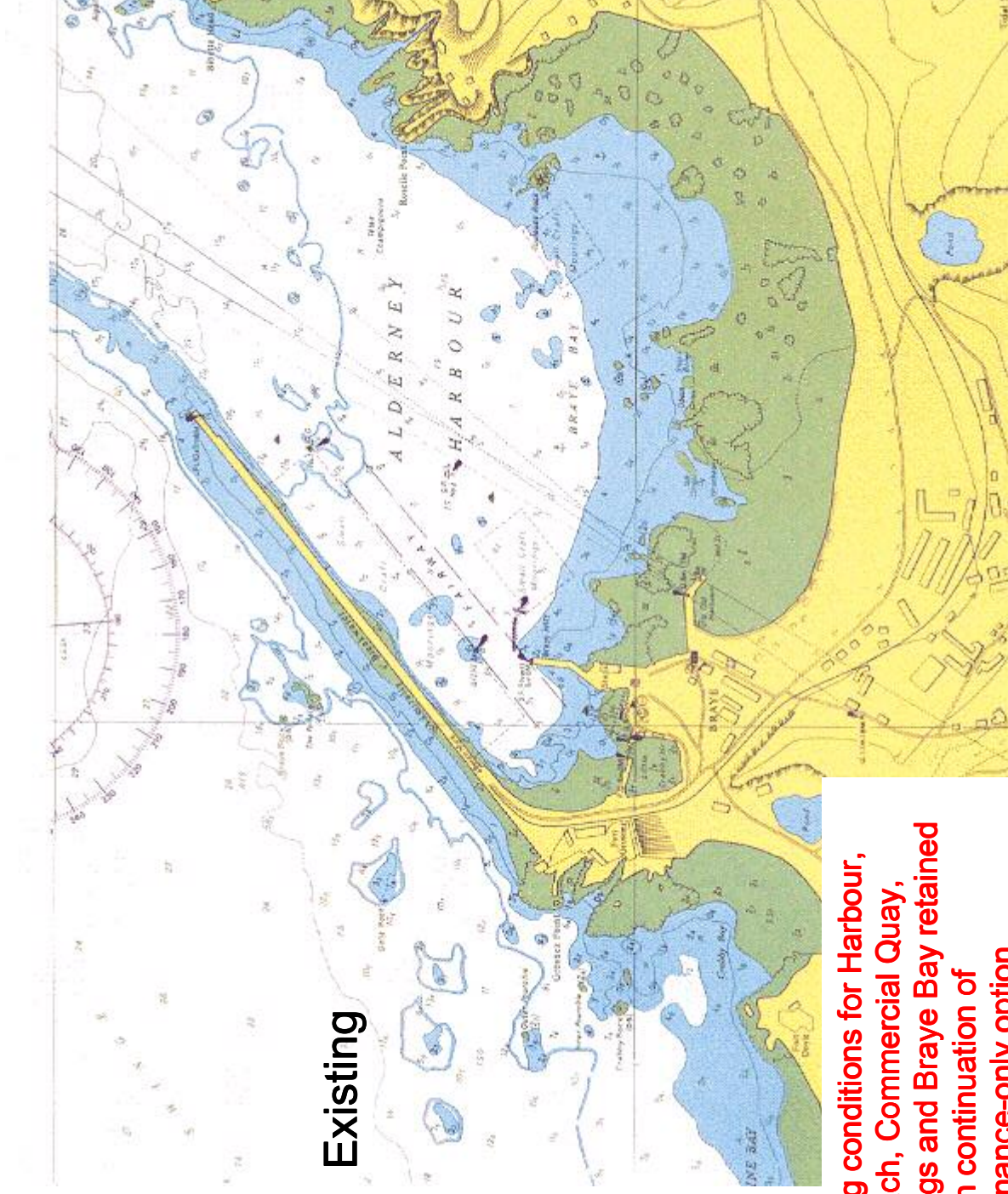
Diagram of Existing Breakwater (Maintenance-only)

Cross-section diagram of potential threats to existing Breakwater superstructure and supporting mound

Schematic diagram of ‘Pihl Option 3’ - Truncated Breakwater with Sheltering Spur (125m truncation)

Schematic diagram of ‘Pihl Option 5’ - Truncated Breakwater with Sheltering Spur (425m truncation)

Existing Alderney Breakwater – Maintenance-only Option

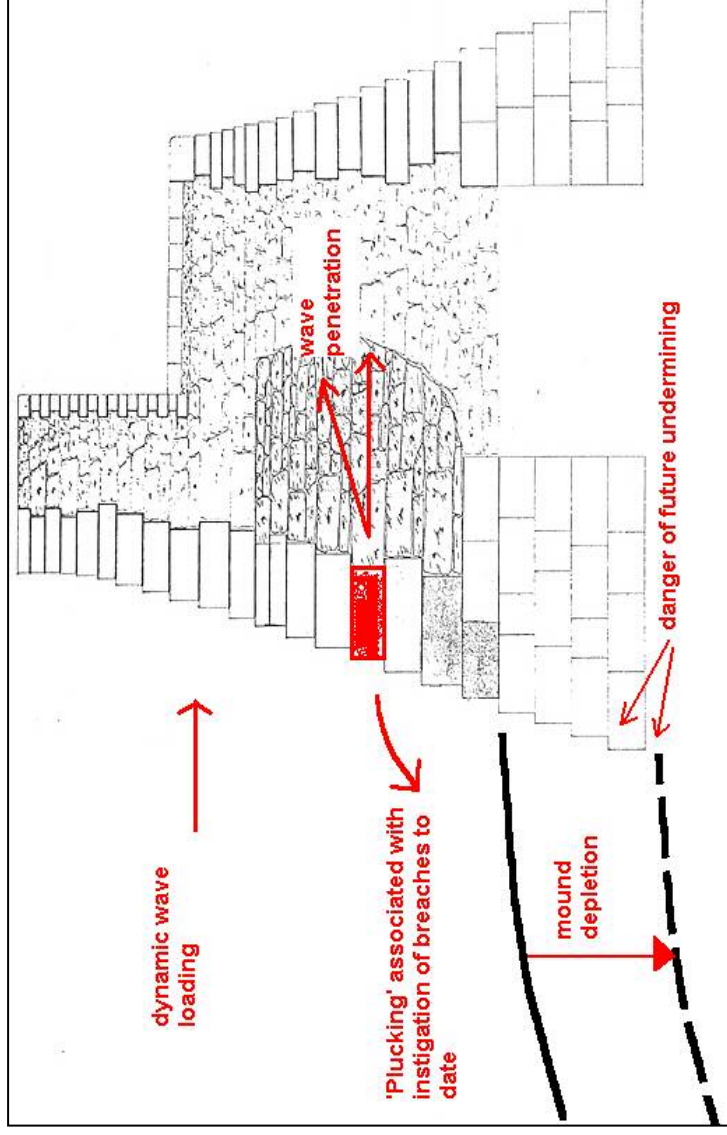


Existing conditions for Harbour, approach, Commercial Quay, moorings and Braye Bay retained through continuation of maintenance-only option

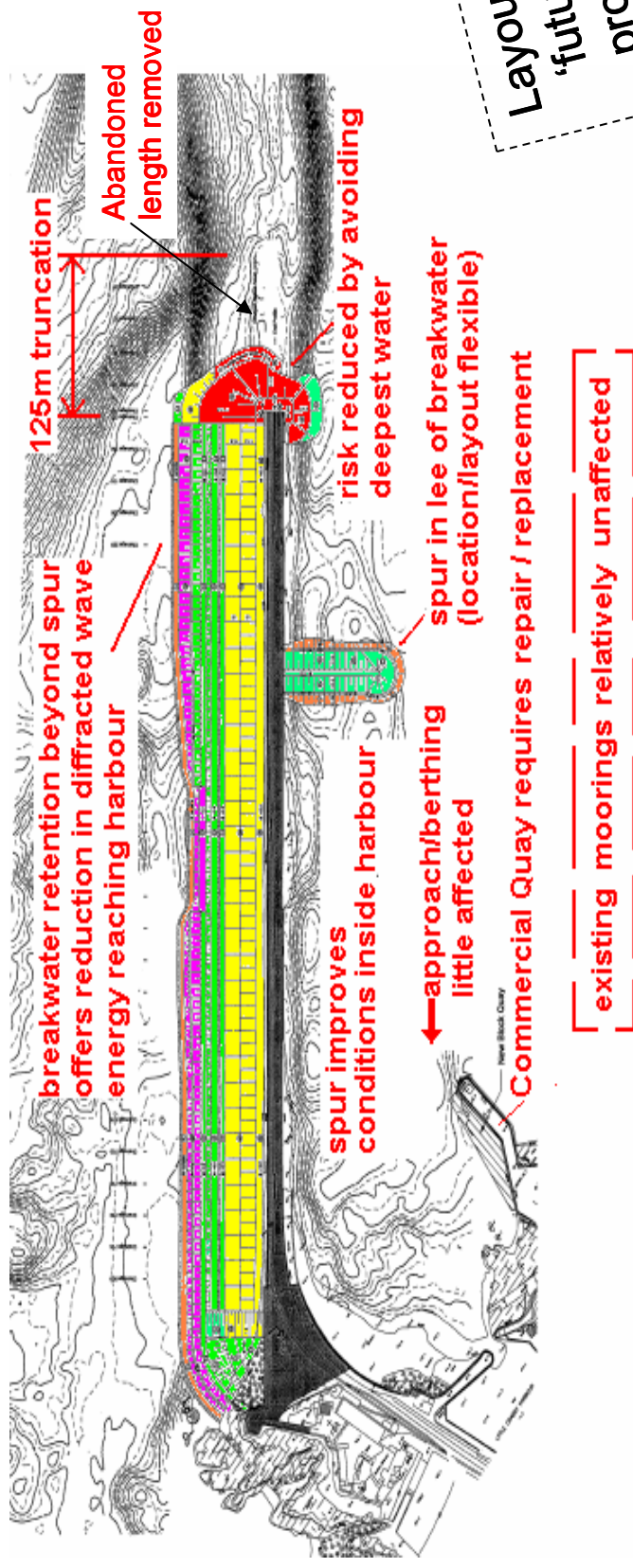
Existing Alderney Breakwater – Technical Risks

Technical Risks associated with 'Do Nothing' or Maintenance-Only Options

Cross-section diagram of potential threats to existing breakwater superstructure and supporting mound



Alderney Breakwater – 'Pihl Option 3' – Truncated Breakwater with Spur (125m truncation)

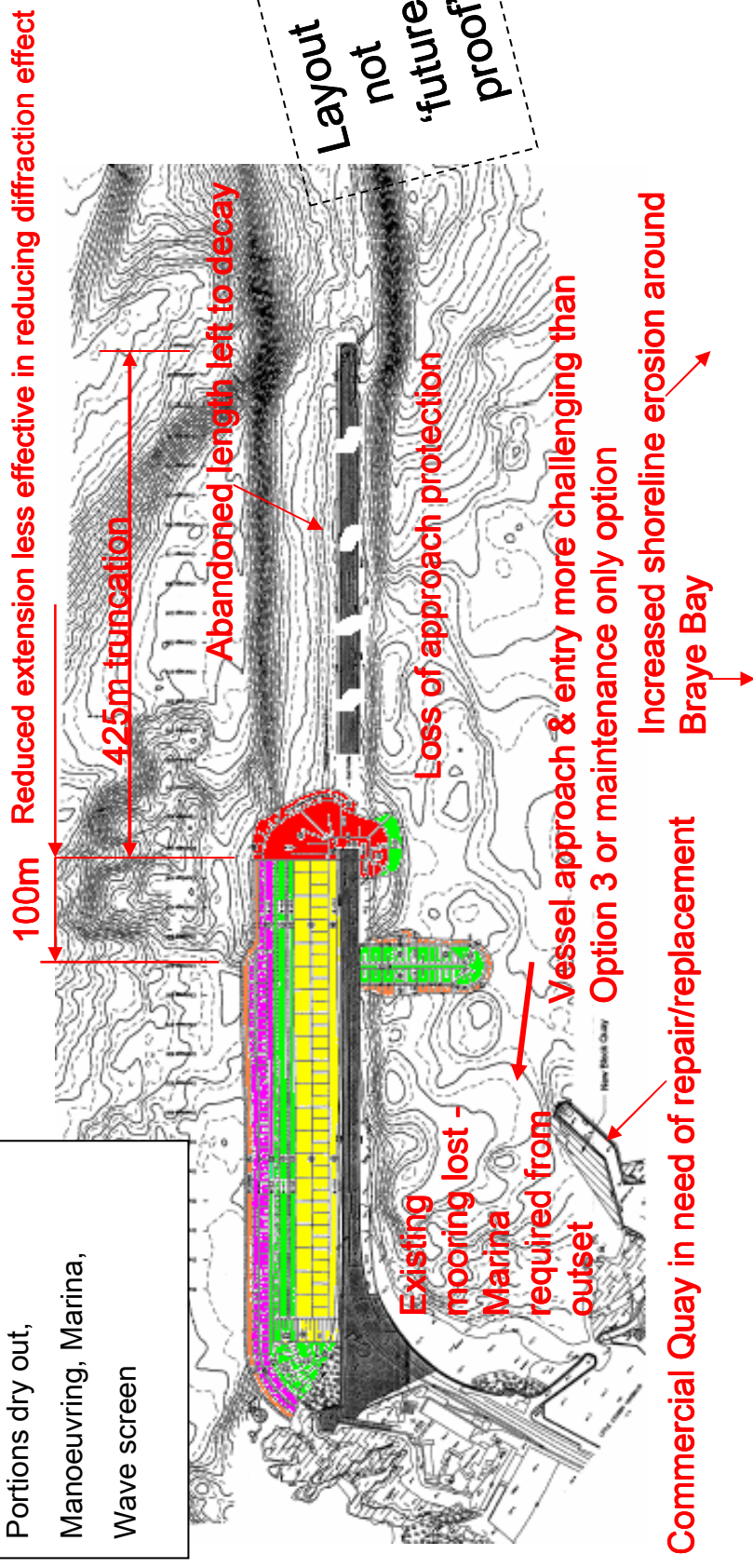


Less increase in shoreline erosion due to truncated Breakwater

Alderney Breakwater – ‘Pihl Option 5’ – Truncated Breakwater with Spur (425m truncation)

Pressures on harbour area:

Portions dry out,
Manoeuvring, Marina,
Wave screen



APPENDIX VII

ALDERNEY BREAKWATER – PROPOSED ACCOUNTING TREATMENT

Disclosure in Year End Accounts

Expenditure Account

	<u>£</u>
Repairs and Maintenance	X
Administration costs	X
Depreciation	X
	<hr/>
Charge to Revenue Account for year	X
	<hr/>

Note: The above charge would appear as a separate line in the appropriate Department's General Revenue expenditure

Asset Account

Balance at 1 January 200x	X
Capital costs in year	X
Depreciation in year	(X)
	<hr/>
Balance at 31 December 200x	X
	<hr/>

Note: The balance at beginning and end of year would appear as an asset in the Summary of Balances.

APPENDIX VIII

CONSULTATION WITH THE ALDERNEY POLICY AND FINANCE COMMITTEE

Letter, dated 23 June 2003, from the Alderney Policy and Finance Committee



STATES OF ALDERNEY

States Office, P.O. Box 1, Alderney, Channel Islands GY9 3AA

POLICY & FINANCE COMMITTEE

ARL/djh

23 June, 2003

Deputy R C Berry OBE
President, Board of Administration
Sir Charles Frossard House
St Peter Port, GUERNSEY GY1 1FH

Dear

Roger

Alderney Breakwater and Alderney Harbour

Thank you for providing the Policy & Finance Committee with your draft policy letter. It is noted that the Board's support for the clear recommendation from the experts is being offered subject to the States of Alderney providing assurance on a number of issues. The Committee is prepared to provide those assurances, insofar as it is able given that it has only two working days within which to respond. Clearly, the detailed financial issues to which the Board refers can only be worked out through close liaison between the States of Alderney and the Advisory and Finance Committee.

I am pleased to say that the States of Alderney has been most grateful for the way in which it has been consulted and informed over the past three years with regard to this project. In this respect considerable credit must go to the Advisory & Finance Committee and to the staff level panel for the detailed investigations that have been carried out and the regular feedback which has been provided.

After hearing the unequivocal recommendation from Babbie and having made its own assessment of the situation, the Policy & Finance Committee supports the Pihl 3 Option as being the optimum solution for Bailiwick. Furthermore the Committee is in broad agreement with the recommendations set out in section 22 of the policy letter.

The Committee recognises however that many in Alderney will consider the full armouring of the existing breakwater, with or without a spur, to represent the best long-term solution, by preserving what exists and allowing for the possible future expansion of harbour facilities.

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Nevertheless, the Committee has, by a majority, accepted the advice of the various consultants that, of all the options considered, Pihl 3 with the 125m truncation and spur, is the most appropriate. Other truncated versions that would have produced a small harbour, were shown, not only to involve a greater total cost, but would have a seriously adverse impact upon the safe navigation of vessels into the port as well as constraining any future expansion opportunities.

Without being drawn into detailed comment on the wording of the policy letter, it is noted that there are several references to option B2 as being a comparable solution. When the price estimates for B2 are updated and put alongside the other options considered it would cost approximately the same as the full length armouring of Pihl 1. Further, HRW (formerly H R Wallingford) in studying the latest options not only generally support the views of Babbie, but also comment that "previous and recent wave modelling suggests significant advantage in retaining as much of the existing breakwater as possible". References are also made to the number of moorings provided under other schemes. The staff level panel agreed that 220-230 moorings represents the *status quo*.

Comments in the policy letter about the level of charges at Alderney harbour require analysis. One could mistakenly interpret these as suggesting that the charges generally are disproportionately low. This is simply not the case.

The harbour's principal source of income is from mooring charges for pleasure craft and fishing vessels. In this respect charges have to be set at a competitive rate if Alderney is to attract business which could otherwise go to the marinas on the neighbouring French coast, to Jersey or to Guernsey. Demand for mooring spaces, particularly for visitors, is elastic; if the prices are too high, demand falls and nothing is gained.

It is helpful to show how the charges compare with Guernsey. The annual charge for a typical 35' boat on a swinging mooring is:-

Alderney	£469
St Peter Port (pool)	£418
St Sampson	£209

The cost for a day visitor with the same sized vessel is -

Alderney	£15 (fixed charge of £12 plus water taxi fare of £3).
St Peter Port	£15 (in a marina).

Differences do exist in the way that Alderney and Guernsey levy charges for the movement of cargo and it is not, therefore, possible to make a direct comparison. Alderney has no mechanism for weighing goods (e.g. weighbridge); therefore, vessels with freight are charged according to their Gross Registered Tonnage (GRT). Thus, the equivalent charge 'per tonne' of freight charge will vary according to how much cargo the vessel is carrying. It has to be remembered that while the freight handling facility is essential, there are only a small number of commercial ship movements each week. A considerable proportion of the goods will have already passed through St Peter Port harbour where dues will have been paid. The further charges imposed in Alderney has the inevitable consequence of inflating the price of goods.

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Having clarified the position on charges, the Committee accepts that both the breakwater and the repairs to the Commercial Quay represent major capital investments in the harbour infrastructure. As such it is appropriate to review, with the Advisory and Finance Committee, the levels of charge and the whole commercial basis of the harbour operation.

As the policy letter notes, in 1996 the operating deficit of Alderney Harbour was £80,000 per annum. Through, a combination of cost-cutting, above-inflation increases in charges, and a review of the accounting treatment of certain areas of expenditure, this deficit has been reduced to the point that the harbour deficit had been reduced to £10,000 in 2002. The current policy is that the harbour should operate as a commercial trading unit and, while there is an opportunity to further refine the accounting treatment, it is not envisaged that its trading position will change radically unless the facilities are expanded further, for example, with the construction of a marina.

In this context, the Policy & Finance Committee is pleased to give its assurance that it will work closely with the Advisory & Finance Committee to review the operation of Alderney harbour, and to seek that it operates on a proper commercial basis while also factoring in the economic and social benefits.

The States of Alderney has already resolved to investigate the construction of a marina in the Braye area, and has pursued a number of avenues with prospective developers with private funding. Thus far the States have not been in a position to bring any of these through to fruition. The increased shelter provided from the north east by the proposed spur, will improve the prospect of finding a developer willing to take on such a project.

In this connection, the Committee notes that the final position and dimension of the spur will be subject to confirmation at the final design stage, and it would ask that the States of Alderney and the staff working panel continue to be involved. It is also accepted that there will be a need for clarity with regard to the ownership of the land (sea bed) upon which the construction stands.

The States of Alderney is committed to proceed as soon as possible with the essential works to the Commercial Quay. The Advisory & Finance Committee has agreed, in principle, that these works will need to be funded from the capital reserve, but has counselled that the final design and tender preparations be deferred until the States of Deliberation have decided on the breakwater project. This is because a number of the options considered, particularly the ones involving a major truncation, could have necessitated changes to the position of the existing quay. The situation will be simplified if Pihl 3 or Pihl 1 is accepted, as the existing quay need only be renovated and not moved.

Overall it is essential to point out that the Island of Alderney in isolation simply does not have the financial resources to carry out the necessary major capital works which are required to provide a harbour. No amount of increased fees on harbour or other users, will be able to fully repay the capital cost of the Commercial Quay or the breakwater. It is an unavoidable fact that the viability of Alderney as a community is

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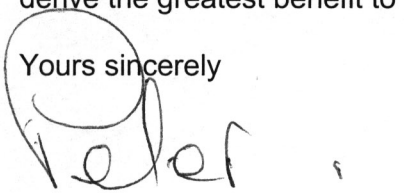
dependent upon its relationship with the States of Guernsey as it has been throughout the post-war era. Unless the essential services and infrastructure exist, then the ability of Alderney to attract tax-paying individuals/businesses will decline, thereby adversely affecting both the Alderney and Bailiwick economies.

This does not mean the States should shy away from setting charges at an appropriate commercial level. The issue is simply that any radical changes should be carefully considered in the light of their economic and social sustainability.

In summary, the Policy & Finance Committee supports the recommendations of the Board of Administration, and can give assurances that it will work with the Advisory & Finance Committee and other parties to ensure that Alderney harbour is run on a commercial basis, the necessary works to the Commercial Quay are progressed, to explore further the opportunities for a commercially viable marina facility and to seek to make an appropriate contribution towards the return on capital costs of the major works to the Commercial Quay.

It is hoped that the States of Deliberation will support the Pihl 3 proposal, which the Committee believes to represent the best compromise solution, and one that will derive the greatest benefit to the Bailiwick in the medium to long-term.

Yours sincerely

A handwritten signature in dark ink, appearing to read 'P F Walter', is written over a horizontal line.

P F Walter,
Chairman

The President
States of Guernsey
Royal Court House
St Peter Port
Guernsey

2 July 2003

Dear Sir,

I refer to the letter dated 27 June 2003 addressed to you by the President of the Board of Administration on the subject of Alderney Breakwater and Alderney Harbour which includes the comments of the Alderney Policy and Finance Committee.

The Advisory and Finance Committee welcomes the Alderney Policy and Finance Committee's support for the Board of Administration's proposals which safeguard the provision of protection to Alderney's harbour and allow for any necessary expansion of the harbour facilities in the long term.

The Committee is grateful to the Board of Administration and the Alderney Policy and Finance Committee for joining with it to adopt a proactive corporate approach to the tendering process. This approach has proved to be successful in dealing with a particularly difficult matter and the Committee commends this approach to other Committees when faced with similar circumstances.

The Committee particularly welcomes the assurance given by the Alderney Policy and Finance Committee that it "will work with the Advisory and Finance Committee and other parties to ensure that Alderney Harbour is run on a commercial basis, the necessary works to the Commercial Quay are progressed to explore further the opportunities for a commercially viable marina facility and to seek to make an appropriate contribution towards the return on capital costs of the major works to the Commercial Quay." In this regard the Committee has suggested the cross committee corporate approach be extended to cover other Alderney Harbour projects.

The Committee shares the general concern about the over heating of the construction industry and the demands on the Bailiwick's limited resources but recognises that this project will not place any significant increased demand on this sector.

The Committee has noted that the maintenance option is not only riskier but also likely to be more costly in the medium and long term. The Committee has also noted that when the project is completed the annual revenue costs for the design life of fifty years and beyond will be significantly reduced.

The Committee has previously stated its desire, where appropriate, to move towards accounting for fixed assets on a more commercial basis. Therefore, the Committee, in consultation with the Board, is proposing that the opportunity be taken to account for this major capital asset by establishing a separate Alderney Breakwater Account and amortising the cost of the Breakwater over its estimated life. As a result, instead of the capital cost of the asset being written off at one time, the capital (and associated maintenance and administration) costs will be charged to the revenue account over a period of time.

The contractors will be paid from States working balances. This will substantially reduce the annual interest earned on these balances.

The Committee considers the provision of a safe, viable harbour for Alderney to be strategic priority and recommends the States to approve the proposals which will ensure adequate protection for the essential harbour facilities into the next century.

Yours faithfully,

(Signed L.C. Morgan)

L.C. Morgan
President
States Advisory and Finance Committee

The States are asked to decide:-

Whether, after consideration of the Report dated the 27th June, 2003, of the States Board of Administration, they are of opinion:-

1. Subject to the receipt of the requested assurances from the States of Alderney with regard to the operation of, and accounting for, the facilities within the Alderney harbour, to agree to works to Alderney Breakwater along the lines of Pihl Option 3 (subject to any post-contract modelling and design refinement), as set out in that Report, at a total cost, including a contingency allowance of 10% plus pre-contract and post-contract consultants' fees and site investigations, not exceeding £29,084,495.
2. To request the States of Alderney, in consultation with the States Advisory and Finance Committee, to review the operation of Alderney harbour so that it is put on a more commercial basis and to establish a trading account for its capital and revenue operations.
3. To agree the establishment of the Alderney Breakwater Account, as set out in that Report.
4. To authorise the States Board of Administration to accept a negotiated tender in a sum not exceeding £25,113,177 from E Pihl & Søn A.S. for the remediation of the Breakwater along the lines of Pihl Option 3, as set out in that Report, subject to the satisfactory finalisation of details for design, construction methodology and contractual arrangements, which matters shall also be subject to the approval of the States Advisory and Finance Committee.
5. To authorise the States Board of Administration to appoint suitable consultants for the supervision of the project at a cost not exceeding £750,000, subject to the approval of the States Advisory and Finance Committee.
6. To recover pre-contract consultants' fees and site investigation costs totalling £710,000, as set out in that Report.
7. To agree that the costs of this project shall be charged to the Alderney Breakwater Account.

DE V. G. CAREY,
Bailiff and President of the States.

The Royal Court House,
Guernsey,
The 11th July, 2003.

IN THE STATES OF THE ISLAND OF GUERNSEY

ON THE 31ST DAY OF JULY, 2003

The States resolved as follows concerning
Billet d'Etat No. XVIII dated 11th July, 2003

Meeting adjourned from 30th July, 2003

STATES BOARD OF ADMINISTRATION

ALDERNEY BREAKWATER AND ALDERNEY HARBOUR

After consideration of the Report dated the 27th June, 2003, of the States Board of Administration:-

1. TO NEGATIVE THE PROPOSITION that, subject to the receipt of the requested assurances from the States of Alderney with regard to the operation of, and accounting for, the facilities within the Alderney harbour, to agree to works to Alderney Breakwater along the lines of Pihl Option 3 (subject to any post-contract modelling and design refinement), as set out in that Report, at a total cost, including a contingency allowance of 10% plus pre-contract and post-contract consultants' fees and site investigations, not exceeding £29,084,495.
2. To request the States of Alderney, in consultation with the States Advisory and Finance Committee, to review the operation of Alderney harbour so that it is put on a more commercial basis and to establish a trading account for its capital and revenue operations.

D. R. DOREY
HER MAJESTY'S DEPUTY GREFFIER