## CABINET - SUBJECTS FOR CONSIDERATION, 08 OCTOBER 2002 11:00 AM

Not Relevant

104 **DTRN**09155/2002CS **D**eep-Sea Grain **P**ort for Adelaide
**APPROVED**

*All Ministers*

Not Relevant

# CABINET COVER SHEET

| | | |
|---|---|---|
| 1. | **TITLE:** | DEEP-SEA GRAIN PORT FOR ADELAIDE |
| 2. | **MINISTER:** | Michael Wright, MP<br>Minister for Transport |
| 3. | **PURPOSE:** | To endorse the location of a deep-sea grain port at Outer Harbor (Berth 8) and approve the key terms and conditions for the grain wharf and terminal development as negotiated with Flinders Ports and AusBulk Ltd. |
| 4. | **RESOURCES REQUIRED FOR IMPLEMENTATION:** | The recommended proposal will improve the State's funding position by an estimated $31M + relative to the funding position offered by the former Government. |
| 5. | **RELATIONSHIP TO GOVERNMENT POLICY:** | Consistent with Government policy relating to the sale of Ports Corp. |
| 6. | **CONSULTATION:** | Transport SA, TransAdelaide, Office of Economic Development, PIRSA, Land Management Corporation, Planning SA, Valuation SA, and Crown Solicitor's Office. |
| 7. | **FAMILY IMPACT STATEMENT:** | N/A |
| 8. | **ENVIRONMENTAL IMPACT STATEMENT:** | Environmental impact of development, including dredging and disposal of material, to be considered in DAC approval process. |
| 9. | **REGIONAL IMPACT STATEMENT:** | Supports grain industry through provision of a major deep-sea grain port east of Spencer Gulf. |
| 10. | **REGULATORY IMPACT STATEMENT:** | N/A |
| 11. | **SMALL BUSINESS IMPACT STATEMENT:** | Supports grain producers. |
| 12. | **URGENCY:** | To be determined. |
| 13. | **RECOMMENDATIONS:** | It is recommended that Cabinet adopts Outer Harbor (Berth 8) as the site for the deep-sea grain port at the port of Adelaide on the following varied conditions: |

4.1 Flinders Ports agrees to vary the Ports Corp sale agreement to:

4.1.1 replace the "Base Case" site with the Berth 8 site;

4.1.2 quarantine the savings resulting from the reduced dredging requirement for defined port related infrastructure on the basis that Flinders Ports and the State will each be able to direct 50% of the quarantined savings toward defined port infrastructure of their choice;

4.1.3 replace the parcel of land that was to be provided to Flinders Ports to support wharf activities near the "Base Case" site with a suitable parcel of land near the Berth 8 wharf site, on the same terms and conditions negotiated for the original "Base Case" land.

4.2

Clause 7(1)(b) Contains commercial value to any agency or any other person

Michael Wright, MP
**MINISTER FOR TRANSPORT**

19/09/2002

**TO: PREMIER FOR CABINET**

**RE: DEEP-SEA GRAIN PORT FOR ADELAIDE**

## 1. PROPOSAL

1.1 That Cabinet endorses the selection of Outer Harbor (Berth 8) as the site for a new deep-sea grain port and approves the key terms and conditions negotiated with AusBulk Ltd (the preferred grain handler) and Flinders Ports (the port operator) with regard to the grain wharf and terminal development.

## 2. BACKGROUND

2.1 The Major Projects and Infrastructure Cabinet Committee requested that a review be undertaken of the decision of the former Government to locate a deep-sea grain port at Outer Harbor (at the "Base Case" site near the power station).

2.2 The main aim of the review is to recommend a strategy that will achieve the best long-term outcome for the operations of the South Australian ports and the optimal use of the money set aside from the proceeds of the Ports Corp sale to support the grain industry in the State.

2.3 Major Projects Group has undertaken that review in consultation with industry and Government agencies and a report of the review is attached.

2.4 A brief history of the proposed grain port development is contained in the report and is also provided at Appendix A.

2.5 Recommendations that flow from the review and subsequent negotiations with AusBulk and Flinders Ports are discussed herein.

2.6 An important development over the past two years has been the fracturing of the grain industry caused by increasing competition between key players such as AusBulk and the Australian Wheat Board and Australian Barley Board. The result is that not all sections of the grain industry continue to support a deep-sea port at the port of Adelaide - the Australian Wheat Board and the Australian Barley Board are now jointly advocating a deep-sea port at Port Stanvac.

## 3. DISCUSSION

3.1 The scope and key conclusions of the review are detailed in the report and summarised in Appendix B.

3.2 The main conclusion of the review is that the deep-sea grain port should be located at Outer Harbor (Berth 8), rather than the "Base Case" or other locations at Port Adelaide, in order to minimise the cost and risk of dredging the Port River and to better position the grain industry with respect to any subsequent move to a 14 metre deep channel at Outer Harbor.

(Note that, the "Base Case" was initially predicated on retaining the vacant land to the north/north-east of the existing container terminal (the "Title C" land) for a possible second container terminal. As the recommended Berth 8 option offers the flexibility of a second container terminal through the construction of a multi-purpose wharf, and there continues to be sufficient land on "Title C" for container terminal and other wharf development, it is now considered that there is no need to embargo this land for grain purposes.)

3.3 The Port Stanvac alternative proposed by the grain marketing boards is not recommended ahead of Outer Harbor (Berth 8) primarily because the future development of Outer Harbor and the deepening of the port will be important for containers and other commodities, as well as grain, and the concern about overspending on infrastructure if facilities are duplicated. Further, there are concerns about the community impact issues of freight trains along the southwest rail corridor and the anticipated high and uncertain cost associated with the upgrade of rail and road infrastructure and of dealing with the community impact issues.

3.4 At Port Stanvac, the Government is faced with uncertain cost implications, risk that the facility will not be suitable for loading grain without down-time due to adverse weather conditions, and a range of potential traffic network and community impact issues to manage and resolve, with no funds allocated for the works that may be required. The feasibility of the Port Stanvac proposal is not proven and there have been no environmental impact or environmental consultation processes undertaken. The Port Stanvac option also exposes the Government to litigation and losses relating to agreements in place by the former Government at Outer Harbor. On the other hand, the Outer Harbor option is consistent with the Government's contractual arrangement with Flinders Ports and the former Government's commitments to AusBulk and the grain industry.

3.5 The key components of the Outer Harbor port development and how they were to be delivered under the arrangement agreed to by the former Government are shown in Appendix C.

3.6 In the context of the existing arrangements, the selection of Outer Harbor (Berth 8) has the following key effects:

3.6.1 Aspects of the Ports Corp sale agreement need to be renegotiated with Flinders Ports to take account of the shift from the "Base Case" to Berth 8 and to specifically deal with the savings (estimated at $15M+) that would result from the reduced dredging requirement.

3.6.2 As with the "Base Case", the Berth 8 location will generate a need for an investment in infrastructure to deal with operational and community impact issues. The former Government gave a "best endeavours" commitment to the grain industry to provide infrastructure that would facilitate the grain port and, in particular provide an efficient rail and road system - $7M was allocated from the Ports Corp sale proceeds to fund this infrastructure. The cost of providing this infrastructure and dealing with community impact issues resulting from the increased freight traffic up the Le Fevre Peninsula is now estimated at around $23M, although it may be possible to defray some of the rail upgrade costs (say $3M) to the track owner, Australian Rail Track Corporation.

3.7 Consideration has been given to the optimal and most cost effective way to deliver the Outer Harbor (Berth 8) option from the Government's perspective. The delivery strategy will involve re-negotiations with both Flinders Ports and AusBulk.

Flinders Ports

3.8 Flinders Ports fully supports the Berth 8 option and is prepared to vary the Ports Corp sale agreement to reflect a change from the "Base Case".

3.9 The variation would include the provision of suitable land near Berth 8 to support wharf activities – this land would replace the parcel of land that was to be provided to Flinders Ports near the "Base Case" wharf site and would be provided on the same terms and conditions negotiated for the original "Base Case" land (i.e. long term tenure at peppercorn).

3.10 The critical issue with Flinders Ports is the treatment of the estimated $15M+ savings from the reduced dredging and in this regard Flinders Ports has indicated that it would agree to the following arrangement.

3.10.1 Agreement would be reached on the amount of the savings in a transparent way with Government able to review costs and ensure that competitive bids were obtained for major works.

3.10.2 The savings would then be quarantined to fund investment in defined port related infrastructure in the port of Adelaide area. Port related infrastructure would be defined to include channel deepening, berth pockets, wharves, and rail infrastructure servicing the port.

3.10.3 Flinders Ports and the State will each be able to direct 50% of the quarantined savings toward defined port infrastructure. This would enable the State to divert up to 50% of the savings to fund rail infrastructure, such as the proposed rail bridge, if it wished to.

3.11 Flinders Ports has made it clear that its preference is for all of the savings to be used to deepen the existing Outer Harbor channel from 12.2 metres to 14 metres to enable larger container ships to call at the port. It fears that container ships would refuse to call at Adelaide once Port Melbourne deepens its channel as it proposes to do by 2005.

3.12 The variation proposed above provides Government with the flexibility to direct the savings to the deepening of the Outer Harbor channel if a business case is proven or to fund other infrastructure if that is preferred.

AusBulk

3.13 Three strategies have been identified with regard to the delivery of the grain terminal and associated infrastructure. The strategies, discussed in Appendix D, range from dealing exclusively with AusBulk, to re-tendering the preferred grain handler status, to deferring the development.

3.14 The preferred delivery option is to deal with AusBulk as that strategy (as detailed in 3.14) will achieve the Government's funding goals and also:

3.14.1 Minimises the risk of litigation, particularly from AusBulk.

3.14.2 Is consistent with the "commitments" of the former Government to the grain industry and AusBulk.

3.14.3 Can be progressed relatively quickly.

3.15

Clause 7(1)(b) Contains commercial value to any agency or any other person

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|---|
| |

3.16 The proposed strategy with Flinders Ports provides an opportunity to optimise the use of funds set aside from the sale of Ports Corp in a way that takes regard of the existing contract with Flinders Ports. The proposed strategy with AusBulk takes into account the former Government's "commitments" to AusBulk and the grain industry but substantially reduces Government's exposure to the grain port development by requiring the industry to fund the land infrastructure on the site and to contribute financially to investment in other infrastructure.

3.17 Together, the proposed agreements with Flinders Ports and AusBulk detailed above represent a vastly improved funding position for the Government relative to the funding position offered by the former Government. The savings are estimated below.

Savings with respect to proposed new AusBulk arrangement:

| Clause 7(1)(b) Contains commercial value to any agency or any other person |
|---|
| |

$16.0M

Savings with respect to proposed new Flinders Ports arrangement:

Dredging savings $15.0M +
(to be quarantined for alternative port related infrastructure)

**Potential for industry cooperation**

3.18 The South Australian Farmers Federation, AusBulk, and the grain marketing boards have been encouraged to meet to canvass opportunities for industry cooperation in support of a Outer Harbor solution. We understand that AusBulk has recently offered to joint venture the Outer Harbor development with the grain marketing boards subject to conditions. It is considered unlikely that these negotiations will progress further until a definitive decision is made by Government to support Outer Harbor in preference to any development of facilities for grain at Port Stanvac.

## 4. RECOMMENDATIONS

It is recommended that Cabinet adopts Outer Harbor (Berth 8) as the site for the deep-sea grain port at the port of Adelaide on the following varied conditions:

4.1 Flinders Ports agrees to vary the Ports Corp sale agreement to:

4.1.1 replace the "Base Case" site with the Berth 8 site;

4.1.2 quarantine the savings resulting from the reduced dredging requirement for defined port related infrastructure on the basis that Flinders Ports and the State will each be able to direct 50% of the quarantined savings toward defined port infrastructure of their choice;

4.1.3 replace the parcel of land that was to be provided to Flinders Ports to support wharf activities near the "Base Case" site with a suitable parcel of land near the Berth 8 wharf site, on the same terms and conditions negotiated for the original "Base Case" land.

4.2

Clause 7(1)(b) Contains commercial value to any agency or any other person

RECEIVED 19 SEP 2002 Premier's Dept.

Michael Wright, MP
**MINISTER FOR TRANSPORT**

19/09/2002

8 OCT 2002

APPROVED PREMIER

Cabinet, 26 Sept, authorised 6 decide Premier to negotiate, if not make amount. The Leader to Cabinet to formally authorise

## Appendix A – A brief history of the deep-sea grain port development

As part of the Ports Corp sale process, the former Government decided to support and partly fund the development of a deep-sea grain port at Outer Harbor to enable the State's grain industry to benefit from the worldwide shipping trend towards the larger Panamax vessels that generate significant savings in sea freight costs.

The proposed development involves the construction of a berth pocket and new grain wharf, the deepening of the channel up to the new grain wharf, and the provision of rail and road infrastructure. It is also proposed that the grain industry will construct a new grain terminal in close proximity to the wharf.

The decision to develop a deep-sea grain port at Outer Harbor effectively replaces the key recommendation of the Deep Sea Port Investigation Committee that nominated Port Adelaide Inner Harbour as the new deep-sea grain port of South Australia east of Spencer Gulf.

To facilitate the grain port development, the former Government placed a contractual obligation on the new owner of Ports Corp (Flinders Ports) to construct a new grain wharf and associated dredging at the "Base Case" site at Outer Harbor.. (The "Base Case" is the documented preferred site immediately in front of the Pelican Point power station.)

Under this arrangement the Government is effectively funding the cost of the dredging and new wharf, notionally estimated by Flinders Ports at $45M, from the foregone proceeds of the sale of Ports Corp. (Note that, the Ports Corp sale documentation does not contemplate a refund of any money from Flinders Ports other than in the circumstance where the dredging and wharf work cannot be completed for any reason.)

The former Government selected AusBulk as the preferred grain handler; to be given the opportunity to construct and own the new grain terminal to be constructed on 6 hectares of Government land at Outer Harbor, leased for 99 years at a peppercorn rental. It was also proposed to lease at market rates a further 19 hectares of land to the preferred grain handler for future development.

The former Government offered to provide certain land-based infrastructure on a "best endeavours" basis and allocated up to a further $7M from the Ports Corp sale proceeds for this purpose. The infrastructure included upgraded rail and road aimed at providing fast and efficient freight services to the terminal.

As more information has been obtained on a range of matters, including dredging of the Port River channel, the land based infrastructure required, and the emerging views of different industry stakeholders, it has become clear that there is a need to review the decision to locate a deep-sea port and associated grain wharf/terminal at the port of Adelaide.

An important development has been the relatively recent fracturing of the grain industry caused by increasing competition between key players such as AusBulk and the Australian Wheat Board and Australian Barley Board. The result is that not all sections of the grain industry continue to support a deep-sea port at the port of Adelaide - the Australian Wheat Board and the Australian Barley Board are now jointly advocating a deep-sea port at Port Stanvac.

## Appendix B – Scope of review and key conclusions

### Scope of review

The review evaluated three deep-sea grain port options at the port of Adelaide:

1. Part Panamax at Port Adelaide Inner Harbour.

2. Full Panamax at Port Adelaide Inner Harbour.

3. Full Panamax at Outer Harbor.

These alternatives were evaluated against each other based on the findings of the Deep Sea Port Investigation Committee (as reported in its Final Report, 1999) updated for recent trends and information received from industry sources.

It was agreed early in the review that the Outer Harbor "Base Case" site was not the optimal site for location of the new wharf and that, if the deep-sea grain port is to be located at Outer Harbor, the wharf should be sited at Berth 8 rather than at the "Base Case".

The review also considered two alternative grain delivery strategies:

1. A long conveyor belt between AusBulk's existing Gillman, Inner Harbour site and a new grain wharf at Outer Harbor.

2. A proposal for the grain terminal and wharf to be located at Port Stanvac, as proposed by the grain marketing boards.

Site plans these options (other than the Part Panamax option) are attached.

### Key conclusions of review

The following key conclusions are drawn from the review:

1. The economic case for a deep-sea grain port capable of fully loading Panamax class vessels at the port of Adelaide ranges from marginal to positive depending on the port option chosen and the assumptions made with regard to capital and operating costs and grain volumes. Although it is not conclusive, it can be argued that there is likely to be a benefit for the grain industry by moving to Full Panamax capability.

2. Of the Full Panamax capability options considered at the port of Adelaide, Outer Harbor (Berth 8) is regarded as the best option as it:

    2.1 Is more certain from both a cost and delivery perspective than the Inner Harbour option, mainly because dredging cost and risk are minimised.

    2.2 Will also better position the grain industry than would the Inner Harbour with respect to any subsequent move to a 14 metre deep channel to Outer Harbor.

3. Whilst the Port Stanvac alternative has some merit (such as: does not require dredging and supports Mobil operations at Port Stanvac) it is not recommended ahead of the Outer Harbor option in view of the:

   3.1 Significant adverse community impact of freight trains on the 20 km southwest rail corridor – noise and level crossing impacts on a line that has not carried significant commercial traffic for around 25 years.

   3.2 Very high and uncertain potential cost and funding of the upgrade of rail and road infrastructure and the cost of dealing with the community impact issues.

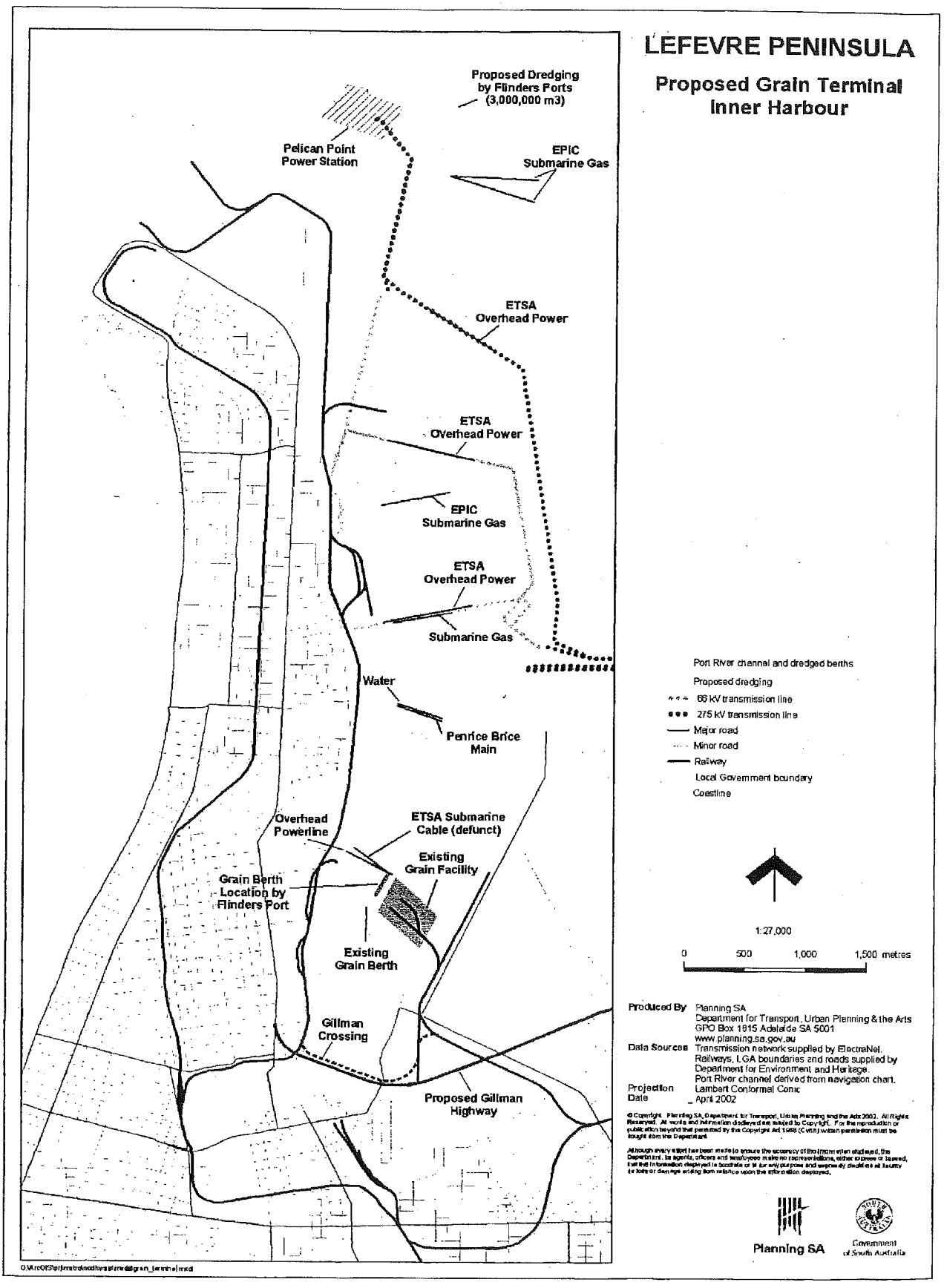
   3.3 Possible unreliability of the port due to exposure to weather.

   3.4 Conflict with the contractual arrangement with Flinders Ports that assumes a deep-sea grain port at Outer Harbor.

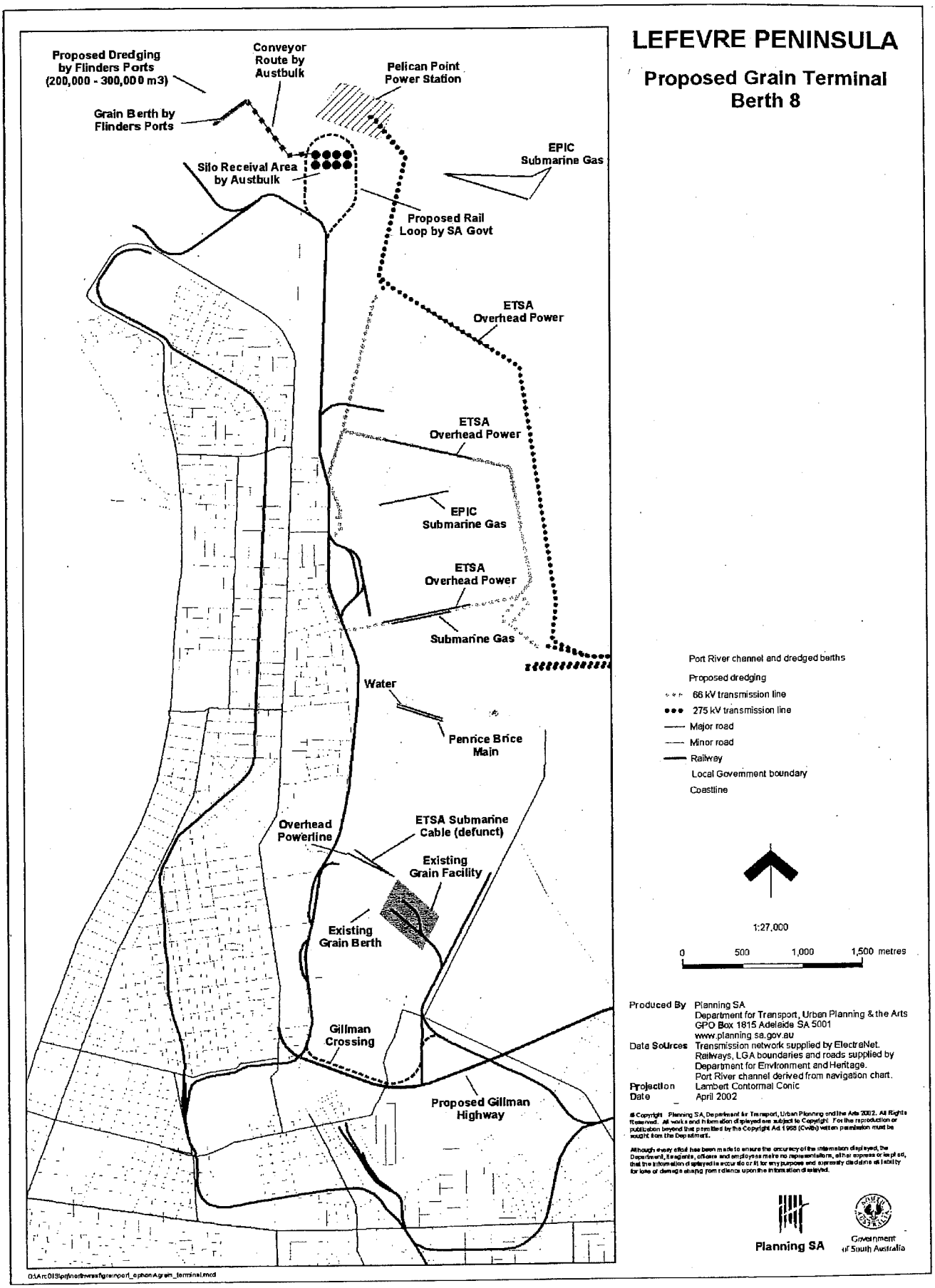
4. The Long Conveyor Belt option and other alternative strategies including sea transhipment (tug barges, self discharging vessels), floating barges, capsule pipeline systems, are not feasible on economic and/or operational and technical grounds.

5. In light of the diverging positions of AusBulk and the Australian wheat and barley marketing boards with respect to possible alternative deep-sea grain port locations, there is a risk that the State will invest in a development that does not receive the full support of the grain industry and could be under-utilised.

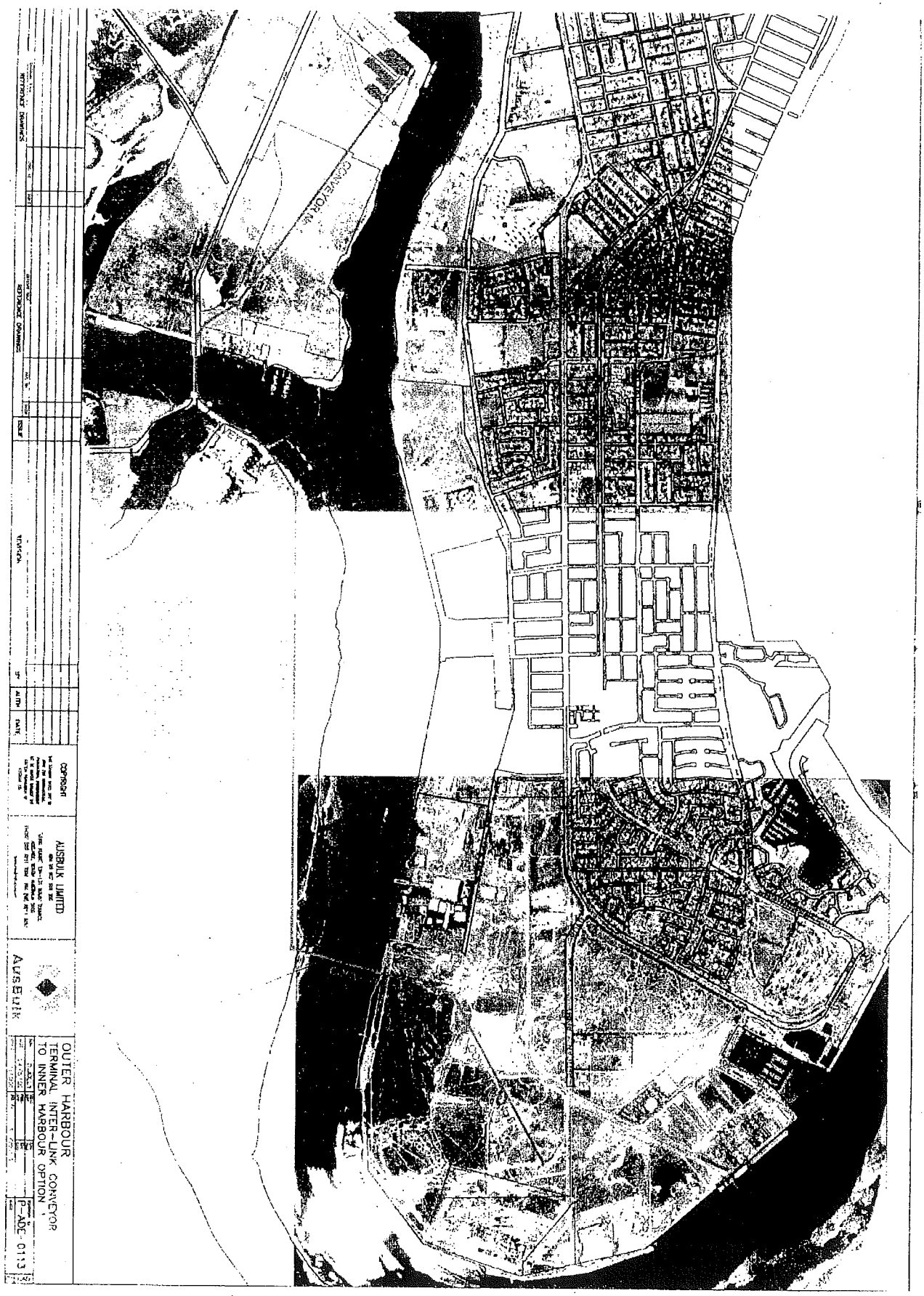
# FULL PANAMAX AT PORT ADELAIDE INNER HARBOR



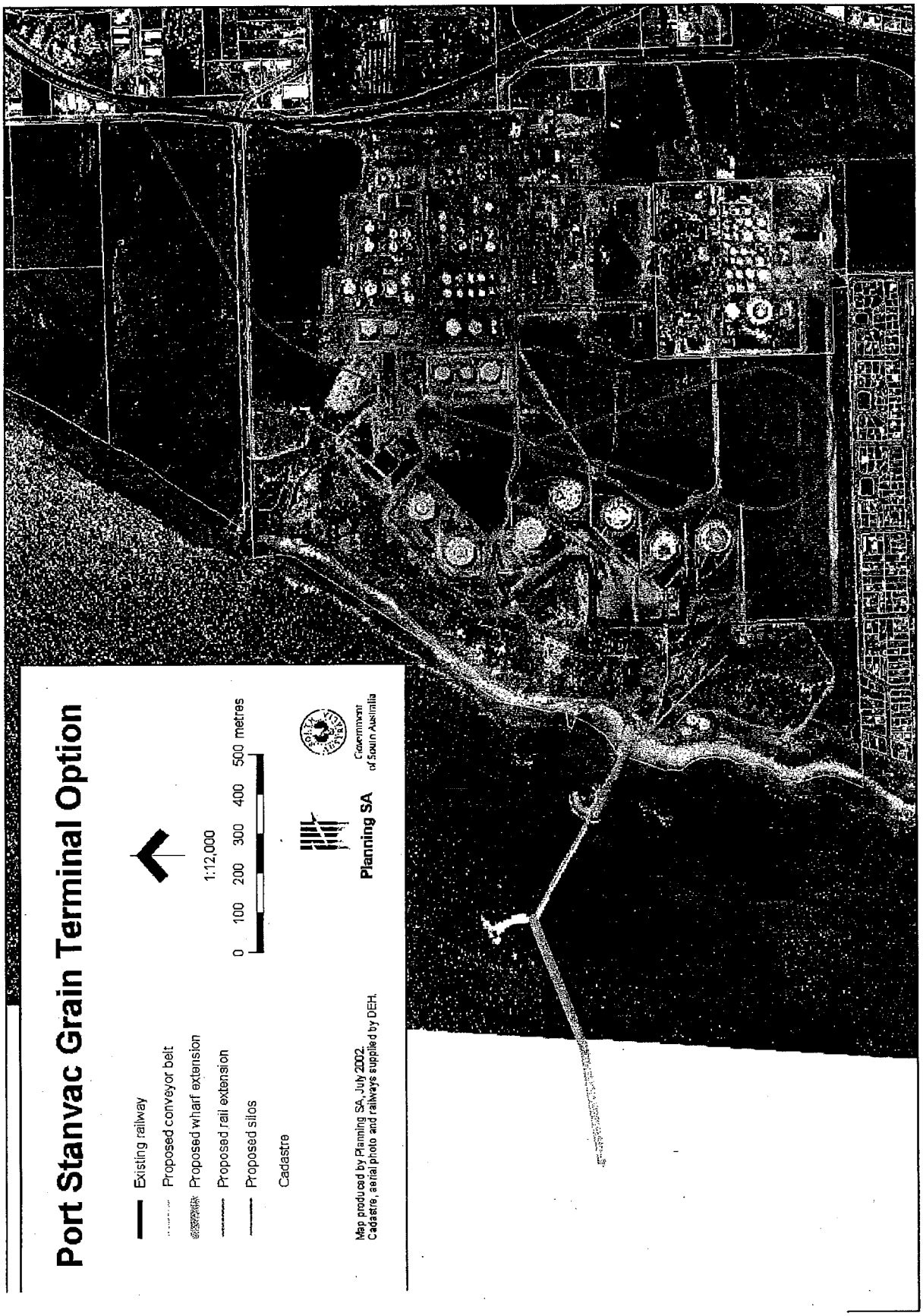
# FULL PANAMAX AT OUTER HARBOR (BERTH 8)



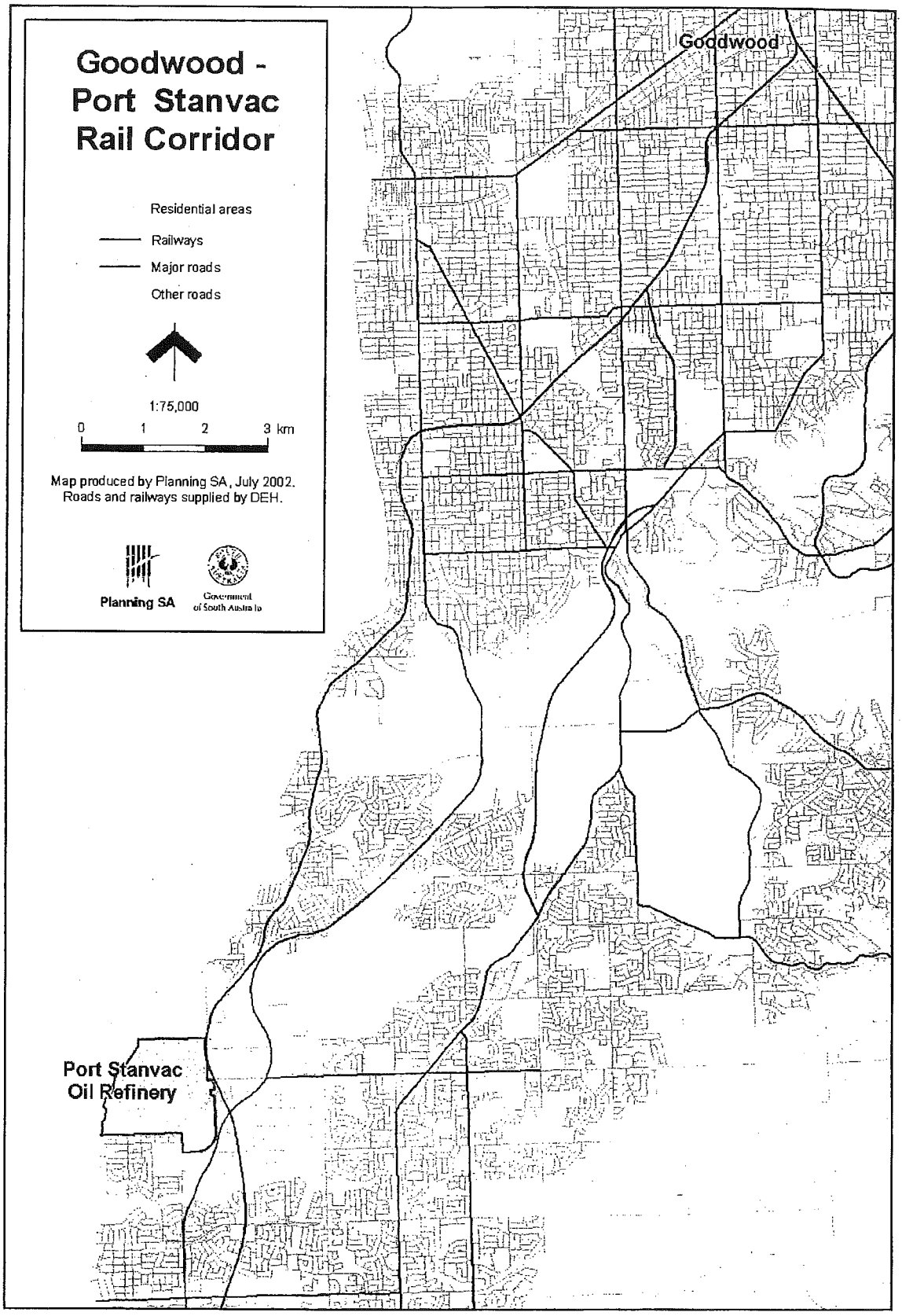
# LONG CONVEYOR BELT OPTION



# PORT STANVAC OPTION (TERMINAL AND WHARF)



# PORT STANVAC OPTION (RAIL ROUTE)



## Appendix C – Delivery of Outer Harbor (Berth 8) option under existing arrangements

The key components of the port development and how they were to be delivered under the arrangement agreed to by the former Government are shown in the following table.

| Component of port development | Estimated cost of Outer Harbor, Berth 8 | To be delivered by? | How funded? |
|---|---|---|---|
| Dredging | $9.0M | Flinders Ports | "Foregone proceeds" of Ports Corp sale |
| New grain wharf | $21.5M | Flinders Ports | "Foregone proceeds" of Ports Corp sale |
| Rail loop | $3.0M | State | Allocation from Ports Corp sale proceeds on "best endeavours" basis. |
| Services | $6.0M | State | Allocation from Ports Corp sale proceeds on "best endeavours" basis. |
| Rail and road upgrade | $14.0M | State | By State on "best endeavours" basis |
| New grain terminal, conveyor belt, loader/unloader | Clause 7(1)(b) AusBulk | | AusBulk funds |
| Rail bridge | $26.0M | State/private | Not committed, possible private participation |

The following key points should be noted.

1. The contract entered into with Flinders Ports for dredging and the new grain wharf relates to the Outer Harbor, "Base Case". The decision to move to Berth 8 means that this aspect of the Ports Corp sale agreement will need to be re-negotiated with Flinders Ports taking account of the treatment of any savings (from reduced dredging) that would be generated by the move from the "Base Case" to Berth 8.

3. The former Government gave a "best endeavours" commitment to the grain industry to provide infrastructure that would facilitate the grain port and, in particular provide an efficient rail and road system - $7M was allocated from the Ports Corp sale proceeds to fund this infrastructure. The infrastructure was specifically to include a rail loop and services.

4. The Outer Harbor grain port will result in new grain traffic up the Le Fevre peninsula, particularly by rail, and the consequences of this increased traffic will require attention - $14M has been estimated as the cost to deal with: track upgrade along the existing rail corridor ($5M); rationalising private crossings along the eastern peninsula rail track ($5M); road upgrade ($1M), and dealing with community impact issues ($3m for noise attenuation etc).

5. Clause 10(1) Legal Professional Privilege

6. Notwithstanding any contractual obligation by the State, location of the grain port at Outer Harbor will generate a need for an investment in infrastructure to deal with operational and community impact issues.

## Appendix D – Delivery strategy options for grain terminal and associated infrastructure

The following strategic options are aimed at delivering the Outer Harbor (Berth 8) in a cost effective manner, from a Government perspective.

Option 1 - Deal with AusBulk

This approach is to acknowledge the former Government's decision to give preferred grain handler status for the Outer Harbor development to AusBulk but to limit the Government's commitment to the development in order to reduce the level of State funding to the project.

AusBulk would construct the new grain terminal.

The aim of this option is to restrict Government's funding contribution for infrastructure, excluding the rail bridge, to no more than the original allocation of $7M.

The reduced Government funding could be achieved by negotiating contributions from AusBulk with regard to the cost of the rail loop and services or by paying an above market rental on the Government land to be leased/sold to AusBulk.

Australian Rail Track Corporation funding of rail upgrades will also be sought.

Option 2 - Open tender for preferred grain handler

This approach is to re-tender the private participation in the grain terminal with the view that the competition within the industry will generate a market driven result that would minimise State funding.

This approach might elicit a private funding contribution to infrastructure that surpasses what might be negotiated in the first approach.

The main difficulty with this approach is that AusBulk will likely mount a legal challenge against a decision to appoint an alternative preferred grain handler.

Clause 10(1) Legal Professional Privilege

Option 3 - Defer the development

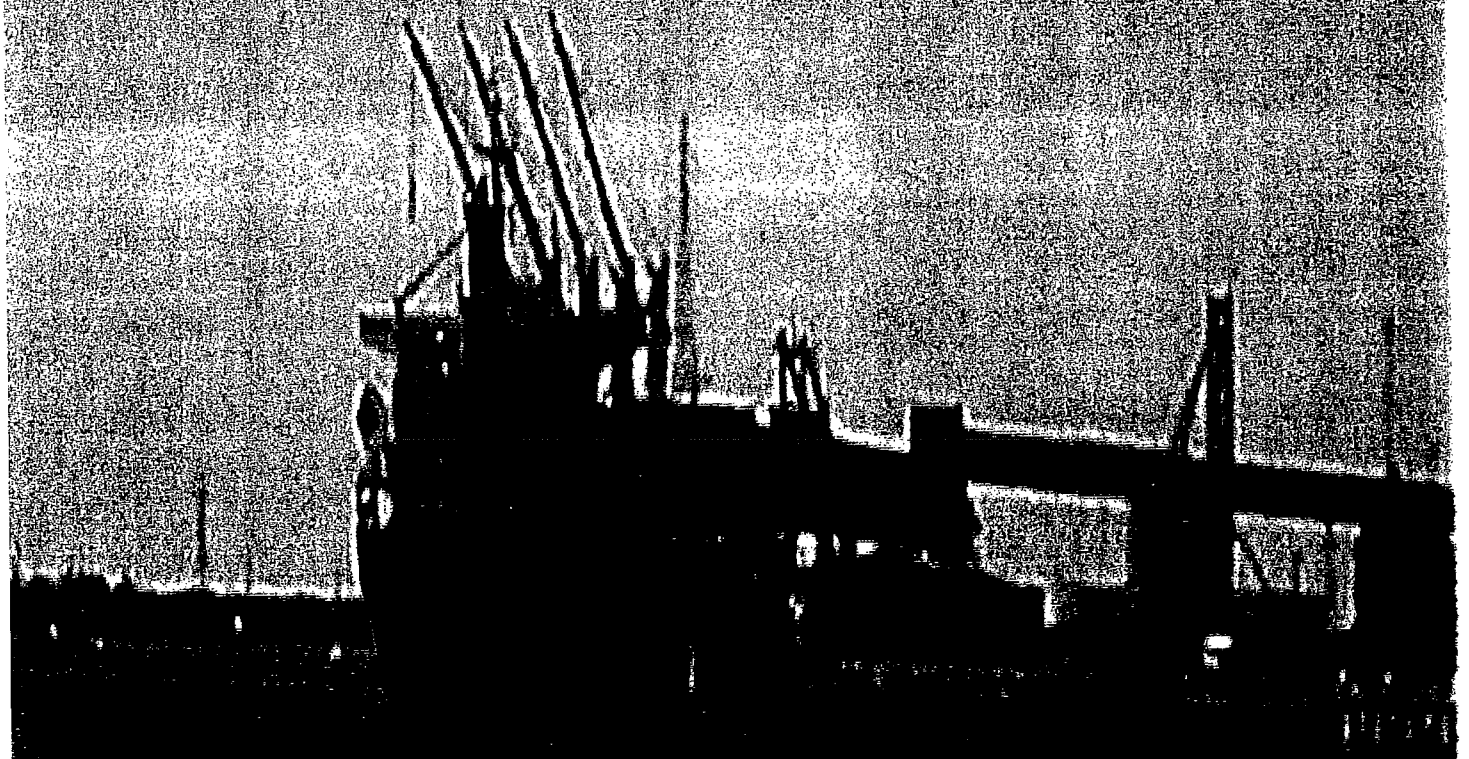
This approach is based on the uncertainty created by the fracturing of the grain industry as manifested in the Australian Wheat Board and Australian Barley Board proposal with respect to an alternative deep-sea grain port at Port Stanvac.

As not all sections of the grain industry support any one deep-sea grain port option at the port of Adelaide, it can be argued that the development should be deferred until a unified view is presented.

The effect of this may be an indefinite deferral, as the industry might not form a united front in the short to medium term.

There is a risk that the grain industry and AusBulk would test the contractual obligations of the State if the development were deferred.

# DEEP-SEA GRAIN PORT FOR ADELAIDE



## A REVIEW
## AUGUST 2002

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# 1. INTRODUCTION

## 1.1 Goal of review

The Major Projects and Infrastructure Cabinet Committee (MPICC) has asked the DAIS Major Projects Group (MPG) to undertake a review of the decision to locate a deep-sea grain port at the port of Adelaide.

The goal of the review is to:

> ***Achieve the best long-term outcome for the operations of the South Australian ports and the optimal use of the money set aside (from the proceeds of the sale of Ports Corp) to support the grain industry in the State.***

## 1.2 Scope of review

This review focuses on three alternatives for grain export at the port of Adelaide:

1. Part Panamax at Gillman, Port Adelaide Inner Harbour.
2. Full Panamax at Gillman, Port Adelaide Inner Harbour.
3. Full Panamax at Outer Harbor.

These alternatives are evaluated against each other based on the findings of the Deep Sea Port Investigation Committee (as reported in its Final Report, 1999), updated for recent trends and information received from industry sources.

In addition to these three alternatives, the review considers two alternative grain delivery strategies:

1. A long conveyor belt between AusBulk's existing Gillman (Inner Harbour) site and a new grain wharf at Outer Harbor.
2. Location of the grain terminal and wharf at Port Stanvac, as recently proposed by the grain marketing boards.

The location of the deep-sea grain port will affect infrastructure requirements, the community, and potentially other Government projects. These are also addressed in this review with particular focus given to the proposed Port River - 3rd River Crossing – rail-bridge and Land Management Corporation's Port Waterfront Redevelopment Project.

**Note: this review adopts a whole of State approach to the evaluation of the port options. The question of the extent to which the Government or the private sector should fund the development is a secondary consideration in this report.**

## 1.3 Brief history

As part of the Ports Corp sale process, the former Government decided to support and partly fund the development of a deep-sea grain port at Outer Harbor.

(A deep-sea grain port is defined as a port capable of fully loading Panamax class vessels that have the capacity to carry over 50,000 DWT.)

The proposed development involves the construction of a berth pocket and new grain wharf, the deepening of the channel up to the new grain wharf, and the provision of rail and road infrastructure. It is also proposed that the grain industry will construct a new grain terminal in close proximity to the wharf.

The Outer Harbor development would enable the State's grain industry to benefit from the worldwide shipping trend towards the larger Panamax vessels that generate significant savings in sea freight costs.

The decision to develop a deep-sea grain port at Outer Harbor effectively replaces the key recommendation of the Deep Sea Port Investigation Committee, 1999 that nominated Port Adelaide Inner Harbour as the new deep-sea grain port of South Australia east of Spencer Gulf.

To facilitate the grain port development, the former Government placed a contractual obligation on the new owner of Ports Corp (Flinders Ports) to construct a new grain wharf and associated dredging at the "Base Case" site at Outer Harbor. (The "Base Case" is the documented preferred site immediately in front of the power station.)

Under this arrangement the Government is effectively funding the cost of the dredging and new wharf, notionally estimated by Flinders Ports at $45M, from the foregone proceeds of the sale of Ports Corp.

(Note that the Ports Corp sale documentation does not contemplate a refund of any money from Flinders Ports other than in the circumstance where the dredging and wharf work cannot be completed for any reason.)

The former Government selected AusBulk as the preferred grain handler: to be given the opportunity to construct and own the new grain terminal on Government land at Outer Harbor (6 hectares leased for 99 years at a peppercorn rental).

The former Government also proposed to provide certain land-based infrastructure on a "best endeavours" basis and allocated up to a further $7M from the Ports Corp sale proceeds for this purpose. The infrastructure included upgraded rail and road aimed at providing fast and efficient freight services to the terminal.

An additional road bridge and also a rail bridge over the Port River has been separately proposed as part of a new traffic management strategy for the area that would in part divert freight traffic away from the centre of Port Adelaide. Utilisation of the rail bridge would increase if a new grain terminal were constructed at Outer Harbor, as grain would be transported up the peninsula.

As more information has been obtained on a range of matters, including dredging of the Port River channel, the land based infrastructure required, and the emerging views of different industry stakeholders, it has become clear that there is a need to review the rationale for the decision to locate a deep-sea port and associated grain wharf/terminal at the port of Adelaide.

## 1.4 Key stakeholders

The key stakeholders are:

- Flinders Ports – new private port operator, contracted to construct a new grain wharf and undertake associated dredging of the Port River channel.

- AusBulk - incumbent grain storage and handling operator in the State with facilities at Gillman in the Inner Harbour at the port of Adelaide, selected by the former Government as the preferred grain handler for the Outer Harbor development.

- Australian Wheat Board and Australian Barley Board - grain marketers.

- Grain farmers - main beneficiaries of the proposed deep-sea port development, represented by the South Australian Farmers Federation Grain Council.

- Government agencies - including Transport SA (Port River, 3rd River Crossing rail bridge and road bridge) and Land Management Corporation (Port River Waterfront Redevelopment Project and expected to have responsibility for a large portion of the vacant former Ports Corp land which has commercial and industrial development potential on the Le Fevre Peninsula).

- Australian Rail Track Corporation – wholly owned by the Federal Government, owns and manages the interstate mainline rail track upon which freight trains run.

# 2. CONTEXT

## 2.1 Approach to evaluation

The first step in this review has been to determine whether the move from Part to Full Panamax capability is justified on economic or other grounds. An important part of this analysis is the comparison of the incremental benefit to the incremental cost of moving from Part to Full Panamax capability.

The subsequent step is to decide on the best port option and this decision is essentially based on a comparison of the cost/benefit and the community impacts of each port option.

This evaluation initially adopts a whole of State approach and does not differentiate between the cost/benefit of Government and private stakeholders. The impact of each port option on State funding is, however, considered in Section 7 of this report.

Part Panamax capability at Inner Harbour has been adopted in this review as the minimum requirement for a port at Adelaide, against which the Full Panamax options are compared. The reasons for adopting this approach are:

- The study undertaken by the Deep Sea Port Investigation Committee (Reported 1999) shows a net economic benefit for the State's grain farmers if Panamax class grain vessels can be attracted to Adelaide.

- This benefit* will be derived as long as the port of Adelaide has at least Part Panamax capability so that the Panamax vessels are able to part load at Adelaide and top up in the deeper ports at Port Giles and Port Lincoln.

- If the port of Adelaide does not have at least Part Panamax capability the larger vessels are unlikely to call at the port and sections of the grain industry will not realise the potential benefits. Further, the industry is increasingly concerned that the lack of at least Part Panamax capability at the port of Adelaide would eventually result in the loss of key grain markets.

* The benefit of Panamax capability results from savings in:

Sea-freight costs – The larger a vessel's carrying capacity, the lower the per tonne sea freight rate.

Market perception costs – Customers wishing to use larger vessels but forced to use smaller vessels will impose a non-freight penalty through a lower price.

Grain holding costs – Grain is held in storage for a longer period than would be the case if larger vessels could be employed.

Loss of premium markets – Sales to markets with preference to larger vessels (and these include the main wheat markets of Yemen, Iran and Iraq) are jeopardised and could be lost.

Two-port loading costs – An additional direct sea freight cost applies to grain that is loaded on a ship that has had to load at two ports.

## 2.2 Main alternatives evaluated

The range of alternatives considered in this review, including the options for Part and Full Panamax capability and associated port loading options, are detailed below.

Part Panamax capability at Inner Harbour – upgrade of AusBulk's Gillman facility at Port Adelaide (Inner Harbour) to enable Panamax grain vessels to part load and then sail to Port Giles or Port Lincoln to top up. (Note: no need for grain to be transported across river). Requires:

- Minimal dredging to berth pocket and approaches.
- New grain wharf constructed at Berth 28 alongside AusBulk's existing wharf.
- New rail loop at AusBulk's existing operations.
- Upgrade of AusBulk's existing facilities, including new grain loader.

Full Panamax capability at Inner Harbour* – upgrade of AusBulk's Gillman facility at Port Adelaide (Inner Harbour) to enable Panamax grain vessels to fully load (note: no need for grain to be transported across river). Requires:

- Dredging of Port River channel to a depth of 12.2 metres to AusBulk's existing facility at Gillman plus dredging of a new 14 metre berth pocket.
- New Grain wharf constructed at Berth 28 alongside AusBulk's existing wharf.
- New rail loop at AusBulk's existing operations.
- Upgrade of AusBulk's existing facilities, including new grain loader.

Full Panamax capability at Outer Harbor (Berth 8)* – new grain wharf and terminal at Outer Harbor to enable Panamax grain vessels to fully load. Requires:

- Dredging of the channel at Outer Harbor up to the new grain wharf, to a depth of 12.2 metres along with a new 14 metre berth pocket.
- New grain wharf constructed at Outer Harbor.
- New grain terminal constructed by AusBulk in close proximity to the new wharf. Terminal will include a conveyor belt to the wharf and new grain loaders.
- New rail loop for grain delivery to the grain terminal.
- New services to the terminal.
- Upgrade of rail and road infrastructure required for efficient transportation of grain (note: includes consideration of new river crossings for both road and rail).

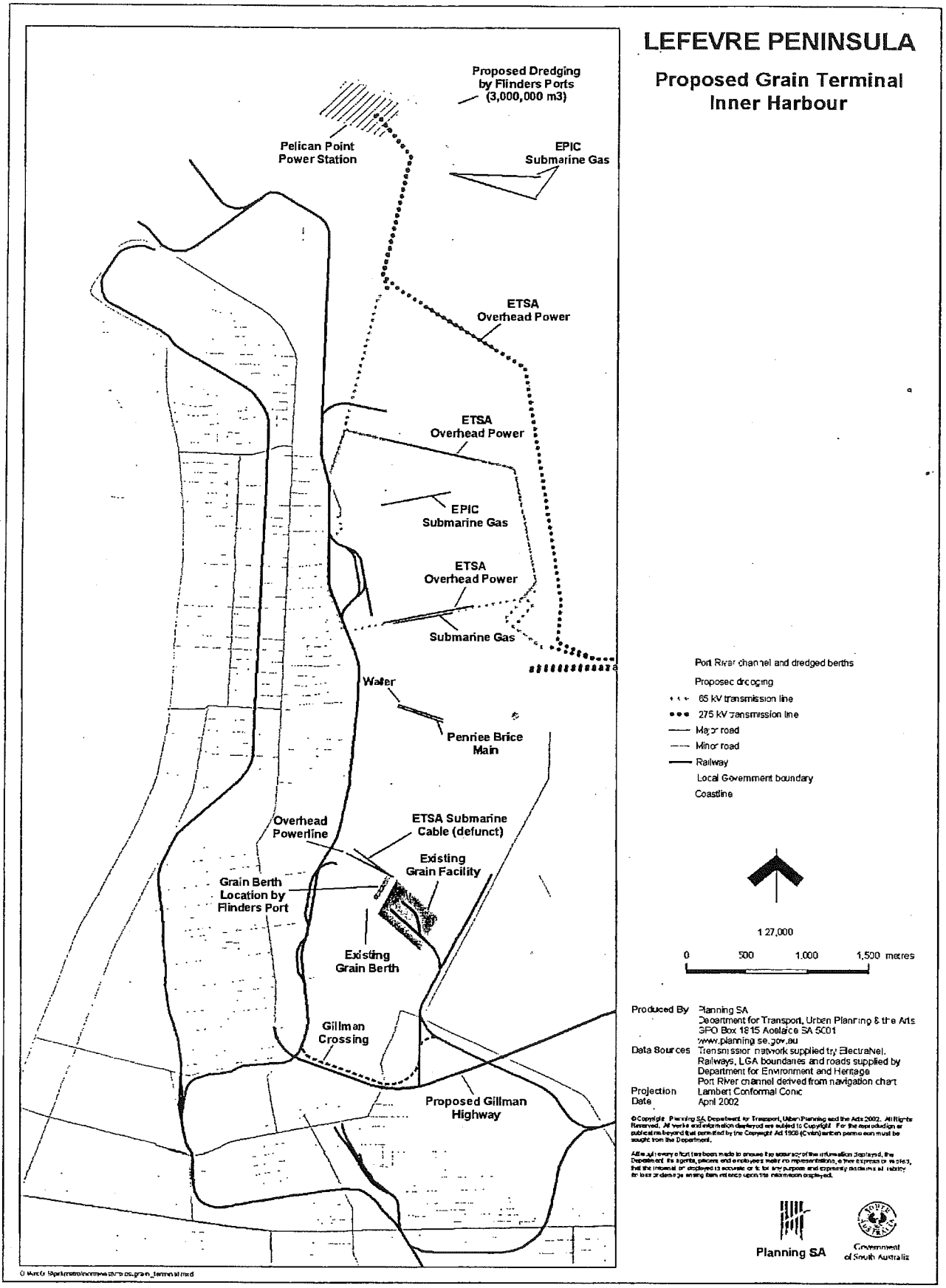
Long Conveyor Belt from Inner Harbour to Outer Harbor* – the need for upgraded rail and road infrastructure is effectively replaced by a long conveyor belt that links AusBulk's existing terminal facility at Gillman to a new grain wharf at Outer Harbor.

Port Stanvac* – new grain wharf and terminal at Port Stanvac to enable Panamax grain vessels to fully load. Proposed by the grain marketing boards and requires:

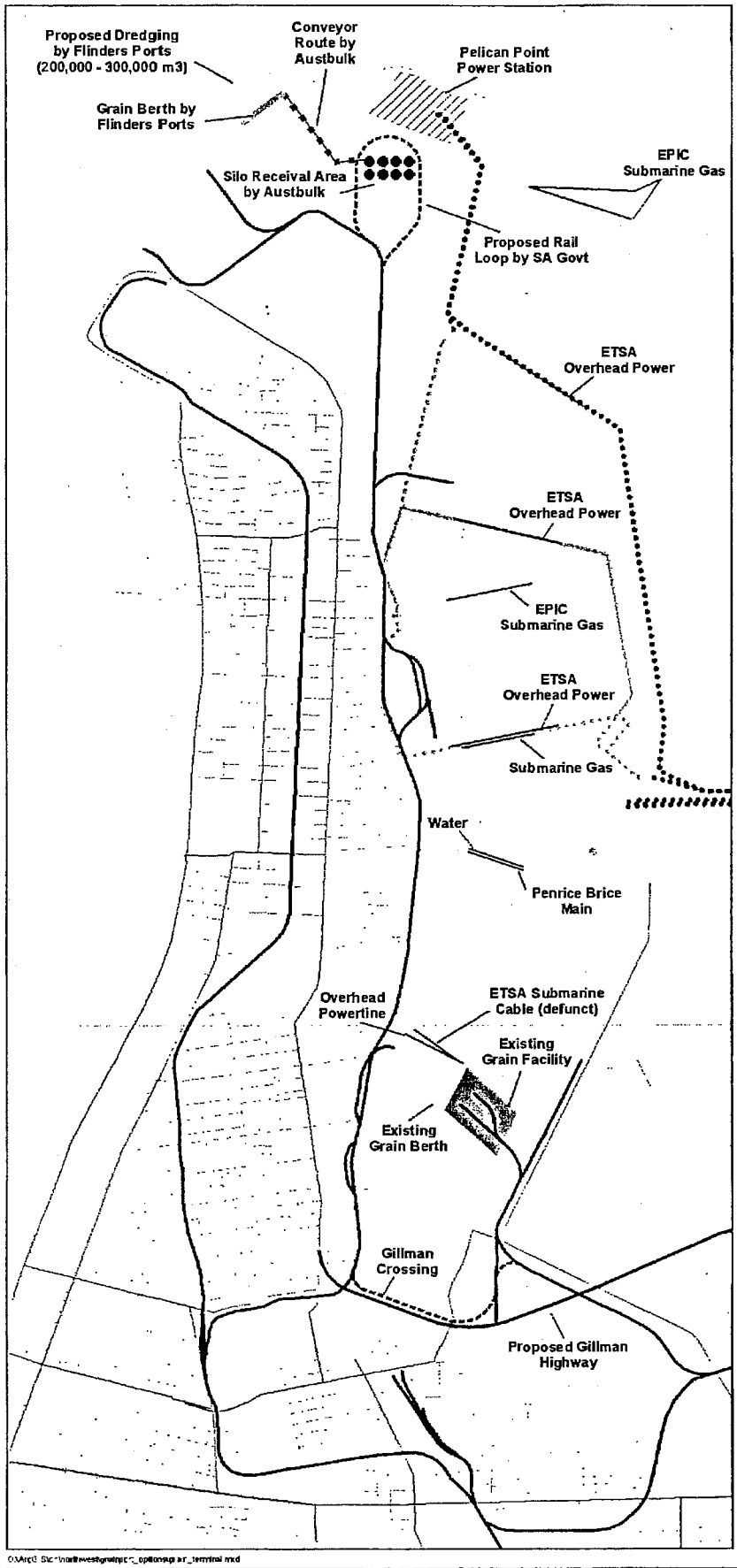
- An extension of the existing oil wharf by Australian Wheat Board and Australian Barley Board to cope with grain vessels.
- New grain terminal constructed by Australian Wheat Board and Australian Barley Board at the oil refinery site.
- New rail loop for grain delivery to the grain terminal.
- Conversion of the southwest rail corridor to standard gauge to handle freight trains.

*Site plans for these alternatives are on the following pages.

# FULL PANAMAX AT GILLMAN, INNER HARBOUR



# FULL PANAMAX AT OUTER HARBOR (BERTH 8)




## LEFEVRE PENINSULA

### Proposed Grain Terminal Berth 8

Port River channel and dredged berths
Proposed dredging
66 kV transmission line
275 kV transmission line
Major road
Minor road
Railway
Local Government boundary
Coastline

1:27,000

0 500 1,000 1,500 metres

Produced By: Planning SA, Department for Transport, Urban Planning & the Arts, GPO Box 1815 Adelaide SA 5001, www.planning.sa.gov.au

Data Sources: Transmission network supplied by ElectraNet; Railways, LGA boundaries and roads supplied by Department for Environment and Heritage; Port River channel derived from navigation chart

Projection: Lambert Conformal Conic

Date: April 2003



Planning SA

Government of South Australia

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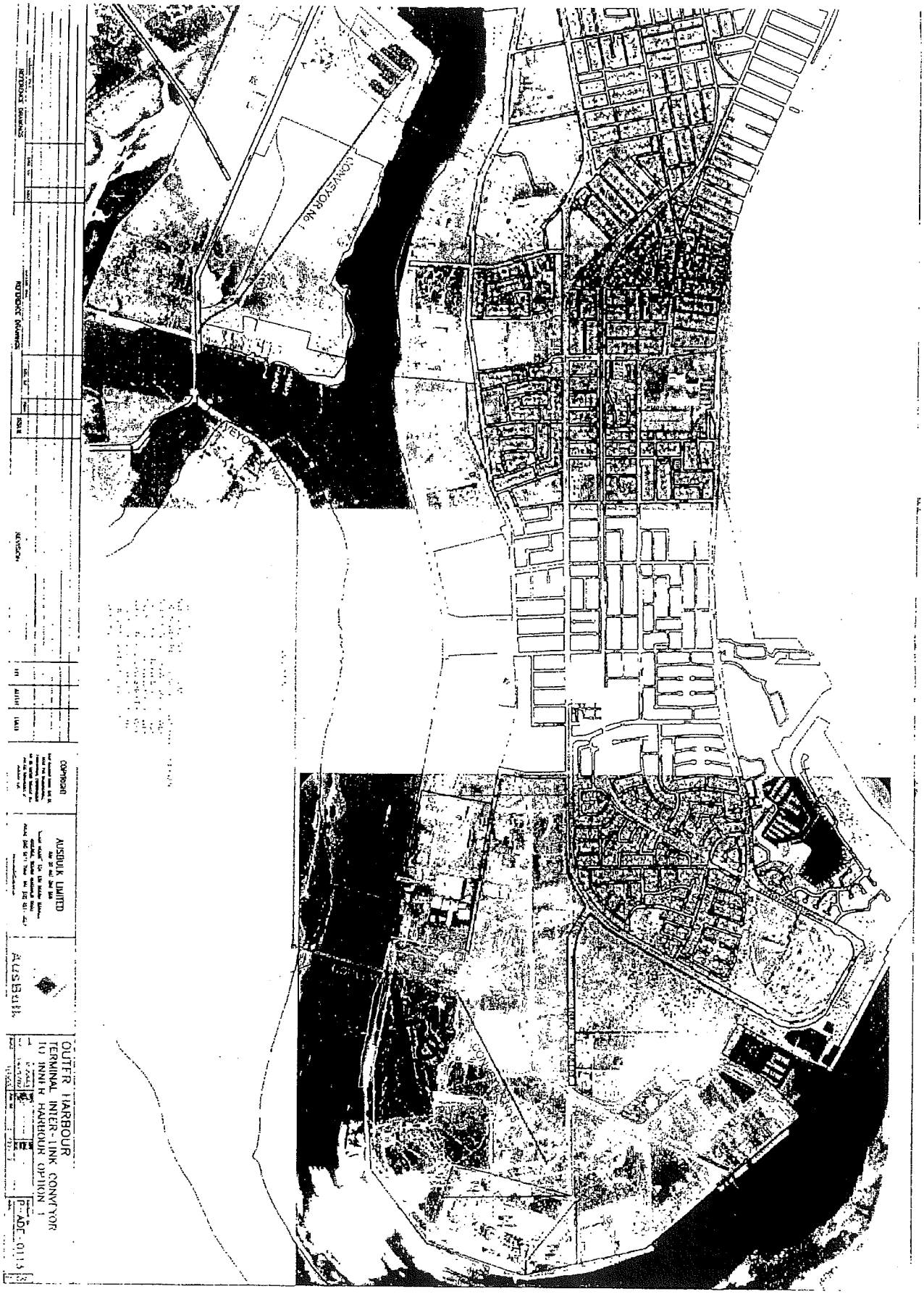
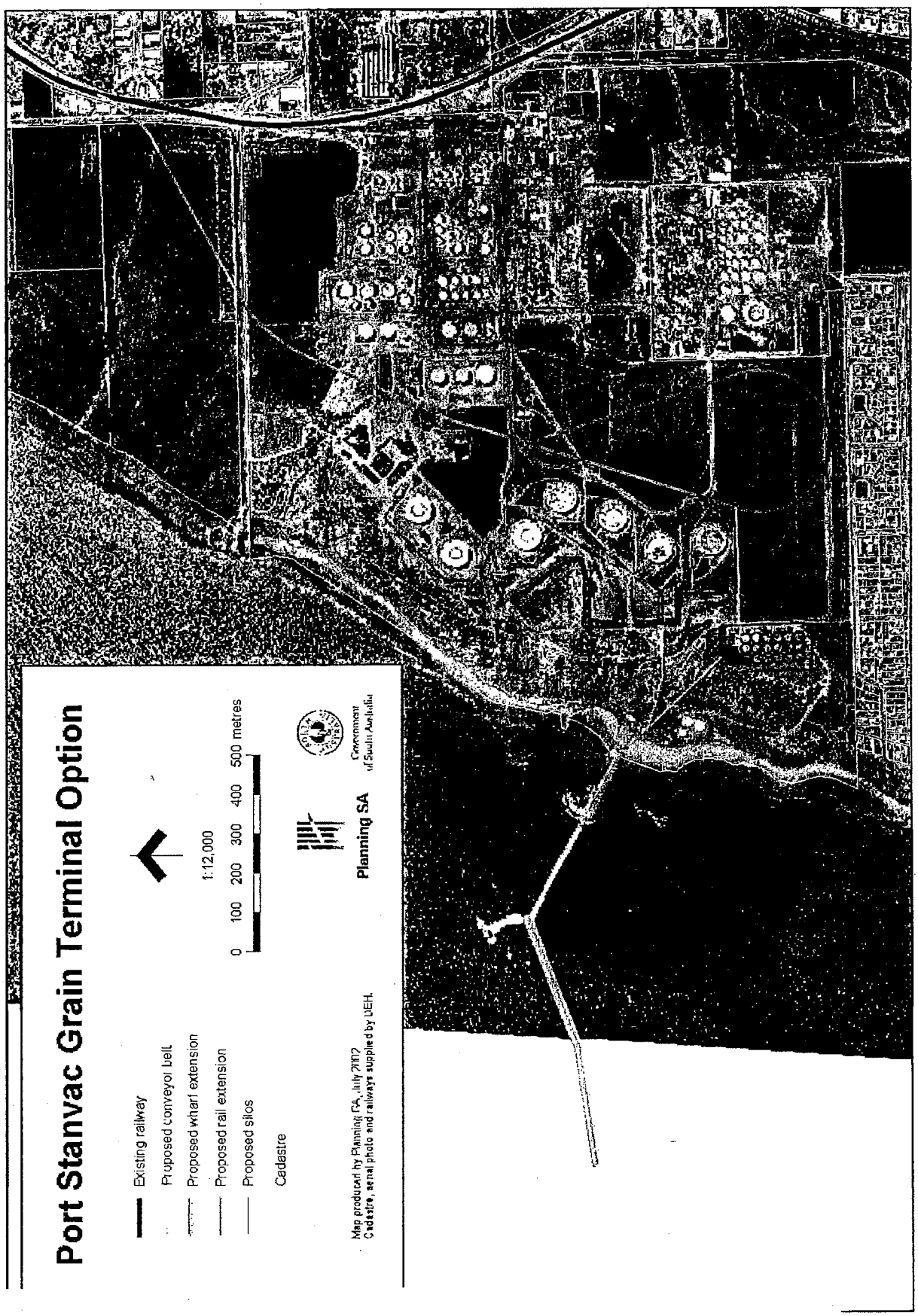
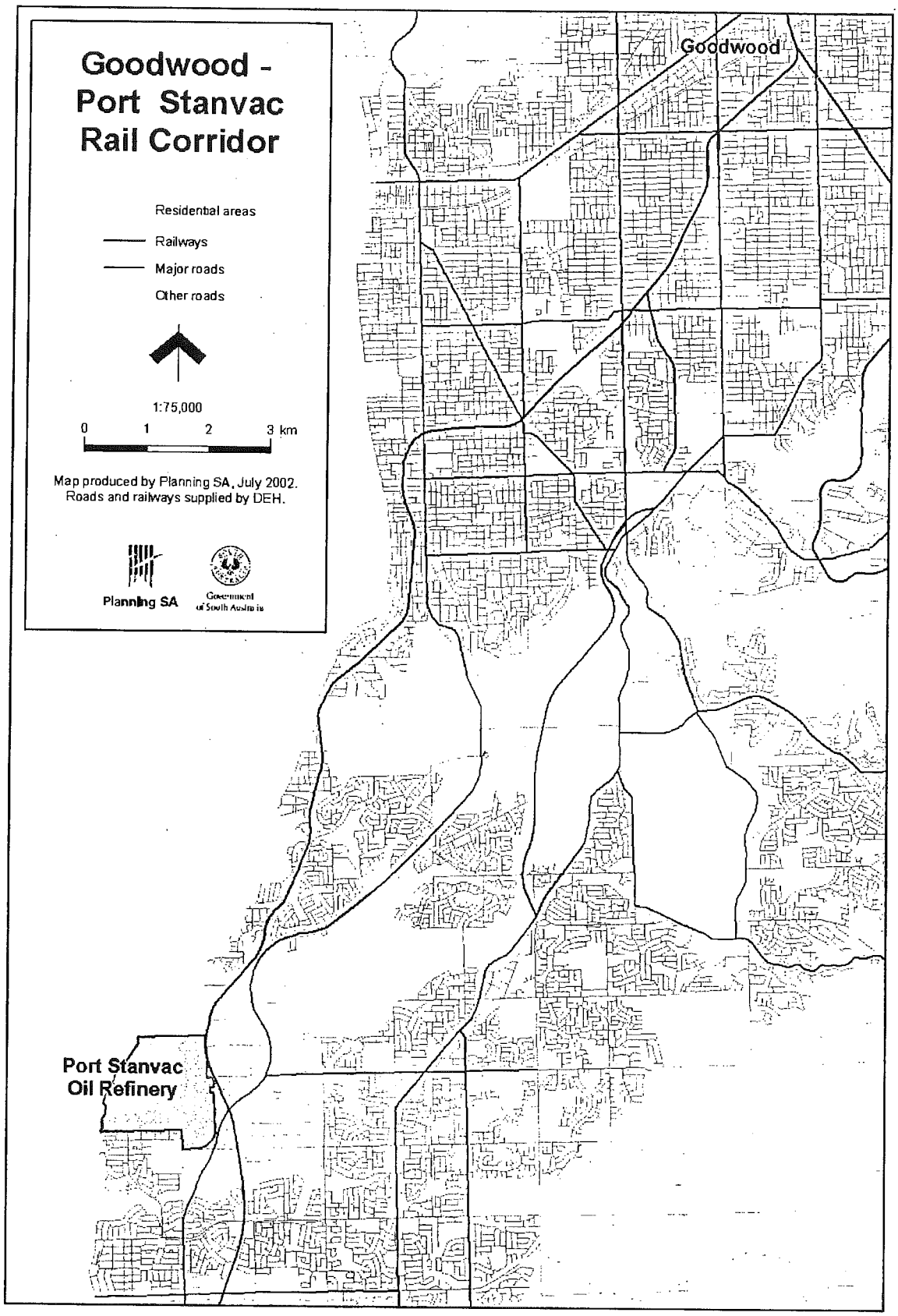
# LONG CONVEYOR BELT OPTION



# PORT STANVAC OPTION (TERMINAL AND WHARF)



# PORT STANVAC OPTION (RAIL ROUTE)



## 2.3 Outer Harbor - Base Case versus Berth 8

The Government and Flinders Ports have agreed to defer work on the "Base Case" port development at Outer Harbor pending the outcome of this review and further agreed to negotiate in good faith should the ultimate decision be to move away from the "Base Case".

There is agreement between Government and the key stakeholders that the "Base Case" site is not the optimal site for location of the new wharf.

The preferred alternative is Berth 8 located immediately north of the existing container terminal. Compared to the "Base Case", Berth 8:

- Minimises dredging cost and risk, provides a superior ship handling option, and avoids interaction with Australian National Power (in particular, its cooling pipes which are in close proximity to the "Base Case" wharf).

- Offers potential cost savings of around $15M+ which could, subject to negotiations with Flinders Ports, be redirected to fund other port developments.

If the deep-sea grain port is to be located at Outer Harbor, the wharf should be sited at Berth 8 rather than at the "Base Case".

The analysis that follows in this report is based on Berth 8 being the location for the new grain wharf at Outer Harbor.

# 3. EVALUATION OF PART TO FULL PANAMAX

This evaluation focuses on a comparison of the extra costs associated with the move from Part Panamax capability to Full Panamax capability relative to the additional benefits derived from that move.

## 3.1 Incremental benefits

The incremental benefit to the State's grain industry derived from moving from Part to Full Panamax capability mainly results from the elimination of the need for the Panamax vessels to call at two ports - the first port (Adelaide) to part load and the second port (Port Giles or Port Lincoln) to top up.

Table 1 below shows the estimated present value of incremental benefits that would flow to the grain industry under certain scenarios (see Appendix for detailed financial models) – the incremental benefits range from $60M to $85M.

The estimates are based on information contained in the Deep Sea Port Investigation Committee's Final Report in 1999, updated by information received from AusBulk, PIRSA, Australian Wheat Board, Australian Barley Board and Flinders Ports, and applying a discount rate of 7% to the projected benefits over 25 years.

Table 1

Estimated Net Present Value of Benefits to Grain Industry

| **Two-port loading costs** | Clause 7(1)(b) Contains commercial value to any agency or any other person | **PIRSA Grain Volume Projections of 2.6M tpa[4]** | **Marketing Boards' Grain Volume Projections of 2.0M tpa[5]** |
|---|---|---|---|
| $1.30 per tonne[1] | | $69.5M | $60.3M |
| $1.50 per tonne[2] | | $79.5M | $68.9M |

1 Two-port loading cost as per the Final Report of the Deep Sea Port Investigation Committee (1999).

2 Two-port loading cost as per the Final Report of the Deep Sea Port Investigation Committee (1999), grossed up for CPI.

Clause 7(1)(b) Contains commercial value to any agency or any other person

4 Grain volumes for the port of Adelaide, based on PIRSA State production forecasts.

5 Grain volumes for the port of Adelaide, estimated by grain marketers and based on projected sales to key markets.

As shown in Table 1, the value of the incremental benefit is sensitive to the cost of two-port loading (additional ship times and marine charges) and the volumes of grain subjected to two-port loading.

### Two-port loading costs

The Deep Sea Port Investigation Committee estimated a two-port loading cost of $1.30 per tonne in 1996 and described this estimate as conservative.

A two-port loading cost of $1.50 per tonne reflects a 15% CPI increase over 6 years. The industry considers this figure to be conservative.

### Grain volumes

Grain volume forecasts have been obtained from AusBulk, PIRSA, and the Marketing Boards.

The volume projections are significantly higher than the projections contained in the Deep Sea Port Investigation Committee's Final Report (1999) and reflect an industry trend toward an expansion of the area sown, improved grain breeding and farming techniques, and better grain varieties.

Clause 7(1)(b) Contains commercial value to any agency or any other person

PIRSA's projections are around Clause 7(1)(b) below AusBulk's projections. The main difference between the PIRSA and AusBulk projections are the projected annual production growth rates – PIRSA predicts 2.5% pa while AusBulk predicts around Clause 7(1)(b)

The marketing boards projections for 2002/03 are around Clause 7(1)(b) below AusBulk's projections (growth rates were not provided).

### Other benefits

It should be noted that a Full Panamax capacity port could also provide other benefits to the State with regard to attracting grain from Victoria and with regard to other commodities such as mineral sands and wood-chips. These additional benefits have not been factored into the financial models.

## 3.2 Incremental costs

The estimated incremental costs incurred as a result of moving from Part Panamax (Inner Harbour) to Full Panamax (Inner Harbour) or Full Panamax, (Outer Harbor, Berth 8) are shown in Table 2.

Table 2

**Incremental cost of Full Panamax options relative to Part Panamax (Inner Harbour) option**

| Additional cost items relative to Part Panamax (Inner Harbour) option | $M Additional cost of Full Panamax (Inner Harbour) over Part Panamax (Inner Harbour) | $M Additional cost of Full Panamax (Outer Harbor, Berth 8) over Part Panamax (Inner Harbour) |
|---|---|---|
| Dredging | 49.5 | |
| Services | | 6.0 |
| Rail and road upgrades | | 14.0 |
| Grain Terminal | | 30.0 |
| **Total** | **49.5** | **50.0** |

The following points should be noted with respect to these cost estimates:

Dredging

The dredging costs are estimated by Flinders Ports and are based on a 12.2 metre channel depth.

The costs, environmental impacts, and approval risks associated with dredging the Inner Harbour to Full Panamax capability are high. These risks would be borne by the Government as the scope of works and associated costs extend beyond the arrangements for works to be undertaken by Flinders Ports in the Ports Corp sale contract. The estimated cost of dredging Inner Harbour to Full Panamax capability is $58.5M, which is $49.5M more than the cost to dredge to Part Panamax capability.

Dredging risks are minimal in the Outer Harbor option and are borne by Flinders Ports. Quantities are low and works would be undertaken by Flinders Ports and funded from the moneys set aside in the Ports Corp sale contract. The estimated cost of dredging for the Outer Harbor (Berth 8) option is $9M, which is the same as the estimated cost to dredge the Inner Harbour to Part Panamax capability hence the incremental cost is zero.

Rail and road upgrades

The rail and road upgrade for Outer Harbor includes work on upgrading the rail track along the existing rail corridor ($5M) and involves the rationalisation of the numerous private crossings along that track ($5M). It also includes road upgrade work near the proposed grain terminal ($1M) and costs of dealing with community impact issues ($3M).

Rail bridge

Table 2 does not include a cost for the Outer Harbor (Berth 8) option of the proposed rail bridge over the Port River even though the rail bridge would provide a faster and more efficient rail system to an Outer Harbor grain terminal. As is discussed in section 6 of this report, a grain terminal at Outer Harbor can likely be served in the short to medium term by the existing rail infrastructure and therefore does not of itself require an investment in the rail bridge in the shorter term.

Whilst no cost is attributed to the Outer Harbor option in Table 2, it can be argued that some element of the cost of the rail bridge should be recognised when evaluating grain wharf/terminal options. The rail bridge cost to be attributed to the Outer Harbor option could range up to an estimated $26M:

- Transport SA (TSA) estimates the total capital cost of the rail bridge and associated connections and signalling at $26M and calculates its "net" capital cost at between $9M and $12M. The "net" cost is determined after taking into account cost penalties of between $14M and $17M that would be incurred on the road bridge should the rail bridge not proceed – these cost penalties arise because the road bridge would have to be raised and extended to clear the existing railway line if the rail bridge is not built. A further $3M can be added to the capital cost of the bridge as the present value of operating the bridge over 25 years.

## 3.3 Incremental costs versus benefits

Based on a number of assumptions, the estimated economic outcomes resulting from the move from Part to Full Panamax capability at either the Inner Harbour or Outer Harbor (Berth 8) sites range from marginal to positive – estimated incremental costs of around $50.0M+ (see 3.2) against estimated incremental benefits of between $60M and $85M (see 3.1).

Although not conclusive, it can be argued that there is likely to be a benefit for the industry by eliminating two port loading costs if facilities are upgraded from Part Panamax to Full Panamax capability. Based on the incremental costs estimated in Table 2, the economic benefit of the upgrade to Full Panamax capability at Outer Harbor and Inner Harbour appears similar, although factoring in an additional cost of the proposed rail bridge to the Outer Harbor (Berth 8) option makes the Inner Harbor option relatively more attractive.

The Inner Harbor option would also provide the opportunity for new specialised berths to be established along the Port River between Outer Harbor and Inner Harbour and also for other berths in the Inner Harbour to accept larger ships. Dredging to the Inner Harbour might also increase the value of the retained Ports Corp land.

Notwithstanding this, other factors need to be considered, such as:

- The cost and delivery of the Outer Harbor option is more certain than the Inner Harbour option.
    - The cost of dredging is very difficult to estimate and is subject to approval conditions that might be imposed by the EPA with regard to the turbidity effect of dredging in the Port River (including impact on dolphins and other animals) and/or with regard to environmental risks of the sea disposal of dredged material. (Note: land disposal is not feasible in view of the quantity (3M cubic metres) and nature of the material (Hindmarsh Clay that would take many years to dry out) to be dredged.)
    - Therefore, the risk that the costs of the Inner Harbour option will blow out is significantly greater than for the Outer Harbor option and that risk will be borne by Government. In contrast, the dredging risk of the Outer Harbor option is much less and will be borne by Flinders Ports.
    - The approval risk with regard to dredging and disposal of dredged material is much higher for the Inner Harbour option. The EPA is concerned about the potential environmental impact of sea disposal of large quantities of material and has not previously approved sea disposal. Finding an environmentally acceptable site for sea dumping within a reasonable distance of Adelaide is a major cost and approval risk factor.
- The Outer Harbor option better positions the grain industry to benefit from a subsequent move to a 14 metre port for container and bulk commodities (see comments at 6.1).

Thus, when the dredging cost and approval risks and the anticipated need for even deeper water in the future are taken into account, there is a strong case to support Outer Harbor, rather than Inner Harbour, as the preferred site for the deep-sea grain port.

# 4. ALTERNATIVE STRATEGIES AND OPTIONS

The Deep Sea Port Investigation Committee considered a range of alternative strategies and options including sea transhipment (tug barges, self discharging vessels), floating barges, and capsule pipeline systems. The committee rejected these options in 1999 on economic and/or technical grounds and discussions with industry during the course of this review have confirmed that the rationale has not changed and these options remain unattractive.

Further work was undertaken for this review on the design and costs of a long conveyor belt option linking Ausbulk's Inner Harbor terminal to Outer Harbor. This option is discussed below, along with an analysis of the issues associated with the development of a grain terminal and deep-sea port for grain at Port Stanvac rather than Outer Harbor.

## 4.1 Long conveyor belt

The possible alignment and cost of a conveyor belt option that would link AusBulk's existing facility at Gillman to a new grain terminal and wharf at Outer Harbor is shown on page 8.

Table 3 shows the incremental costs, as advised by AusBulk, of the long conveyor belt option relative to the Part Panamax, Inner Harbour option.

Clause 7(1)(b) Contains commercial value to any agency or any other person

This option is rejected due to its high cost and also the operating difficulties it would create for AusBulk, in view of the length of the belt and the need to cross the Port River.

## 4.2 Port Stanvac

In an attempt to vertically integrate and create competition to AusBulk, the marketing boards have explored other deep-sea grain port locations and are now focusing on Port Stanvac as an alternative to the port of Adelaide.

The Port Stanvac opportunity is summarised below:

- Mobil operates an oil refinery at Port Stanvac pursuant to an indenture with the State Government.
- Mobil operates a port at Port Stanvac that, with an appropriate wharf extension, already offers deep water (14 metres+).

- Mobil is keen to long-term lease part of their refinery site to the Australian Wheat Board and Australian Barley Board for development of a grain terminal and to share the port operations with them.

- Australian Wheat Board and Australian Barley Board will fund the terminal and wharf development, including a rail loop and conveyor belt.

- Australian Wheat Board and Australian Barley Board are seeking Government support to convert the southwest rail track corridor (the 20 km from Goodwood to Port Stanvac) to standard gauge for use by freight trains – the extent of Government funding support sought is uncertain at this stage as Australian Wheat Board and Australian Barley Board might be willing to contribute to the cost of the rail conversion.

- Whilst rail access is an important element, Australian Wheat Board and Australian Barley Board have indicated that they would consider trucking the grain to Port Stanvac if rail was not an option. This is an unlikely strategy in view of cost and logistics - based on shipping 2M tonnes of grain a year, this would require an average of between 400 to 500 truck movements a day, perhaps peaking at 1,000 truck movements on any day.

- It should be noted that, as the Australian Wheat Board and Australian Barley Board effectively control the grain from the farm to end customer, they might be in a position (competition issues aside) to direct the majority of grain through their own terminals and not through AusBulk's terminals.

The key potential benefits of the Port Stanvac location include:

- Deep water that can also handle post Panamax class vessels, without dredging.

- Supports and reinforces Mobil operations at Port Stanvac.

- Rail freight services on the southwest corridor might benefit other businesses in the southern area.

The key difficulties of the Port Stanvac location include:

- Uncertain and potentially high cost of converting rail track to standard gauge. Preliminary information from TransAdelaide and TSA suggest this cost would be at least $20M.

- Impact of freight trains on passenger rail traffic scheduling and operations. Whilst TransAdelaide advises that this issue is manageable as long as the freight traffic is restricted to off peak, TSA advises that there will be significant operational problems, including at a number of road/rail crossings notably the Emerson Crossing, the Oaklands Park crossing and the Hove crossing. Although no detailed work has been undertaken on the cost of grade separation at these crossings, TSA advises that grade separation work at the Emerson Crossing could cost at least $30M and Oaklands Park and Hove crossings could cost $15M each. Other metropolitan rail crossings would also need to be reviewed. It appears that work on just one of the major crossings would be enough to discount the Port Stanvac option.

- Community impact of freight trains on the southwest corridor (noise, level crossing impacts etc). This is a 20km section of rail line, mainly through residential areas. There has not been significant commercial rail traffic on this line since 1978. The cost of dealing with these issues is estimated at $20M but is very uncertain.

- Possibility of significant shipping delays caused by rough weather, as Port Stanvac is an open port not shielded from the elements. Flinders Ports advises that shipping delays due to weather occur regularly at Port Stanvac.

- Impact on AusBulk and Flinders Ports (see section 5 of this report).

The most critical issue with regard to Port Stanvac is the impact of freight trains on the southwest rail corridor. Whilst the track conversion is technically feasible, the re-introduction of freight trains on this corridor will create significant operational problems and will adversely affect the communities along the corridor and also users of roads that traverse the rail line. The associated cost is both high and uncertain.

# 5. KEY STAKEHOLDER POSITIONS

## 5.1 Flinders Ports

- Agreed to defer work on the "Base Case" pending the outcome of this review.
- Participated in this review and has indicated a strong preference toward the (12.2 metre) Full Panamax capacity at Outer Harbor (Berth 8) option.
- Indicated a willingness to negotiate in good faith. It should be noted that:
  - A move away from the "Base Case" will require negotiation with Flinders Ports and re-documentation of the current agreement between the Government and Flinders Ports.
  - Flinders Ports is unlikely to readily agree to "returning" to the State any portion of the notional $45M set side from the sale of Ports Corp to fund the deep-sea grain port, preferring to use any "savings" to fund alternative port development(s) such as the deepening to 14 metres of the Outer Harbor channel to the container terminal. (Note that the Crown Solicitor's Office advises that it is unlikely that the State can lay claim to the "savings". The treatment of the "savings" is an issue for negotiation with Flinders Ports.)
  - Flinders Ports does not support the Port Stanvac alternative.

## 5.2 AusBulk

- Participated in this review and has indicated a strong preference toward the (12.2 metre) Full Panamax capacity at Outer Harbor (Berth 8) option.
- Indicated that it believes that the former Government made a commitment during the sale of Ports Corp to a deep-sea grain port at Outer Harbor, and to Ausbulk as the preferred grain handler, and that those commitments should be honoured.

Clause 10(1) Legal Professional Privilege

- Is threatened by the Port Stanvac alternative and would be expected to contest a Government decision to support Port Stanvac.

## 5.3 Australian Wheat Board and Australian Barley Board

- Expressed disappointment at the selection by the former Government of AusBulk as the preferred grain handler as, according to them, this does not foster competition in the State's grain storage and handling business.
- Clause 7(1)(b) Contains commercial value to any agency or any other person

- Recommended Port Stanvac as a better alternative to the Inner Harbour and Outer Harbor options.

- Could choose to divert grain away from AusBulk's grain terminals to Port Stanvac should that terminal be developed or to Melbourne where the Australian Wheat Board part owns a grain terminal at the port of Melbourne.

## 5.4 Government

- Agreed to defer work on the "Base Case" pending the outcome of this review.

## 5.5 Summary

The respective positions of the industry participants should be considered in light of the recent competition among the participants that has resulted in a fracturing of the industry.

At the time of the Deep Sea Port Investigation Committee, the key participants of the grain industry (the farmers, the marketing boards and the grain handler) worked together cooperatively and shared a common interest and view-point with respect to the deep sea port at the port of Adelaide.

Attitudes and positions on the deep-sea port are now more driven by corporate rather than industry-wide interests.

The selection of AusBulk as the preferred grain handler caused the marketing boards to refer the matter to the Australian Competition and Consumer Commission (in 2001) which reviewed the decision and decided that it had no cause to intervene in the matter pursuant to the *Trade Practices Act 1974*.

Government support for any of the port options discussed in this review is not likely to be accepted by all of the grain industry and will no doubt elicit a degree of public criticism.

Furthermore, in light of the positions of the Australian Wheat Board and the Australian Barley Board with respect to alternative deep-sea grain port locations and the possible diversion of some grain to the port of Melbourne, there is a risk that the State will invest in a development that does not receive the full support of the grain industry and is under-utilised.

# 6. OTHER ISSUES

## 6.1 Desired depth of deep-sea port

Whilst the grain industry is unanimous in its view that deeper water is required, there is a difference of opinion as to the depth of water that will be required over time.

Clause 7(1)(b) Contains commercial value to any agency or any other person

The Australian Wheat Board And Australian Barley Board argue that there will be a need for water deep enough to cope with the larger of the Panamax class vessels (70,000 DWT+) and post Panamax vessels (100,000 DWT+) at the port of Adelaide in around 5 years. This will require 14 metres+ deep water in the short to medium term.

Flinders Ports has perhaps a more pressing need for a 14 metre channel to the existing container terminal at Outer Harbor as the container terminal is expected to struggle to compete for container business if the mooted deepening of the channel at the port of Melbourne goes ahead.

If the Australian Wheat Board and Australian Barley Board position that a 14 metre+ deep-sea grain port is required in the short to medium term is correct then the attractiveness of Port Stanvac is enhanced from a grain perspective although it does nothing to assist Flinders Ports and container business needs.

It should be noted that Flinders Ports estimates the cost to dredge Outer Harbor to 14 metres from its existing 12.2 metres at around $60M. The cost of dredging to 14 metres all the way to the Inner Harbour might be around $150M.

## 6.2 The vision for Outer Harbor

A key consideration for the location of the deep-sea grain port is the Government's long-term vision for Outer Harbor.

Outer Harbor provides a significant greenfields site that could be developed over time as the State's key export port capable of handling an increased demand in container, car, livestock, bulk and other commodities.

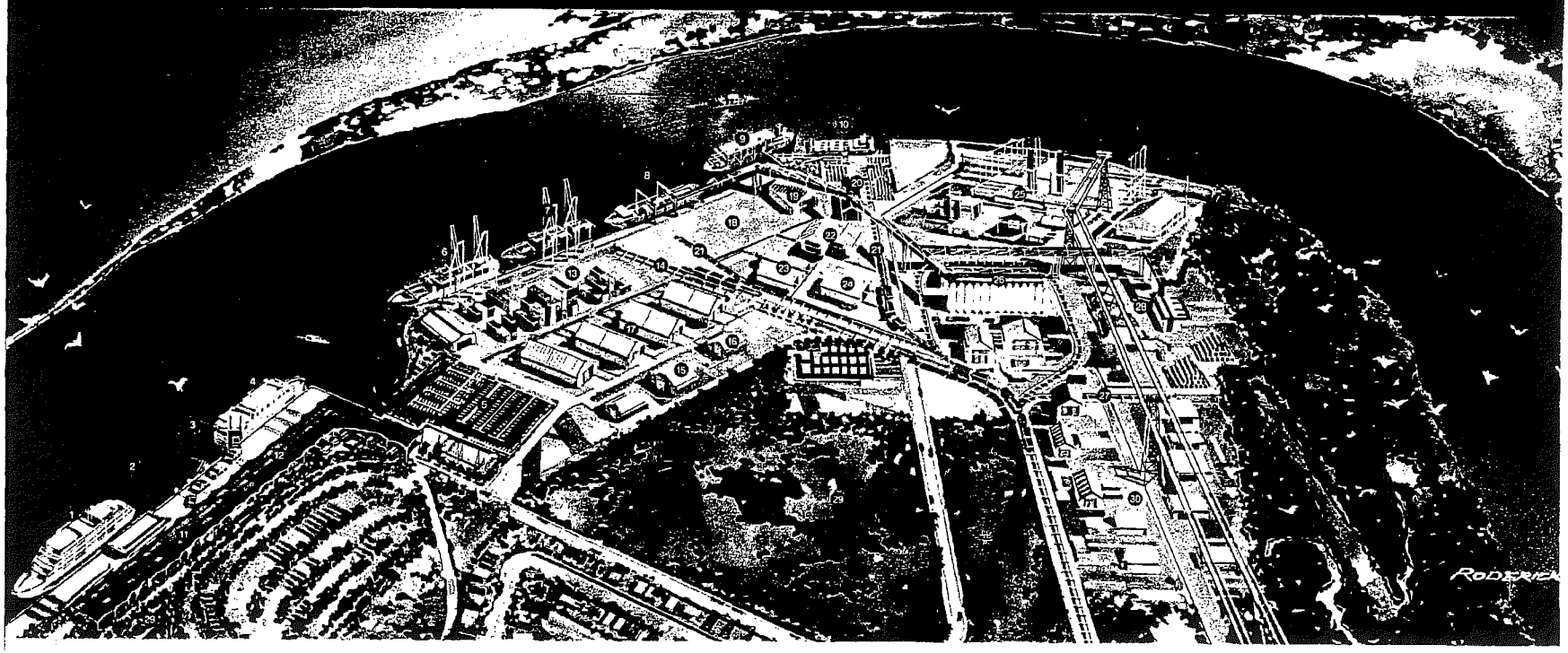
A sketch showing Flinders Ports' vision for Outer Harbor is shown on the following page.

Location of the deep-sea grain port at Outer Harbor may help drive the vision of Outer Harbor as the State's key export port.

Development of Outer Harbor as the State's key export port will drive the requirement for upgraded rail and road infrastructure to enable the efficient transportation of commodities up the peninsula.

# Outer Harbor Concept Plan

## Port Adelaide, South Australia



1 Existing berth
2 Existing berth — Relocate livestock trade
3 Existing berth — Redevelop principally for motor vehicles
4 Existing berth
5 Royal South Australian Yacht Squadron
6 Existing container berth
7 Existing container berth
8 Proposed grain export berth (short term), container berth (long term)
9 Proposed multipurpose berth for livestock and bulk trades (short term), grain export berth (long term)
10 Proposed multipurpose berth for livestock and bulk trades (long term), including barge facility
11 IDG Autocare motor vehicle centre (existing)
12 Flag Transport Systems motor vehicle centre (existing)
13 CSK World Terminals Adelaide container terminal (existing)
14 Intermodal rail link (existing)
15 Southcorp Wines export facility (existing)
16 MacKenzie Intermodal transport depot (existing)
17 Proposed expansion of wine facilities
18 * Proposed container terminal expansion
19 * Proposed cold store
20 * Proposed mineral sands export facility
21 * Proposed rail sidings
22 * Proposed expansion of container related/bulk trades
23 * Proposed warehouse and distribution centre
24 * Proposed expansion of container related trades
25 National Power power station (existing)
26 Proposed AusBulk grain terminal and conveyor
27 Proposed rail siding
28 Proposed woodchipping and storage terminal
29 Proposed environmental buffer
30 Proposed Light Industrial and warehousing development

* Proposed developments not fully committed which are currently dependent on future trade

Flinders Ports
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Providing Shipping Solutions. Redefining Port Service.

This vision does raise a number of questions/issues, for example:

- Is there likely to be the increased demand, and over what timeframe, for the State's export commodities to warrant development of Outer Harbor as a main port and, in particular, justify a significant investment in road and rail infrastructure?

- Should bulk commodities (such as grain, mineral sands, woodchips) be exported from Outer Harbor or should Outer Harbor be preserved for "clean" (non-bulk) industries with the bulk commodities exported from another location? The answer to this question lies in part with the grain industry's future need for deeper (14 metre) water. If 14 metre water is required for grain in the future, the grain industry is better located at Outer Harbor than the Inner Harbour.

- How are the community impact issues created by the increased freight traffic up the peninsula best dealt with? Measures might include appropriate buffering, noise attenuation and safety considerations.

## 6.3 Infrastructure Investment

A key consideration in any decision for the deep-sea grain port development to be located at Outer Harbor and for the overall development of Outer Harbor is the amount and timing of the investment in infrastructure that is required.

The infrastructure that might be required for the Outer Harbor developments is essentially rail and road and could include:

- The 3rd River Crossing road and rail bridge.

- Upgrade of rail track along the freight corridor to the east of the peninsula, including significant rationalisation and signalling of crossings, noise attenuation and other buffering, and track upgrading.

- Upgrade of the road network, including Pelican Point Road, Mersey Road and Elder Road.

Whether this infrastructure is required for the Outer Harbor developments will depend on the pressure the developments, particularly the grain terminal, places on the existing infrastructure.

In the short term at least this will largely depend on how well the Outer Harbor grain terminal is supported by industry.

A key question is to what extent, if any, the above infrastructure should be provided now or should/can the investment be delayed and then provided on an as needs basis.

In this regard it is worth considering the link between the proposed road and rail bridges and the possible development at Outer Harbor, especially the new grain terminal.

### 6.3.1 3rd River Crossing

The 3rd River Crossing proposal involves a road bridge and a rail bridge traversing the Port River at the Inner Harbour between Docks 1 and 2. Both are to be opening bridges. The total capital cost of the bridges is estimated at $80M.

The bridges will improve the efficiency of the freight traffic and improve the amenity of the centre of Port Adelaide by diverting freight traffic away from the centre.

A major beneficiary of the 3rd River Crossing is the proposed Port Waterfront Redevelopment Project, as the crossing will significantly improve the residential amenity of the area by removing rail and road freight away from the developable land. This is discussed at section 6.3.2 of this report.

Rail bridge component

The location of the grain terminal at Outer Harbor will significantly increase the rail freight traffic up the peninsula.

If the grain terminal at Outer Harbor is fully utilised, this is expected to result in an additional 3 grain trains per day on average (grain trains are around 900 metres long).

As the new terminal will be run as a just-in time operation, the number of grain trains might peak at 7 on any day.

Other freight train movements are estimated to vary between 3 and 5 trains per day, which brings the possible peak number of freight trains moving up the peninsula to 12 (24 train movements) per day.

Without the rail bridge these freight trains would travel along the existing rail alignment as shown on the following page - from the Rosewater Loop over the Commercial Road Viaduct over the Causeway to Glanville Station and then along the eastern freight rail track.

Part of this journey, from the Rosewater Loop to Glanville Station, is on TransAdelaide track, which means the freight trains will interface with the passenger trains over this 3.5 km section.

The additional freight train traffic raises a number of issues for the existing alignment that would be overcome by the rail bridge.

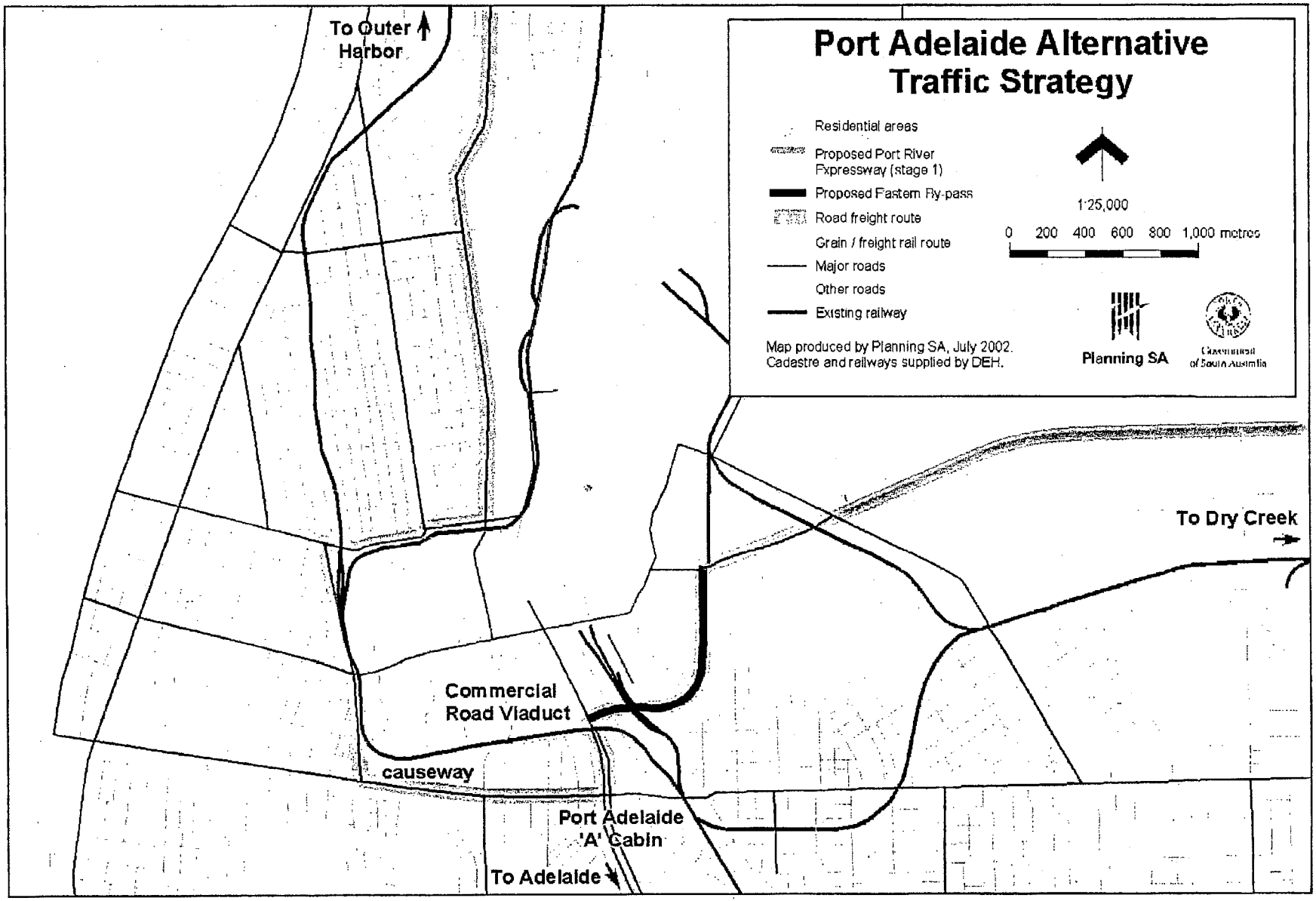
The key issues for the existing rail alignment are discussed briefly below.

Structural

Wheel squeal around tight curves is a major issue, particularly in the Rosewater Loop section, which could require significant work.

Strengthening of the rail-track to handle heavier loads may be required. TSA advises that this is not expected to be significant – in the order of $1-2M that Australian Rail Track Corporation might be expected to fund.

Note that TransAdelaide is already undertaking strengthening work on the Commercial Road Viaduct to cope with existing rail freight traffic and the Viaduct is expected to cope with the additional grain trains.


Port Adelaide Alternative Traffic Strategy
Residential areas
Proposed Port River Expressway (stage 1)
Proposed Eastern By-pass
Road freight route
Grain / freight rail route
Major roads
Other roads
Existing railway
1:25,000
0 200 400 600 800 1,000 metres
Map produced by Planning SA, July 2002.
Cadastre and railways supplied by DEH.
Planning SA
Government of South Australia
To Outer Harbor
To Dry Creek
Commercial Road Viaduct
causeway
Port Adelaide 'A' Cabin
To Adelaide

Interface with passenger trains

TransAdelaide advises that it is possible to interface freight and passenger trains if the majority of freight trains are scheduled off peak. Note that there are a number of factors that would need to be taken into account such as, the impact of possible strategic transport plans for light rail in the area and possible changes to passenger rail service frequency.

Access restrictions will impact on AusBulk's just-in-time terminal operations but AusBulk believes that this is acceptable as long as there are no night curfews imposed and there are some rail access opportunities during the day. The ability for night rail freight traffic is critical if the existing rail alignment is to be used.

Effect on road crossings

Holding freight trains at the western end of the Rosewater Loop or at Glanville will result in a number of road crossings being blocked. The worst example is Russell Street near Commercial Road, which could be blocked for up to 15 minutes.

Increased rail freight on the existing line will also increase the disruptive cost to the residential and commercial traffic at the Victoria Drive rail crossing.

Community impact

The additional grain trains will adversely impact on the residential communities along the track – apart from the effect on road crossings, noise is a major consideration, particularly wheel squeal around relatively tight corners in the Rosewater Loop and near the Causeway and Semaphore Road. This issue becomes even more critical if night traffic is significant.

Residential redevelopment

The anticipated negative impact on the value of Land Management Corporation's Port River Waterfront Redevelopment Project is briefly discussed in section 6.3.2.

The proposed rail bridge will overcome the above issues but has issues of its own, for example:

- It is estimated to cost around $26M and is currently unfunded.
- Along with the proposed road bridge, it will restrict marine traffic on the Port River.
- As an opening bridge it creates operational issues for rail and imposes extra operating costs estimated at $120K pa.

Finally, with respect to the rail bridge, it is unclear at this stage if the benefit of an opening rail bridge justifies the associated additional capital and operating costs of $4M and $120K pa respectively. The benefit of an opening bridge is to maintain a level of marine traffic in the Inner Harbor and to avoid the cost of relocating berths, the sailing club and a number of boat building businesses.

Road bridge component

The main rationale for the road bridge is to divert heavy truck traffic away from the centre of Port Adelaide.

The road bridge has no direct relationship with the location of the deep-sea grain port, which will mainly rely on rail but the decision on whether to proceed with the rail bridge does impact on the road bridge.

TSA advises that building the rail and road bridges together provides certain benefits – cost, design and scale – and the State would lose those benefits, estimated to total between $14M and $17M, if it were to proceed with the road bridge only and then subsequently decided to develop the rail bridge.

It therefore does not make sense to proceed with the road bridge until a decision about the need for a rail bridge is made.

As with the rail bridge the net benefit of an opening road bridge appears uncertain - the extra capital and operating costs associated with an opening road bridge are in the order of $11M and $180K pa respectively, which seems high relative to the likely benefit.

### 6.3.2 Impact on Land Management Corporation's Port Waterfront Redevelopment Project

Land Management Corporation advises that the 3rd River Crossing significantly enhances the value of the Port Waterfront Redevelopment Project's land by diverting rail and road traffic away from the area that is to be redeveloped.

Retention of the existing freight line will adversely affect all of the land forming the western and northern part of the project since the maximum distance from the line is only 250 metres.

Whilst the nominated proponent for the project has indicated that it is willing to proceed with the waterfront development even if the freight line is not moved, it is anticipated that the price the proponent is willing to pay for the land will be linked to whether or not the freight line remains.

The enhanced land value from the 3rd River Crossing is expected to result in higher returns for the Land Management Corporation and therefore higher dividends to Government through sales and land tax. Land Management Corporation advises that the scope of the financial benefit to the State is difficult to estimate at this stage.

### 6.3.3 Summary

There is a high level of uncertainty about the impact the Outer Harbor grain development will have on rail infrastructure. This uncertainty is largely the result of the disunity within the grain industry as described in section 5.5 of this report and the resultant possible under-utilisation of the new grain terminal.

There is also uncertainty about the timing and scope of other industrial development at Outer Harbor and the resulting demand for rail services.

Whilst the rail bridge will benefit a grain terminal and other developments at Outer Harbor through a more efficient rail system, these developments do not, on their own justify the proposed ($80M) investment in road and rail bridges in the short to medium term. Any decision to proceed with the rail bridge in the short to medium term should be justified by reasons other than grain (such as, an increased return to Land Management Corporation from the waterfront development and/or traffic management benefits for the Port Adelaide area).

If it is decided not to proceed with the rail bridge in the shorter term it would be necessary to upgrade and use the existing rail infrastructure as required. In this case, it would be necessary to agree operating parameters with AusBulk, particularly with regard to rail access times and restrictions.

It is noted that the community implications of potentially increased rail traffic through areas where the community believed rail traffic would be removed (via the rail bridge) could be difficult to manage.

In view of the cost impact that deferring the rail bridge has on the cost of the road bridge, it would be desirable to defer the road bridge in the short term until the decision about the rail bridge is made.

In this case, it would be necessary to implement an alternative road traffic management strategy to divert heavy truck traffic away from the centre of Port Adelaide – for example, link Commercial Road to the western end of the proposed Port River Expressway as shown on page 25. Note that this would also create a long-term route around the centre for northeast bound traffic.

Regardless of the timing of the proposed bridges, further consideration of the net benefit of opening bridges should be given before the substantial additional funds are committed.

It is unclear at this stage if the benefit of opening bridges, which is to maintain a level of marine traffic in the Inner Harbour, justifies the associated issues and additional capital and operating costs of $15M and $300K pa respectively.

# 7. STATE FUNDING - IMPACT OF OPTIONS

Table 4 shows the possible impact on State funding of each option based on certain estimates and assumptions. The projected impact ranges from a possible $4M reduction in already allocated State-funding in the Part Panamax (Inner Harbour) option to a possible additional State-funding requirement of $63M in the Long Conveyor Belt option.

Table 4

**Possible Impacts on State Funding**

| | $M Part Panamax (Inner Harbour) | $M Full Panamax (Inner Harbour) | $M Full Panamax (Outer Harbor, Berth 8) | $M Long conveyor belt to Outer Harbor | $M Port Stanvac |
|---|---|---|---|---|---|
| Notional State funding already committed/allocated in Ports Corp sale: | | | | | |
| via Flinders Ports[1] | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 |
| for Land infrastructure[2] | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Total notional State funding committed | 52.0 | 52.0 | 52.0 | 52.0 | 52.0 |
| Less costs | | | | | |
| Dredge | 9.0 | 58.5 | 9.0 | 9.0 | |
| Grain wharf | 21.5 | 21.5 | 21.5 | 21.5 | |
| Rail Loop | 3.0 | 3.0 | 3.0 | 3.0 | |
| Services | | | 6.0 | 6.0 | |
| Rail & road upgrade | | | 14.0[3] | 1.0 | 40.0[4] |
| Long conveyor belt | | | | 60.0 | |
| Other[5] | 14.5 | | 14.5 | 14.5 | 45.0 |
| Possible additional State funding or "refund"[6] | 4.0 | (31.0) | (16.0)[7] | (63.0) | (33.0) |

1. Flinders Ports is contracted to construct a deep-sea grain port at the "Base Case" and this has been notionally costed by Flinders Ports at $45M.
2. The former Government announced that approximately $7M of the proceeds from the sale of Ports Corp would be spent on land based infrastructure supporting the deep-sea port at Outer Harbor.
3. Comprises $5M for track upgrade, $5M for rationalisation of private rail crossings, $3M to deal with community impact issues and $1M for road upgrade.
4. Comprises $20M for rail standardisation and a further $20M to deal with community impact issues over this 20 km stretch of rail. Possible grade separation at Emerson Crossing, Oaklands Crossing and Hove Crossing are not included in table but TSA advises might cost $60M+ if required.
5. It is assumed that in all but the Full Panamax (Inner Harbour) option Flinders Ports will, in its negotiations with the State, seek to ensure that the balance of the notional $45M is quarantined for other port development (i.e. the balance is not expected to be available to the State).
6. The actual amount of additional funding by the State (or refund to the State) is subject to negotiations with Flinders Ports, AusBulk and/or the grain marketers.
7. Does not include the cost of a rail bridge.

It is stressed that the extent to which additional funding is required by the State is subject to negotiation particularly taking into account the contractual arrangement with Flinders Ports and "commitments" to the grain industry.

Also, it is possible that the additional funding required in the Outer Harbor (Berth 8) option and the Port Stanvac option could be reduced by funding contributions from AusBulk and the marketing boards respectively. With respect to the Outer Harbor (Berth 8) option, it may also be possible to obtain some funding (perhaps in the order of $3M) from Australian Rail Track Corporation for rail upgrade.

With this in mind, the State funding implications of each option are discussed below:

Part Panamax (Inner Harbour)

- The least cost option that might result in a $4M reduction of previously allocated funds.
- The difficulty is that the industry stakeholders (including Flinders Ports) do not support this option, as it does not deliver Full Panamax capability.

Full Panamax (Inner Harbour)

- A high cost and high risk option (because of the dredging component) which is expected to require significant additional funding.
- This option will save AusBulk an estimated $30M on the cost of new or upgraded facilities relative to the Outer Harbor option but, as AusBulk does not support this option, it is unlikely to be willing to contribute to any funding shortfall.

Full Panamax (Outer Harbor, Berth 8)

- Costs have a relatively high degree of certainty (minimal dredging).
- Of the Full Panamax options, this option is expected to require the least level of State-funding. (Note however that the costs shown in Table 4 do not include the cost of the proposed rail bridge – it is assumed that funding for the rail bridge will be sourced elsewhere.)
- Flinders Ports strongly supports this option that has the potential to free up an estimated $14.5M of the notional $45M set aside from the sale of Ports Corp to be used for other port development, such as a contribution toward dredging the Outer Harbor channel to the container terminal to 14 metres.
- AusBulk strongly supports this option

Clause 7(1)(b) Contains commercial value to any agency or any other person

Long Conveyor to Outer Harbor (Berth 8)

- An expensive option that is not supported by the industry stakeholders and represents possibly the worst-case possible funding outcome for the State.

Port Stanvac

- A high cost and high risk option, which is likely to require significant additional State-funding input with regard to the upgrade of the southwest rail corridor. Costs will increase significantly if grade separation work is required at any major intersection. Cost of dealing with community impact issues expected to be significant.
- Subject to negotiation with Flinders Ports, this option has the potential to free up a significant portion of the notional $45M set aside from the sale of Ports Corp to be used for other port development, such as a contribution toward dredging the Outer Harbor channel to the container terminal to 14 metres.

# 8. CONCLUSIONS

The economic case for a deep-sea grain port capable of fully loading Panamax class vessels at the port of Adelaide ranges from marginal to positive depending on the port option chosen and the assumptions made with regard to capital and operating costs and grain volumes.

- Based on two-port loading cost figures and grain volume forecasts provided by the industry and PIRSA, the present value of the incremental benefit of moving from Part to Full Panamax capability at the port of Adelaide is estimated to range between $60M and $85M.

- The incremental cost of moving from Part to Full Panamax capability is estimated at around $50M+.

- The economic case for the move from Part to Full Panamax capability is sensitive to the potential variability of the costs incurred and benefits derived.

Of the options considered at the port of Adelaide, Outer Harbor (Berth 8) is regarded as the best option as it:

- Is more certain from both a cost and delivery perspective than the Inner Harbour option, mainly because dredging cost and risk are minimised.

- Will require a lower level of State funding than the Inner Harbour option that could be further reduced by a funding contribution from AusBulk.

- Will better position the grain industry than would the Inner Harbour with respect to any subsequent move to a 14 metre deep channel to Outer Harbor.

- Has the strong support of Flinders Ports and AusBulk.

The Outer Harbor (Berth 8) option:

- Enhances the need for a rail bridge and increases the possibility of attracting private funding to finance both the road and rail bridges.

- Goes some way to developing the Outer Harbor as the State's key export port.

- Requires appropriate planning of both road and rail infrastructure, particularly taking into account community impact issues.

The Port Stanvac alternative recently promoted by the grain marketing boards has some merit as it:

- Has deep water that can also handle post Panamax class vessels without dredging.

- Supports and reinforces Mobil operations at Port Stanvac.

- Provides rail freight services on the southwest corridor, which might benefit other businesses in the southern area.

Nevertheless, the Port Stanvac alternative is not recommended in view of the:

- Significant adverse community impact of freight trains on the 20 km southwest rail corridor – noise and level crossing impacts.
- Negative impact of freight trains on passenger rail traffic scheduling and operation.
- Very high and uncertain cost and funding of the upgrade of rail and road infrastructure and the cost of dealing with the community impact issues (noise attenuation etc).
- Possible unreliability of the port due to exposure to weather.
- Conflict with the contractual arrangement with Flinders Ports that requires a deep-sea grain port at Outer Harbor.

Other alternative strategies and options including sea transhipment (tug barges, self discharging vessels), floating barges, capsule pipeline systems, and a long conveyor belt linking AusBulk's Gillman facility to Outer Harbor are not feasible on economic and/or operational and technical grounds.

In light of the Australian **W**heat **B**oard's and **A**ustralian **B**arley **B**oard's position with respect to possible alternative deep-sea grain port locations and the possible diversion of some grain to the port of Melbourne, there is a risk that the State will invest in a development that does not receive the full support of the grain industry and could be under-utilised.

- This raises the question of whether the Government should defer the port development until a unified view is presented by the grain industry. Such a deferral might be for an indefinite period, as the industry may not form a united front in the short to medium term. Consequently, the expected benefits of the deep-sea grain port for the State's farmers may not be realised for some time.

The grain terminal or other developments that might occur at Outer Harbor do not on their own justify an investment in the proposed rail bridge in the short term.

- There is a high level of uncertainty about the impact the Outer Harbor grain development will have on rail infrastructure. This uncertainty is largely the result of the disunity within the grain industry.
- There is also uncertainty about the timing and scope of other industrial development at Outer Harbor and the resulting demand for rail services.
- It is noted however that the rail bridge may possibly be justified on other grounds: as an important part of an overall new traffic management for the area; and as a way of enhancing the potential value of Land Management Corporation's Port **W**aterfront Redevelopment Project.
- Any decision to proceed with the rail bridge in the short to medium term should be justified by reasons other than grain – such as, an increased return to Land Management Corporation and/or traffic management benefits for the Port Adelaide area.
- If the rail bridge does not proceed in the short to medium term it would be necessary and sensible to upgrade and use the existing rail infrastructure as required. This

raises a number of logistic (scheduling) and community impact issues (noise, road traffic interface) that would need to be overcome.

- In view of the cost impact that deferring the rail bridge has on the cost of the road bridge it would be desirable to defer the road bridge in the short term until the decision about the rail bridge is made.

- In this case, it would be necessary to implement an alternative road traffic management strategy to divert heavy truck traffic away from the centre of Port Adelaide.

Regardless of the timing of the proposed bridges, further investigation of the net benefit of opening bridges should be given before the substantial additional funds are committed.

- It is unclear at this stage if the benefit of opening bridges, which is to maintain a level of marine traffic in the Inner Harbour and to avoid relocation costs, justifies the associated issues and additional capital and operating costs of $15M and $300K pa respectively.

# Appendix

## COMPARISON OF INCREMENTAL NET BENEFITS

(1) FULL PANAMAX (INNER HARBOUR) V PART PANAMAX (INNER HARBOUR)

(2). FULL PANAMAX (OUTER HARBOR) V PART PANAMAX (INNER HARBOUR)

Clause 7(1)(b) Contains commercial value to any agency or any other person

Clause 7(1)(b) Contains commercial value to any agency or any other person

# PIRSA /$1.30

PIRSA'S GRAIN VOLUME FORECASTS
$1.30 PER TONNE TWO-PORT LOADING COSTS

| FULL PANAMAX INNER HARBOR RELATIVE TO PART PANAMAX INNER HARBOR | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| $'000,000s | Total | | 2002-03 1 | 2007-08 6 | 2012-13 11 | 2017-18 16 | 2022-23 21 | 25 |
| Costs | | | | | | | | |
| Capital | | | | | | | | |
| - Flinders Ports | 49.5 | 49.5 | | | | | | |
| - AusBulk | | | | | | | | |
| - Other | | | | | | | | |
| Operating & maint. | | | | | | | | |
| Other | | | | | | | | |
| Land transport, SA grain | -4.8 | | -0.3 | -0.4 | -0.4 | -0.5 | -0.5 | -0.5 |
| Incremental cost | 44.7 | 49.5 | -0.3 | -0.4 | -0.4 | -0.5 | -0.5 | -0.5 |
| Savings | | | | | | | | |
| Two port loading, SA grain | 64.7 | | 3.9 | 4.7 | 5.5 | 6.4 | 8.5 | 8.5 |
| Other | | | | | | | | |
| Incremental saving | 64.7 | | 3.9 | 4.7 | 5.5 | 6.4 | 8.5 | 8.5 |
| Net saving | 20.0 | -49.5 | 4.2 | 5.1 | 6.0 | 6.8 | 9.0 | 9.0 |

| FULL PANAMAX OUTER HARBOR RELATIVE TO PART PANAMAX INNER HARBOR | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Total | | 2002-03 1 | 2007-08 6 | 2012-13 11 | 2017-18 16 | 21 | 25 |
| Costs | | | | | | | | |
| Capital | | | | | | | | |
| - Flinders Ports | 21.0 | 21.0 | | | | | | |
| - AusBulk | 30.0 | 30.0 | | | | | | |
| - Other | | | | | | | | |
| Operating & maint. | | | | | | | | |
| Other | | | | | | | | |
| Land transport, SA grain | -4.8 | | -0.3 | -0.4 | -0.4 | -0.5 | -0.5 | -0.5 |
| Incremental cost | 46.2 | 51.0 | -0.3 | -0.4 | -0.4 | -0.5 | -0.5 | -0.5 |
| Savings | | | | | | | | |
| Two port loading, SA grain | 64.7 | | 3.9 | 4.7 | 5.5 | 6.4 | 8.5 | 8.5 |
| Other | | | | | | | | |
| Incremental saving | 64.7 | | 3.9 | 4.7 | 5.5 | 6.4 | 8.5 | 8.5 |
| Net saving | 18.5 | -51.0 | 4.2 | 5.1 | 6.0 | 6.8 | 9.0 | 9.0 |

## KEY ASSUMPTIONS

Two-port loading cost A$1.30 per tonne
PIRSA's grain volume forecasts
Discount rate 7%
Capital costs include dredging, rail and road infrastructure costs, and conatiner terminal costs.

# PIRSA/$1.50

PIRSA'S GRAIN VOLUME FORECASTS
$1.50 PER TONNE TWO-PORT LOADING COSTS

| FULL PANAMAX INNER HARBOR RELATIVE TO PART PANAMAX INNER HARBOR | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| $'000,000s | Total | | 2002-03 1 | 2007-08 6 | 2012-13 11 | 2017-18 16 | 2022-23 21 | 25 |
| Costs | | | | | | | | |
| Capital | | | | | | | | |
| - Flinders Ports | 49.5 | 49.5 | | | | | | |
| - AusBulk | | | | | | | | |
| - Other | | | | | | | | |
| Operating & maint. | | | | | | | | |
| Other | | | | | | | | |
| Land transport, SA grain | -4.8 | | -0.3 | -0.4 | -0.4 | -0.5 | -0.5 | -0.5 |
| Incremental cost | 44.7 | 49.5 | -0.3 | -0.4 | -0.4 | -0.5 | -0.5 | -0.5 |
| Savings | | | | | | | | |
| Two port loading, SA grain | 74.7 | | 4.5 | 5.4 | 6.4 | 7.3 | 9.8 | 9.8 |
| Other | | | | | | | | |
| Incremental saving | 74.7 | | 4.5 | 5.4 | 6.4 | 7.3 | 9.8 | 9.8 |
| Net saving | 30.0 | -49.5 | 4.8 | 5.8 | 6.8 | 7.8 | 10.3 | 10.3 |

| FULL PANAMAX OUTER HARBOR RELATIVE TO PART PANAMAX INNER HARBOR | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Total | | 2002-03 1 | 2007-08 6 | 2012-13 11 | 2017-18 16 | 21 | 25 |
| Costs | | | | | | | | |
| Capital | | | | | | | | |
| - Flinders Ports | 21.0 | 21.0 | | | | | | |
| - AusBulk | 30.0 | 30.0 | | | | | | |
| - Other | | | | | | | | |
| Operating & maint. | | | | | | | | |
| Other | | | | | | | | |
| Land transport, SA grain | -4.8 | | -0.3 | -0.4 | -0.4 | -0.5 | -0.5 | -0.5 |
| Incremental cost | 46.2 | 51.0 | -0.3 | -0.4 | -0.4 | -0.5 | -0.5 | -0.5 |
| Savings | | | | | | | | |
| Two port loading, SA grain | 74.7 | | 4.5 | 5.4 | 6.4 | 7.3 | 9.8 | 9.8 |
| Other | | | | | | | | |
| Incremental saving | 74.7 | | 4.5 | 5.4 | 6.4 | 7.3 | 9.8 | 9.8 |
| Net saving | 28.5 | -51.0 | 4.8 | 5.8 | 6.8 | 7.8 | 10.3 | 10.3 |

## KEY ASSUMPTIONS

Two-port loading cost A$1.30 per tonne
PIRSA's grain volume forecasts
Discount rate 7%
Capital costs include dredging, rail and road infrastructure costs, and conatiner terminal costs.

Clause 7(1)(b) Contains commercial value to any agency or any other person

Clause 7(1)(b) Contains commercial value to any agency or any other person