

1977

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

Parliamentary Standing Committee on Public Works

REPORT

relating to the proposed

MODERNISATION OF HMA NAVAL DOCKYARD (STAGE 2)

at

Williamstown, Victoria

(FIRST REPORT OF 1977)

C O N T E N T S

	<u>Paragraph</u>
The Reference	1
Background	4
The Committee's Investigation	7
Williamstown Naval Dockyard	
Location	9
Function and Role	12
The Need	
Existing Conditions	13
Modernisation Requirements	18
Future Work Program	24
Committee's Conclusion	27
The Proposed Works	
Master Plan	30
The Site	31
Nelson Pier West	34
The Cross Wharf	35
Nelson Pier Workshop	36
Extension to Pipe Shop	37
Administration/Training/Laboratory Centre	38
Dockyard Store	39
Gatehouse	40
Oil Fuel Installation	41
Fleet Maintenance Party Workshop	43
Boiler House	44
Car Parking	45
Committee's Conclusion	49
Construction	
Nelson Pier West	50
Cross Wharf	52
Nelson Pier Workshop	53
Extension to Pipe Shop	55
Administration/Training/Laboratory Centre	58
Dockyard Store	61
Gatehouse	63
Oil Fuel Installation	64
Fleet Maintenance Party Workshop	67

	<u>Paragraph</u>
Boiler House	68
Internal Finishes	70
Engineering Services	
Mechanical	71
Civil	75
Hydraulic	76
Electrical	77
Fire Protection	79
Conclusion	80
Environmental Aspects	81
Consultations between Dockyard Management and Unions Program	82
Estimate of Cost	84
Recommendations and Conclusions	86
Site Plan	87

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

MODERNISATION OF H.M.A. NAVAL DOCKYARD
STAGE 2, WILLIAMSTOWN, VICTORIA

R E P O R T

By resolution on 9 November 1976, the House of Representatives referred to the Parliamentary Standing Committee on Public Works for investigation and report, Stage 2 of the proposal for the modernisation of H.M.A. Naval Dockyard, Williamstown, Victoria.

The Committee have the honour to report as follows:

THE REFERENCE

1. The proposal referred to the Committee is the second stage of the modernisation of facilities at the Williamstown Naval Dockyard and includes:
 - new Nelson Pier West, cross wharf and workshop;
 - extension to existing pipe shop;
 - new administration/training/laboratory centre;
 - new dockyard store, oil fuel installation and gate house;
 - temporary fleet maintenance party workshop;
 - extension of electrical, mechanical and hydraulic services, including provision of new boiler house; and
 - services tunnel extension.
2. These works will provide improved facilities for ship refitting, outfitting and administration and will allow the dockyard to better utilise the Stage 1 facilities now under construction and due for completion in August 1978.
3. The estimated cost of the proposal is \$24.0 million at July 1976 prices.

BACKGROUND

4. In its Third Report of 1973, the Committee recommended the construction of Stage 1 of the modernisation of H.M.A. Naval Dockyard, Williamstown at an estimated cost of \$7.6 million.
5. Stage 1 provided for new hull construction facilities including
- a steel stockyard;
 - parts making shop;
 - parts marshalling area;
 - panel prefabricating and jobbing shop;
 - unit assembly shop; and
 - two building slips with a new 150 ft high crane.
6. Other works included some reconstruction of existing structures, demolition to provide sites for new building construction, extension and alterations to associated engineering services and a new power house.

THE COMMITTEE'S INVESTIGATION

7. The Committee received written submissions from the Departments of Defence and Construction, the City of Williamstown Municipal Council and The Combined Union Shop Committee, Williamstown Naval Dockyard and took evidence from their representatives at a public hearing at H.M.A. Naval Dockyard, Williamstown on 29 November 1976. The Committee also took evidence from a representative of the Storemen and Packers' Union. Prior to the hearing we inspected the site for the proposed works and noted progress on Stage 1 of the project.

8. The Committee's proceedings will be printed as Minutes of Evidence.

WILLIAMSTOWN NAVAL DOCKYARD

9. Location The Naval Dockyard at Williamstown is situated on a peninsula, the headland of which is known as Point Gellibrand. A patent slip was set up on the site in 1858 and the Alfred Graving Dock was completed in 1873. The shipbuilding yard opened in 1913 when No. 1 and No. 2 building slips were completed. No. 3 and No. 4 building slips were completed during 1940-41.
10. The Department of the Navy officially took over the dockyard on 28 October 1942 and since then the yard has been engaged in building and refitting a wide range of Naval ships. In recent years the yard has produced

Type 12 destroyer escorts. In 1973 the hydrographic ship HMAS Flinders was completed and the oceanographic ship HMAS Cook is currently being built. The destroyers Vampire and Vendetta were also extensively modernised at the dockyard in 1971/73.

11. The dockyard occupies a land area of approximately 10.5 hectares (26 acres) bounded by the waters of Port Phillip Bay to the north and generally by Melbourne Harbour Trust property on the landward boundaries except for a frontage of approximately 240 metres to Nelson Place, a public thoroughfare of the City of Williamstown.

12. Function and Role The approved functions and role of Williamstown Dockyard are as follows:

- the specialist yard for the in-country construction, major conversion and modernisation of combatant ships of the destroyer and destroyer escort (DD/DE) types;
- the main refitting dockyard for the smaller sizes of R.A.N. destroyers, currently River Class Ships;
- the provision of maintenance base facilities for patrol boats based in Victoria;
- the refitting of all support craft in the Victorian area;
- installation and repair of specialised Naval equipment in shore establishments in Victoria;
- the provision of stores facilities to meet the following:
 - (a) dockyard requirements for construction and refitting;
 - (b) ship requirements for ships' staff work during refits;
 - (c) fuelling and defuelling.

THE NEED

13. Existing Conditions Facilities at the dockyard include Dockyard Pier and Nelson Pier, Alfred Graving Dock, a miscellany of administration, workshop and stores buildings, an oil fuel installation and engineering services.

14. The Stage 1 works previously recommended by the Committee are scheduled for completion by the end of 1978.

15. There are no modern workshops situated close to ship berths to provide the immediate back up for on-board outfitting/refitting work.

16. The administration offices are in dispersed buildings of temporary construction and outdated design and, in many instances, are sited adjacent to the dock and building slips on areas which must be freed for dockside activities. Stores are also held in dispersed buildings, some remote from the dockyard which results in inefficient working.

17. Nelson Pier, which is of timber construction, has reached the end of its life and has been condemned.

18. Modernisation Requirements The Stage 1 modernisation works when completed will provide the dockyard with facilities to enable it to use present day prefabrication methods and unit construction in its shipbuilding role. Side benefits to the dockyard's refit and modernisation roles will also result.

19. The Stage 2 works will enable the dockyard to realise fully the benefits of Stage 1. The Stage 2 work will complement Stage 1 and provide improved refitting/modernisation facilities including the replacement of Nelson Pier and associated cross wharf to meet the requirement for berthing space and the provision of modern outfitting/refitting workshops adjacent to the berths.

20. Another requirement is the replacement of the present inadequate administration and stores buildings due to their age and temporary construction. The new administration building will incorporate a training centre and the dockyard laboratory.

21. Ready use diesel fuel storage for the fuelling of H.M.A. ships after refits and during trials will be provided. The old furnace fuel oil storage tanks have reached the end of their useful lives and will be removed to make way for the new Nelson Pier workshops.

22. A new gatehouse and police office for vehicular and pedestrian control will be provided to replace the existing timber structure. A boiler house will also be provided. A temporary building for use by Naval personnel as a fleet maintenance workshop may have to be provided to replace the one on the existing Nelson Pier. This is dependent on the acquisition of a property in the near vicinity of the dockyard which can be used in the

short term for this purpose and in the long term for car parking, when demolished. The permanent site for this building will not become available until completion of the Stage 2 modernisation.

23. The Committee were advised that the provision of machinery and weapons systems represents a major item of cost in modern warships and these are currently largely outside the local shipbuilder's control. However, hull construction and outfitting together with through life upkeep are substantial portions of the total cost. Modernisation of the dockyard facilities intended in Stage 2 will represent an overall saving on the cost of outfitting, refitting and modernisation work as it will lead to improved efficiency of afloat work, administration, availability of stores and improved amenities for workers close to the ships.

24. Future Work Program The Committee noted with concern that there is at present no firm future ship building commitment. The light destroyer (DDL) building program envisaged at the time of the Stage 1 hearing has since been abandoned and there is no new construction underway apart from the oceanographic vessel HMAS Cook which is due for completion in mid-1979. However, the Committee were assured that the strength of the destroyer force would be maintained and "the Government has commenced investigation into the concepts, characteristics and cost of follow-on destroyers, preferably for construction in Australia". (Defence "White Paper" (paragraph 43) 4 November 1976). The first of the Navy's River Class destroyer escorts would need to be replaced from the mid-1980s and we were informed that the Williamstown Dockyard was the most logical place for them to be constructed.

25. The Committee were given details of an extensive ship refitting and modernisation program for combatant ships covering the next five years. We were advised that the facilities to be provided in Stage 2 would considerably enhance the efficiency of such a program. The Committee agree that there is a need to maintain a modern, efficient defence capability for the construction, outfitting, modernisation and refitting of combatant ships of the destroyer escort type. The works proposed in Stage 2 of the modernisation program will contribute significantly towards satisfying this need and will enable the dockyard to realise fully the benefits of Stage 1.

26. In the absence of a ship building program it is possible that the facilities may be under utilised. Although the main objective of the dockyard is to build destroyers, in order that the modernised shipbuilding

and outfitting facilities may be more effectively and efficiently used, the Committee suggest the Government consider the possibility of constructing other Naval craft at the dockyard. It is noted in paragraph 2D of the Defence White Paper that the Government has decided to acquire some fifteen patrol craft, the majority of which are expected to be built in Australia and are planned to enter service in the period 1979-1984. The possibility of constructing the four oil water lighters, currently planned, should also be considered.

27. Committee's Conclusion There is a need to maintain a modern efficient defence capability for the construction, outfitting, modernisation and refitting of combatant ships of the destroyer and destroyer escort types.

28. The works proposed in Stage 2 of the modernisation program will contribute significantly towards satisfying this need and will enable the dockyard to realise fully the benefits of Stage 1.

29. The Committee note with concern that there are no specific proposals for a destroyer construction program and suggest that other avenues be explored to ensure the maximum utilisation of ship construction facilities.

THE PROPOSED WORKS

30. Master Plan All facilities to be constructed are to be sited according to the master plan. This plan has been developed to provide separation of new ship construction and refitting activities and a logical flow of material through the various hull working processes.

31. The Site The dockyard is situated at the eastern end of the City of Williamstown. The water frontage to Hobson's Bay is on a south-west alignment. It is well protected from the effects of the prevailing weather in Port Phillip Bay and is unlikely to be exposed to waves greater than 1.2 metres in height. The tidal range is approximately 0.9 metres as a maximum and averages 0.6 metres. Topographically the area is flat and the shore line has been extended seaward by haphazard reclamation works over the years.

32. Site investigations have shown that the area is on the edge of a lava flow which has left basalt in various stages of decomposition overlying a lightly cemented sandstone. Rubble fill of varying thickness has been dumped over the basalt. The lava flow finished at the seaward edge of the area and the soil strata there consists of layers of rubble, marine silts and clays.

33. No difficulties are envisaged in the provision of foundations for buildings and structures remote from the shore line. Near the shore line

some difficulties are anticipated but appropriate allowance has been made in the estimates.

34. Nelson Pier West This pier will provide two berths for refitting or outfitting of ships. Two 20 tonne electric travelling jib cranes will be installed. The existing Nelson Pier will be demolished. The proximity of the new pier to the Melbourne Harbour Trust's Reid Street Pier will render the inner berths of that pier unusable by the Harbour Trust tugs if the new pier is built where now planned. The Committee were advised that the Commonwealth will extend the Reid Street Pier by 36 metres to allow present usage to continue. The Committee suggested other alternatives to this extension but were assured that this is the only practicable solution which would not prejudice the construction of Nelson Pier East, if required in the future. However, the Committee believe that the Department of Defence and Department of Construction should consult further to ensure that the proposed extension of the Melbourne Harbour Trust wharf is really necessary.

35. The Cross Wharf The cross wharf will extend between Nelson Pier West and the west side of the building berth and will replace a derelict timber wharf on the same location. It will provide berths for small craft and vehicular access between the building berth and Nelson Pier West.

36. Nelson Pier Workshop This building will accommodate workshops to serve ships at Nelson Pier West, amenities and offices for the workforce and staff. A two tonne capacity goods lift will serve the second floor.

37. Extension to Pipe Shop This extension will provide additional area for pipe fabrication, pipe cleaning facilities, a hydraulic clean room, stores to serve both the workshop and the new pier and additional amenities. Two new electric cranes and a monorail hoist will be provided.

38. Administration/Training/Laboratory Centre This centre will accommodate dockyard administration, design, laboratory and training activities and will be a three-storey walk-up building with a basement and built around a courtyard. This will provide natural light and convenient access between the various parts. Training workshops will adjoin the north side.

39. Dockyard Store The dockyard store will provide storage for items required in the dockyard and also facilities for applying preservative coatings for stores items. The Committee were assured that the new store will be capable of expansion to meet future dockyard requirements and that this would be incorporated in the future Stage 3 of the modernisation. In the interim, provision

has been made to house stores in other localities around Melbourne. Heavy lift stores will remain at Port Melbourne.

40. Gatehouse The gatehouse will be a two-storey structure and will be the main central point for pedestrian and vehicular access to the dockyard. The main occupant of the building will be the Naval Police who are responsible for security and fire fighting 24 hours a day. Due to the central location of the gatehouse, it will also incorporate the first aid centre.

41. Oil Fuel Installation This installation will provide storage for 1000 tonnes of light fuel oil to allow ships to defuel prior to refitting and to fuel after refitting or construction.

42. Considerable investigation has been carried out into the siting of this installation. In order to save space, an underground installation is proposed at the northern end of the unit assembly building.

43. Fleet Maintenance Party Workshop It is hoped to temporarily relocate this workshop within a property presently under consideration for acquisition. If this does not eventuate it will be necessary to provide new temporary workshop facilities. Provision has been made for this in the estimates. A permanent facility is planned for inclusion in Stage 3 of the modernisation when a suitable site becomes available.

44. Boiler House The boiler house will contain mechanical and electrical services and existing steam boilers. The existing pump house is in an advanced stage of deterioration and the riggers' shop is unsuited to conversion to the new use. It will be necessary to keep the boilers in service during construction.

45. Car Parking In its report on Stage 1, the Committee drew the attention of the Government to the need to resolve the problem of car parking prior to examination of Stages 2 and 3. We were advised that the Government has now agreed to the acquisition or long term lease of properties near the dockyard for car parking.

46. Agreement has not yet been reached with the Melbourne Harbour Trust for the acquisition or long term lease of adjacent land presently being used for car parking. An adjoining property owned by the Victorian Railways is also under negotiation.

47. In addition, another nearby property is being considered for acquisition to provide for long term car parking requirements. This property

would be suitable for short term use as a store and training facility and also as a temporary fleet maintenance party workshop whilst the modernisation program is underway. If acquired this would result in considerable savings in expenditure on these short term requirements.

48. Construction of multi-level car parks within the dockyard is not supported by the Department of Defence because of the limited area available for dockyard facilities and the high cost.

49. Committee's Conclusion The Department of Defence and Department of Construction should consult further to ensure that the proposed extension to the Melbourne Harbour Trust Wharf is really necessary.

CONSTRUCTION

50. Nelson Pier West The new Nelson Pier West will be 187 metres long and 17 metres wide and will have a reinforced concrete deck, approximately 4.5 metres above high water, supported on tubular steel piles, which will be protected cathodically. A centrally located concrete services chamber will be provided below the main deck to accommodate plant and equipment to provide services to ships. The chamber will be connected to the extended services tunnel by a service duct suspended from the main deck.

51. Provision will be made to collect sewage from ships for discharge to the sewer mains. With the exception of the salt water, which will be supplied by pumps located on the pier, services will be supplied from the dockyard reticulation systems. Two 20 tonne electric travelling job cranes will be provided.

52. Cross Wharf A sheet pile wall to retain the land on the seaward side of the pipe shop will form the backing for a reinforced concrete decking supported on the seaward side by tubular steel piles which will be protected cathodically.

53. Nelson Pier Workshop This building, of total area 7200 sq. metres, will be a concrete encased steel framed structure on piled foundations with reinforced concrete ground, mezzanine and first floor slabs. Exterior walls will be of brick to a height of 4.4 metres to maintain security on the wall which forms the boundary to Reid Street and to achieve continuity with the existing utilities building which it will adjoin. Stair and lift wells will be reinforced concrete. Above 4.4 metres the walls will be clad with pre-coated aluminium sheeting.

54. Special exhaust systems to collect fumes from welding operations, and wood dust and chips from joinery operations will be provided. A two-tonne capacity goods lift at the northern end of the building will serve the first floor. The ground floor workshops and the sailmakers' shop will be equipped with sprinklers, whilst remaining areas will be provided with thermal or smoke detectors.

55. Extension to Pipe Shop The extension, of total area 1590 sq. metres will be a steel framed building clad and roofed with galvanised corrugated iron painted to match the existing building.

56. The pipe cleaning room will have internal brick walls to resist the corrosive fumes from the cleaning tanks and will be provided with a steel mesh false floor to allow drainage and to accommodate pipes and ducts. Steam heated epoxy lined steel tanks will be provided. The area surrounding the tanks will have separate exhaust ventilation and all contaminated air will be "scrubbed" with water before discharge to atmosphere. Liquid wastes from the pipe cleaning facility will be treated before discharge to the sewer lines.

57. Services in the existing building will be upgraded and standardised. The hydraulic clean room will be provided with filtered and conditioned air to meet the required level of cleanliness. Two new electric cranes and a monorail hoist will be provided.

58. Administration/Training/Laboratory Centre This three-storey building, of 10700 sq. metres total area, will be a reinforced concrete flat slab structure with a reinforced concrete roof supported on concrete columns. Precast panels and concrete blockwork will be used for infill. Internal finishes will be off form concrete and blockwork generally painted and vermiculite applied to ceilings. The office areas will be carpeted. The training workshop will be a steel portal frame structure on a raft foundation with concrete blockwork walls, pre-painted aluminium fascia and aluminium roof sheeting.

59. Administration, laboratory and training areas will be air conditioned whilst workshops will be heated and ventilated. In laboratory areas where noxious fumes will be encountered, exhaust systems will be provided. Where necessary, to meet local authority requirements, exhaust gases will be "scrubbed" with water before being discharged to atmosphere.

60. An electric goods lift will serve the administration area and an electric hoist will be provided in the laboratory. A new Private Automatic Branch Telephone Exchange (PABX) will be provided to replace the existing old and unreliable exchange.

61. Dockyard Store The total area of the initial construction will be 4165 sq. metres. High floor loads have a major influence on the design of this facility. The structure will consist of a piled foundation supporting a reinforced concrete ground floor. Concrete columns will support a reinforced concrete mezzanine floor covering approximately 70% of the ground floor area and columns will extend to steel trusses to support the aluminium roof sheeting. The south, east and west walls will be precast concrete panels. The north wall will be clad with pre-painted aluminium sheeting. No internal finishes will be applied except in office and amenities areas.

62. Part of the area under the mezzanine floor will be provided with "Compactus" rails. Space for low level pallet racking, to be serviced by a 2-tonne capacity "two dimensional drive" fork lift truck with an 8 metre reach. The loading bay will be served by a 6-tonne gantry crane. An electric goods lift of 6-tonne capacity will serve the mezzanine floor. The building will be protected by a sprinkler system.

63. Gatehouse The total area of this building will be 795 sq. metres. Due to the restricted site it will be necessary to provide a two-storey structure. The building will have an off form reinforced concrete frame with concrete block infill walls and an aluminium roof. Office areas and the first aid centre will be air conditioned.

64. Oil Fuel Installation Construction of this installation will not commence until late in Stage 2.

65. Two tanks and a pump house will be located within cylindrical underground cells constructed of concrete encased sheet piles. Each tank cell will be connected to the pump house cell by short tunnels fitted with fluid-tight bulkheads. The area above the installation is to be used for storage of hull units prior to assembly on the building berth and the roof has been planned accordingly.

66. Pumps and oil reticulation will be provided to allow ships berthed at Nelson Pier to be fuelled. The tanks will be filled from a lighter

berthed at Nelson Pier. An automatic foam fire fighting system will be provided to protect the oil tanks. The pump house and annular spaces around the oil tanks will be provided with smoke detectors.

67. Fleet Maintenance Party Workshop The building, if required, will be 360 sq. metres in area and will be a light steel structure on a reinforced concrete slab, clad and roofed with corrugated galvanised iron and provided with thermal insulation. A manually operated monorail hoist will serve the machine shop. Personnel using this building will use the nearby ships company toilet block.

68. Boiler House This building of 445 sq. metres area will be steel framed and will incorporate a reinforced concrete mezzanine floor supported on steel beams and load bearing walls. The floor and walls will provide a fire rated division between the transformer compound and the remainder of the building. The building will be clad and roofed with pre-coated aluminium sheeting.

69. Allowance has been made in the estimates for the construction difficulties which will be caused by the existing pits and tunnels beneath the site of this building. In addition, it will be necessary to keep the boilers in service during construction.

70. Internal Finishes Unless otherwise stated, internal walls will be painted plaster on studs and flooring will be vinyl in offices and amenities areas and ceramic tiles in wet areas.

ENGINEERING SERVICES

71. Mechanical Except where stated, buildings will be heated and ventilated. Local exhaust systems will be provided for toilets, washrooms and locker rooms.

72. Engineering services provided in Stage 1 of the project will be extended where necessary to suit the requirements of the Stage 2 buildings and facilities. In addition, some new services will be provided as part of Stage 2.

73. The existing 2.25 metre diameter services tunnel will be extended in the vicinity of Alfred Graving Dock and to Nelson Pier West and the oil fuel installation. In addition, compressed air, oxygen, natural gas, electricity and telephone services will be distributed to the new facilities as required.

74. The existing boilers will be converted to natural gas firing and a distilled water plant will be provided in the new boiler house. A salt water supply system with pumps located in the new boiler house will also be provided.

75. Civil Pavements will be extended as required.

76. Hydraulic Drainage, sewerage, fire and domestic water supplies will be extended to suit the new facilities.

77. Electrical Both normal 50 Hz and special 60 Hz electrical supplies for provision of power to ships will be provided.

78. Two 1500 kW diesel generators will be installed in the utilities building. These generators will provide continuity of power supply to critical loads within the dockyard during periods of mains power restriction or unavailability. Security of supply is of particular importance to ships berthed at the dockyard. In addition, the generators will be suitable for use for reduction of the dockyard's demand for power from the supply authority mains. Security lighting will be provided.

79. Fire Protection Hose reels and portable fire extinguishers will be provided. Except where stated otherwise, buildings will be provided with smoke and/or thermal detectors.

80. Conclusion The Committee recommend the construction of the work in this reference.

ENVIRONMENTAL ASPECTS

81. A Notice of Intention was submitted to the former Department of the Environment which advised that an Environmental Impact Statement was not required. The Victorian Environment Protection Authority has been consulted in respect of discharges to water and atmosphere and the current requirements of that authority will be met.

CONSULTATIONS BETWEEN DOCKYARD MANAGEMENT AND UNIONS

82. The Committee are critical of the lack of communication between management and unions regarding Stage 2 of the modernisation. The submission by the Combined Union Shop Committee suggested amendments to some details of the proposed works and to the building program which they hoped "would lead to job harmony and help achieve balanced and unhindered production". At our suggestion a meeting was arranged to resolve any differences relating to

Stage 2. Subsequently advice was received that all matters, with the exception of the fleet maintenance party workshop, were resolved to the satisfaction of the parties concerned. The unions and dockyard management have agreed to differ on the provision of this facility as a matter of policy.

83. Preliminary measures have been taken to form a consultative committee with representatives from trade unions, staff associations, dockyard management and the Department of Construction to consider the detailed development of Stage 2 and to examine and discuss all future works proposals at the dockyard.

PROGRAM

84. The sequence of construction has been planned in detail to meet the requirements of the Department of Defence. Subject to the appropriate approvals, Phase A comprising the Nelson Pier workshop, pipe shop extension and the engineering service extensions will commence in October 1977 and is planned to be completed in September 1979.

85. Subject to availability of funds, the timetable envisaged by present planning for the remaining phases is:-

- Phase B, comprising the Nelson Pier and cross wharf, associated services and temporary fleet maintenance workshop to commence mid-1978 and be completed late 1981;
- Phase C, comprising the administration/training/laboratory centre, dockyard store and associated services to commence mid-1979 and be completed mid-1982; and
- Phase D, comprising the oil fuel installation and gate house to commence mid-1980 and be completed late 1982.

ESTIMATE OF COST

86. The estimated cost of the work when referred to the Committee at July 1976 prices was \$24.0 million made up as follows:

	\$
Building works	8 800 000
Maritime works	5 400 000
Civil Engineering works	2 000 000
Mechanical services	5 100 000
Electrical services	<u>2 700 000</u>
	<u>24 000 000</u>

RECOMMENDATIONS AND CONCLUSIONS

87. The summary of recommendations and conclusions of the Committee is set out below. Alongside each is shown the paragraph in the report to which it refers.

	<u>Paragraph</u>
1. THERE IS A NEED TO MAINTAIN A MODERN, EFFICIENT DEFENCE CAPABILITY FOR THE CONSTRUCTION, OUTFITTING, MODERNISATION AND REFITTING OF COMBATANT SHIPS OF THE DESTROYER AND DESTROYER ESCORT TYPES.	27
2. THE WORKS PROPOSED IN STAGE 2 OF THE MODERNISATION PROGRAM WILL CONTRIBUTE SIGNIFICANTLY TOWARDS SATISFYING THIS NEED AND WILL ENABLE THE DOCKYARD TO REALISE FULLY THE BENEFITS OF STAGE 1.	28
3. THE COMMITTEE NOTE WITH CONCERN THAT THERE ARE NO SPECIFIC PROPOSALS FOR A DESTROYER CONSTRUCTION PROGRAM AND SUGGEST THAT OTHER AVENUES BE EXPLORED TO ENSURE THE MAXIMUM UTILISATION OF SHIP CONSTRUCTION FACILITIES.	29
4. THE DEPARTMENT OF DEFENCE AND THE DEPARTMENT OF CONSTRUCTION SHOULD CONSULT FURTHER TO ENSURE THAT THE PROPOSED EXTENSION TO THE MELBOURNE HARBOUR TRUST WHARF IS REALLY NECESSARY.	49
5. THE COMMITTEE RECOMMEND THE CONSTRUCTION OF THE WORK IN THIS REFERENCE.	80
6. THE ESTIMATED COST OF THE WORK WHEN REFERRED TO THE COMMITTEE WAS \$24 MILLION (AT JULY 1976 PRICES).	86

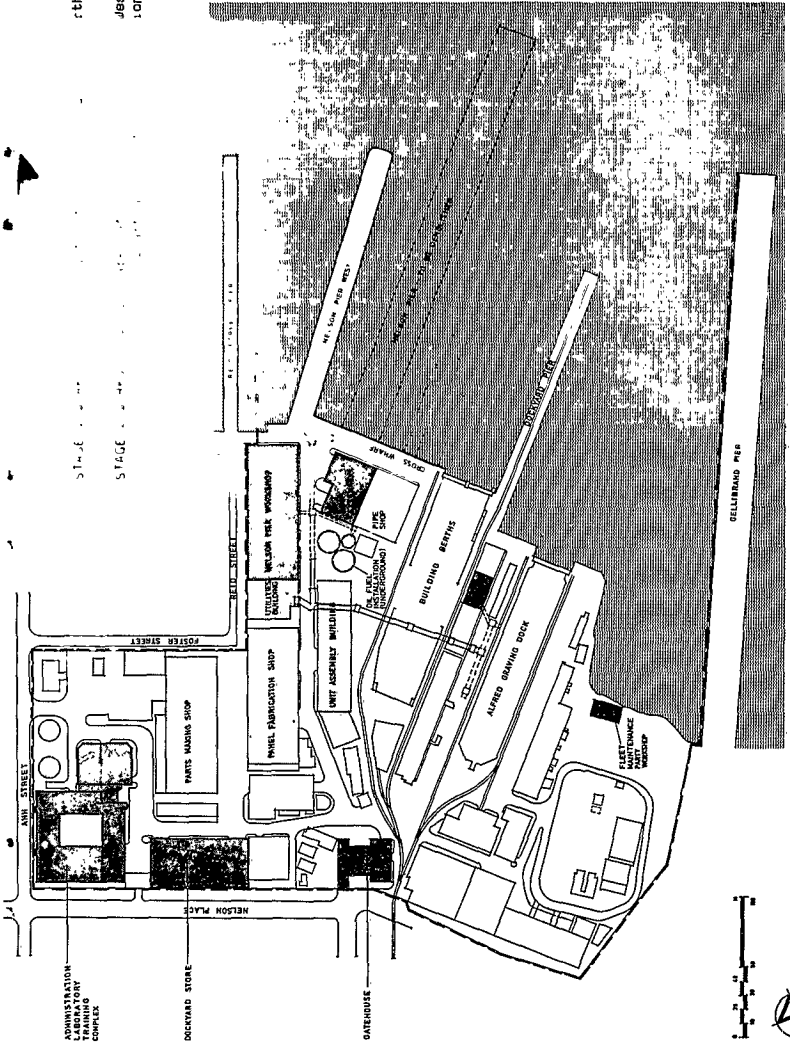

(C.R. KELLY)
Chairman

Parliamentary Standing Committee on Public Works,
Parliament House,
CANBERRA, A.C.T.

9 December 1976.

thas.
 Jeest,
 lon.

STAGE



SITE PLAN

Handwritten initials

THE SENATE

ROLL

16.2.71

SENATORS—

- | | |
|----------------------------|-------------------------|
| 1. BROOKER | 33. McWHIRTER |
| 2. BURNETT | 34. McCLELLAND, DOUGLAS |
| 3. BURNOT | 35. McCLELLAND, JAMES |
| 4. BOWMER | 36. McLELLAN |
| 5. BROWN | 37. McLELLAN |
| 6. BLISSON | 38. McLELLAN |
| 7. CAMERON | 39. MACGIBELL |
| 8. GARNICK | 40. MEEGER |
| 9. CAMPBELL | 41. MEEGER |
| 10. GILBERT | 42. MEEHAN |
| 11. GOSWAMI | 43. McMAHON |
| 12. GOSWAMI | 44. O'DONNE |
| 13. GOSWAMI | 45. PRINCE |
| 14. CORWACK,
SIR MAGNUS | 46. RAY |
| 15. GOSWAMI | 47. ROBERTSON |
| 16. GOSWAMI | 48. RYAN |
| 17. DANIEL | 49. SCOTT |
| 18. DRAKE-BROCKMAN | 50. SLEIGH |
| 19. DEWICK | 51. STANWA |
| 20. GEORGE | 52. STAY |
| 21. GIBBETT | 53. TAYLOR |
| 22. GRIMES | 54. TAYLOR |
| 23. GUNDOLE | 55. TOMLINSON |
| 24. HALL | 56. WATSON |
| 25. HARRADINE | 57. WATSON |
| 26. JESSON | 58. WATSON |
| 27. KEMP | 59. WATSON |
| 28. KILGUS | 60. WILLIAMS |
| 29. KILGUS | 61. WOOD |
| 30. LAMBERT | 62. WRIGHT |
| 31. LAMBERT | 63. WRIGHT |
| 32. LEWIS | 64. YOUNG |

45

THE SENATE

ROLL

16.2.77

SENATORS—

- | | |
|--------------------------|------------------------------------|
| 1. ADAMS | 33. McAULIFFE |
| 2. BAUME | 34. McCLELLAND, DOUGLAS |
| 3. BISHOP | 35. McCLELLAND, JAMES |
| 4. BONNER | 36. MCINTOSH |
| 5. BROWN | 37. MCGIBEN |
| 6. BYRNE | 38. MARTIN |
| 7. CAMERON | 39. MCGIBEN |
| 8. CARRICK | 40. MELZER |
| 9. CAVANAGH | 41. MESSNER |
| 10. CHANEY | 42. MESSIN |
| 11. COLEMAN | 43. MURPHY |
| 12. COLEMAN | 44. O'LEARY |
| 13. COLSTON | 45. PRINMER |
| 14. CORRIE | 46. RAY |
| SIR MAGNUS | 47. ROBERTSON |
| 15. GOPPIN | 48. RYAN |
| 16. DAVIDSON | 49. SCOTT |
| 17. DEWITT | 50. SHEIL |
| 18. DRAKE-BROCKMAN | 51. SIBRA |
| 19. DURACK | 52. SIM |
| 20. GEORGES | 53. TILLY |
| 21. GRETZEL | 54. THOMAS |
| 22. GRIMES | 55. TOWNLEY |
| 23. GUILROYLE | 56. WALSH |
| 24. HALL | 57. WALTERS |
| 25. HARRADINE | 58. WEDSTER |
| 26. HESS | 59. WHEELDON |
| 27. KEEFFE | 60. WITHERS |
| 28. KHARIFE | 61. WOOD |
| 29. KNIGHT | 62. WRIGHT |
| 30. LATOVI | 63. WRIGHT |
| 31. LAUCKE | 64. YOUNG |
| 32. LEWIS | |

19 77

16th day of February

1

Question,

Urgency motion
 that Q. be now
 put (Am Am).

Senate

AYES
SENATORS—

1. ~~ARCHER~~
2. ~~BAIME~~
3. BISHOP
4. ~~BONNER~~
5. BROWN
6. BUTTON
7. CAMERON
8. ~~CARRUTHERS~~
9. CAVANAGH
10. ~~CLANEY~~
11. COLEMAN
12. ~~COLLARD~~
13. COLSTON
14. ~~CORBACK~~
 SIR MAGNUS
15. ~~COXTON~~
16. ~~DAVIDSON~~
17. DEVITT
18. DRAKE-BROCKMAN
19. ~~DURACK~~
20. GEORGES
21. GIEZELT
22. GRIMES
23. ~~GUNFOYLE~~
24. ~~HALL~~
25. HARRADINE
26. ~~JESSOP~~
27. KEEFFE
28. ~~MCBRIDE~~
29. ~~MCNULTY~~
30. ~~MCQUEEN~~
31. ~~LAUGHLIN~~
32. ~~LEWIS~~

Teller

33. MCAULIFFE
34. MCCLELLAND, DOUGLAS
35. MCCLELLAND, JAMES
36. MCINTOSH
37. MCLAREN
38. ~~MARTIN~~
39. ~~MANNING~~
40. MELZER
41. ~~MESNER~~
42. ~~MURPHY~~
43. MULVIHILL
44. O'BYRNE
45. PRIMMER
46. ~~REID~~
47. ROBERTSON
48. RYAN
49. SCOTT
50. ~~SLEIGH~~
51. SIBRAA
52. ~~SMITH~~
53. ~~SMITH~~
54. ~~THOMAS~~
55. ~~TOWNLEY~~
56. WALSH
57. ~~WALSH~~
58. ~~WEBSTER~~
59. WHEELDON
60. ~~WILLIAMS~~
61. WOOD
62. WRIEDT
63. ~~WRIGHT~~
64. ~~YOUNG~~

Ayes, 35
 Nots, 25

TELLER FOR THE AYES—SENATOR *[Signature]*

SENATE

19 77

16th day of February

Question,

Hogney motion
(Sen Chaney)

Closure

Senate

~~Committee~~

NOES
SENATORS--

- | | |
|------------------------------|--------------------------|
| 1. ARCHER | 33. MALCOLM |
| 2. BAUME | 34. McCLELLAND DOUGLAS |
| 3. BRADY | 35. McCLELLAND, JAMES |
| 4. BONNER | 36. MALCOLM |
| 5. BROWN | 37. MALCOLM |
| 6. BROWN | 38. MARTIN |
| 7. CAMERON | 39. MAUNSELL |
| 8. CARRICK | 40. MALCOLM |
| 9. CARRICK | 41. MESSNER |
| 10. CHANEY | 42. MISSEN |
| 11. CORREY | 43. MALCOLM |
| 12. COLLARD | 44. CORREY |
| 13. CORREY | 45. FRENCH |
| 14. CORMACK,
SIR MAGNUS | 46. RAE |
| 15. COTTON | 47. ROBERTSON |
| 16. DAVIDSON | 48. WYNN |
| 17. DEWEY | 49. SCOTT |
| 18. DRAKE-BROCKMAN | 50. SHEIL |
| 19. DURACK | 51. SHEIL |
| 20. CORREY (free) | 52. SIM |
| 21. CORREY | 53. TEHAN |
| 22. CORREY | 54. THOMAS |
| 23. GUILFOYLE | 55. TOWNLEY |
| 24. HALL | 56. WALTERS |
| 25. HARRADINE | 57. WALTERS |
| 26. JESSOP | 58. WEBSTER |
| 27. KERRIN | 59. WEBSTER |
| 28. KILGARIFF | 60. WITHERS |
| 29. KNIGHT | 61. WOOD |
| 30. LAJOVIC | 62. WRIEDT |
| 31. LAUCKE | 63. WRIGHT |
| 32. LEWIS | 64. YOUNG |

Ayes, 23

Noes, 25

TELLER FOR THE NOES—SENATOR