



1972

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

*Parliamentary Standing Committee on Public Works*

## REPORT

relating to the proposed construction of a

# NAVAL SUPPORT FACILITY (H.M.A.S. STIRLING)

at

## Cockburn Sound Western Australia

(SEVENTH REPORT OF 1972)

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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

NAVAL SUPPORT FACILITY  
(H.M.A.S. STIRLING)  
COCKBURN SOUND  
WESTERN AUSTRALIA

R E P O R T

By resolution on 2 March 1972 the Senate referred to the Parliamentary Standing Committee on Public Works for investigation and report to the Parliament the proposal for the construction of a naval support facility (H.M.A.S. Stirling) on Garden Island in Cockburn Sound, Western Australia.

The Committee have the honour to report as follows:

PART I - INTRODUCTION

THE REFERENCE

1. The proposal referred to the Committee is for the construction on Garden Island in Cockburn Sound of a naval support facility to be known as H.M.A.S. Stirling. Initially, it is planned that the facility will have capacity to support up to four escort vessels and three submarines for operational periods of up to 12 months without docking. The work includes:

- maritime works, wharves, workshops, stores and offices;
- a large ship's wharf, small boat camber and slipway to accommodate ships of the Fleet and support craft;

2.

- barracks, recreational and medical accommodation;
  - an armament depot and an armament jetty with submarine arming facilities;
  - an operations headquarters;
  - communications facilities; and
  - engineering services.
2. The work is estimated to cost \$30 million.

THE COMMITTEE'S INVESTIGATION

3. The Committee received written submissions and drawings from the Departments of the Navy and Works and took evidence from their representatives at public hearings in Perth. At that time, we also heard evidence from witnesses representing the Western Australian Government, local government and a number of other interested organizations and individuals. The Committee received several written submissions.

4. A final public hearing was held in Canberra to receive evidence from the Master Builders' Federation of Australia.

5. We inspected the Cockburn Sound area and the partially completed causeway which will link Garden Island to the mainland at Point Peron. On Garden Island, a general inspection was made, particular attention being paid to the sites chosen for the proposed works.

COCKBURN SOUND

6. Cockburn Sound is the largest of a series of basins immediately south of Fremantle, bounded in the south by Point Peron. The western boundary consists of an off-shore bank characterised by chains of shoaling

reefs and islands, of which Garden Island shelters Cockburn Sound itself, with Rottneest Island at the north-west extremity. The main embayment is intersected by two sand barriers, through which large ships have access by the Success and Parmelia channels. The southern entrance to the Sound between Garden Island and Point Peron, is obstructed by a broad shallow sandy sill one to two fathoms deep. Within Cockburn Sound there is a large central basin having a comparatively level muddy floor at 60 ft to 70 ft.

7. The largest industrial complex in Western Australia is centred in two areas, Owen Anchorage and Kwinana, on the mainland shores of the Sound. Owen Anchorage is south of the inner harbour at Fremantle whilst Kwinana is further south again along the eastern and south-eastern reaches of the Sound towards Rockingham.

8. Garden Island Garden Island is some six miles long and up to a mile wide. It is Commonwealth-owned and has an area of 2,928 acres. Its western side has scrub covered irregular sand dunes up to 150 ft high, whilst the eastern side is relatively flat up to a group of hills around Mt. Moke, about two miles from the northern end. On the south-eastern side of the island is Careening Bay, a sheltered semi-circular bay open to the east and some 4,000 ft across with depths of 40 ft to 50 ft close in-shore.

#### THE PREVIOUS ENQUIRY

9. On 27 October 1970, the Committee reported to the Parliament on the proposal to construct a causeway between Point Peron and Garden Island as a preliminary to the establishment of a naval support facility on the island. The estimated cost of the causeway was then \$9 million.

10. On that occasion, the Committee noted the strategic and logistic considerations which had given rise to the decision to create a significant naval shore establishment in Western Australia. In particular, the Committee noted the considerable savings in time and money and the increased operational efficiency and flexibility expected to result from naval forces being kept on task in the Indian Ocean based on such a facility, rather than on Melbourne or Sydney. In paragraphs 17 to 21, the Committee reported on the considerations which had resulted in the proposal to site the facility on Garden Island and in paragraph 22, concluded that Garden Island was a suitable location.

11. The report then discussed the means of access to Garden Island from the mainland and concluded that a causeway was the most appropriate method. There was, however, a divergence of opinion within the Committee about the effect on the environment of Cockburn Sound of building a causeway without additional investigations being carried out. After considering the evidence on this point, the Committee debated a motion recommending the construction of the causeway as proposed. An amendment to the motion was moved

"That unless the Government is able to convince the Parliament that the work is urgent, further investigation should be carried out to ensure that impairment of the Cockburn Sound environment will not occur."

When the Committee divided on the amendment, it was lost and the original motion was then put and carried. The Committee concluded that the proposed development on Garden Island is essential and that the construction of a causeway for access purposes is appropriate in the circumstances.



12. At the 1970 enquiry, it was noted that plans for the facility to follow the construction of the causeway included berthing and logistic support for ships and submarines. The services mentioned included wharves, workshops and engineering services, offices, ammunition storage, barracks and possibly, oil fuel storage. Major refitting and docking facilities were not planned initially. It was also noted that subject to finalisation and approval of the Navy's plans, the facility could be in operation by the end of 1975.

13. The Committee had available to it at that time, the 1967 feasibility report to the Government by the consultants, Maunsell and Partners, on the development of the proposed facility. That report showed a possible ultimate layout of the facility on Garden Island very similar to the proposals now referred to the Committee.

## PART II - THE PRESENT PROPOSAL

### THE NEED

14. The Committee noted in paragraph 15 of the previous report, that the Australian Fleet is concentrated at Sydney and has, since World War II, been backed by naval ship building and limited support facilities in Melbourne. Outside Sydney and Melbourne there are few facilities for naval support but improved communications and transport have permitted specialised skills and equipment to be moved rapidly to points where they were required.

15. In recent years mining and industrial developments in Western Australia have increased the importance of sea communications in the area. In addition, changes have occurred in the strategic position

in the Indian Ocean, particularly with the substantial withdrawal of British Forces. These factors point to the need for Australia to develop a more independent capability for supporting naval operations to the north and north-west of Australia to protect its interests. Such a facility could also assist allied forces. The ability of the Navy to keep ships on task is dependent upon shore support being available within a reasonable distance of operational areas and on the afloat support which can be sustained from the shore support.

16. The Committee were told that the provision of a naval support facility on the west coast meets the strategic requirement to support operations in the Indian Ocean. Ships could be rapidly deployed in the area and remain there for long periods in a time of tension. In peacetime the Navy could provide support for warships in the area and the facility should be planned so that in an emergency it would have a ready capability for rapid expansion to support an increased level of operations.

17. The Committee concluded there is a need for the work in this reference.

#### THE SITE

18. The Committee's enquiry on this occasion did not canvass in depth the reasoning behind the choice of Garden Island as the site for the naval support facility. However, we noted that the arguments advanced during the 1970 enquiry still apply and we confirm the conclusion of the Committee at that time that Garden Island is a suitable location.

19. Public Access to Garden Island Hitherto, the Commonwealth had granted leases of land on Garden Island for the construction of holiday cottages and there has been unlimited access to the island by the public. The leases had termination conditions to allow the land to be regained when required. The duration of the leases was gradually reduced with the proposed development in mind.

20. The position now is that all leases have been terminated, the terminations having been made after proper notice. Lessees with houses are being permitted to remain on the island under licence recoverable at will until the sites are required for construction purposes. The continued occupation of the cottages not directly in the way of construction activity is linked with consideration of the general question of public access to the island.

21. We were also informed that because of essential safety and security requirements, unlimited public access to the island will not be possible and that the Navy is opposed to the use of the causeway by the public. At the commencement of the present enquiry, it was the Department of the Navy's view that it may be possible to reach a compromise solution which on the one hand would meet Navy's operational requirements and at the same time allow the public continued access, concurrently ensuring that the natural environment was protected. We were informed that the ways and means of reaching such an arrangement were being studied.

22. These points were discussed widely in the representations made to the Committee at the public hearings in Perth. They, and the result of the Navy's further studies and the Committee's deliberations, are dealt with in more detail in Part III of this report.

23. Environmental Protection It was noted that as part of the planning of the proposed development and consideration of public access to Garden Island, the Commonwealth has been giving close attention to the issues

of conservation and environmental protection. This examination has been carried out in liaison with State and other authorities and has as its aim, the need to avoid erosion, to safeguard the limited and vulnerable vegetation cover and to preserve as far as possible the natural environment.

24. Items of Historical Interest During our inspection of the island, we saw the remains of a limestone well and other evidence of the first settlement in Western Australia in 1829 which took place adjacent to Cliff Head. As this area is within the safety zone of the armament depot, it will not be built on. We noted that the Navy supports a proposal by the Royal Western Australian Historical Society to erect a suitable memorial in the area.

25. The Commonwealth is arranging to relocate a memorial to the members who served in Z Force during World War II. This memorial, which had been erected by the Special Reconnaissance Department Association, is now located in the area in which the workshop development is planned.

#### SITE CONDITIONS

26. Upon completion of the causeway, south-westerly and westerly swells will enter Cockburn Sound from the northern end only. They will then be refracted southward gradually diminishing from a significant height at Sulphur Bay to one of little effect at Careening Bay. However, easterly winds will generate short steep 3 ft waves from which small craft will require some protection.

27. Topographically, the island's highest sandhills divide it into three fairly level sections which comprise about half the total area. The remainder is generally too steep for economic development and is therefore to continue undisturbed as the wildlife habitat of the island.

The dense natural scrub coverage has a high fire risk and special precautions and protective measures during the construction period and subsequent operation of the facility are imperative. When stripped of this cover, the underlying sand is particularly subject to wind erosion and cover must be quickly re-established and maintained. Protective works are necessary where construction activities disturb beaches.

28. Whilst site conditions on the island are satisfactory for the work envisaged, sub-surface and submarine conditions will have a significant effect upon the design and cost of maritime works and associated shore structures which impose heavy loads. The conditions are such that heavy structures will need to be founded at about 100 ft below ground level and dewatering of any deep trenches will be required because of the high water table.

#### DEVELOPMENT PLAN

29. Outline The Committee noted that using the facts brought out in the Maunsell and Partners feasibility report but further investigated and independently reassessed, a master plan covering both the short and long term development of the naval support facility on Garden Island has been agreed between the Departments of the Navy and Works. The plan provides for the appropriate zoning of the various elements of the facility having regard to their functions and the island's topography. The three major zones are the wharf and workshop area in the south of the island, the accommodation and recreation area further to the north and the armament area on the northern third of the island.

30. The initial development is planned to provide the means whereby H.M.A.S. Stirling could support up to four escort vessels and three

submarines operating for periods up to 12 months without docking. These works include wharves and associated engineering services, a slipway, workshops and stores buildings, an armament depot and jetty, administration and communications buildings, barracks and recreational facilities, miscellaneous utility buildings and supporting services, including roads, water supply, sewerage and electricity. The facilities are planned to be readily capable of expansion when necessary.

31. Fundamental to the concept is the capability of rapidly expanding the functions and services of the facility to meet the needs of an emergency situation. Both the zone and master planning have taken account of the possible future requirements for docking and refitting services, an oil fuel installation, a landing area for S.T.O.L. aircraft and major transmitting and receiving stations.

32. Having regard to both long and short term naval requirements, we believe that subject to the reservations implicit in paragraph 78 below, the proposed master plan for the naval support facility is appropriate.

#### WHARF AND WORKSHOP AREA

33. Submarine and Escort Wharves A submarine wharf 700 ft long is to be constructed in this area providing two berths with 36 ft of water alongside. Two additional submarines will be able to berth outboard of those at the wharf. The escort wharf will be 1,000 ft long providing two berths with 32 ft of water alongside. Two additional vessels will be able to berth at outboard positions.

34. Each wharf will be constructed with a reinforced concrete deck 12 ft above high water carried on tubular steel piles which must be driven to about 100 ft to obtain the required bearing capacity. The deck and supporting piles will be designed to take loadings of up to 800 lb. per sq. ft in addition to the loading imposed by wharftside cranes and ships alongside. An enclosed services duct will be provided beneath the decks, parallel to the wharf face, and fenders and bollards will be included. A five ton electrically driven travelling portal crane will be provided on the submarine wharf and a similar 10 ton crane on the escort wharf. Each will be capable of reaching outboard ships when two are moored abreast and will have sufficient hook height to lift the periscope and mast from submarines or to reach the masthead radar arrays of escorts.

35. Large Ships' Wharf The large ships' wharf will have 800 ft of berth with at least 36 ft depth of water on either side besides 200 ft of berth of lesser depth at the inshore end on the the southern side where lighters can be loaded or discharged or where auxiliaries such as tugs can be berthed.

36. Construction materials will be the same as in the submarine and escort wharves. Forty-four feet of the deck width of 55 ft will be available for vehicles and cargoes. An outboard strip on either face will be raised to form a margin to take service pits and bollards. Heavy fendering will be provided. Fresh water, compressed air and telephone services will be available and the deck will be slotted to take rails for a 10-ton portable crane should this be required in the future.

37. Small Boat Camber A small boat camber will provide 900 ft of berthage with at least 12 ft of water, for support craft. A boat shed will be adjacent. The root of the camber will form the approach to the large ships' wharf and the sheltered interior faces will be provided with a timber landing. A northward extension at the shore end will provide a fleet landing for the crews of ships moored in the Sound. Water circulation and debris clearance from the enclosed area will be assisted by two culverts through the root of the breakwater.
38. Slipway A slipway will be provided within the shelter of the boat camber for maintenance of support craft and a paved hard will permit minor units to be hauled up without using the main slipway. The slipway and winch will be designed to take the loads imposed by craft of 150 tons displacement but its length and cradle will be suited initially to 50-ton craft only. However, they will be capable of future extension.
39. Engineering Workshop An engineering workshop 275 ft by 100 ft, and 30 ft high, with an overhead 4-ton gantry crane will be constructed to cater for heavy engineering maintenance work on escorts and submarines. A mezzanine floor will accommodate offices over work areas to release ground floor space for facilities requiring level access or lifting facilities. A monitor roof will provide natural lighting and ventilation. Supplementary heating will be provided in winter.
40. Electronics Workshop The electronics workshop will be 180 ft by 100 ft. Maintenance activities requiring clean conditions for periscopes and electronic equipment will be concentrated in this structure. Filtered and tempered air will be supplied. Areas containing classified equipment and publications will be windowless and will be fitted with secure doors and intruder alarm systems. Test aerial mounts will be provided on the roof.



41. Utilities Power House A utilities power house will accommodate the machinery for the alongside services, an electrical transformer installation, and generators for the emergency power supply. The electrical machinery hall will be served by a 20-ton travelling gantry crane.

42. Other Buildings Other buildings to be constructed in this area include a shipwright's shop containing woodwork and fibreglass facilities for maintenance and repair of small craft, a stores complex consisting of a supply centre, a bulk store and a flammable liquid and compressed gas bottle store, and an administration and training building which will contain offices, classrooms, a telephone exchange and other administration facilities necessary to operate the establishment.

43. Also included in the wharf and workshop area are:

- ancillary wharfside buildings adjacent to ships' berths containing toilet and ablution facilities, laypart stores, cable and pipe racks, an electrical substation and D.C. conversion equipment;
- a building adjacent to the boat camber for compressed air breathing apparatus, a diving decompression chamber and amenities;
- toilet and ablution facilities for ships' personnel using the fleet landing and a boatshed for recreational and training sailing craft;
- a motor transport compound;
- a guard house; and
- a Department of Works' maintenance depot.

44. Communications Centre and Operational Headquarters Allowance has been made in the estimates for the construction of a communications centre to be located adjacent to the administration and training building and an operational headquarters. The Committee were told that the site for the latter building is still being investigated, but that it will be in the wharf and workshop zone on the island, or on an area of Navy-owned land adjacent to H.M.A.S. Leeuwin at Fremantle.

#### ACCOMMODATION AND RECREATION AREA

45. Design Except as mentioned in paragraphs 52 to 55 below, the buildings in this area have been designed in accordance with Services Scales and Standards of Accommodation. The Committee were told that the designs will make the best use of the natural levels to minimise cost and will create buildings and living environments which are functional, interesting in form and which harmonise with the colour and topography of their surroundings. In addition, the design of sleeping blocks and messes will facilitate expansion when required.

46. The buildings will be sited to gain access to, and overlook the protected waters to the north and east. However, their long walls will face north and south for sun and rain protection. Two and three storey barracks will be positioned on low ground whilst single storey mess and recreation buildings will have a higher elevation to open views to the beaches. Adequate sun screening will be included and verandahs and grouping of buildings will give protected outdoor space.

47. Officers' Wardroom This two-storey building will house the Commanding Officer, a senior sister, 10 senior and 10 junior officers in

single cabins. The accommodation wing will be connected to a single storey wardroom containing a dining room to seat 50 and a galley equipped initially to the 26-50 man scale. It will also include a bar, ante room, T.V. room and games room.

48. Senior Sailors' Accommodation and Mess This complex will comprise two three-storey sleeping blocks to house 81 senior sailors in single cabins. Laundry, drying and ironing facilities and change rooms will be included. The blocks will be connected by covered ways to separate mess areas. The chief petty officers' dining room will seat 58 and that for petty officers, 60. Both will be served by a common galley equipped to the 101-250 man scale. Ante rooms and recreation areas including T.V. rooms, bars, visitors' and games rooms will be provided separately to serve 80 chief and 91 petty officers.

49. Junior Sailors' Accommodation, Mess and Recreation Centre Two three-storey sleeping blocks will accommodate 228 junior sailors in four berth cabins. Laundry, ironing and drying facilities will be provided and box and change rooms will be included on each floor. The sleeping blocks will be connected by covered ways to the mess which will have an initial dining room capacity of 200 and a galley equipped to serve up to 400. The single-storey recreation centre will contain facilities for 419 junior sailors, including a canteen, a tavern, T.V., games and billiards rooms and a beer garden.

50. Medical Centre This single-storey building will accommodate a 20-bed sick bay and associated requirements, an outpatients' area and facilities for dental treatment.

51. Sporting Facilities A squash court, together with change rooms will be sited adjacent to the oval, two playing fields and four tennis courts.
52. Services Scales and Standards of Accommodation Over the past 18 months, the Committee have been pressing the Government to critically re-examine the standards used for the provision of domestic accommodation in the Services. In particular, we have been seeking a decision on the more widespread use of carpet as a floor covering in living accommodation buildings and have suggested that motel-style living quarters might be more appropriate under present day conditions than the conventional single room/community ablutions and toilet arrangement for officers and non-commissioned officers. We had been told on a number of occasions that the Committee's ideas were being examined but there was little evidence of progress except for the adoption of carpet as a floor covering in the corridors of officers' and N.C.O.s' quarters.
53. On the present reference we were told that, as a special case, pending completion of a wider review of standards, accommodation planned for officers and senior sailors would be of the motel type with an adjoining bathroom/toilet unit shared by two adjoining occupants. In the case of senior officers, there would be a bathroom/toilet unit to each officer's suite. This improvement will involve a marginally higher cost per person and a number of factors will need to be considered to determine the economics of providing similar accommodation elsewhere.
54. The Committee were also informed at the public hearings that at H.M.A.S. Stirling, for the first time, it was proposed to carpet the cabins of officers and senior sailors. It was stated that the Department of Works was convinced that it was as economic to carpet living quarters as to provide alternative forms of floor covering when the difference in maintenance costs was considered. Subsequently, however, we were notified that there had been a misunderstanding on the part of the Department of where the matter stood and

that there was no approval for the use of carpets either generally or at H.M.A.S. Stirling in particular.

55. Whilst we noted with some satisfaction the endorsement, in part, of the Committee's recommendations on motel-type accommodation, we were again appalled that the Government has still failed to deal to a conclusion with our recommendation on the use of carpet. The Committee first raised the latter subject in a report in September 1970 on proposed work at H.M.A.S. Gerberus and has been critical of the Government on three occasions since then about its unwillingness to reach a decision on what we believe to be a straightforward matter on which a good deal of background information is already available. If as now stated by the Department of Works, tests and evaluations justify the use of carpet as an economic floor covering and 'there is no doubt that carpet is the most suitable floor covering for single bedrooms', we cannot see why it should not be used in this case. Furthermore, there seems no reason why Services Scales and Standards of Accommodation should not be amended to provide accordingly.

#### THE ARMAMENT AREA

56. The facilities in this zone will include the armament depot, an armament jetty, a non-explosives area and a fire and damage control training area. The first two mentioned elements which are the most important are to be located within the northern third of the island to maintain safety separation from occupied areas and access will be controlled by a police post. The non-explosives area and the training facilities are to be located further south, clear of the danger zones.

57. Armament Depot The explosives magazines, laboratories and ancillary buildings in this area will be security fenced and access will be controlled. The layout will have regard to safety distances between various explosive stores themselves, and distances to laboratories and the office.

58. Buildings for storage of ammunition, propellant and flares will be constructed and located to take advantage of natural contours. Where appropriate,

categories of stores will be protected by interceptor traverses. Three laboratories and a test house will be provided for inspection and testing of ammunition and propellants. Other buildings will include an office, a mechanical plant storage shelter, toilet blocks and police control posts.

59. An area to the north of the magazine area will be used for proof testing and demolition of unsafe explosives. It will be located on the beach to allow test firing of pyrotechnics over water and to limit the clearing necessary for fire control. Preparation and firing point shelters will be constructed.

60. Armament Jetty The armament jetty is to be located in Sulphur Bay adjacent to the armament depot. It will comprise a 500 ft jetty head, for use by submarines and escorts, connected to the shore by a short length of trestle approach and a rubble fill mole. The addition of an outer dolphin, connected by a walkway to the jetty head, will provide a berth suitable for a store carrier or replenishment ship.

61. The main berth will be the southern face, dredged to provide a minimum of 36 ft of water alongside and in its approaches. A 300 ft berth at the inner end of the jetty head will be protected from swell and wind-generated waves from the north to provide still conditions for the arming of a submarine alongside.

62. The structure will comprise a reinforced concrete deck 12 ft above high water, carried on tubular steel piles. The deck and supporting piles are to be designed to take loadings up to 800 lb. per sq. ft in addition to the loading imposed by the travelling crane and by ships alongside. Fenders and bollards will be incorporated and one 5-ton electrically driven portal crane will be provided on the jetty head. A stevedores' building with an office, toilets and amenities will be provided on the rock fill mole close to the wharf.

63. Non-Explosives Area The facilities will comprise administrative offices, workshops and non-explosive stores which will be enclosed by a security fence. The administrative building will provide accommodation for the conduct and control of the armament depot, staff amenities and laundry facilities for protective clothing. Workshop facilities include a gun wharf workshop, a carpenters' shop and a weapons equipment store. Storehouses for non-explosive goods, non-explosive dangerous goods and flammable liquids will also be constructed.

64. Fire and Damage Control Training Area This facility will be located in a natural amphitheatre and will be protected from prevailing winds. It will include fire tanks and stalls spaced to prevent accidental flash-over. Oil and flammable liquids used for training will be stored on site. A workshop with hose washing and drying facilities will be provided for the maintenance of fire fighting equipment and a change room, toilet and ablution facilities will be included. Fire hydrants will be installed for training purposes and general fire protection.

#### ENGINEERING SERVICES

65. External Services The trunk services from the mainland, viz. roads, water supply, power and telephone services, will be extended through the island from the causeway.

66. The trunk road along the island to the armament jetty will be located to suit the terrain and to serve the present and future facilities. Rural-type road construction is proposed with a 24 ft wide sealed pavement and strengthened shoulders draining naturally into the scrub adjoining the road. Roads in the wharf/workshop area and in the vicinity of buildings

in other areas will be kerbed and guttered. Road markings, guide posts, signs and road direction names and markings are to be included. Sight lines will be provided and the roadsides will be cleared and maintained to also provide fire-break protection.

67. Water supply will be piped to two 750,000 gallon elevated and inter-connected storage tanks. The storage tanks will provide adequate pressure for domestic and overside services, but boosting will be required for fire purposes. Water distribution mains will be laid underground, and in the wharf/workshop area a ring main will be provided to increase the reliability of supply. Fire hydrants will be located as necessary. The stores buildings and the workshop/store in the armament depot will be equipped with automatic fire sprinkler systems.

68. Electricity to be supplied by the State Electricity Commission will run underground to the powerhouse where it will be transformed to 11,000 volts for distribution throughout the island. Two ring mains systems will be run underground in the wharf and workshop area and a trunk feeder will supply the other areas along the island. Substations, securely enclosed, will be provided as necessary. Cable will be laid underground in the wharf/workshop and the barracks areas - elsewhere overhead lines will generally be used. Overhead street lighting will be provided in the workshop and barracks areas. Road junctions, entries to areas adjacent to the spine road, wharves and adjacent working areas will also be lit.

69. A piped water-borne sewerage system will service the wharf/workshop and barracks areas. Sewage will be pumped to a treatment works with primary anaerobic and secondary aerobic lagoons located in a remote section



of the island north-west of the barracks area. Effluent will be farmed to ground disposal. Elsewhere local collection and septic tank treatment will be used with disposal to soak drains.

70. Internal Services Buildings and facilities containing essential services are to be provided with emergency power supply and vital communications equipment will be provided with a "no break" supply.

71. Hot water will be provided from boilers or storage heaters located in buildings. Workshops, offices, barracks and messes not air conditioned will be heated. Messes and recreation areas will be provided with ceiling fans and exhaust ventilation.

72. Fire Protection Fire appliances to be located at the entrance to the wharf/workshop area will cater for general emergencies in the southern half of the island and an appliance in the non-explosives area will protect the armament depot. Fire protection measures for individual buildings will include hand extinguishers, automatic sprinkler systems and automatic electric fire detection and alarm systems.

#### MATERIALS AND FINISHES

73. Materials will be chosen to withstand severe exposure to marine climatic conditions. Generally, the large workshop buildings and stores will be steel-framed, with exterior frames concrete encased and with brick and concrete infill. Roofs will be clad with steel decking and will incorporate monitors to provide natural lighting and ventilation. Floors will be granolithic topped structural concrete slabs.

74. The administration building, guard house and minor buildings in the wharf/workshop zone and the buildings in the barracks zone will be load bearing brick construction with tiled roofs. The buildings in the fire and damage control area, non-explosives area and the non-hazardous stores and 'X' and 'Y' category explosives buildings in the armament depot will be brick with asbestos roofs. 'Z' category explosives buildings will be constructed with heavy concrete walls and asbestos roofs. Explosives laboratories will be light timber framed asbestos sheeted buildings with asbestos roofs.

75. Where brickwork is used for external walls, it will be finished face work in a consistent colour throughout. Small areas of off form concrete and concrete encasement will provide a contrast to balance the overall design. Openings will be fitted with aluminium framed windows and doors with glazed and infill panels to suit the particular positions and elevations. Solid timber doors to stores or secure areas and steel roller shutters to industrial-type buildings will be used. Internally, walls will be face brickwork where appropriate, elsewhere they will have rendered and painted, or other suitable finishes. Partitions in offices will be demountable and folding concertina doors will separate large living areas for flexibility of room usage. Kitchens, toilets and similar areas will have tiled surfaces.

76. Floors in industrial-type buildings will be granolithic topped concrete. Office and amenity areas will have a vinyl floor covering, kitchen, toilets and wet areas will be ceramic tiled and circulation areas and other selected areas will be carpeted. Selections of coverings will be made to minimise regular maintenance and provide appropriate surfaces

to the various areas consistent with economy. External paved areas will be a blend of brick paving and granolithic to recreation areas, covered ways and paths.

77. Ceilings will be fibrous plaster or asbestos sheet generally. The underside of concrete slabs will be plastered. In special areas where noise reduction is required acoustic tiles or equivalent materials will be used. Insulation will be provided under roofs and/or on ceilings. Industrial buildings will have reinforced aluminium foil sheeting as sarking and insulation over areas where ceiling linings are not provided.

78. Committee's Conclusion The views of the Committee on whether the work should proceed is reflected in the following extract from the minutes of the meeting held on 20 April when the final debate on the evidence took place.

"It was moved Senator Jessop, seconded Mr. Whittorn.

That the Committee recommend the construction of  
the work in this reference as proposed.

Debate ensued.

An amendment was moved Senator Poyser, seconded Mr. Johnson.

That all words after "that" be deleted and the following  
substituted.

Except for the armament depot and jetty which  
should be relocated on the mainland, the Committee  
recommend the construction of the work in this  
reference.

Debate ensued.

The Committee divided.

<u>Ayes</u>	<u>Noes</u>
Senator Poyser	Mr. Kelly
Mr. Johnson	Mr. Fulton
	Senator Jessop
	Mr. James
	Mr. Whittorn
	Mr. Corbett

and so it was negatived.

A further amendment was moved by Mr. Johnson, seconded by Senator Poyser.

That all words after "that" be deleted and the following substituted.

Except for the armament depot and jetty which should be relocated immediately north of the barracks accommodation, the Committee recommend the construction of the work in this reference.

Debate ensued.

The Committee divided.

<u>Ayes</u>	<u>Noes</u>
Mr. Johnson	Mr. Kelly
Senator Poyser	Mr. Fulton
	Senator Jessop
	Mr. James
	Mr. Whittorn
	Mr. Corbett

and so it was negatived.

The motion was then put and agreed to. "

The Committee therefore recommend the construction of the work in this reference as proposed.

ESTIMATE OF COST

79. The estimated cost of the work when referred to the Committee was \$30 million made up as follows:

	\$
Island services	1,500,000
Wharves and workshop area services	4,680,000
Wharves and workshop area buildings	4,075,000
Wharves and workshop area maritime works	11,100,000
Barracks area services	1,000,000
Barracks area buildings	2,920,000
Fire and damage control training	80,000
Non-explosives area	580,000
Armament depot	1,265,000
Armament jetty	1,850,000
Operations building (provisional)	650,000
Communications building (provisional)	300,000
	<hr/>
	30,000,000
	<hr/>

PROGRAMME

80. The Committee noted that after an approval to proceed is given, staged construction is expected to be commenced to achieve completion of the work by the end of 1975. While generally no building works can start prior to the establishment of the road link to the island in June 1973,

some road formation, preparatory site works and construction of some elements of the maritime structures is programmed to commence earlier.

81. Dredging and purchase of steel, together with some pile driving, site clearing and earthworks should be undertaken from July 1972 onwards if the work is to be finished on time. These works have a relatively small material and labour component and their cost is not significantly influenced by the absence of road access from the mainland.

### PART III - REPRESENTATIONS TO THE COMMITTEE

#### THE EVIDENCE

82. At the public hearings held in Perth between 4 and 7 April besides receiving submissions from representatives of the Departments of the Navy as the client department and the Department of Works as the design and construction authority, we took evidence from 32 non-official witnesses. The latter were representative of the Western Australian Government, local government and a considerable number of private organizations and individuals.

83. Non-official Evidence. In general terms, there was agreement among non-official witnesses that there should be a naval support facility in Western Australia of the type proposed and that Garden Island is an appropriate location for it. The interests of the witnesses covered a wide field including conservation and historical aspects and the use of Garden Island for recreational and sporting purposes. The common thread which appeared in most submissions, however, was that the public should continue to have access to as much of Garden Island as is consistent with the reasonable requirements of the Navy.

84. It is relevant to comment that naturally the submissions of most private witnesses concerned the limited interests of particular groups or individuals and there was not necessarily agreement on matters of common concern. The report now deals with those aspects of the matters raised by non-official witnesses which in our view touch directly on the Committee's investigation.

#### PUBLIC ACCESS

85. An aspect of the reference to which the Committee devoted much attention both at the public hearings and in private debate was that concerning public access. As indicated in paragraph 21, the Navy stated from the outset that it had in mind the need to allow the public to have access to Garden Island providing such access was compatible with its operational requirements. It was stated that the matter was being examined, the implication being that the outcome would be made known when the study was completed.

86. Strong arguments were put by non-official witnesses that the public should continue to have access to as much of the island as possible. Their interests ranged from those who have holiday cottages and desire year-round 24 hour per day access, to those who use the island for boating or other recreational pursuits and whose use would be limited to daylight hours. With one major exception, it was submitted to the Committee that access should be by boat and that the causeway should not be used for this purpose. The nature of the island is such that the hinterland is generally unattractive to those who would be using the island for recreational reasons so that access to beach areas only was the main concern.

87. There was little disagreement that the Navy's operations should not be inhibited, that as further Navy development takes place, public access may be further limited and that in an emergency, public access may need to be completely prohibited.

88. At the initial examination by the Committee, the Navy witnesses could not be specific about the area which might be available to the public but suggested that the northern tip of the island outside the safety zones of the armament depot and jetty was a possibility. With the benefit of the views of the non-official witnesses and after further consideration of its security and safety standards, the Navy witnesses at the final hearing in Perth stated that the northern section together with the centre portion of the island, viz. the area between the southern extremities of the armament safety zones and the northern limits of the barracks zone, could be used by the public. That decision meant that of a total area of 2,928 acres, 1,250 acres could be released for public access.

89. In subsequent correspondence, we were informed that after further study, it has now been agreed that an additional area generally south of the barracks accommodation and west and south-west of the main access road can also be available without, at this stage, interfering with the operation of the facility. By this means, a total of 1,800 acres or about 60% of the area of Garden Island and involving ten miles of coastline will be accessible.

90. In the view of the Committee, the compromise solution reached by the Navy after consideration of the non-official evidence, goes most of the way to meeting the wishes of the community at large. Obviously, the latest proposals do not and could not meet all wishes but in the circumstances, they are reasonable and satisfactory.



91. A particular aspect of the public access question on which strong representations were made concerned the interests of the owners of holiday cottages. As stated in paragraph 20, the leases of the land on which the cottages stand are at present recoverable at will and it is acknowledged by some owners that their houses will need to be demolished to make way for construction. Naturally, the others would wish to remain as long as possible.

92. The Committee did not reach a specific conclusion on the continued use of the cottages not directly in the way of construction but believe that this is a matter which should be determined from time to time in the light of Navy's operational requirements and the extent to which their occupation may inhibit wider public use of the island for recreational purposes.

#### ALTERNATIVE LAYOUTS

93. During consideration of the public access question and in response to submissions that the area used by the Navy should be restricted, we closely examined alternative layouts of the facility put forward by non-official witnesses. The result of our considerations is reflected in the minutes of the meeting of the Committee on 20 April when the matter was finally debated. The relevant part is quoted in paragraph 78 above.

94. The alternative proposals had considerable merit but in the view of the members who opposed them, had features which could well inhibit or prejudice future development of the facility. In the shorter term, to take one point, any proposal to relocate the armament depot and jetty further south on Garden Island would inevitably impinge on the area required for moorings which are an essential and basic requirement of the facility.

95. The establishment of the armament facility on a site other than Garden Island has the obvious disadvantage that regardless of the site chosen, the depot is an integral part of the support facility and a large area elsewhere would be needed for the depot and jetty if sited together or two large areas if they are separated.

ENVIRONMENTAL PROTECTION AND  
CONSERVATION

96. Evidence on these issues focused attention on the great care needed to be taken by all who use the island to ensure that the present sensitive ecological balance is maintained. Clearly any development or activity could rapidly prove detrimental to the environment if it did not recognise and allow for the ease with which this balance could be upset.

97. Acknowledging that widely differing views are held by experts on the proper steps to be taken to conserve the existing flora and fauna, we noted with satisfaction that the Government recognises that there are environmental problems associated with the proposed development of the facility and that advice and measures designed to maintain the present balance have been taken. The Committee urges that the advice of experts, particularly in the Western Australian Government, continue to be sought and implemented during development and occupation of the facility.

98. This raises the question of the maintenance and management of the areas of Garden Island open to the public. The day to day care and management of public recreation areas are obviously not a Navy function and because of the widespread nature of community interest, it seemed to the Committee that properly they should be a State responsibility. Clearly, there will need to be detailed discussions between the Commonwealth and the State

on the boundaries of the areas to be open to the public and the conditions and means of access as well as close liaison between them once construction commences.

AREAS OF HISTORICAL INTEREST

99. This matter and the steps proposed to be taken by the Commonwealth to preserve items of historical interest have already been discussed at paragraphs 24 and 25. The Committee believe that these measures satisfy the representations made by witnesses who gave evidence on this matter.

USE OF ARMAMENT DEPOT BY STATE GOVERNMENT

100. It was pointed out to the Committee in the submission of the Western Australian Government that considerable savings could be achieved if the State was able to use the facilities of the armament depot and jetty.

101. We noted that discussions between the Commonwealth and the State on this matter are continuing.

TENDERING ARRANGEMENTS

102. At the final hearing in Canberra on 10 April, we received a submission from the Master Builders' Federation of Australia. The main point of the submission was a suggestion that tenders for the proposed work be invited from Australian contractors only.

103. Whilst the suggestion has merit particularly in the present economic situation and in the light of the efforts of Australian builders to become established overseas, particularly in south-east Asia, we did not think it appropriate for the Committee on this particular project to recommend a departure from the established practice of the Commonwealth in considering tenders for overseas builders.

PART IV - RECOMMENDATIONS AND CONCLUSIONS

104. 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 FOR THE WORK IN THIS REFERENCE.	17
2. GARDEN ISLAND IS A SUITABLE LOCATION FOR A NAVAL SUPPORT FACILITY.	18
3. SUBJECT TO THE RESERVATIONS IMPLICIT IN PARAGRAPH 78 OF THE REPORT, THE COMMITTEE BELIEVE THE PROPOSED MASTER PLAN FOR THE NAVAL SUPPORT FACILITY IS APPROPRIATE.	32
4. IF TESTS AND EVALUATIONS JUSTIFY THE USE OF CARPET AS AN ECONOMIC FLOOR COVERING AND IF THERE IS NO DOUBT ABOUT ITS SUITABILITY, IT SHOULD BE USED IN SINGLE CABINS AT H.M.A.S. STIRLING.	55
5. SERVICES SCALES AND STANDARDS OF ACCOMMODATION SHOULD BE AMENDED TO PROVIDE CARPET AS A FLOOR COVERING IN SINGLE CABINS.	55
6. THE COMMITTEE RECOMMEND THE CONSTRUCTION OF THE WORK IN THIS REFERENCE AS PROPOSED.	78
7. THE ESTIMATED COST OF THE WORK WHEN REFERRED TO THE COMMITTEE WAS \$30 MILLION.	79
8. THE LATEST PROPOSALS FOR PUBLIC ACCESS TO GARDEN ISLAND ARE REASONABLE AND SATISFACTORY.	90

Paragraph

9. THE ADVICE OF EXPERTS ON ENVIRONMENTAL PROBLEMS SHOULD CONTINUE TO BE SOUGHT AND IMPLEMENTED DURING DEVELOPMENT AND OCCUPATION OF THE NAVAL SUPPORT FACILITY. 97
10. BECAUSE OF THE WIDESPREAD NATURE OF COMMUNITY INTEREST, DAY TO DAY CARE AND MANAGEMENT OF AREAS OF GARDEN ISLAND OPEN TO THE PUBLIC SHOULD BE A STATE RESPONSIBILITY. 98



(C.R. KELLY)  
Chairman.

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

11 May 1972.