



Parliamentary Standing Committee on Public Works IN CALLER SERVATE FAPER No. tvi të Prisisistro 17 HOV 1994

REPORT

relating to the proposed

# **UPGRADING OF ACCOMMODATION** AT HMAS WATSON, NSW.

(Thirteenth Report of 1994)

# The Parliament of the Commonwealth of Australia Parliamentary Standing Committee on Public Works

Report relating

to the proposed

# Upgrading of accommodation at HMAS Watson, NSW.

(Thirteenth Report of 1994)

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# MEMBERS OF THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

(Thirty-First Committee)

Mr Colin Hollis MP (Chairman) Senator Paul Henry Calvert (Vice-Chairman)

Senate House of Representatives

Senator Bryant Robert Burns Mr John Neil Andrew MP

Senator John Robert Devereux Mr Raymond Allen Braithwaite MP

Mr Russell Neville Gorman MP

Mr Robert George Halverson OBE MP Hon. Benjamin Charles Humphreys MP

Committee Secretary: Peter Roberts

Inquiry Secretary: Michael Fetter

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Mahesh Wijeratne

# EXTRACT FROM THE VOTES AND PROCEEDINGS OF THE HOUSE OF REPRESENTATIVES

No. 82 dated Wednesday, 29 June 1994

# 7 PUBLIC WORKS - PARLIAMENTARY STANDING COMMITTEE - REFERENCE OF WORK - UPGRADING OF ACCOMMODATION AT HMAS WATSON, NSW

Mr Walker (Minister for Administrative Services), pursuant to notice, moved – That, in accordance with the provisions of the *Public Works Committee Act 1969*, the following proposed work be referred to the Parliamentary Standing Committee on Public Works for consideration and report: Upgrading of accommodation at HMAS *Watson*, NSW.

Question - put and passed.

# PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS UPGRADING OF ACCOMMODATION AT HMAS WATSON, NSW

On 29 June 1994 the House of Representatives referred to the Parliamentary Standing Committee on Public Works for consideration and report to Parliament the proposed upgrading of accommodation at HMAS *Watson*, NSW.

#### THE REFERENCE

- 1. HMAS Watson, located on Sydney Harbour, is a major Naval establishment which carries out specialist warfare and navigation training for naval personnel. Most of the buildings were built in the 1950s and need to be upgraded to meet current occupancy standards.
- 2. The proposal examined by the Committee involves the provision of new or upgraded living-in accommodation for 346 Service personnel, additional office space and classrooms, improved recreation facilities and additional parking space.
- 3. The estimated out-turn cost of the project is \$18.81 million.

### THE COMMITTEE'S INVESTIGATION

- 4. The Committee received a submission and drawings from the Department of Defence (Defence) and took evidence from representatives of Defence at a public hearing held at HMAS Watson on 29 September 1994.
- 5. The Committee also received written submissions from the following organisations and took evidence from their representatives at the public hearing:
  - □ Woollahra Council
  - □ National Trust of Australia (NSW)
  - □ Sydney Harbour and Foreshores Committee

- Vaucluse Progress Association Woollahra History and Heritage Society. 6. Written submissions were also received from the following organisations: **Energy Conservation Systems** Commonwealth Department of Primary Industries and Energy National Parks and Wildlife Service (NSW) Commonwealth Environment Protection Agency Australian Heritage Commission Commonwealth Fire Board Heritage Council of NSW
- 7. Prior to the public hearing the Committee undertook a lengthy inspection of HMAS Watson. This included the sites proposed for new construction and existing facilities which it is proposed to refurbish and upgrade. The Committee also took the opportunity to view HMAS Watson from Sydney Harbour. A list of witnesses who gave evidence at the public hearing is at Appendix A. The Committee's proceedings will be printed as Minutes of Evidence.

The Watsons Bay Society.

#### BACKGROUND

### Location, site and future

- 8. HMAS Watson is one of the Navy's major training establishments. It is situated on 15 ha of Commonwealth land on South Head about 13 km east of the Sydney Central Business District.
- 9. The land occupied by the base has been used by the military since the arrival of the First Fleet. During the inspection of the base, the Committee

was able to see evidence of significant military fortifications, including gun emplacements, on the site. These fortifications date back to the 1870s.

- 10. The site occupied by the base is bounded by Sydney Harbour National Park on three sides. Sydney Harbour National Park is entered on the Register of the National Estate for its natural, scenic, recreational, Aboriginal and historic values.
- 11. The eastern side of the base abuts sandstone cliffs. The site has a slope which rises from low sandstone cliffs on the western side to the high sandstone cliffs, which overlook the Pacific Ocean, on the eastern side. Many buildings have been constructed on the site since the 1870s.
- 12. The Committee sought the views of Defence on the long-term viability of HMAS *Watson*, and whether the site at South Head is the best location for a major training base for the Navy, bearing in mind the surrounding national park.
- 13. Defence advised that while HMAS Watson represents a considerable investment made over many years, the land could be made available for residential uses and considerable funds could be generated from sale of the land. However, the site is adjacent to a national park and the most logical and prudent alternative use would be as a national park. If this were to occur, hundreds of millions of dollars of investment in facilities would need to be replicated elsewhere. In this context the benefit to the Navy, and the wider community, in vacating the site would be extremely dubious.
- 14. Defence did, however, point out that in the mid-1970s, as a result of an examination of land requirements, a large proportion of the more attractive land, close to the water, was handed over to the NSW National Parks and Wildlife Service (NPWS). It is as a result of this land being handed over to the park service that the base is now surrounded by national park.

# Staffing and courses undertaken

- 15. The base supports the fleet by training officers and other ranks in warfare procedures, tactics and navigation skills. HMAS *Watson* has 359 staff and provides 70 specialist courses in the following fields:
  - □ surface warfare

electronic warfare
anti-submarine warfare
navigation
command team training.

- 16. About 700 personnel are trained each year and about half of these require to be accommodated at the base for periods ranging from one day to nine months.
- 17. The Committee questioned Defence about the overall role of HMAS Watson in the Navy's requirement for training facilities. Defence advised the Committee that initial training for sailors is undertaken at HMAS Cerberus. Officers undergo initial training at the Australian Defence Force Academy in Canberra. HMAS Watson is the principal specialist training centre for progressing personnel from initial training; it provides specialist and team training which is essentially ship-oriented.
- 18. In summary, HMAS Watson represents a substantial investment of public funds. The facilities available are not easily replaced without considerable expenditure. It provides essential training of Naval personnel. It is there to stay.

### THE NEED

# Requirements for accommodation

- 19. Many of the buildings on the base were constructed in the period 1954-55. The Committee was able to inspect a representative sample of current accommodation. It confirmed that in many instances accommodation is well below Defence standards and certainly community expectations.
- 20. In terms of meeting the overall demand for accommodation, Defence advised the Committee the following arrangements currently apply:
  - substandard accommodation at HMAS Watson comprising shared cabins with two or three bed spaces in each

- the provision of 67 bed spaces at two other establishments nearby
- paying living-out allowances to four personnel.
- 21. The requirement for accommodation at HMAS Watson is:
  - junior sailors 176 in single cabin arrangement
  - senior sailors 36
  - □ officers 125

### Deficiencies in accommodation

- 22. Junior sailors are accommodated in a barrack block, (Asset 6) designed in the 1950s, with up to three beds in each cabin. Supplementary accommodation is provided for 59 personnel at Endeavour House at Randwick. Defence believes a requirement exists for accommodation to be provided at HMAS Watson for 176 junior sailors comprising trainees, duty watch and base staff. This accommodation should be in accordance with current Defence scales and standards, namely a one bed per cabin arrangement.
- 23. Senior sailors are similarly accommodated in a barrack block (Asset 2), designed in the 1950s, which is in a poor state of repair. The Committee confirmed this during the site inspection. Defence believes this building should be replaced.
- 24. Arrangements intended to address the deficiency are similarly unsatisfactory; supplementary accommodation for up to eight senior sailors is provided at Lady Gowrie House, Bondi; many of the senior sailors choose to live away from the base at their own expense rather than live in the quarters provided. Defence advised the Committee that accommodation is required at HMAS *Watson* for 36 senior sailors.
- 25. Officers are presently accommodated in four accommodation blocks on the base (Assets 2A, 7, 12 and 38). The Wardroom accommodation block provides suitable accommodation for ten senior and 17 junior officers. This accommodation has recently been refurbished. Other senior officers are

accommodated in substandard conditions - some in quarters similar to senior sailors, comprising:

- 36 in a temporary accommodation block with two per cabin
- 46 in a refurbished barracks block above the navigation school, in close proximity to junior sailors' quarters.
- 26. Defence believes that the current situation is not conducive to a high level of morale and performance for officers studying in a pressure training environment. Accommodation is required at HMAS *Watson* for 125 officers.
- 27. The Committee questioned Defence about the general requirement to provide on-base accommodation, particularly at a training base such as HMAS *Watson*, and the extent of alternative accommodation in the Sydney area.
- 28. Defence indicated that it has always been a policy to provide on-base accommodation for trainees for two major reasons; first, trainees come from all parts of the country, and secondly it provides Defence with more flexibility in terms of training hours. Many training facilities are used 24 hours a day.
- 29. In terms of the availability of accommodation in the Sydney area, Defence indicated that at the end of the March quarter there were 1 432 personnel of all ranks entitled to accommodation and 917 bedspaces available. The Committee believes that current arrangements to cope with the shortfall in accommodation are functionally cumbersome and impose a cost penalty.

#### Committee's Conclusions

- 30. There is a requirement for naval personnel undergoing training at establishments such at HMAS Watson to live on-base.
- 31. There is a general shortage of on-base accommodation for naval personnel in the Sydney area.

32. If HMAS Watson is to remain as a major training establishment for the Navy, the standard of accommodation available for personnel must be improved, and shortfalls in the amount of accommodation available must be rectified.

# Deficiencies in mess, recreation and food preparation areas

- 33. The junior and senior sailors' cafeteria and recreation areas are housed in or located adjacent to Asset 3. The facilities were constructed in 1954 and the Committee was able to see evidence of significant deficiencies in standards, finishes and the utilisation of space. Defence believes there is a need for refurbishment to bring the cafeteria up to current standards. Defence believes any refurbishment would provide the opportunity for surplus space in the junior cafeteria to be used as a classroom during peak periods.
- 34. The Wardroom has limited space available for change rooms and common room facilities. Defence believes that the entrance is inefficient and there is insufficient space for officers' recreation.

#### Committee's Conclusion

35. The standard of existing junior and senior sailors' eating and recreation areas falls well below community expectations and the areas should be upgraded or replaced with a modern facility.

# Deficiencies in training facilities

- 36. HMAS Watson has a number of excellent training facilities, two of which were examined by previous Committees. These are:
  - the tactical trainer building examined by the Committee in 1971 (Committee's Ninth Report of 1971 Parliamentary Paper 72/1971)
  - the submarine warfare systems centre examined by the Committee in 1984 (Committee's Sixteenth Report of 1984 Parliamentary Paper 169/1984).
- 37. Apart from these buildings, there has been very little investment in substantial training facilities in recent years. The Navy has adapted many

buildings for purposes for which they were not intended, and the effects of this were evident to the Committee during the inspection of the base. Deficiencies in training facilities are as follows:

- the navigation school is located in Asset 7, a barracks block, which cannot be realistically expanded to meet projected requirements. The Committee saw the severely cramped conditions in which personnel undergo navigation training
- the bridge simulator, located in Asset 9, requires space for an additional simulator associated with the ANZAC frigates, which will enter service during the next few years, and minor internal alternations to improve its functionality such as female amenities and areas for Defence contractors
- the tactical trainer building, Asset 5, requires internal partitioning to be adjusted to allow for increased library needs, a larger classroom, increased office space for instructors, amenities and a theatrette
- the surface warfare building, Asset 1, requires space for an aircraft control facility, classrooms, conference rooms and office space. The building was constructed in 1955. Defence believes the building is structurally sound but requires significant upgrading to increase efficiency and the performance of personnel studying and working within it.
- 38. When compared with other major Defence training establishments, such as the Royal Military College Duntroon, the indoor sports and physical fitness facilities are considered inadequate for the needs of the base. There are two squash courts and what was described to the Committee as an "interim weight training area" housed in a disused equipment room in Asset 1. The Committee inspected this area and agrees that there is an urgent need to provide improved physical fitness facilities. Defence also pointed out that the base has no swimming pool, nor is there a commercial swimming pool nearby for staff and trainees. With these deficiencies in indoor training facilities, Defence believes there is a need for a new indoor sporting and recreation facility comprising a swimming pool, weight training area, full court games area, administration and change rooms.

#### Committee's Conclusion

39. Some investment in training facilities has been made at HMAS Watson in recent years, but a number of other essential training facilities are spread out, lack adequate space and should be upgraded or replaced to enable HMAS Watson to continue its role as a major naval training establishment. There is a need to upgrade physical fitness facilities which are well below standards.

# Deficiencies in support facilities

- 40. The administration building (Asset 8) was constructed in 1954. On the first level, there is no direct access between administrative offices and technical offices, which should be rectified by the provision of a direct link. In addition, amenities, a conference room and some offices need upgrading. There is also a requirement to provide accommodation for duty watch staff. In short, the building needs general refurbishment to improve circulation efficiency and to provide a configuration reflecting administrative functions.
- 41. The motor transport facility is located in Asset 37, within part of the heritage area of the base. The facility is deficient in weather protection for vehicles, office accommodation and staff changing areas. Defence believes there is a need for a new facility; the existing building could be used by gardening staff and their equipment.
- 42. In addition to a lack of covered parking for most of the motor transport vehicles, there is also a lack of parking. Defence estimates the shortfall to be 120 parking spaces. Carparking is currently spread around the base which leads to cars being parked along the sides of the narrow internal roads. Defence believes this causes congestion and safety problems.
- 43. The base requires a helipad to provide emergency and special access. The existing helipad is located at the southern end of the base. This location is far from ideal with access requiring helicopters to fly over residential areas.

### Committee's Conclusions

44. While the administration building is structurally sound, it has an unsatisfactory internal layout which could be rectified by refurbishment. There is inadequate provision of parking and vehicle maintenance facilities

available for the motor transport section. The location of the helipad requires helicopters to overfly residential areas and this could be avoided by relocating it to a site more remote from private residential development.

#### THE PROPOSAL

# Land management and planning

- Two issues, relevant to the proposed works, relating to land 45. management and planning emerged during the Committee's inspection and the public hearing. The first relates to parkland adjacent to the site proposed for the new junior officers' accommodation. The boundary fence separates the base from a series of former roads and a carpark which are overgrown with lantana and other exotic plants. It is almost 20 years since Defence handed the land over to the State of NSW and very little by way of park management involving land restoration and weed control was evident, and the Committee was unimpressed with this. The Committee was advised that Defence has offered to assist in the restoration of bushland in areas near the park boundary which are currently in a poor state. Relations between Defence and the NPWS were described to the Committee by Defence as 'cordial'. In this environment, the Committee believes Defence should press the NPWS to accept the Defence offer to assist with the restoration of bushland adjacent to the Defence boundary. It seems incongruous to the Committee that land, returned to the State for use as a national park, has been permitted to deteriorate to a considerable degree.
- 46. The second planning issue relates to the preparation of baseline planning documents for HMAS *Watson*. The preparation of final baseline or strategic planning documents for HMAS *Watson* has taken more than a decade. During the Committee's inquiry into the proposed construction of the submarine warfare systems centre in 1984, it was mentioned that a preliminary Master Plan had been in existence since 1969, but was held in abeyance pending the completion of a conservation analysis and management plan. A final draft conservation plan was prepared in 1987. Concurrent with the Committee's inquiry, three baseline planning documents, which together constitute the Master Plan, were published.

#### These are:

- □ Landscape plan of management 27 June
- □ Conservation management plan 10 August
- □ Master planning report 19 August.
- 47. Representatives of a number of organisations who appeared at the public hearing made useful comments regarding these documents. The Committee believes it was most unfortunate that the documents were published concurrently with its inquiry into the proposed upgrading of accommodation. It would have preferred a number of issues raised in relation to the Master Plan to have been resolved beforehand. Nevertheless, the Woollahra Council considers the documents to be a positive planning tool to guide the development of the base.
- 48. The Sydney Harbour and Foreshores Committee (SHFC) believes the Master Plan does not give due emphasis to the need for Defence to be responsible stewards of the site, bearing in mind that the site is conspicuous when viewed from other harbour headlands. The SHFC also believes that the Master Plan represents a document for guiding development within statutory constraints; it believes the plan should be more than that. The Vaucluse Progress Association believes there is a need for management and master plans to provide points of reference to managers of Defence properties.
- 49. Defence acknowledged that the Master Plan requires refinement; this will be done. In relation to the stewardship issue, Defence believes a preamble in further iterations of the Master Plan could state a commitment by Defence to act as responsible stewards.
- 50. Woollahra Council suggested that a steering committee should be formed, comprising representatives of local organisations with an interest in planning matters affecting the local government area. This steering committee would be the forum in which matters of concern to local residents could be raised. It could provide local professional advice on strategic planning and environmental issues.
- 51. Defence indicated that it holds reservations about the creation of any entity with membership from local groups purporting to be a steering

committee, with executive functions. However, Defence would have no difficulty with the creation of a consultative or advisory committee. A number of witnesses supported the creation of a consultative body. The Committee believes it is an excellent suggestion which should be implemented. It should be left open to Defence to provide the chairmanship of the consultative body and to nominate interested groups to be represented.

52. The Committee believes that it is essential for baseline planning documents to be prepared well in advance of any major projects and to be made available to planning and heritage authorities for comment as a matter of policy. It is also essential that such bodies be given sufficient time to be able to make informed comment on these documents.

### Committee's Recommendations

- 53. Defence should press the NSW National Parks and Wildlife Service to accept the Defence offer to assist with the restoration of bushland in areas near the Sydney Harbour National Park boundary, which is currently in a poor state, adjacent to HMAS *Watson*.
- 54. A consultative committee should be established to provide a forum for the exchange of views on planning and management matters affecting HMAS *Watson* and the local community.
- 55. The consultative committee should be constituted under the chairmanship of Defence and its membership should include representatives of the following organisations:

	National Parks and Wildlife Service (NSW)
	The National Trust (NSW)
<b>-</b>	Woollahra Council
0	Sydney Harbour and Foreshores Committee
	Vaucluse Progress Association

Woollahra History and Heritage Society
Watsons Bay Society.

# Zoning

56. Zone plans were prepared, which classify and identify land uses on the basis of the following activities:

	training operations and administration
	accommodation
	recreation
ם	carparking
	open space
п	heritage

57. The Master Plan identifies development areas available for the new works proposed in this reference and future proposals. The new works are described in the following paragraphs.

#### Senior sailors' accommodation

- 58. Assets 2A and 2C are accommodation blocks for senior sailors. Defence found these blocks to be unsuitable for refurbishment because to do so would require substantial structural modifications. For this reason it is proposed to replace these blocks with a building, of two levels, which would provide 36 bed spaces. Should future demand require, the new building will be capable of increased capacity to 46 bed spaces.
- 59. The site slopes gently to the west and is located adjacent to the senior sailors' mess and recreational facilities. The Committee was able to see that the site commands sweeping views to the harbour and ocean. The main axis of the new building will be adjusted by 90 degrees from the axis of the existing building.

60. The new building will provide single accommodation cabins with a bathroom and toilet being shared by two adjoining cabins. A common room and laundry will be provided on each level. The new building will be located immediately adjacent to the mess and recreation facilities.

#### Officers' accommodation

- 61. Officers are currently accommodated in four buildings. Defence indicated that two buildings are unsuitable for refurbishment, one is required for junior sailors' accommodation and 27 cabins in Asset 12 are satisfactory.
- 62. The accommodation requirement is for 94 junior officer cabins and four senior officer cabins.
- 63. Defence advised that two sites are available for additional officers' accommodation. The preferred site, which has capacity for three buildings housing 94 cabins, is located between the southern boundary and the wardroom. The second site is the location of Asset 38, which could accommodate up to 36 cabins. The major disadvantages of the second site are its limited capacity, its proximity to the heritage precinct and its distance from the wardroom. For these reasons the preferred site was selected.
- 64. The site is well grassed with small outcrops of trees and sandstone in some of the steep embankment sections and a tennis court and barbecue area on the level section. The building site will be at a similar elevation to the wardroom and will follow the contours of the sloping embankment around a knoll to the southern boundary.
- 65. The new facility will comprise three linked building wings. The existing tennis court will need to be removed to provide sufficient building space. Parking for 22 cars will be provided at the rear of the building.
- 66. The new facility will provide single cabin accommodation and ensuite bathroom and toilet will be shared between adjoining units. Laundry rooms with linen and box storage facilities will be provided. Recreation and dining facilities will be provided in the adjacent wardroom. The building has ben designed to follow existing landscape contours to minimise visual impact.

# **Navigation School**

- 67. The proposed new facility will replace the substandard accommodation in the lower floor of a junior sailors' accommodation block. The new facility, to be located between the Bridge Simulator building and the Surface Warfare building, will be of two levels providing classrooms, computer training areas, offices, student common room, storage area and change rooms. Each classroom will be designed to accommodate 15 trainees and associated chart tables.
- 68. Two classrooms could be combined to house a future bridge simulator and it would be possible to add up to four new classrooms should demand increase.
- 69. The site is at the same level as the Bridge Simulator building, and comprises a relatively level bitumen paved area with a steeply sloping grassed embankment to the east. The site was selected because of its proximity to the adjacent training facilities and because it is one of a few building sites suitable for the construction of training facilities.

# Physical fitness and swimming facility

- 70. The Master Plan recommends that all physical fitness activities should be located in the area occupied by Asset 43 both for convenience and to minimise supervision. Asset 43 is an airconditioned building, due to be vacated by a contractor in 1996.
- 71. Defence examined various options for the development of this area for a physical fitness facility. With little expenditure the facility could be made suitable for weightlifting and other exercise activities. It would, however, need to be expanded to provide space for indoor games such as basketball. There is space available on the site to provide a 25m pool. Defence advised the Committee that it would be desirable to replace Asset 43 with a larger facility when funding is available.
- 72. The project budget allows for minimum work to the existing building. A new facility, could be provided, if project funds allow. It would be  $1\ 100\text{m}^2$  and provide an indoor games area, weight training room, offices, storage rooms and change rooms and two squash courts to replace the existing courts. A six lane, 25m swimming pool would also be included, and

constructed adjacent to the indoor sports facility, sharing change rooms and administrative facilities.

# Carparking and motor transport facility

- 73. The base has parking capacity for 262 cars. Parking areas are at 20 locations. The requirement is for the provision of 377 parking spaces. To meet this requirement elements of the proposal provide for the incorporation of parking spaces in new building designs. A significant proportion of the requirement for additional parking spaces will be accommodated in the proposal to raise the parade ground, located in front of Asset 3 by one level; this would provide 86 parking spaces. The proposal will enable the motor transport facility, currently located in Asset 37, to be relocated to the new parade ground carpark and for gardening staff to be relocated from former gun emplacements into Asset 37. This rationalisation has a number of advantages sailors with cars will be able to park them close to their accommodation, the gardening staff will be more centrally located on the site and will make good use of an existing building.
- 74. The proposal therefore involves the provision of carparking spaces as well as facilities for motor transport staff and associated vehicles. Included in the design will be maintenance and repair facilities and staff amenities.
- 75. The Committee, and a number of organisations questioned Defence about requirement for parking spaces on the base. The Mayor of Woollahra Council indicated that the Council would prefer on-base carparking to be for essential vehicles only.
- 76. Defence made the following points:
  - parking is allocated to personnel living on the base, who work there fulltime
  - it would be possible for Defence to place limitations on carparking on base, but this would transfer the parking problem off-base, into the surrounding streets
  - in order to reduce the requirement for on-base parking,
    Defence has entered into an arrangement with the State Transit
    Authority which provides a bus service to the base from
    Edgecliff railway station

sailors accommodated at Endeavour House are brought to the base by bus.

#### Senior officers' accommodation

- 77. Four derelict and unsafe cottages, located on the edge of the heritage area, were demolished in 1993. The demolition took place after consultations with the Australian Heritage Commission (AHC). Defence gave an undertaking the AHC to replace the building with one of similar scale and character in sympathy with the existing barracks precinct.
- 78. Defence propose to construct a single storey stepped structure to provide accommodation for four senior officers. The replacement building will be of similar scale, proportions and character to the original building. Materials salvaged from the former building will be incorporated.
- 79. Each cabin will consist of two main living areas including a bedroom, with ensuite bathroom and a lounge/dinning room with kitchenette and laundry.

# Design and building materials

- 80. Existing buildings at HMAS Watson have a wide variety of architectural characteristics. They range from the colonial era, through 1950s brick and tile barrack blocks to the 1980s concrete structures used for training. Defence assured the Committee that proposed new buildings and extensions will respect the zoning of each site. The appearance of buildings will be compatible with adjacent structures and minimise impact on the surrounding environment.
- 81. The materials for the new buildings have been selected for their economy, function, low maintenance and compatibility with existing facilities at HMAS *Watson*.
- 82. Materials selected for the new physical fitness building and accommodation buildings are face brick, concrete floors, tiled roofs, plasterboard ceilings and aluminium window frames.
- 83. Materials selected for the new navigation school will be compatible with the adjacent bridge simulator building. It will incorporate precast

concrete walls with a pebble finish, concrete floors and roof, acoustic tile ceilings and aluminium window frames.

- 84. Extensions to existing buildings will utilise compatible materials.
- 85. Structures proposed for the physical fitness and accommodation buildings will comprise lightweight roof trusses with load bearing brick external and internal walls supported on a raft slab.
- 86. The new navigation school will be a concrete framed structure with a concrete roof and floor, precast external walls and lightweight internal walls supported on a concrete slab with external strip footings.
- 87. The carparking and parade ground facility will be a concrete-framed structure utilising the existing concrete floor.

# Reactions to new construction

- 88. A number of organisations representing community interests made submissions about the proposal and their representatives appeared before the Committee at the public hearing. Comments regarding baseline planning documents have already been made. Reactions to the general design of new buildings, and specific areas of concern, and the Defence responses to them may be summarised as follows:
  - Condensing building forms a policy of condensing total building forms should be pursued. The stance taken by previous Public Works Committees, especially in relation to the Tactical Trainer Building, in recommending that the building mass and visual impact be minimised by excavating the site, should be continued.
    - <u>Defence response</u> designs have been amended and siting options have been assessed to take into account concerns about the visual forms of new buildings; there would be no difficulty in the new development being constrained to reduce the maximum practical impact.
  - <u>Drawings</u> the drawings and specifications supplied are inadequate to enable specific comments about the impact of proposed developments on heritage items to be made.

<u>Defence response</u> - designs at this stage are concepts which establish parameters. The final detail of finishes will be in accordance with relevant planning directions.

Asset 2 - the proposed new building should be contained within the envelope of the current building.

<u>Defence response</u> - the roofline of the proposed new building will be no higher than the existing building and the visual impact will be much better than the current building.

Asset 12B - the southern extremity will be too close to the national park boundary; the proposed building represents a considerable extension of development on the wider site, irrespective of the roofline being below the ridge line. A design to ensure a minimal visual impact of the site when viewed from harbour land and harbour waters should be adopted.

<u>Defence response</u> - the building will be 3-4m from the park fence. Defence has offered extensive screening of the park side of the fence. Room for screening on the Navy side is limited. In terms of the visual impact, screening will ensure the visual intrusiveness will be minimal from the park and in close proximity. It will not be totally screened when viewed from a distance.

Asset 43 - any new building on the site should be constrained within the level of the existing building, the design should be compatible with other buildings and finishes should be of a similar nature to those of other buildings. The drawings presented in the Defence submission to the Committee make the proposed building look like an industrial building. The proposed extension of the building will intrude into a patch of bushland.

<u>Defence response</u> - the project budget provides for refurbishment of the existing building. If the budget allows, the existing building could be removed and replaced with a sporting facility with a roofline similar to the existing building - 6m. This would provide a facility for full court games such as basketball; design height for basketball courts is 7.6m and the additional

cost would be \$50 000. The site intrudes about 5-8m into a patch of bushland. The site has been cleared before, and the vegetation there now has grown whilst in Defence use. Defence considers this a minor intrusion, which will be more than offset by plantings. The roof of the pool could be dropped to a height of 4.6 m. The envelope of the pool will be generally transparent which will reduce its visual impact. It would be possible to lessen the impact of the facility by adopting the following strategies in relation to the complex:

- . modification of the roof over the central section
- . partial excavation into the hillside but this would have problems
- articulation of the complex into three elements instead of one large element - this could result in the structure being disjointed
- . landscaping on the Defence and park sides of the boundary.
- 89. At the request of the Committee, Defence also undertook to provide a further briefing, and site inspection, to organisations such as the National Trust whose committee members are volunteers with daytime jobs. The Committee felt that computer-generated photomontages showing the impact of proposed new structures on the surrounding environment would allay many of the reservations expressed. Following the public hearing Defence invited representatives of the National Trust and a number of other groups to another briefing. It should be noted that Defence has maintained a policy of community consultation about the project for some time.
- 90. The Committee believes the National Trust plays an important role in encouraging and promoting the preservation of historic buildings and structures. Defence has probably the largest inventory of historic buildings and structures in Australia. It therefore seems to the Committee that a formal link between the Trust and Defence should be established, by a senior representative of Defence joining the Trust's executive body in an exofficio capacity. This formal link would enable the Trust to be kept advised of all Defence works which may be of interest. The Committee does not

wish to make this suggestion a formal recommendation, but believes Defence should pursue it further with the Trust at the appropriate level.

- 91. The AHC advised the Committee that the Conservation Management Plan indicates that places at HMAS Watson have been identified which are worthy of investigation and consideration for entry in the Register of the National Estate. They include the Barracks Group of Buildings, the chapel and various fortifications. The only buildings at present entered in the Register are Cliff House and the former stepped cottages. The AHC advised the Committee that all other elements in the scope of works are not likely to affect the National Estate. The AHC also complimented Defence that buildings will be designed to minimise the impact on the surrounding environment and requested that development plans for conservation zones and development guidelines from the Conservation Management and Landscape Management plans will be followed.
- 92. The Committee believes the scope of new buildings to be constructed will rectify deficiencies in accommodation, training and recreation facilities and can be justified on the basis of the age and condition of buildings which will be replaced, existing substandard training facilities and more efficient use of the site by the Navy which will result. Care will need to be taken in choosing the colour of the proposed senior sailors' accommodation to reduce its visual intrusiveness whilst ensuring compatibility with adjacent buildings. There may be scope to further reduce the visual impact of the Navigation School by planting trees along the boundary with Sydney Harbour National Park.

# Committee's Recommendations

- 93. The roofline and mass of the proposed senior sailors' accommodation should not exceed that of the facility which it will replace.
- 94. The distance of the proposed junior officers' accommodation block from the Sydney Harbour National Park boundary should be increased to allow for substantial screen plantings.
- 95. The physical fitness facility, to be constructed on the site of Asset 43, should have a roof height of 7.6 metres rather than the 6 metre height of the existing structure on the site. Defence should investigate the practicalities of partial excavation of the site to reduce the visual impact of the physical fitness facility, the swimming pool and change rooms.

- 96. The need for the proposed carpark has been demonstrated but Defence should continue to encourage all personnel at HMAS Watson to maximise the use of public transport whenever possible.
- 97. The Australian Heritage Commission should be involved in the evaluation of the detailed design of accommodation for four senior officers on the site formerly occupied by the Stepped Cottages.

### Refurbishment

98. Whilst most of the budget will be devoted to new construction, a number of significant elements of the proposed work involves the refurbishment or enhancement of existing facilities; there will be little, if any, visual impact. The Committee believes the scope of the refurbishment will considerably diminish the visual impact of a number of elements. It will also improve functionality and result in many old buildings being brought up to a standard consistent with Defence standards and community expectations. The scope of the refurbishment, its justification and the rearrangement of functional areas stemming from it are described in the following paragraphs.

#### Junior sailors' accommodation

- 99. Defence believes the refurbishment of accommodation available for junior sailors, Assets 6 and 7, is preferable due to time and cost benefits. Defence indicated that some refurbishment has been carried out in each building. Major refurbishment to an acceptable standard would be 70% of the cost of constructing a new building. The proposed refurbishment of the two existing buildings will provide 176 bed spaces at current scales and standards. Both buildings are located close to Asset 3 the junior sailors' mess and recreation area.
- 100. The refurbished buildings will accommodate personnel of the ranks of Seaman, Able Seaman and Leading Seaman whose ages are between 19 and 26.
- 101. The design of the proposed refurbishment has been adapted from a layout used in the upgrading of an accommodation block at HMAS *Penguin*. This layout comprises single occupancy cabins, grouped in clusters of eight or twelve, sharing a common room and laundry and clusters of four sharing bathroom and toilets. The Committee questioned Defence about the success of the design adopted at HMAS *Penguin*. Defence indicated that the

response from occupants has been very positive. Since traditional scales and standards have been abandoned in favour of designing to cost, there has been more flexibility to explore different options in designing accommodation for all personnel.

# Senior and junior sailors' cafeteria and recreation area

102. Asset 3 will be upgraded to provide improved mess and recreational facilities for senior and junior sailors. The scope of the refurbishment will include the upgrading of amenities, extensions to external decks, partitioning for classrooms, partitioning for lounges and pool rooms, an extended access way and the replacement of windows with sliding doors to balconies.

# Bridge simulator

103. It is proposed to enlarge this building by 129m<sup>2</sup> to accommodate two new classrooms. Internal alterations include the relocation of a storage area to provide additional space for contractors.

#### Tactical trainer

- 104. This three-level building is relatively new and all alterations will be internal. The scope of alterations is:
  - conversion of an existing model room on the first level to a 66 seat theatrette
  - conversion of single sex amenities on the second level to unisex amenities, and converting space made available to male and female change rooms
  - enlarging the principal warfare officer classroom on the third level into a library
  - providing an enlarged secure storage vault, a new instructors office and tactical development cell on the third level
  - converting an obsolete rear screen projection room to a syndicate room for tactical team training.

# Surface warfare building

- 105. The alterations proposed for this four level building (Asset 1) will all be internal. The building area is 4 300m<sup>2</sup>. The area to be refurbished will be 1 900m<sup>2</sup>. The scope of the refurbishment will be:
  - level 1 upgrading of the faculty and amenities used by the Seaman Officer Application Course, main entrance, trainee common room, 18 staff offices and a theatrette with 64 seats
  - ground floor conversion of existing amenities; conversion of disused equipment rooms into conference rooms, classrooms and the provision of an aircraft simulator room and office
  - lower ground and basement floors conversion of poorly utilised space into electrical workshops, classrooms for the navigation school and equipment instruction rooms.

# Administration building

106. Alterations to this building will include the construction of a first floor link between the administration wing and the technical wing with extra office space and conference rooms. Toilets in each wing will be upgraded to modern standards. Existing conference rooms and office facilities will be upgraded. Unused cell space will be converted into accommodation for the duty watch. A mail office and covered entrance will also be provided.

#### Wardroom

107. It is proposed to undertake some upgrading in this building (Asset 12) to provide additional space for staff amenities, common room, dining area and improved foyer.

# Helipad

108. The existing helipad is located adjacent to the proposed junior officers' accommodation (Asset 12A). It is proposed to relocate the facility to a position near the Surface Warfare School. As such, few improvements will be required. The noise impact of helicopter operations on housing developments will be reduced by relocating the helipad to this site.

# **Defence White Paper**

109. The Committee questioned Defence about the relevance of the Defence White Paper, which is shortly to be presented to Parliament, to the proposal, bearing in mind that policy changes have in the past radically altered the requirements for a number of proposals examined by the Committee.

110. Defence assured the Committee in the following terms:

The work that we are proposing to do at HMAS Watson is consistent with the contents of the white paper. There is not a change of direction there that would compromise anything that we are proposing here.<sup>1</sup>

111. When asked about the impact of significant major weapons system acquisition on the proposal, such as the introduction of the Collins Class submarines, the ANZAC frigates and other significant ship upgrades, Defence assured the Committee as follows:

The submarine activities are all being transferred to Western Australia as a result of the decisions that were made out of the force structure review in 1991. As far as *Watson* is concerned, that will release the Submarine Warfare Systems Centre [SWSC] building in the middle of 1998 for other activities to be moved into it. Those other activities will include trainers for our upgraded FFGs [frigates] and our new patrol boats. There is enough space at *Watson*, utilising that SWSC building to continue with activities that we want to do.<sup>2</sup>

112. The Committee also questioned Defence about the adequacy of the proposal in being able to meet the Navy's training requirements well into the next century. Defence is confident that the proposal will see the Navy's requirement for specialist training in NSW through for the life of the proposed buildings. Defence believes that given the overall trend in defence manpower, it would be unlikely that there would be an expansion which the Committee would need to approve. The proposal effectively caters for 80%

<sup>&</sup>lt;sup>1</sup>Transcript, p. 88.

<sup>&</sup>lt;sup>2</sup>Transcript, p. 88.

of the likely requirement for HMAS Watson. Studies undertaken by Defence suggest that it would be necessary for personnel to be accommodated off-base for about 20% of any year. Cost analyses reveal that if extra bedspaces were provided, the payback period would make the provision of extra accommodation to meet the shortfall an uneconomic proposition.

# Walking track

113. The Committee received a number of submissions from organisations suggesting that provision should be made for a public walking track along the eastern cliff. This, it was suggested, would complete the Bicentennial Coastal Walkway. The Committee believes this would be impractical for a number of reasons including safety and security. An alternative to the clifftop walking track involves making use of existing roads and paths in HMAS Watson. This would present Defence with security problems. Woollahra Council acknowledged the problems of security and privacy exist, but suggested that the goal of achieving some kind of connection between two elements of the track should be flagged as a long term goal.

#### Committee's Conclusions

- 114. The relocation of the helipad will be beneficial to local residents.
- 115. The overall scope of the upgrading of HMAS Watson will be adequate to cater for future requirements. To the extent possible, Defence does not believe it will be necessary to undertake further development work at HMAS Watson for some time.

#### Committee's Recommendation

116. The Committee is not persuaded by the arguments advanced in favour of extending the Bicentennial Coastal Walkway along the cliff face through HMAS *Watson* and recommends investigation of an alternative route which would take the track away from the cliff face.

#### **ENGINEERING**

#### Water reticulation

117. The existing water reticulation system has sufficient capacity to provide water for additional domestic and fire fighting requirements. Some relocation of mains will be required to suit proposed sites. All designs will comply with relevant codes and the specific requirements of the Water Board and other relevant authorities.

# Sewerage system

- 118. The existing reticulation network has sufficient capacity to service the changes proposed. Some minor relocation and connection works will be required to suit the proposed buildings. Sewage from the buildings will be discharged into the existing reticulation system and conveyed to sewer mains serving the site. New bathroom draining connections will be designed to allow future connection to a second class water reclamation system if required.
- 119. Woollahra Council drew attention to existing sewer mains being unable to cope with stormwater during heavy rain. The Council acknowledged, however, that this is a state government problem which is being looked into.

#### Stormwater

120. The existing system has sufficient capacity to cater for the proposed development. Some relocation and connection works will be required to suit the proposed buildings. Stormwater will be collected from building roofs and surrounding paved areas and discharged into the existing drainage system.

#### Roads

121. No sufficient upgrading of the overall network is required; only minor changes to local new buildings are required.

# Electricity

122. The existing high voltage supply and reticulation system is sufficient to cater for the additional demand. General and supplementary lighting will

be provided in accordance with relevant Standards. Switching patterns will be arranged to utilise available daylight. External lighting will be provided at all entrances and exits. Power will be provided from the in-ground distribution network.

# Telephone

123. Telephones will be provided to suit the requirements of each facility. Sufficient ducting capacity will be provided for linking local area computer networks in selected facilities.

#### FIRE PROTECTION

- 124. Defence advised the Committee that the infrastructure for fire protection has been assessed by qualified design consultants. A design consultant, engaged by Defence or the builder, will undertake further detailed design of the fire protection system. This will include an assessment of special risk situations.
- 125. Defence assured the Committee that NSW Fire Brigades will be consulted during the design and construction period for familiarisation of the design and operational requirements. The design consultant will be responsible for certifying the design.
- 126. Installation of fire protection works will be supervised and certified by the fire services subcontractor. If the installation departs from relevant codes, the project superintendent will be responsible for seeking any necessary technical advice and arbitrating on the matter.
- 127. The project superintendent will be responsible for granting approval for occupancy on receipt of satisfactory certification of the design and the installation.

#### SECURITY

128. Security provisions to be provided will include a security lock schedule for each building plus fluorescent lighting to the external perimeter walls of new buildings. Lights will be controlled by photo-electric cells with a manual over-ride switch.

#### **ENERGY CONSERVATION**

- 129. During the inspection the Committee was able to see evidence of very good energy conservation practices which have applied at HMAS Watson for some time. HMAS Watson has rightfully a good record of energy conservation, and water conservation for that matter. It is proposed to continue to build on this by implementing sound energy conservation measures.
- 130. Minimisation of energy usage will be a major criterion for the selection of systems and equipment.
- 131. A performance index will be established for each building, with energy targets assigned to each element.
- 132. Measures that will be further reviewed during the detailed design phase include:

	solar water heating for new accommodation blocks
	roof sky lights
	insulation
	automatic lighting controls and light switching patterns
	design of building functions including services and glazing
<b>a</b>	night time air flushing
	natural ventilation rather than airconditioning
ם	window shading
	water saving devices
	reuse of second class water for landscape watering
п	establishment of building management systems.

133. The Committee questioned Defence about the intention to make use of grey water for watering the gardens and the sportsground on the base. The Committee was advised that the proposal makes provision for grey water to be recycled in the future. The current proposal does not include the provision of tanks and pumps required to recycle grey water.

#### COST

134. The estimated cost of the proposed work is \$18.0m at December 1993 prices. Cost elements are:

	\$m
accommodation building works	10.25
training building works	4.57
recreation and support facilities	2.59
additional furniture and fittings	0.30
external works and infrastructure	0.12
development costs	0.17

135. Defence advised the Committee that the cost includes a construction contingency of 8% with fees for professional services at just over 10%.

#### PROJECT DELIVERY SYSTEM

136. The development of upgraded and new facilities will be undertaken using the standard forms of Defence contract. Two delivery contracts will be used - the design and construct contract for simple works and the document and construct for more complex works.

### **TIMING**

137. Documentation of the navigation school, junior sailors' accommodation and the officers' accommodation is being developed concurrently with the Committee's inquiry. Subject to Parliamentary approval, it is proposed to call tenders for these elements and commence construction in late 1994. The

remainder of the works will be completed progressively by June 1996 except for Asset 43, the physical fitness facility and swimming pool, which will be completed by November 1996.

# Committee's Recommendation

138. The Committee recommends the upgrading of accommodation at HMAS Watson, NSW, at an estimated outturn cost of \$18.81 million.

### CONCLUSIONS AND RECOMMENDATIONS

139. The Committee's conclusions and recommendations and the paragraph in the report to which each refers are set out below:

Paragraph 1. There is a requirement for naval personnel undergoing training at establishments such at HMAS Watson to live on-base. 30 2 There is a general shortage of on-base accommodation for naval personnel in the Sydney 31 area. 3. If HMAS Watson is to remain as a major training establishment for the Navy, the standard of accommodation available for personnel must be improved, and shortfalls in the amount of accommodation available must be rectified. 32 4. The standard of existing junior and senior sailors' eating and recreation areas falls well below community expectations and the areas should be upgraded or replaced with a modern facility. 35 5. Some investment in training facilities has been made at HMAS Watson in recent years, but a number of other essential training facilities are spread out, lack adequate space and should be upgraded or replaced to enable HMAS Watson to continue its role as a major naval training establishment. There is a need to upgrade physical fitness facilities which are well below standards. 39

0.	sou cou inac mai trar req this	and, it has an unsatisfactory internal layout which ald be rectified by refurbishment. There is dequate provision of parking and vehicle intenance facilities available for the motor asport section. The location of the helipad uires helicopters to overfly residential areas and a could be avoided by relocating it to a site more note from private residential development.	44
7.	Wil assi the is c	fence should press the NSW National Parks and Idlife Service to accept the Defence offer to ist with the restoration of bushland in areas near Sydney Harbour National Park boundary, which currently in a poor state, adjacent to HMAS atson.	53
8.	pro plai	consultative committee should be established to wide a forum for the exchange of views on uning and management matters affecting HMAS atson and the local community.	54
9.	und mer	e consultative committee should be constituted der the chairmanship of Defence and its inbership should include representatives of the owing organisations:	
		National Parks and Wildlife Service (NSW)	
		The National Trust (NSW)	
		Woollahra Council	
		Sydney Harbour and Foreshores Committee	
	<b>-</b>	Vaucluse Progress Association	
		Woollahra History and Heritage Society	
		Watsons Bay Society.	55

10.	sailors' accommodation should not exceed that of the facility which it will replace.	93
11.	The distance of the proposed junior officers' accommodation block from the Sydney Harbour National Park boundary should be increased to allow for substantial screen plantings.	94
12.	The physical fitness facility, to be constructed on the site of Asset 43, should have a roof height of 7.6 metres rather than the 6 metre height of the existing structure on the site. Defence should investigate the practicalities of partial excavation of the site to reduce the visual impact of the physical fitness facility, the swimming pool and change rooms.	95
13.	The need for the proposed carpark has been demonstrated but Defence should continue to encourage all personnel at HMAS Watson to maximise the use of public transport whenever possible.	96
14.	The Australian Heritage Commission should be involved in the evaluation of the detailed design of accommodation for four senior officers on the site formerly occupied by the Stepped Cottages.	97
15.	The relocation of the helipad will be beneficial to local residents.	114
16.	The overall scope of the upgrading of HMAS Watson will be adequate to cater for future requirements. To the extent possible, Defence does not believe it will be necessary to undertake further development work at HMAS Watson for some	
	time.	115

17. The Committee is not persuaded by the arguments advanced in favour of extending the Bicentennial Coastal Walkway along the cliff face through HMAS Watson and recommends investigation of an alternative route which would take the track away from the cliff face.

116

18. The Committee recommends the upgrading of accommodation at HMAS Watson, NSW, at an estimated outturn cost of \$18.81 million.

138

Colin Hollis MP

Chair

7 November 1994

## APPENDIX A

#### WITNESSES

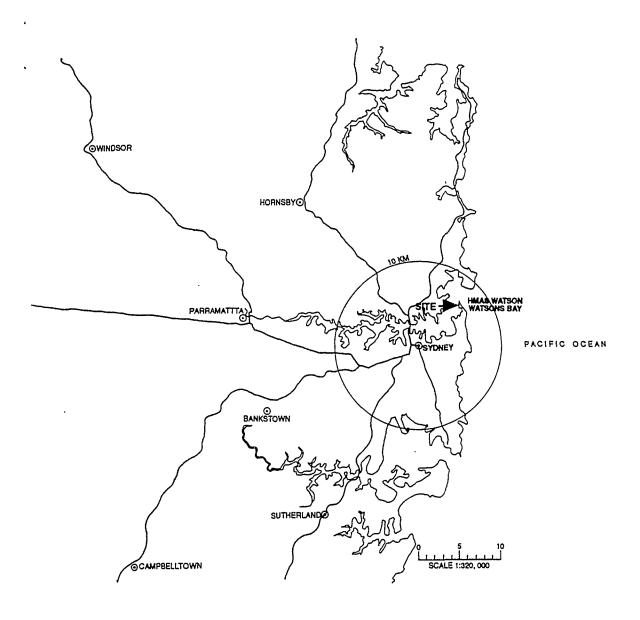
- DUNNE, Commodore Michael Thomas, Director General Force Development (Sea), Department of Defence, Russell Offices, Canberra, ACT
- HAWKINS, Mr Richard Maurice, Director, Carson & Associates Pty Limited, Level 6, 80 Alfred Street, Milsons Point, NSW
- LEACH, AC, CBE, LVO, Vice-Admiral David Willoughby, Councillor, Woollahra Municipal Council, 536 New South Head Road, Double Bay, NSW
- LYNCH, Mr Leonard Michael Andrew, President, Sydney Harbour and Foreshores Committee, c/- 6A Wetherill Street, Leichhardt, NSW
- MACARTHUR, Miss Catherine, Conservation Officer, Built Environment, National Trust of Australia (NSW), Observatory Hill, Sydney, NSW
- MACDONALD, Commander Ralph, Executive Officer, HMAS Watson, Watsons Bay, NSW
- POLAND, Mr Peter Lawrence, President, Woollahra History and Heritage Society Inc., c/- Woollahra Council, 536 New South Road, Double Bay, NSW

- ROLFE, Mr Michael Richard, President, Vaucluse Progress Association, 41 Cove Street, Watsons Bay, NSW
- ROWAN, Mr Anthony Joseph, Strategic Planner, Woollahra Municipal Council, 536 New South Head Road, Double Bay, NSW
- VAGG, Mr Graeme John, Project Director, HMAS Watson Project, Department of Defence, Campbell Park Offices, Canberra, ACT
- WARRINGTON, Captain Michael, Director General Facilities-Navy, Department of Defence, Campbell Park Offices, Canberra, ACT

# APPENDIX B

# PLANS AND ELEVATIONS

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Junior sailors' accommodation (Asset 6)  plan level 1	B - 4
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Junior officers' accommodation (Asset 12B) - plans	B - 6
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Junior officers accommodation (Asset 12B cross sections	В - 8
Physical fitness facility (Asset 43) - plan	B - 9
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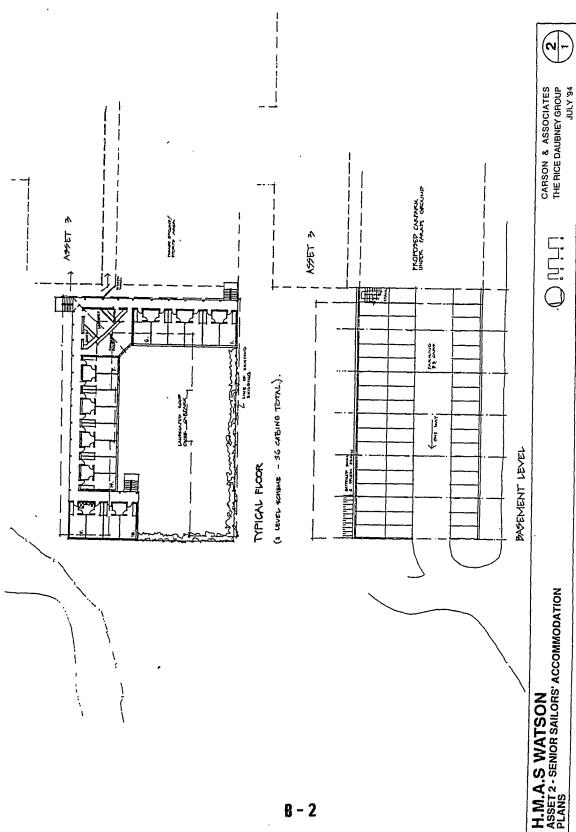


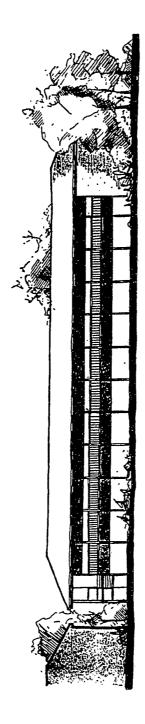
H.M.A.S WATSON LOCATION PLAN



CARSON & ASSOCIATES THE RICE DAUBNEY GROUP JULY '94



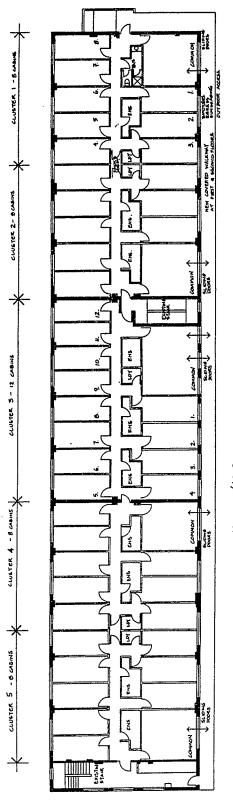




H.M.A.S WATSON
ASSET 2 - SENIOR SAILORS' ACCOMMODATION
SOUTH ELEVATION

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CARSON & ASSOCIATES THE RICE DAUBNEY GROUP JULY '94



4 CABINS/LEVEL

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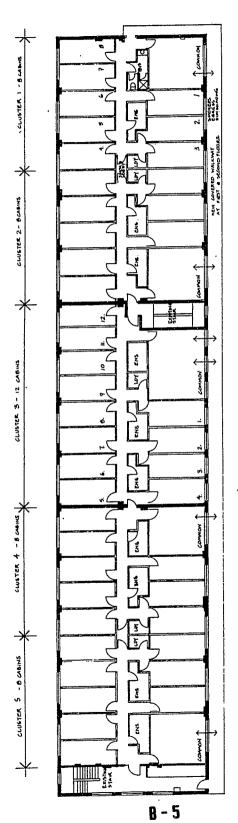
TYPICAL SINGLE CABIN

H.M.A.S WATSON ASSET 6 - JUNIOR SAILORS' ACCOMMODATION PLAN LEVEL 1



JULY '94 CARSON & ASSOCIATES THE RICE DAUBNEY GROUP





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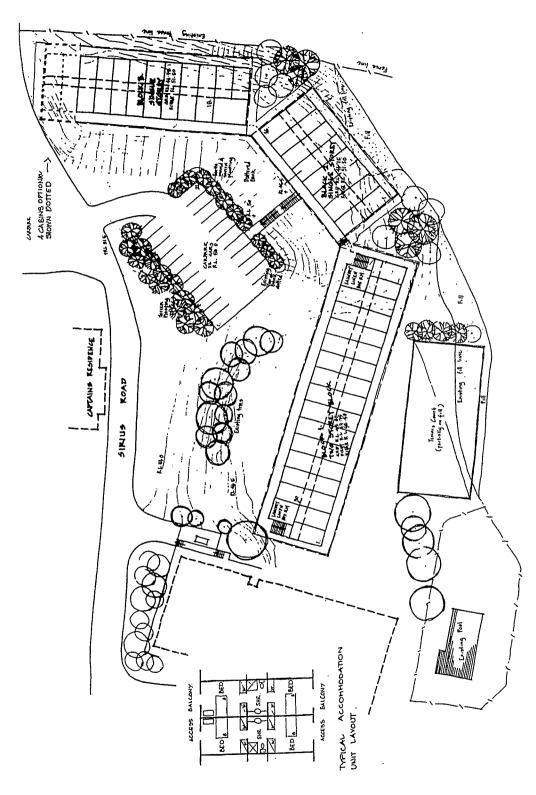
CARSON & ASSOCIATES THE RICE DAUBNEY GROUP

H.M.A.S WATSON ASSET6 - JUNIOR SAILORS' ACCOMMODATION PLAN LEVEL 2

JULY '94

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NOTE : HEAVY TREE FLANTING/SCREENING TO SOLITHERN ELEVATION OMITTED FOR CLARITY

12B

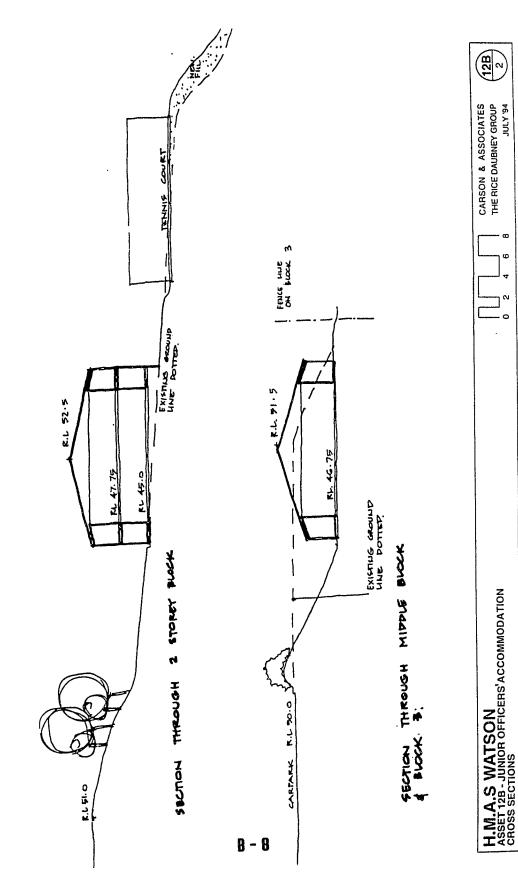
JULY '94

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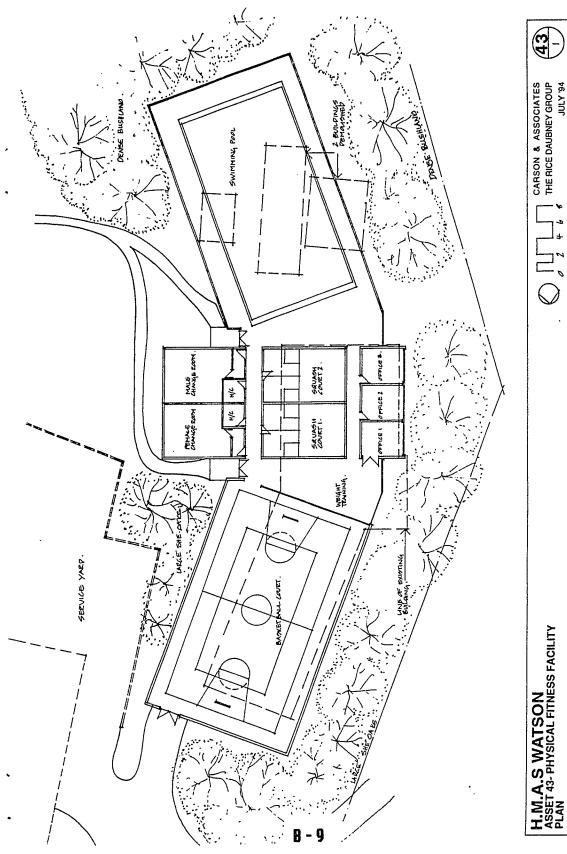


H.M.A.S WATSON ASSET 12B- JUNIOR OFFICERS' ACCOMMODATION SOUTH-WEST ELEVATION

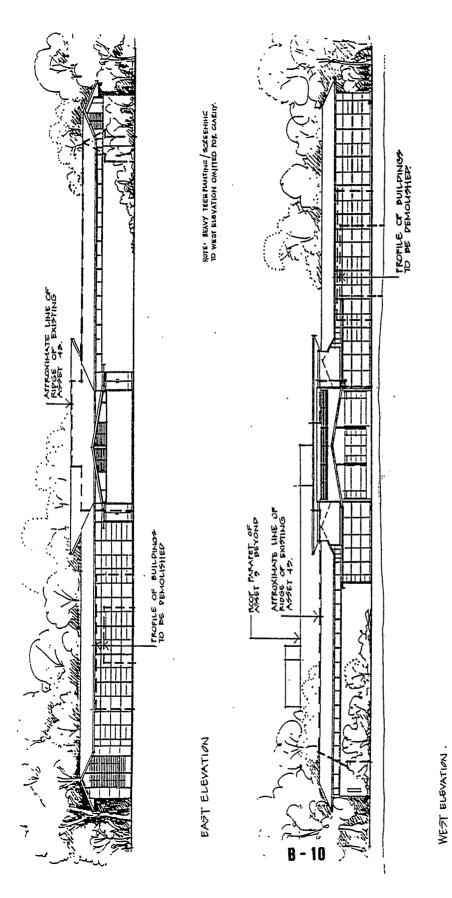


JULY '94

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H.M.A.S WATSON ASSET 43- PHYSICAL FITNESS FACILITY ELEVATIONS

(C42) CARSON & ASSOCIATES
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