



Parliamentary Standing Committee on Public Works

DEPARTMENT OF THE SENATE	
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<i>W. Bradshaw</i>	
Clerk to the Senate	

REPORT

relating to the proposal for

CONSTRUCTION OF FACILITIES FOR A TACTICAL FIGHTER SQUADRON RAAF BASE, DARWIN, NORTHERN TERRITORY

(Third Report of 1982)

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THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA
PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

R E P O R T

relating to the proposal for
CONSTRUCTION OF FACILITIES
FOR A TACTICAL FIGHTER SQUADRON
RAAF BASE, DARWIN,
NORTHERN TERRITORY

(Third Report of 1982)

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- 4 Appointed 25 August 1981
- 5 Appointed Vice-Chairman 27 August 1981

PUBLIC WORKS COMMITTEE ACT 1969
ORDER UNDER SUB-SECTION 18(4)

I, SIR ZELMAN COWEN, the Governor-General of the Commonwealth of Australia, acting with the advice of the Federal Executive Council, in pursuance of Sub-Section 18(4) of the Public Works Committee Act 1969, hereby, by this Order, declare that the public work described in the schedule be referred to the Parliamentary Standing Committee on Public Works for consideration and report.

SCHEDULE

CONSTRUCTION OF FACILITIES FOR A TACTICAL FIGHTER
SQUADRON, RAAF BASE DARWIN, NORTHERN TERRITORY - STAGE 1

L.S.

Given under my Hand and the
Great Seal of Australia
on 21 December 1981

ZELMAN COWEN

Governor-General

By His Excellency's Command,
(Signed) D.T. McVEIGH
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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

CONSTRUCTION OF FACILITIES FOR A
TACTICAL FIGHTER SQUADRON, RAAF BASE,
DARWIN, NORTHERN TERRITORY

INITIAL REPORT

On 21 December 1981, His Excellency the Governor-General in Council referred to the Parliamentary Standing Committee on Public Works for investigation and report to Parliament the proposal to construct facilities for a tactical fighter squadron at the Royal Australian Air Force Base, Darwin, Northern Territory.

The Committee has the honour to report as follows:

REPORTS

1. This is the initial report on this reference of work. The Committee hopes to present a final report later in 1982.

THE REFERENCE

2. The proposal is for construction of buildings and engineering works as Stage 1 of a two-stage development to allow the permanent basing of a fighter squadron at RAAF Base Darwin. New married quarters are also to be constructed in association with the base development. The components of the proposal are:

- an operations domestic support building;
- an engine runup facility;
- ground support equipment shelters;
- refurbishment of hangars and ordnance storage buildings;
- sleeping quarters for junior officers and other ranks;
- eighty-three new married quarters;
- a car park, security fencing and engineering services.

1.

3. The limit of cost estimate is \$9.6 million at October 1981 prices.

THE COMMITTEE'S INVESTIGATION

4. The Committee received written submissions and drawings from the Department of Defence and the Department of Housing and Construction and took evidence from their representatives at a public hearing in Darwin City Council Chambers on 4 and 5 March 1982. Written submissions and evidence were received from the Northern Territory Government, the Darwin City Council, the Darwin Aero Club and Mrs. P. O'Neil, MLA. Written submissions were received from Mr. M. Bartlett and Flt. Lt. G.E. Baldock. During the hearing a representative of the Department of Transport provided a written submission and gave evidence on the proposal to relocate civil aviation activities at Darwin Airport.

5. During the afternoon of 3 March, the Committee inspected the existing accommodation at RAAF Base, Darwin including some married quarters and the sites for the proposed buildings. The Committee also inspected the proposed site for civil terminal facilities.

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

BACKGROUND

7. RAAF Base, Darwin The RAAF Base, Darwin was formed on 1 June 1940, developed during World War II and now occupies an area of about 1600 hectares. In the period between the mid-1950s and the mid-1970s, the base underwent major development changes which included:

- construction of all the present main airfield pavements;
- development of an air defence radar site at Lee Point (2 CRU);
- improvements to explosives storage and handling facilities at Frances Bay;

2.

- construction of major aviation fuel storage and dispensing facilities; and
- development of operational, technical and domestic support facilities.

8. Since the early 1960s, numerous Air Defence Exercises involving the deployment of RAAF Aircraft from their southern bases have been conducted in the Darwin area, with some of these exercises involving aircraft of the Royal Air Force and the Royal New Zealand Air Force.

9. At the end of 1974 Cyclone Tracy completely destroyed both the steel-framed hangar and most of the maintenance support facilities. The cyclone also caused the destruction of facilities at Lee Point, and Air Defence exercises, which depend on radar control and technical support facilities, have been curtailed as a result. Since Cyclone Tracy the roles and functions of the base have been restricted due to the limited aircraft staging and support capabilities of the remaining facilities. Restoration of the Lee Point facility has been completed with re-activation expected to allow resumption of major operational exercises during 1982.

10. Recent Development On 21 August 1980, the Committee recommended in its report to Parliament the proposal to construct an aircraft maintenance complex and associated access pavements at an estimated cost of \$4.5 million. The complex will cater for Darwin-based military aircraft as well as deployed or transient aircraft and is currently under construction with completion anticipated for 1982.

11. Some medium works projects are being authorised in the 1981/82 Defence New Works Program at an estimated cost of \$1.64 million to meet the current role of the base. These will include an in-flight kitchen, rations store, butcher shop and a motor transport complex.

THE NEED

12. Existing Facilities The aircraft pavement system at RAAF Darwin consists of two runways plus associated parallel and access taxiways and aprons. Extensive operational support facilities have been provided as part of the base infrastructure and these include explosives storage, weapons preparation area, replenishment aprons for loading of fuel and ordnance, navigation and approach aids and communications facilities. The majority of the base's domestic and administrative infrastructure is of a satisfactory standard, including some permanent messes and sleeping accommodation, logistic support buildings, sick quarters and some housing.

13. The Government has decided that RAAF Base Darwin will be the home for No. 75 Squadron when it returns from Butterworth, Malaysia in mid-1983. The Committee was advised that existing facilities are adequate to maintain No. 75 Squadron on short term deployment in compliance with the stated role of the base to support transient and deployed aircraft on exercises. In a permanent basing situation, the squadron would be split, with serviceable aircraft located on the Fighter Replenishment Apron (FRA) in the south-eastern area of the base and aircraft under repair located at the new hangar complex over 4 km to the west of the FRA by road. Under these conditions it would be difficult to maintain efficient management. By mid-1983 working accommodation and car parking will be required for the 105 personnel to be employed at the FRA.

14. No. 75 Squadron will be equipped initially with Mirage and subsequently with F/A 18 aircraft. To ensure an acceptable level of security for the valuable RAAF assets which are to be located at the FRA, new fencing will be required.

The existing perimeter fence in the FRA area serves only to demarcate RAAF property from the Stuart Highway. Refurbishing of ordnance preparation facilities was kept to a minimum following Cyclone Tracy but with the home-basing of a fighter squadron, it will be necessary to upgrade these facilities.

15. Equipment storage and Airmovement Section facilities in the base support area are unable to cope with the increased commitments resulting from the home-basing of a fighter squadron. Provision of an air conditioned storage hut and refurbishing of two existing buildings will alleviate the situation.

16. Civil Aviation Facilities The site reserved on the master plan for the permanent fighter squadron's operational, technical and administrative complex on the southern side of the main runway is presently occupied by Darwin's civil aviation facilities. The Department of Defence believes there is no other suitable site for the long term location of these squadron facilities and has agreed with Department of Transport that civil aviation activities should be moved to the northern side of the main runway.

17. The aircraft engine run-up facility presently located within the proposed civil aviation area on the northern side of the airfield will require demolition and relocation. A new facility will therefore be required in the FRA area to enable both installed and uninstalled engine testing to be carried out.

18. Until the proposed move of civil aviation facilities is completed, the squadron home based at Darwin will continue to be split, as at present, between the FRA and the new maintenance hangar complex which is under construction.

19. Existing Housing Housing for service families at RAAF Darwin is both on and off base. The on-base married accommodation consists of 319 houses of which 248 are below the acceptable cyclone standards and due for replacement or major repairs. Only sixty of these houses can be upgraded economically while the remaining 188 are due to be replaced in the future. All of these 248 houses are in use but are classified as Group 1A and therefore attract a lower rate of rental contribution by the servicemen concerned. A table showing the current and projected on-base housing is given at Appendix A.

20. The foregoing numbers of married quarters are inadequate to provide for the requirements of No. 75 Squadron on its return from Malaysia. The main effect of this potential shortage is that married personnel would be unable to be accompanied by their families and this situation cannot be alleviated by distorting the married/single personnel ratio on a temporary basis as has occurred with the Operational Deployment Force at Townsville (see the Committee's Third Report of 1981).

21. As was the case with Townsville, the local housing market is unable to supply the required additional married quarters to the appropriate standards. In evidence, the Department of Defence advised that it would strongly oppose any attempt to locate RAAF Personnel in anything approaching welfare housing. When this is considered with the Northern Territory Government's aim to gradually get out of the provision of government housing in line with its general policy of involving private enterprise, no possibility seems to exist for the married quarter requirements to be satisfied under some form of Commonwealth/State Housing Agreement.

22. Living-in Accommodation Sleeping accommodation will be required for single officers and other ranks (ORs) on base. No additional accommodation is required for Senior Non-Commissioned Officers (SNCOs). The alternative

is to utilise short stay accommodation presently available but substandard for long term occupancy by personnel.

23. Committee's Conclusion The existing facilities and housing at RAAF Darwin are inadequate to accommodate No. 75 Squadron on its return from Butterworth, Malaysia.

THE PROPOSED WORKS

24. Operations Domestic Support Building This building is to be located within the operational area near the existing FRA and will provide aircrew shower and change, briefing, operations, communication, administration and tea rooms. It will be a single-storey structure with steel columns and trusses and a prefinished metal sheeting roof. The proximity of the building to operational aircraft and the associated high noise levels will necessitate soundproofing to reduce the transmission of noise to occupied areas.

25. Engine Runup Facility To be located at the end of the taxiway connecting with the eastern end of the existing taxiway Alpha, this facility will be utilised to test run operational fighter aircraft engines. It will comprise two bays, one for testing installed and the other uninstalled aircraft engines. The facility will consist of a concrete apron enclosed by wind shelter walls of reinforced concrete blockwork and a test shelter building with attached annex in the uninstalled engine test bay. A sun shelter will be erected over part of the installed engine test bay and a blast deflector wall constructed to the rear of each bay. Provision is to be made for a future gunfiring stop butt and earth mound to the front wind shelter wall. The Committee was not satisfied that the design and siting of the engine runup facility will reduce noise emissions from aircraft engines to acceptable levels during testing. Construction of this facility should be delayed until the design can be modified to achieve a significant reduction in the level of noise emissions. Subsequent tests have indicated that noise levels are unsatisfactory and these are discussed further at paragraph 50 below.

26. The test shelter building, annex and sun shelter will be steel frame with metal sheeting to the walls and roofing. The aircraft pavements will be designed to handle the continuous operation of fighter aircraft including the F111C and F/A 18.

27. Ground Support Equipment Shelters Two shelters of open steel frame construction with unpainted metal roof sheeting will be provided, one near each of the FRA and the new maintenance hangar sites to provide storage for aircraft ground servicing equipment and tow vehicles. The shelters will have reinforced concrete floors with the surrounding trafficable area being bituminous sealed.

28. Refurbishment of Hangar 557 and Buildings 413 and 417 Hangar 557 is located north of the domestic area and is at present utilised for vehicle storage and administration. Provision of metal louvred openings in alternate bays on the eastern and western sides with a continuous ridge vent at the roof, for natural flow ventilation, will upgrade the hangar to an aircraft spare parts store.

29. Buildings 413 and 417 are contained within the site defined as the Weapons Preparation Area and their refurbishing will enable the preparation of weapon ammunition and practice ordnance.

30. Although their upper walls and roofing were extensively damaged by Cyclone Tracy, the remaining concrete bund walls, substructure and steel frame work form a suitable base for refurbishing. Building 413 will be reconstructed from the remaining concrete bund and portal frames although some steelwork will require upgrading due to deterioration and the provision of additional holding down bolts. However, Building 417 was more severely damaged by the cyclone and all but the concrete bund wall and floor is to be demolished. Refurbishing will provide new concrete block walls to the original height with new steel beams and columns. Both buildings will have new doors and metal roof sheeting installed. Additional columns and steelwork will also be required.

31. Bulk Bedding Store The building is to be supplied by the Department of Defence in prefabricated components and erected on a concrete base within the existing barracks compound. To prevent mould growth to stored bedding material, the building is to be vapour sealed and air conditioned.

32. Alterations to Air Movements Section The Air Movements Section is the central storage area where all supplies are unloaded prior to dispersal around the base and to other bases. Alterations to the building will widen the existing entry to allow passage of aircraft freight vehicles into the stores area. New footings, column and beam strengthening around the opening and provision of a new roller shutter door will also be required.

33. Sleeping Quarters for Eight Junior Officers The building will be two-storey with a central access stairway and layout arranged for efficient use of natural ventilation supplemented by ceiling fans. The accommodation will comply with Scales and Standards and provide individual bedrooms with one bathroom and a box storage room on a shared basis for each two officers.

34. Construction will be in load bearing masonry walls on a concrete raft base with a suspended concrete first floor. The roof will be prefinished metal sheeting with insulation to reduce heat transfer. Laundry and linen closet facilities will be located on the ground floor. The siting of the building will permit the addition of similar units as required by later development.

35. Sleeping Quarters for 80 Other Ranks The buildings will consist of multiple two-storey blocks arranged in groups. They will be a series of linked clusters in groups of eight bedrooms, four at ground level and four at first floor level. Again their layout will be arranged for maximum use of natural cross ventilation supplemented by ceiling fans.

36. Each group of clusters will be served by a single stairway, with the bedrooms connecting to a common room which in turn provides access to an area containing shower, toilet and laundry facilities. Construction will be in load bearing masonry walls on a concrete raft base with a suspended concrete first floor. The roof will be prefinished metal sheeting insulated to reduce heat transfer.

37. The accommodation will comply with Scales and Standards and siting of the buildings will take into account potential future development in the area.

38. Eighty-three Married Quarters These married quarters are required on base as part of 160 houses which will be essential to accommodate the personnel and dependents of No. 75 Squadron on their return from Malaysia. All of these houses will comply with the interim Scales and Standards for Married Quarters Accommodation.

39. The houses will be of traditional high-set design with lightweight construction, taking account of natural ventilation and minimal solar heat gain to maintain internal comfort. All materials used will have low maintenance characteristics while the construction methods will provide structural integrity under cyclonic wind loading.

40. A range of alternative plan layouts is intended to cater for the diverse requirements of individual tenants. A narrow rectangular plan provides for maximum exposure to and penetration of cooling breezes. Window openings should be located on both windward and leeward sides of the building and placed to take account of room layout and activities. Large free openings will promote cross ventilation while window surfaces require shading and should give protection from wind-driven rain while allowing freedom of air movement. The building envelope should be well insulated and of a light colour to minimise heat absorption. Materials selected should be lightweight to avoid heat retention and allow the structure to cool rapidly at night.

41. The tender procedure, as well as seeking out the most cost effective options, will be designed to attract a range of alternative house types which can then be assessed for their suitability. The design process must also consider:

- provision for structural loading and debris screening for cyclonic conditions;
- wet season high rainfall and severe lightning activity;
- constantly high ambient temperatures and humidities;
- aggressive termite and high insect populations; and
- limited local material availability.

42. Fencing and Entry Control These will be provided to the operational area of the base with the upgraded perimeter fencing directing authorised vehicles off the Stuart Highway through a single controlled entry check point. The perimeter fence will be rearranged to enclose the new engine runup facility. A person-proof fence with locked gates will enclose the FRA area.

43. Upgrading of Engineering Services The installation of new buildings and changes in function due to refurbishing will necessitate an upgrading of engineering services. Civil, hydraulic and electrical engineering services at the base will be upgraded to provide for the new buildings and facilities.

44. Car Parking The development of the operational area will create a need for car parking capable of handling 63 vehicles. The car park will primarily cater for personnel operating in and visiting the area on duty. It will be located between the Weapons Preparation and FRA areas and will be provided with kerbing and a bituminous surface.

45. Committee's Conclusion The design of the proposed works with the exception of the engine runup facility is satisfactory. Construction of the proposed engine runup facility should be delayed until problems with noise pollution have been completely resolved. The Committee will report further on the engine runup facility when its siting and design have been reassessed by the Department of Defence and the Department of Housing and Construction.

THE SITES

46. The sites for the proposed works are within the perimeter of the RAAF Base at Darwin which is located approximately 6 km north-east of the Darwin City centre on the northern side of the Stuart Highway. The base has a total variation in height above sea level ranging from 7 to 32 metres, with all sites for the proposed works being relatively flat. Surveys and Soils Investigations have been carried out on the proposed sites. As a result of these and earlier experience gained in the area, no problems are expected in the construction of the proposed works.

47. The Operations Domestic Support Building and ground support equipment shelter sites were mentioned previously under "The Proposed Works". The Bulk Bedding Store will be constructed within the existing barracks compound near the Air Movements Section.

48. Sleeping Quarters The sleeping quarters for 8 junior officers will be constructed in the south-western area near the intersection of Billeroy and Bukatilla Roads and to the north of the existing married quarters. The ORs' accommodation will be located amongst similar existing quarters in the south-west of the base in an area bounded by Amaroo and Elonera Streets.

49. Eighty-three Married Quarters These will again be located in the area to the south-west of the base. Of these married quarters, 59 will be located on existing sites which previously accommodated houses destroyed by Cyclone Tracy. The remaining 24 houses will be located to the north of the existing married accommodation and within acceptable noise contour limits imposed by operating aircraft.

50. Engine Runup Facility The Darwin City Council expressed some reservations concerning the proposed siting of the facility in respect of the noise affecting surrounding areas. The Department of Defence stated they would bring a Mirage aircraft to Darwin for a series of engine tests in the presence of community leaders and the media so an accurate public reaction could be generated. The Committee requested the Department of Defence to include takeoffs, landings and night flying over Darwin in these engine noise tests and the Department complied with the request. Advice was subsequently received that the on-ground tests, held on 24 March 1982, did not support the assertions made in respect of noise by the Department of Defence during the public hearing.

51. Environmental Factors The Committee notes the assurance given by the Minister for Defence and the Minister for Transport on 18 December 1980 that a full environmental assessment of the project would be made before work began on the development of the civil terminal at Darwin Airport. The Committee does not consider the Environment Project Working Group, which reports to the Joint Government Co-ordinating Committee for the airport development project, to be an appropriate forum for consideration of the environmental implications of the civil terminal.

52. The Committee believes that the development of Darwin Airport for both civil and military operations has significant environmental impact. Notwithstanding the earlier determination by the Minister for Home Affairs and Environment that a full Environmental Impact Statement (EIS) is not required, the Committee believes that an EIS should be prepared to ensure careful public consideration of all aspects of the future civil terminal and RAAF Stage 2 development.

53. Residential Development The Committee was given some evidence that residential development has been permitted within the 25 NEP contour covering parts of the suburbs to the north of Darwin. It was suggested that the responsible authorities have permitted this development and in the future may complain of the adverse effects of noise on residents.

54. Evidence presented to the Committee indicates that a substantial noise nuisance from both military and civil aircraft can be expected in the Coconut Grove and Bagot area. Residential development in this area is recent and further such development should be examined by the relevant Northern Territory authorities.

55. Committee's Conclusion The sites selected are suitable except for the Engine Runup Facility. An Environmental Impact Statement should be prepared on Darwin Airport before additional military or civil developments proceed. The Northern Territory planning authorities should immediately examine the compatibility of further residential development in areas likely to suffer substantial aircraft noise nuisance.

OTHER OBSERVATIONS

56. Consultations with Users In the Committee's Third Report of 1981 on the Provision of Army Housing at Townsville, the need for full and regular consultations between service families and relevant Departments on the needs and problems of the occupants of service housing was commented on at length. During development of the married quarters included in this reference, the Department of Defence and the Department of Housing and Construction have consulted with the wives at RAAF Darwin for the first time and the Committee commends this approach. The results appear to confirm the value of such consultations. Every effort should be made to ensure these consultations remain an integral part of the planning process as outlined in paragraph 42 of the Committee's Townsville report.

57. Civil Aviation Facilities The RAAF Base Darwin has been a joint user (civil/military) airfield since 1945 when certain buildings were allocated to the Department of Transport on a temporary basis. An area of approximately 48.5 hectares in the centre of the base with access to the Stuart Highway was allocated to the Department of Transport in 1945 and now incorporates aircraft pavements, light aircraft hangars and other support facilities for civil operations.

58. The continued presence of civil aviation facilities in the middle of the RAAF Base creates operational and security problems for the RAAF at Darwin. Operational problems will become acute when No. 75 Squadron is permanently based at Darwin and it becomes split between the FRA and the maintenance hangar, requiring frequent movement across the civil operations area. Consequently, the proposed upgrading of Darwin Airport is being used as an opportunity to move civil aviation to the northern side of the base and, in the longer term, hand back the 48.5 hectares on the southern side to the RAAF.

59. The proposed move will be the subject of a separate reference to the Committee at a later date following Government approval to proceed to a limit of cost estimate.

60. Stage 2 Works, RAAF Darwin The development of Stage 2 was foreshadowed in this hearing. These works will provide for the re-equipment of No. 75 Squadron with F/A 18 aircraft in 1986/87 and the squadron's relocation to permanent operational facilities in the area where the general aviation complex is presently located. A full list of the works is given at paragraph 38, page 11 of the evidence from the Department of Defence.

61. The Stage 2 works will depend on the move of civil aviation facilities to the northern side of the base and in any event they do not depend on or influence the works in this reference.

62. Recreation Facilities Following questions raised at the public hearing, the Department of Defence provided information which shows that with the 723 personnel presently at RAAF Base Darwin there is a deficiency in recreation facilities as prescribed by current Scales and Standards. The Committee is concerned that this situation will deteriorate when No. 75 Squadron arrives in mid-1983. The Department of Defence mentioned in their written evidence that physical fitness facilities will be included in the Stage 2 works timed for completion between 1985 and 1986, but did not indicate the nature of those facilities.

63. The Committee considers the present lack of recreation facilities and their future overloading for a period of at least two years to be unacceptable. The Committee recommends that urgent attention be given to increasing the recreation facilities at RAAF Darwin to the level prescribed by Scales and Standards and that these works be timed for completion by mid-1983 when the base personnel establishment will increase by 304 with the arrival of No. 75 Squadron. In determining priorities in the provision of the facilities, the views of personnel and their dependents at RAAF Base Darwin should be taken into account.

64. Committee's Conclusion The Committee recommends that urgent attention be given to increasing the recreation facilities at RAAF Darwin to the level prescribed by Scales and Standards and that these works be timed for completion by mid-1983 when the base personnel establishment will increase by 304 with the arrival of No. 75 Squadron. In determining priorities in the provision of the facilities, the views of personnel and their dependents at RAAF Base Darwin should be taken into account.

LIMIT OF COST

65. The Limit of Cost estimate is \$9.6 million at October 1981 prices, made up as follows:

	\$
Building works	2 470 000
On-base married quarters	5 250 000
Engineering works	1 880 000
	<u>9 600 000</u>

66. The cost of the recommended works is \$9.056 million at October 1981 prices.

PROGRAM

67. The Department of Defence requires, subject to approval, completion of these works by mid-1983. Tenders will be called to achieve this final completion date.

68. Committee's Conclusion The Committee recommends the construction of the works in this reference with the exception of the engine runup facility.

RECOMMENDATIONS AND CONCLUSIONS

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

	<u>Paragraph</u>
1. THE EXISTING FACILITIES AND HOUSING AT RAAF DARWIN ARE INADEQUATE TO ACCOMMODATE NO. 75 SQUADRON ON ITS RETURN FROM BUTTERWORTH, MALAYSIA.	23
2. THE DESIGN OF THE PROPOSED WORKS WITH THE EXCEPTION OF THE ENGINE RUNUP FACILITY IS SATISFACTORY.	45
3. CONSTRUCTION OF THE PROPOSED ENGINE RUNUP FACILITY SHOULD BE DELAYED UNTIL PROBLEMS WITH NOISE POLLUTION HAVE BEEN COMPLETELY RESOLVED.	45
4. THE COMMITTEE WILL REPORT FURTHER ON THE ENGINE RUNUP FACILITY WHEN ITS SITING AND DESIGN HAVE BEEN REASSESSED BY THE DEPARTMENT OF DEFENCE AND THE DEPARTMENT OF HOUSING AND CONSTRUCTION.	45
5. THE SITES SELECTED ARE SUITABLE EXCEPT FOR THE ENGINE RUNUP FACILITY.	55
6. AN ENVIRONMENTAL IMPACT STATEMENT SHOULD BE PREPARED ON DARWIN AIRPORT BEFORE ADDITIONAL MILITARY OR CIVIL DEVELOPMENTS PROCEED.	55
7. THE NORTHERN TERRITORY PLANNING AUTHORITIES SHOULD IMMEDIATELY EXAMINE THE COMPATIBILITY OF FURTHER RESIDENTIAL DEVELOPMENT IN AREAS LIKELY TO SUFFER SUBSTANTIAL AIRCRAFT NOISE NUISANCE.	55

Paragraph

8. THE COMMITTEE RECOMMENDS THAT URGENT ATTENTION BE GIVEN TO INCREASING THE RECREATION FACILITIES AT RAAF DARWIN TO THE LEVEL PRESCRIBED BY SCALES AND STANDARDS AND THAT THESE WORKS BE TIMED FOR COMPLETION BY MID-1983 WHEN THE BASE PERSONNEL ESTABLISHMENT WILL INCREASE BY 304 WITH THE ARRIVAL OF NO. 75 SQUADRON. IN DETERMINING PRIORITIES IN THE PROVISION OF THE FACILITIES, THE VIEWS OF PERSONNEL AND THEIR DEPENDENTS AT RAAF BASE DARWIN SHOULD BE TAKEN INTO ACCOUNT.	64
9. THE LIMIT OF COST FOR THE RECOMMENDED WORKS IS \$9.056 MILLION AT OCTOBER 1981 PRICES.	66
10. THE COMMITTEE RECOMMENDS THE CONSTRUCTION OF THE WORKS IN THIS REFERENCE WITH THE EXCEPTION OF THE ENGINE RUNUP FACILITY.	68

(M.H. BUNGEY)
Chairman

Parliamentary Standing Committee on Public Works,
Parliament House,
CANBERRA, ACT

22 April 1982.

APPENDIX A.

ON-BASE HOUSING REQUIREMENTS AT RAAF DARWIN ⁽¹⁾

<u>Group</u>	<u>Range</u>	<u>Numbers Available</u>	<u>Additional Requirements</u>	<u>Total</u>
1A	Private/Corporal))	306 ⁽²⁾	-	362
1B	Sergeant/ Flight Sergeant)		56	
2	Warrant Officer/ Flight Lieutenant	7	22	29
3	Squadron Leader/ Wing Commander	5	5	10
4	Group Captain/ Air Commodore	1	-	1
		<hr/>	<hr/>	<hr/>
		319	83	402

(1) Using the revised Scales and Standards but based only on the floor area of existing houses.

(2) Of these 273 are Group 1A (Group 1 deficient) under the old Scales and Standards.

APPENDIX B

CONSTRUCTION

70. Operations Domestic Support Building External walls will have an inner leaf of concrete blockwork clad with prefinished metal sheeting. The roof and walls will be insulated and vapour sealed. Internal walls will generally be painted blockwork, toilets and showers being plastered and tiled as appropriate. Ceilings will be suspended acoustic tiles to all areas with flush plasterboard in toilet and change areas. Floors will be concrete surfaced with heavy duty vinyl tiles, while ceramic tiling will be provided in wet areas.

71. Engine Runup Facility Taxiway pavements will comprise 50mm bituminous concrete on 150mm fine crushed rock on 275mm gravel and base. Apron pavement will comprise 300mm concrete on 150mm fine crushed rock base.

72. Sleeping Quarters Internal walls will be painted masonry with plaster and tile finishes to wet areas. Ceilings will be painted plasterboard and ceiling heights will be suitable for the efficient and safe operation of ceiling fans.

73. Sun protection will be provided by the use of sunshading from the roof overhang and by external metal louvres. Windows will have insect screened adjustable glass louvres. Carpet will be provided in the bedrooms and ceramic tiles in wet areas.

74. Bitumen sealed car parking will be established for vehicles with connecting paved access to the building. The immediate surrounds are to be landscaped with native vegetation of low maintenance to provide for sunshading, wind and noise screening.

75. Eighty-three Married Quarters - Building Materials These must be chosen for their general performance in humid conditions and for their resistance to fungal and insect attack. For use in exposed locations resistance to solar radiation and to constant wetting and drying action must also be considered.

76. Timber framing will be raised on reinforced concrete piers and blockwork walls. Roof cladding will be steel decking on timber trusses while prefinished metal wall cladding will be used externally. Plasterboard will be used for internal walls and ceilings with polished timber floor boards. Laminated plastic wall linings and ceramic tile floors will be used in wet areas. In high-set houses the under-house areas will be concrete paved with provision for car parking.

77. - Fittings and Equipment These are to be in accordance with Scales and Standards and will include:

- built-in wardrobes to all bedrooms;
- kitchens to have pantry cupboard and space for refrigerator, freezer and dishwasher;
- vanity units in bathrooms.

Additional equipment will also include an electrically boosted solar hot water system, ceiling sweep fans, kitchen range and hood and bathroom and WC exhaust.

78. - Site Development House designs will be required to allow vehicular access from alternative directions to provide siting flexibility. Development will also include the provision of concrete driveways, paths, clothes hoists and boundary fencing. Low maintenance native trees and shrubs will be used for landscaping to provide screening for shade and privacy.

79. Subdivision for the new sites will extend existing services comprising roads, footpath, street lighting, water, sewerage, stormwater and electricity. All houses will be connected to reticulated services.

80. Building Engineering Services Electrical services to all buildings will comprise lighting and power in accordance with the relevant Australian Codes.

81. Automatic fire detection systems will be provided in Hangar 557, the Bulk Bedding Store and the Operations Domestic Support Building. Other buildings will be fitted

with manual fire call points. All fire alarm systems will connect back to the Base RAAF fire station.

82. Mechanical services to buildings will comprise exhaust and ventilation systems, air conditioning, hot water systems, refrigerated drinking units, washing machines and dryers to laundries.

83. Part of the operations domestic support building and the bulk bedding store will be air conditioned while the sleeping quarters will be provided with mechanical ventilation by means of ceiling fans with speed controllers. Exhaust systems will be provided to locker, toilet and kitchen areas.

84. Solar hot water systems will be installed in the single sleeping quarters, married quarters and Operations Domestic Support Building for economy.

85. Upgrading of Engineering Services Civil works comprise the upgrading, deviation and extension of the perimeter road which traverses the southern side of the operational area.

86. The hydraulic works will comprise the upgrading of pipework and valves for water supply and connections into the existing sewerage system.

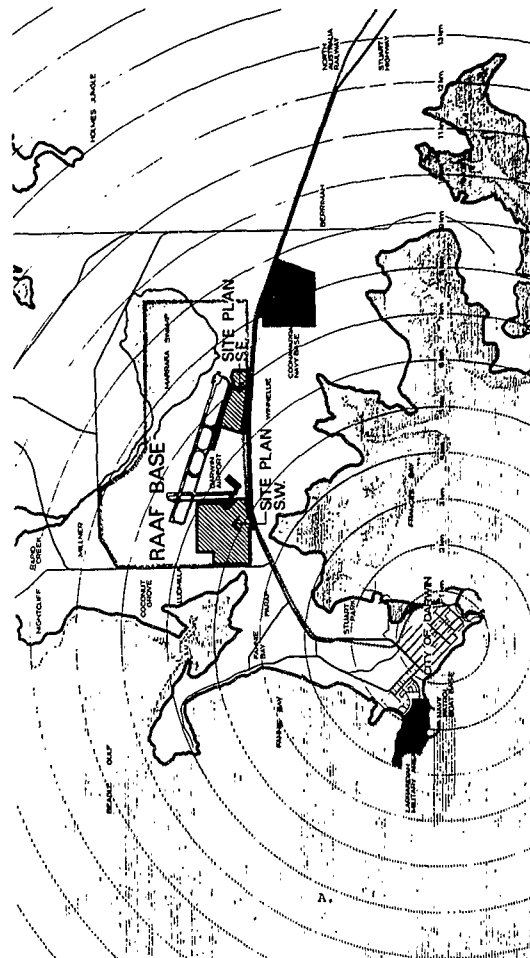
87. The existing base water supply over recent years has been unable to cope with the demands placed upon it. The proposed development will place further strain on the system and it is therefore proposed to upgrade the mains entering and feeding the base. The works will provide new water mains of increased capacity and will upgrade the base fire fighting facilities for the Stage 1 and future base development requirements. Water service to new buildings in both domestic and operational areas will be connected into existing mains systems.

88. The domestic area of the base is served by an existing sewerage reticulation system and new buildings in this

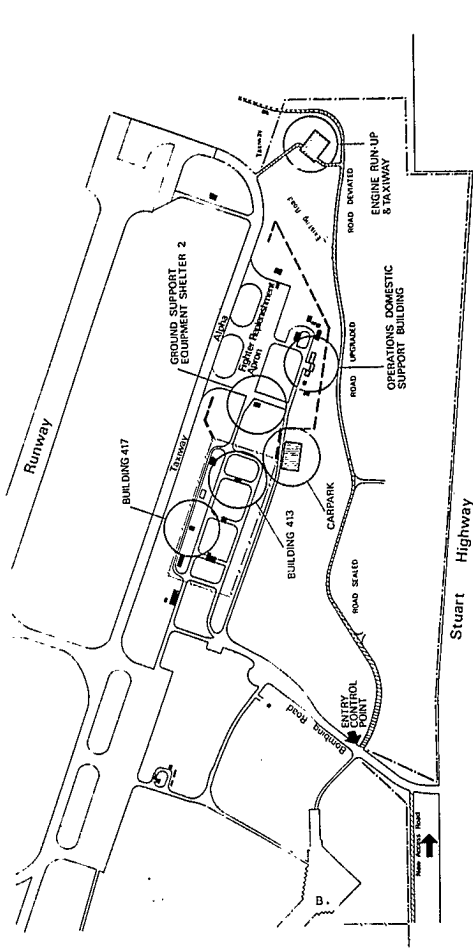
area will be connected into this reticulation. The existing system has sufficient capacity to handle the increased flows. The Operations Domestic Support Building in the operational area is outside the zone served by the sewerage reticulation system and this building will be served by a new septic tank system.

89. Electrical services will be upgraded by additional substation capacity at the engine runup area. The existing 11000 volt underground electrical distribution system and the central emergency power house have sufficient capacity to accommodate the proposed building loads.

90. Car Parking The car park will be located in the operational area between the weapons preparation area and fighter replenishment apron and will be primarily for parking of vehicles used by personnel operating and visiting the area. Kerbing and a bituminous surface will be provided together with native trees and shrubs in nature strips between vehicle rows for sunshading. An extension to the local water supply will be arranged for watering the trees and shrubs.

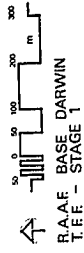


DARWIN AND ENVIRONS

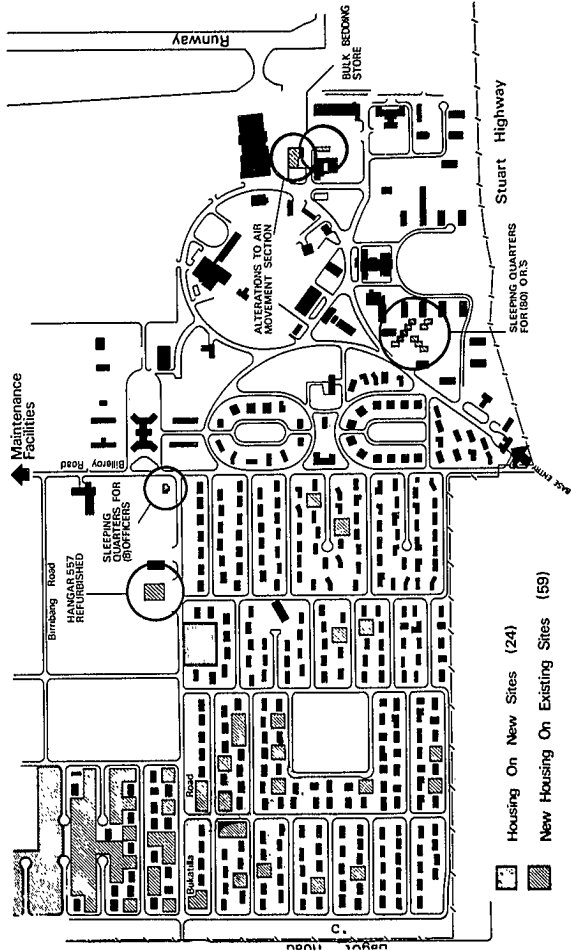


- Manproof Fence
- - - Perimeter Fence
- - - Existing Fence
- Existing Buildings
- New Works

SITE PLAN SOUTH EAST



RAAF BASE DARWIN
T.F.F. - STAGE 1

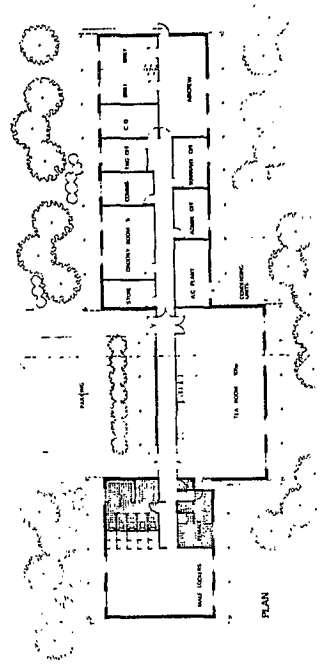
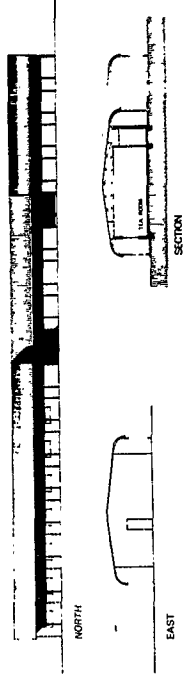


- Housing On New Sites (24)
- ▨ New Housing On Existing Sites (59)
- Existing Buildings

SITE PLAN SOUTH WEST



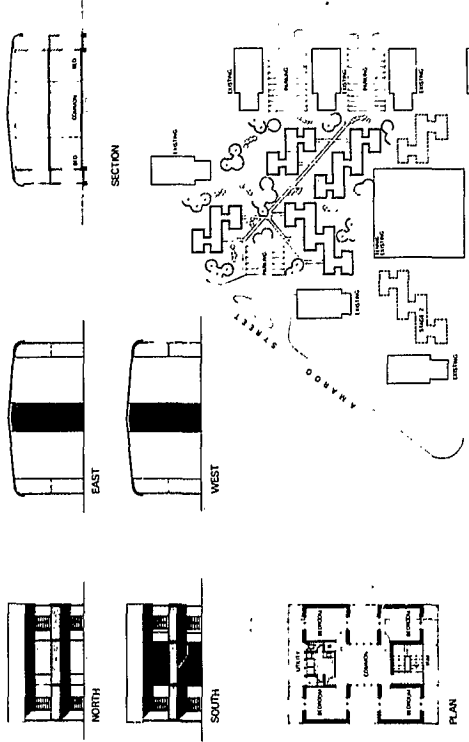
RAAF BASE DARWIN
T.F.F. - STAGE 1



NEW OPERATIONS DOMESTIC SUPPORT BUILDING

RAAF BASE DARWIN
T.F.F. - STAGE 1

D.



SLEEPING QUARTERS FOR EIGHTY (80) OTHER RANKS

RAAF BASE DARWIN
T.F.F. - STAGE 1

E.