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THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

*Parliamentary Standing Committee on Public Works*

## REPORT

relating to the proposed development of

### R.A.A.F. BASE

at

### Amberley, Queensland

(TWENTY-FOURTH REPORT OF 1972)

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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

DEVELOPMENT OF RAAF BASE,  
AMBERLEY, QUEENSLAND

R E P O R T

By resolution on 17 August 1972, the Senate referred to the Parliamentary Standing Committee on Public Works for investigation and report to the Parliament, the proposal for the development of RAAF Base at Amberley, Queensland.

The Committee have the honour to report as follows:

THE REFERENCE

1. The proposal referred to the Committee involves construction at RAAF Base Amberley, of support facilities for a helicopter squadron, new maintenance hangars and technical support facilities.
2. The estimated cost of the proposed work is \$14.2 million.

THE COMMITTEE'S INVESTIGATION

3. The Committee received written submissions and drawings from the Departments of Air and Works and took evidence from their representatives at a public hearing in Canberra on 29 August 1972. The Committee later visited the Base and inspected its facilities and the sites proposed for the new buildings and services.

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

RAAF BASE AMBERLEY

5. Formation of RAAF Base Amberley commenced in 1938 with the acquisition of 822 acres of land on the outskirts of Ipswich. Operations commenced in 1940 and by 1942 the Base had assumed its principle support role with the formation of No. 3 Aircraft Depot, which was responsible for the assembly and repair of a wide range of aircraft. During World War II many operational units used Amberley for re-fitting and as a staging area before moving to forward bases and several United States Air Force squadrons were based there.

6. RAAF Base Amberley today is one of the RAAF's largest operational bases. It is the home of the RAAF strike force and of No. 3 Aircraft Depot, a major maintenance unit. The Base now covers 1,850 acres and has several sites nearby for communications installations. It has a current strength of 2,300 RAAF and 93 civilian personnel. Between 200 and 400 Army personnel, depending on training programmes, are also based there.

7. Changes to be made to the establishment over the next few years will include the relocation of the 1st Army Aviation Regiment to the Army Aviation Centre at Oakey, Queensland in 1974 and the permanent deployment of No. 9 Utility Helicopter Squadron to RAAF Base Townsville. Nos. 1 and 6 Squadrons of No. 82 Bomber Wing currently equipped with Phantom F4E aircraft are expected to be re-equipped with F111C strike aircraft in 1973.

In addition, No. 12 Squadron will be formed and based at Amberley in 1973. It will be equipped with Chinook CH47C medium-lift helicopters.

THE NEED

8. Following the implementation of the 1964 defence re-equipment and expansion programme, a number of works were carried out at Amberley related chiefly to urgent requirements before taking delivery of the new strike aircraft. The work involved construction of hangars, expansion of No. 3 Aircraft Depot facilities, extension of the main runway and erection of living and domestic accommodation for increased numbers of personnel. The work did not extend to the replacement of technical support and other services accommodated in temporary buildings because, at the time, these were regarded as having further useful life and not requiring replacement.

9. The work in this reference is to provide facilities for No. 12 Squadron and for the units described in the following paragraphs.

10. Base Squadron Amberley This unit provides the domestic and support services for units on the Base. Its operations cover catering, barracks, equipment, motor transport, air traffic control, air movements, medical services, telecommunications, fire fighting and security.

11. Nos. 1 and 6 Squadrons Both squadrons operate Phantom F4E aircraft under a lease agreement with the United States of America. As indicated in paragraph 7, these aircraft will be replaced with F111C strike aircraft in 1973.

Only day to day squadron level maintenance is performed within these units.

12. No. 482 (Maintenance) Squadron This squadron provides intermediate level maintenance for the aircraft and support equipment of No. 82 Wing, base motor transport and some aspects of maintenance of Caribou aircraft and helicopters. It also conducts specialist training courses.

13. No. 3 Aircraft Depot As a major maintenance unit, No. 3 Aircraft Depot is responsible for a wide range of maintenance and engineering tasks on RAAF strike aircraft, Canberra and rotary wing aircraft, aircraft engines and equipment and on specialised transport and ground support equipment. It also conducts training programmes for specialised engineering trades.

14. Proposed Helicopter Squadron Facilities The operational needs for large helicopters of the Chinook type require that they function from an area somewhat remote from fixed wing aircraft. The Base does not have such a facility and No. 9 Squadron is accommodated in makeshift facilities pending its transfer to Townsville in 1974. It is therefore proposed to construct a "rotary wing area" comprising an apron and access taxiway, a hangar and a headquarters building to support No. 12 Squadron when it is formed in 1975.

15. Hangars In addition to the hangars constructed since 1964, there are in use, four hangars of the igloo type which date from World War II and are of timber frame construction with galvanised iron cladding.

These hangars were originally intended for short term usage only and have now deteriorated to the point that they are considered by the Department of Works to be structurally unsafe in wind strengths over 45 mph. Two of these hangars are used for squadron level maintenance and the other two are components of the more extensive repair and servicing facilities of No. 3 Aircraft Depot. Repair and maintenance programmes are often disrupted as, when wind velocities in excess of 45 mph are forecast, aircraft have to be moved to safer locations. On these occasions considerable time may be spent in re-assembly of aircraft before they can be moved.

16. It is therefore proposed to replace these old and unsound hangars by a large hangar for No. 3 Aircraft Depot and two smaller hangars for the strike squadrons.

17. Support Facilities Many support engineering functions are operated from old buildings of a temporary nature and relatively simple construction. As facilities have expanded and become technically more complex to meet the requirements of modern sophisticated aircraft, engines and weapons systems, the problems associated with working in out-moded and inadequate buildings have increased and been aggravated. The position will worsen when squadrons take delivery of new aircraft and maintenance demands arise. Further, we observed that the buildings are already costly to maintain and are reaching the end of their economic life. It is therefore proposed to construct new and additional facilities in modern purpose-designed buildings.



18. The Committee's Conclusions After consideration of the evidence and inspection of the facilities at RAAF Base Amberley the Committee concluded that:

- (i) there is a need to provide support facilities for a helicopter squadron;
- (ii) there is a need to provide new and larger maintenance hangars for No. 3 Aircraft Depot and the strike squadrons; and
- (iii) there is a need to construct new and additional engineering support facilities on the Base.

THE PROPOSED WORK

19. The buildings and services in this reference are to be carried out progressively over the next three to four years and will enable the Base to properly fulfil its role and meet its commitments. It was noted that any additional work necessary in the future would accord with the agreed master plan and would if required be the subject of further references to the Committee.

20. Helicopter Squadron The "rotary wing" area" is to be remote from the fixed wing aircraft facilities. Works required are a hangar for squadron level maintenance with annexes for technical services and flight line services, a headquarters building providing offices, crew rooms and amenities and a briefing room, an aircraft hardstanding and an access taxiway.

21. Hangars The large hangar for No. 3 Maintenance Depot is to have floor dimensions of 420 feet by 190 feet and will be able to accommodate up to five fixed/swing wing aircraft and a combination of five medium-lift/utility helicopters. The size of the building has been determined by assessment of servicing and overhaul commitments with an allowance for unscheduled demands such as modifications and crash repairs. A 3-storey annexe will accommodate pneudraulic, electrical, fuel systems, mechanical, structural repair and undercarriage workshobs, the Depot headquarters and administration, and a testing laboratory.

22. The two smaller hangars will provide squadron level inspection and maintenance facilities and administrative annexes.

23. Chilled Water System and Fuel Accessories Workshop It is proposed to modify the engine overhaul facilities of No. 3 Aircraft Depot to provide a special cooling system in the fuel accessories test rigs. The fuel accessories workshop is to be extended to improve environmental control, necessary for exacting engine testing and assembly.

24. Starter Test House Because the testing of engine starters is a noisy and potentially hazardous operation it is proposed to construct a new facility in the isolated engine test cell area.

25. Precision Measuring Equipment Laboratory This facility shares a building with the ground telecommunications equipment workshop.

It is to be relocated in a new building so that both functions can expand to meet increasing maintenance commitments.

26. Weapons Storage, Preparation and Loading Area The existing facility does not have the capacity for loading the numbers of aircraft and variety of weapons now in use. It is therefore proposed to improve the storage area, construct a weapons preparation and pre-loading area and extend the loading area.

27. Liquid Oxygen The Base has a temporary storage facility only for liquid oxygen. A manufacturing facility is now required with proper storage arrangements.

28. Compass Swinging Apron An apron and access taxiway is required to allow calibration of aircraft compass systems to be carried out as free as possible from magnetic influences.

29. Ammunition Building A building of laboratory standard is required in the explosives storage area for the inspection and packaging of explosives stores.

30. Central Store This building is to be extended to provide a 2-storey office section and a single storey receipt and dispatch area.

31. Standards It was noted that facilities to be provided will be in accordance with appropriate standards including the "Services Scales and Standards of Accommodation", where applicable.

32. The Committee's Conclusion The Committee are of the opinion that the facilities proposed are appropriate to the needs of the Base.

CONSTRUCTION

33. Structure An industrial type of construction will be used for hangars and similar buildings and will consist of steel framing with pre-finished metal cladding to walls and roofs. Floors will be of concrete. Adjoining annexes will be of reinforced concrete frame construction with concrete floors. To obtain large clear spans in hangars the roof construction will comprise a main longitudinal truss supported by one internal column and two end wall columns. Secondary trusses will be supported by the annexe walls and the main truss. Stability will be provided by transverse reinforced concrete shear walls and the annexe fire wall.

34. Other buildings will be of masonry construction with reinforced concrete floors and metal deck roofing. Where large spans are required steel framing will be used.

35. Building Compounds Compounds will be provided with hardstandings appropriate to vehicle axle loads. Each will be enclosed with a standard security type chain wire mesh fence.

36. Finishes and Fittings External finishes will be chosen to harmonise with existing permanent structures and to provide satisfactory service with a minimum of maintenance. Internal finishes and fittings will be similar to those in permanent buildings.

37. Mechanical Engineering Services Ducted air-conditioning systems will be installed in areas where there are technical requirements for environmental control such as certain workshops, clean rooms and flying suit storage rooms.

Areas which cannot be naturally ventilated because of noise attenuation measures will be provided with mechanical ventilation and/or ceiling fans. Other services to be provided are compressed air for workshops, laminar flow clean room equipment, a fixed vacuum cleaning installation, a process steam system, a chilled water cooling system, seed blast collecting equipment and other miscellaneous items including domestic hot water supply and hoisting facilities.

38. Electrical Services The central emergency power house will be extended and an additional automatic start generating set installed. A new intake sub-station will be established and electrical reticulation will be extended and modified for increased loads. Light and power and security lighting are included in the proposal. Fire alarm and control cabling systems are to be installed.

39. Fire Protection Buildings will be provided with automatic fire protection systems, portable fire extinguishers and small bore hoses. In areas of particular fire hazard containing vital or expensive equipment, automatic extinguishing systems will be installed.

40. The aircraft areas of hangars will be protected by automatic detector systems incorporating early warning devices. Automatic opening roof vents will be installed in hangars to allow heat and smoke to escape.

41. Hydraulic Services Water, sewerage and stormwater lines will be extended as required. Sewage will be piped to the existing treatment plant which has capacity for the increased load.

42. Roads and Pavements Roads, car parks and footpaths will be extended to give access to the new buildings. Aircraft aprons and taxiways will be constructed of bituminous surfaced pavement or concrete pavement as appropriate. Centre line lighting will be installed in aprons and taxiways. Other services to be provided on the aprons are edge lighting, fire hydrants, power outlets, earthing points and tie down points.

43. Landscaping Provision has been made in the designs and estimates for landscaping around buildings.

44. Noise Attenuation The building designs prepared by the Department of Works incorporate noise attenuation measures based on recommendations by the Commonwealth Acoustic Laboratories.

45. The Committee's Conclusion The Committee recommend the construction of the work in the reference.

#### PROGRAMME

46. It is proposed to call tenders for the work in two stages to conform with budgetary programmes and to enable the Department of Works to commit a substantial amount of work at an early date. After an approval to proceed is given the preparation of working drawings, tender documents and the invitation and acceptance of tenders for stage 1 is expected to take 7 months. Construction is expected to take 18 months from the time contracts are let.

47. For stage 2, with the exception of the 3 A.D. maintenance hangar, the times are 9 months and 15 months respectively and for the maintenance hangar, 18 months and 22 months respectively.

ESTIMATE OF COST

48. The estimated cost of the work when referred to the Committee was \$14.2 million as follows:

<u>Stage 1</u> - comprising the facilities for the medium-lift helicopter squadron, the starter test house and the chilled water facility.	
Building works (including internal engineering services)	\$ 1,554,000
Other engineering services	1,332,000
	<hr/> 2,886,000
 <u>Stage 2</u> - balance of work.	
Building works (including internal engineering services)	8,814,000
Other engineering services	2,500,000
	<hr/> 11,314,000
Total	<hr/> \$14,200,000

RECOMMENDATIONS AND CONCLUSIONS

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

	<u>Paragraph</u>
1. THERE IS A NEED TO PROVIDE SUPPORT FACILITIES FOR A HELICOPTER SQUADRON.	18
2. THERE IS A NEED TO PROVIDE NEW AND LARGER MAINTENANCE HANGARS.	18

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6. THE ESTIMATED COST OF THE WORK WHEN  
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\$14.2 MILLION. 48

  
(C.R. KELLY)  
Chairman.

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

14 September 1972.