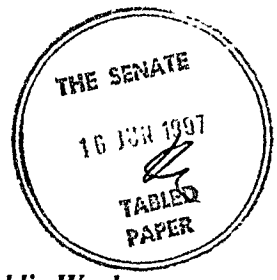
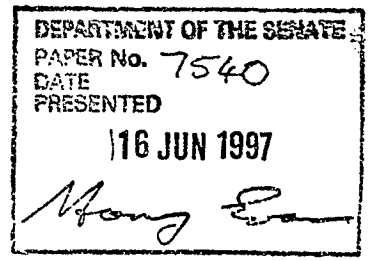


Parliamentary Standing Committee on Public Works

REPORT



relating to the proposed

DEVELOPMENT OF NO. 6 SQUADRON FACILITIES AT RAAF BASE AMBERLEY, QUEENSLAND

(Fifth Report of 1997)

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA
1997

The Parliament of the Commonwealth of Australia

Parliamentary Standing Committee on Public Works

Report relating

to the proposed

Development of No. 6 Squadron facilities at RAAF Base Amberley, QLD

(Fifth Report of 1997)

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Senator Alan Ferguson	Mr John Forrest MP
Senator Shayne Murphy	Mr Ted Grace MP
	Mr Michael Hatton MP*

* Replaced The Hon Michael Lee MP on 26 June 1996

Committee Secretary: Bjarne Nordin

Inquiry Secretary: Michael Fetter

Administrative Officer: Lynette Sebo

EXTRACT FROM THE VOTES AND PROCEEDINGS OF THE HOUSE OF REPRESENTATIVES

No. 37 dated 10 October 1996

PUBLIC WORKS — PARLIAMENTARY STANDING COMMITTEE — REFERENCE OF WORKS — DEVELOPMENT OF NO. 6 SQUADRON FACILITIES AT RAAF BASE AMBERLEY, QLD.

Mr Jull (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: Development of No. 6 Squadron facilities at RAAF Base Amberley, QLD.

Question-put and passed.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

Development of facilities for No 6 Squadron at RAAF Base Amberley, Queensland

On 10 October 1996, the House of Representatives referred to the Parliamentary Standing Committee on Public Works for consideration and report the proposed development of facilities for No 6 Squadron at RAAF Base Amberley, Queensland.

THE REFERENCE

1. The terms of the reference were as follows:

> The Department of Defence proposes to construct new facilities adjacent to the existing apron and hangars for the operation, servicing and maintenance of F-111 aircraft at RAAF Base Amberley. The proposal will provide an integrated facility for the various operational elements of No 6 Squadron, which include an operational reconnaissance and strike capability as well as aircrew conversion and training functions. The development proposal will provide office accommodation, mission briefing and training rooms, storage facilities and workshops as well as associated amenities for a unit strength of 180 personnel.

2. When referred to the Committee the estimated out-turn cost of the proposed work was $10.25 million.

THE COMMITTEE'S INVESTIGATION

3. The Committee received a written submission from the Department of Defence (Defence) and took evidence from Defence officials at a public hearing held at RAAF Base Amberley on 14 March 1997. The Committee also received written submissions from the Australian Heritage Commission and Environment Australia. Although the reference was received by the Committee in October 1996, the inspection and public hearing did not take place until March 1997 at the request of Defence.

4. Prior to the public hearing, the Committee inspected RAAF Base Amberley including facilities occupied by No 6 Squadron which are proposed for refurbishment or replacement with new facilities.

5. A list of witnesses who appeared at the public hearing is at APPENDIX A. The Committee's proceedings will be printed as Minutes of Evidence.

BACKGROUND

Location

6. RAAF Base Amberley is located on the western fringe of Ipswich and is 40 kilometres west of Brisbane. The Cunningham Highway runs close to the Base and provides the major road link. Secondary access to the Base from the western part of Ipswich is provided by the old Rosewood Road.

7. The Base occupies an area of approximately 1,660 hectares. Land has been acquired by Defence outside the Base boundaries as a buffer zone.

Role of RAAF Base Amberley

8. The Base is the home of the RAAF's Strike Reconnaissance Group and its supporting elements. It is also the home base for a variety of other Air Command, Logistics Command and Training Command units. Comprising one of the Defence Force's major airfields, the Base is manned by about 2,700 Service and civilian personnel.

Development of RAAF Base Amberley

9. The expansion of the RAAF in the late 1930s called for the development of a base in the Brisbane area. In response to this requirement, in 1938 Defence acquired a 330 hectare site located west of Ipswich for the development of RAAF Base Amberley. Construction of the initial facilities commenced shortly afterwards.

10. Amberley was named after a town in east Sussex, the birthplace of a pioneer farmer, James Edwin Collett. The Aboriginal name for the area was 'Jebropilly', meaning 'swampy place where flying squirrels are found'.

11. In 1940, Amberley commenced operations with the completion of a Station Headquarters and the arrival of No 24 Squadron. A flying training school and a recruit depot were also located there. It was not until 1942 that the Base assumed its principal support role with the formation of No 3 Aircraft Depot. This had the responsibility for the assembly and repair of a wide range of aircraft. During the Second World War, numerous operational units used Amberley for refitting and as a staging area before moving to forward bases and several United States Air Force squadrons were based there.

Post-War development

12. Shortly after the Second World War, No 82 (Bomber) Wing and a supporting Maintenance Squadron were transferred from Tocumwal (NSW). In 1948, when three squadrons were re-formed at Amberley with Lincoln aircraft, the operational role of the Base became firmly established. The Lincolns were replaced with Canberra aircraft in 1954. In the intervening years some of those squadrons saw extended service overseas. No 23 (City of Brisbane) Squadron was re-formed at Amberley as an auxiliary squadron during this period.

13. The main runway and parallel taxiway were reconstructed on a new alignment in the immediate post-war years.

F-111 Aircraft acquired

14. In 1964, the Government announced the acquisition of the F-111 aircraft for the RAAF. It was planned to re-equip the bomber squadrons at Amberley with the new aircraft in 1968. Problems requiring major modification of the aircraft arose and, as an interim measure, the RAAF leased Phantom aircraft from the United States Air Force. Phantom aircraft were operated by Nos 1 and 6 Squadrons until the F-111s became available in 1973.

Further major development

15. Major development of the Base took place between 1966 and 1969 to provide facilities for the introduction of the F-111 aircraft and to upgrade domestic accommodation. Those works involved the provision of new facilities as well as modifying many existing facilities dating from the Second World War. The main runway was extended between 1969 and 1971 to provide for greater safety for F-111 operations. These operational works were not referred to the Public Works Committee on the grounds of "national security".

16. Works related to the acquisition of F-111 aircraft did not extend to the replacement of many other needed facilities. In 1972, works to provide for additional hangars and technical support facilities involving a major maintenance hangar for No 3 Aircraft Depot, facilities for No 12 (Helicopter) Squadron, hangars to replace two wartime igloo hangars and various technical support facilities were considered by the Committee (*Committee's Twenty-fourth Report of 1972 - Development of RAAF Base Amberley - Parliamentary Paper 137/1972).* The works were completed by 1978. Only one of the two hangars to replace wooden igloos was constructed. This hangar is known as Hangar 373.

17. After 1978, further development of the Base occurred. Some of the more significant facilities which have been provided include:

- a Group Headquarters and Communications Centre;
- apron aircraft shelters for F-111 aircraft;
- additional aviation fuel storage;
- accommodation for 114 Mobile Control and Reporting Unit;
- accommodation for the RAAF Fire and Security School;
- re-alignment and development of base roads and provision of a base entry control facility;
- airfield surveillance radar installation;
- extension to the Central Warehouse (part of the Defence Logistics Redevelopment Project - Air Force Aspects); and
- Explosive Ordnance storage and preparation facilities.

Force Structure Review

18. The Force Structure Review, which was undertaken in the early 1990s, resulted in the renaming of and role changes to of a number of the major support elements located at Amberley. For example, the Base Squadron became No 301 Air Base Wing and No 3 Aircraft Depot became No 501 Wing. In addition, some logistics functions associated with weapons systems management were transferred from Headquarters Logistics Command to No 501 Wing and additional supply responsibilities were placed on No 301 Air Base Wing. The maintenance responsibilities of No 482 (Maintenance) Squadron were transferred between the two operational F-111 squadrons and No 501 Aircraft Maintenance Squadron.

Acquisition of additional F-111 aircraft

19. In 1994, additional F-111 aircraft were obtained from the United States Air Force. These aircraft were to supplement the existing F-111 fleet and for use as future replacement aircraft.

Units at RAAF Base Amberley

20. Units currently based at Amberley are as follows:

- Strike Reconnaissance Group;
- No 82 Wing;
- No 1 Squadron;
- No 6 Squadron;
- No 38 Squadron;
- No 301 Air Base Wing;
- Airfield Defence Wing;
- No 2 Airfield Defence Squadron;
- No 3 Airfield Defence Squadron (Ready Reserve);
- No 114 Mobile Control and Reporting Unit;
- No 23 (City of Brisbane) Squadron;
- No 501 Wing;
- No 501 Aircraft Maintenance Squadron;
- No 501 Avionics Maintenance and Management Squadron;
- No 501 Strike Reconnaissance Logistics Management Squadron;
- RAAF Security and Fire School; and
- Air Training Corps.

Defence policy

21. *The Defence of Australia* (1987) outlined the Government's Defence policy for Australia and became the basis of future Defence planning. The RAAF's F-111 were seen as providing the Australian Defence Force (ADF) with long range aircraft to strike sea and land targets with substantial immunity and for the reconnaissance version of the aircraft to provide all-weather long range reconnaissance in Australia's areas of interest.

22. *Defending Australia* (1994) ratified the need for F-111 aircraft to undertake specific reconnaissance tasks and a strategic strike capability with F-111 aircraft being able to strike specific targets with precision munitions at night and in adverse weather.

THE NEED

Future of RAAF Base Amberley

23. Defence believes there is an urgent need to provide improved working accommodation and technical facilities for No 6 Squadron. Before examining the basis of the need and the extent of the requirement, the Committee questioned Defence about the future role of RAAF Base Amberley. Given the multi-million dollar development of Defence facilities in the North of Australia (at RAAF Bases Tindal and Darwin and the Bare Bases at Curtin and Scherger), the Committee sought to establish if RAAF Base Amberley will remain the home base of the RAAF strike and reconnaissance force.

24. Defence advised the Committee that studies, which are still in their preliminary stage, indicate that Amberley will remain the major base of the strike and reconnaissance force into the next century, at least until the Life of Type (LOT) of the F-111 is achieved. Defence also advised that it is necessary for deeper levels of maintenance to be carried out in areas, such as Amberley, which are adjacent to major industrial centres. Amberley has the infrastructure and technical support required to enable this level of maintennace to be carried out. Defence did, however, indicate that it would be technically feasible to permanently base aircraft in the north, but this would incur a maintenance burden.

Future of Evans Head air weapons range

25. The air weapons range at Evans Head, about 180 kilometres south-east of Amberley, is used extensively by F-111 aircraft operating from Amberley. The Committee therefore questioned Defence about the long term future of the bombing range. Defence confirmed that the range is used by 82 Wing (flying F-111 aircraft) and 81 Wing (based at RAAF Base Williamtown, flying F/A 18 aircraft). When home-based at Amberley, F-111 aircraft use the range extensively. Live weapons are not dropped on the range. Instead, 25-pound iron bombs, with a phosphorous spotting charge in the nose, are used. Defence advised that this type of practice bombing creates no explosion and environmental damage. The range is subject to environmental controls and Defence is aware of problems which could be caused by noise and the location of flight paths. Defence advised the Committee that there are no plans to

relocate the range and that there have been no major complaints from local residents for the range to be closed.

Maintenance of F-111 aircraft

26. When the F-111 aircraft were introduced, the maintenance of squadron aircraft was to be performed centrally by No 482 Maintenance Squadron and aircraft would be provided to both No 1 and No 6 Squadrons to meet their operational flying programs. Squadron aircraft were located under aircraft shelters on the flight line.

27. In 1982, the Chief of the Air Staff directed that both Nos 1 and 6 Squadrons be given their own operational level maintenance capability to provide greater independence and flexibility in directing their operational activities. Personnel were detached from No 482 Maintenance Squadron for that purpose, but No 482 Maintenance Squadron continued to perform intermediate maintenance functions for No 82 Wing. Depot level maintenance activities were performed by No 3 Aircraft Depot. No 482 Maintenance Squadron continued to occupy the maintenance hangar built as part of the initial F-111 works (Hangar 363) and Nos 1 and 6 Squadrons occupied a newer hangar built in 1976 (Hangar 373) and utilised part of the No 482 Maintenance Squadron hangar.

28. Technical and equipment support facilities for No 6 Squadron were initially provided in a variety of transportable huts and in the temporary facilities built by No 5 Airfield Construction Squadron for its operations whilst at Amberley.

29. These arrangements continued until the early 1990s when No 482 Squadron was disbanded. At that time, No 6 Squadron obtained permanent use of some technical facilities within Hangar 363 and in the Annex adjacent to Hangar 373. Other redundant facilities formerly occupied by No 482 Maintenance Squadron were taken over by No 1 Squadron, including the major annexes within Hangar 363 which are used for operational maintenance and support functions.

30. Defence advised the Committee that facilities used by No 1 Squadron are adequate. No 6 Squadron continues to occupy derelict former Airfield Construction Squadron facilities to the north of Hangar 373.

F-111 - Life of Type resolved

31. The need for adequate and appropriate facilities for No 6 Squadron has been foreseen for many years. Their provision was delayed due to uncertainties about the LOT of the F-111 aircraft and competing priorities within Defence for facilities funding.

32. The decision, taken in 1990, to proceed with the avionics update of the aircraft and the procurement of additional F-111 aircraft in 1993, determined that the F-111s would remain a viable force into the next century. More recently, Defence studies have confirmed that the aircraft are likely to be able to be sustained in service for the next 15 to 20 years.

Existing deficiencies

33. F-111 aircraft are allocated to the two squadrons (Nos 1 and 6) under the control of No 82 Wing. No 6 Squadron is responsible for:

- aircrew conversion training; and
- the provision of an operational strike and reconnaissance capability.

34. To perform these roles, No 6 squadron has two separate operational flights (training and operations) as well as an aircraft maintenance flight to service and maintain squadron aircraft.

35. Elements of No 6 Squadron are geographically isolated, creating command and control difficulties. For example, the Squadron Headquarters is 600 metres from its technical facilities. Furthermore, current facilities are mostly old and lack adequate soundproofing, environmental control and space. Examples of specific deficiencies are outlined below:

- The flight line office is near the F-111 aircraft flight line and noise levels within the building exceed recommended standards. The flight line and maintenance control offices need to be close to the flight line and noise problems reflect the inappropriateness of the form of construction adopted. Noise intrusion is also a problem within the temporary buildings and huts north of the maintenance hangar. Hearing protection needs to be worn by occupants of the building when adjacent aircraft are under power. This was very evident during the Committee's inspection of the facilities;

- Workshop structures and demountable buildings are in poor condition and leak in wet weather. Some problems have been overcome by placing transportable structures in a hangar built from scrap pieces by No 5 Airfield Construction Squadron in 1967. Defence believes these temporary measures cannot be considered as being satisfactory and, certainly, the facilities being used do not meet contemporary standards for the functions they serve;
- The ground support equipment workshop, another temporary structure constructed by No 5 Airfield Construction Squadron as a construction plant workshop, is not fully enclosed. This presents difficulties in wet weather. This building is also used for storage of F-111 external fuel tanks and weapons pylons. Defence believes these are far from ideal conditions in which to store relatively large and vital aircraft components;
- Training activities are conducted in Building 656, which is an old brick clad agglomeration of timber huts put together in 1962. Defence believes these facilities are unsatisfactory because insulation and climate control are inadequate and noise intrusion is a problem. They lack suitable areas for projection and video equipment, areas where lectures can be prepared and sufficient storage space for lecture materials and publications. Also, students have no study areas and access to computers outside lecture rooms. Moreover, some training tasks are constrained because of these inadequate facilities; and
- The structure and functional layout of the existing Headquarters building makes it difficult to achieve full security screening of sensitive areas.

Effects on morale

36. The Committee asked Defence if the inadequate facilities and their dispersed locations had impacted on the morale of Squadron personnel. Defence advised that better cohesion resulted when elements of No 1 Squadron were relocated to Hangar 363 some years ago. Defence believes the collocation of aircrew, maintenance and administrative elements will provide greater efficiency. Other significant benefits which would result from the provision of collocated new and refurbished facilities will be a general improvement in occupational health and safety and a reduction of aircraft noise on the working

environment. Defence therefore believes that collocation and improved working conditions will improve significantly the morale amongst squadron personnel.

Aircraft Hangars

37. Defence considers the hangar areas to be satisfactory. Six hangar spaces are required for No 1 and No 6 Squadrons to undertake aircraft maintenance This can be provided within Hangars 363 and 373. However, Hangar 373 is presently being used in part for the storage of attrition/rotation aircraft and alternative storage will need to be provided. Two Bellman hangars have been identified for this purpose. Some structural upgrading, the provision of additional power outlets and fire detection services and external pavement strengthening is needed to make the Bellman hangars suitable for the storage of aircraft. For Hangar 373, minor engineering service works will be required, together with replacement cladding to make them suitable for aircraft maintenance.

What is required

38. Defence believes there is a requirement to provide new purpose built facilities to satisfy No 6 Squadron's existing command, administrative, technical and training functions. The broad functional requirements include:

- command and control;
- administrative support;
- aircrew and operational training;
- operations;
- operational maintenance support of F-111 aircraft and associated Ground Support Equipment and weapons; and
- storage of operational aircraft spares, ancillary equipments and deployment kits.

New accommodation requirements

39. Defence assessed new accommodation requirements for No 6 Squadron as follows:

FUNCTION	REQUIREMENT (m2)
Squadron Headquarters and Administration	430
Training Flight	600
Operations Flight	170
Maintenance Flight	
Flight Line/Maintenance Control	340
Ground Support Equipment	800
Aircraft Life Support Equipment	140
Aircraft Maintenance Section (including Aircraft Metal Workshop, but excluding the existing Hangar)	330
Avionics and Weapons Section	440
Equipment Section	1000
General Amenities	350

40. In addition, storage for six F-111 attrition/rotation aircraft is required.

Alternatives considered

41. To satisfy these requirements, Defence considered three alternatives. These were:

- Alternative 1 - Utilising Hangar 373 for aircraft maintenance, provision of new administrative, training, technical and support facilities in adjacent buildings and utilising two existing Bellman hangars for aircraft storage.
- Alternative 2 - Construction of all new facilities for No 6 Squadron north of Hangar 373, including a maintenance hangar and utilising Hangar 373 solely for aircraft storage.
- Alternative 3 - Construction of new support facilities for No 6 Squadron around Hangar 373, sharing Hangar 363 with No 1 Squadron for aircraft maintenance and using Hangar 373 for aircraft storage.

42. Defence indicated that Alternative 1 is preferred. In Alternatives 1 and 3, the existing structures to the east of Hangar 373 would be demolished to allow the construction of new facilities with direct functional relationships to tasks to be performed within the hangar. Some of those structures are inadequate for existing uses.

43. The two Bellman hangars to be used for aircraft storage are Hangars 255 and 260. These are currently being used by the Airfield Defence Squadron but will become available when that unit moves into facilities to be vacated by No 114 Mobile Control and Reporting Unit, which is to be relocated to Darwin.

44. Alternative 3 was discounted because it would not provide the required number of aircraft servicing positions.

45. Alternative 2 would require the construction of a major new hangar and this would be more costly than the alternative of modifying two existing Bellman hangars to be used for aircraft storage.

Committee's Conclusions

46. No 6 Squadron is responsible for F-111 aircrew conversion training and the provision of an operational strike and reconnaissance capability. The Life of Type of F-111 aircraft will expire in 15-20 years. Both the aircraft and squadron personnel represent a substantial equipment and training investment.

47. Facilities at RAAF Base Amberley occupied by No 6 Squadron are inadequate due to their dispersed locations, age and condition.

48. There is a need to provide new purpose built facilities for No 6 Squadron's existing command, administrative, technical and training functions at RAAF Base Amberley.

THE PROPOSAL

Scope

49. The proposed facilities will be at two locations. The new No 6 Squadron facilities will be in hangar annexes and new buildings contiguous to Hangar 373 and the storage of F-111 attrition or rotation aircraft will be in two existing Bellman Hangars.

Squadron Headquarters

50. The Headquarters administers and controls the activities of an F-111 Squadron equipped with 12 aircraft and comprising 180 personnel. The Squadron aircraft fly about 2,500 hours per year. The proposed Squadron Headquarters will incorporate:

- Commanding Officer's office;
- Executive Officer's office;
- Operations Room;
- Administration Officer's office;
- Senior Engineering Officer's office,
- Orderly Room;
- Main Briefing room; and
- Staff Amenities

51. The accommodation will provide for the following functions and activities:

- command and control of the squadron,
- squadron administration;
- control and monitoring of operations;
- personnel and operational briefing; and
- conferencing.

Training Flight

52. The Training Flight converts 12 aircrew personnel to F-111 operations in two continuous six-month courses each year. Additionally, Training Flight provides F-111 refresher training to relevant Active and Reserve aircrew on a continual basis throughout the year.

53. The proposed Training Flight facilities will incorporate:

- Training Flight Commander's office;

- Mission Briefing room;
- 'Refresher' Aircrew Study room;
- Aircrew Crew room;
- Instructor offices;
- Conversion Course Lecture room;
- Mission Preparation room;
- Conversion Course Student Study room;
- Computer/Photocopy room;
- Map Storage Area;
- Training Aid Preparation Area and Storage room; and
- Image Analyst's Office.

54. The following functions and activities will be accommodated:

- direction, control, and administration of F-111 aircrew training;
- F-111 aircrew conversion and refresher training;
- ongoing F-111 aircrew training;
- staff and student support; and
- storage of maps, training aids and office and training requisites.

55. Some of the support accommodation will be shared with the Operational Flight of the Squadron.

Operations Flight

56. The Operations Flight consists of 10 aircrew who operate the F-111G in an operational role throughout the year. The proposed Operations Flight facilities will incorporate:

- Flight Commander's office;
- Qualified Flying Instructor (QFI) office;

- Intelligence Officer's office;
- Aircrew work and planning area;
- Conversion Course Lecture room,
- Flight Briefing, Debriefing areas;
- Training Aid and Documentation Storage room; and
- Image Analyst's Office.

57. The following functions and activities will be accommodated:

- direction, control and administration of flying operations conducted by the operational flight (equipped with F-111G aircraft);
- aircrew conversion courses from other F-111 types to F-111G aircraft;
- aircrew support; and
- storage of training aids and office requisites.

Aircraft Maintenance Section

58. About 50 personnel are employed on operational maintenance duties for aircraft and aircraft components. The Squadron performs routine maintenance and servicing of three to four aircraft on a daily basis and performs about 45 higher level maintenance programs which involve more than 250 man days per year.

59. The proposed Aircraft Maintenance Section facilities will incorporate:

- Aircraft Maintenance Officer's office;
- an office for the Senior Non-Commissioned Officers in charge of the Section;
- office areas for other Section Senior Non-Commissioned Officers;
- Aircraft Component workshop;
- Aircraft Metal workshop; and

- Aircraft Hangar area.

60. The facilities will provide for:

- scheduled and unscheduled operational maintenance of airframes and engines;
- minor repairs to aircraft panels;
- touch-up painting of aircraft components and ancillary equipment; and
- repairs to metal component of ancillary equipment.

Flight Line and Maintenance Control

61. Flight Line personnel perform flight line servicing and ensure that aircraft are ready for required missions. Maintenance Control and Maintenance Co-ordination elements ensure that scheduled and unscheduled maintenance is performed and recorded as required. An average of 20 flying missions are performed each week.

62. The proposed Flight Line and Maintenance Control facilities will incorporate:

- Warrant Officer Engineer's (WOE) office;
- Maintenance Support Officer's (MSO) office;
- Maintenance Control Section working area;
- Technical Publication Library;
- Post-Flight Debriefing room;
- Flight Line and Maintenance Desk area;
- Records Storage room; and
- Flight Line Personnel amenities.

63. The following functions and activities will be accommodated:

- flight line control;
- management of aircraft maintenance;

- control of aircraft documentation;
- control of technical publications; and
- pre and post-flight briefing of aircrew on aircraft technical performance.

Ground Support Equipment

64. The Ground Support Equipment mechanics perform annually 150 to 200 maintenance tasks of 2 to 3 days duration over some 12 different types of Ground Support Equipment. The proposed Ground Support Equipment facilities will incorporate:

- Ground Support Equipment workshop;
- office for Ground Support Equipment personnel; and
- Ground Support Equipment storage area.

65. The following functions and activities will be accommodated:

- control, servicing and repair of Ground Support Equipment; and
- storage of Ground Support Equipment.

Aircraft Life Support Equipment

66. Three specialist personnel provide maintenance support of all aircraft life support equipment as well as maintaining flying clothing and helmets for all Squadron and trainee aircrew. Maintenance of Life Support Equipment involves testing aircrew oxygen systems and packaging of aircrew survival equipment. The proposed Aircraft Life Support Equipment facilities will incorporate:

- Life Support Equipment workshop;
- Laundry;
- Flying Clothing Store; and
- Section Head's office area.

67. The following functions and activities will be accommodated:

- control and issue of Life Support Equipment and Flying Clothing; and
- maintenance, cleaning, testing and storage of Life Support Equipment and aircrew Flying Clothing.

Avionics and Weapons Section

68. About 60 personnel are employed on maintenance duties for aircraft avionics and avionics component maintenance and their duties include maintenance and preparation of aircraft weapons and external stores. The Section performs an average 200 maintenance and inspection tasks per week. The proposed Avionics and Weapons Section facilities will incorporate:

- Avionics Maintenance Officer's office;
- an office for the Senior Non-Commissioned Officers in charge of Avionics;
- office areas for other Avionics Senior Non-Commissioned Officers;
- Avionics workshop,
- Avionics Ground Support Equipment store;
- Oxygen Systems workshop,
- an office for the Senior Non-Commissioned Officer in charge of Weapons Specialist;
- Weapons Specialist workshop; and
- Pylons storage.

69. The following functions and activities will be accommodated:

- control, inspection, maintenance, and minor repair to electronic, electrical and electro-mechanical aircraft and ancillary equipment systems;
- control, inspection, maintenance, and minor repair to aircraft oxygen systems;

- control, inspection, maintenance and minor repair to aircraft weapons systems;
- storage of avionics Ground Support Equipment; and
- storage of aircraft weapons pylons and ancillary equipment.

Equipment Section

70. The Supply Section orders and supplies aircraft maintenance spares and handles repairable components. It also provides tools and consumable and general stores for the Squadron. About 150 to 200 transactions are processed per week. The proposed Equipment Section facilities will incorporate:

- Supply Officer's office;
- an office for the Senior Non-commissioned Officers in charge of the Section;
- Equipment Section office;
- Fly-away Kit (FAK) storage and preparation area;
- Consumable Store;
- Aircraft External Fuel Tanks and Aircraft Parts storage;
- Packaging Materials storage;
- Miscellaneous Items store; and
- Flammable Liquid store.

71. The following functions and activities will be accommodated:

- control and management of stores;
- storage and issue of accountable and consumable stores, including flammable goods;
- storage and preparation of FAKs, delivery and dispatch of equipment;
- storage of packing materials; and
- storage of ancillary fuel tanks.

General Amenities

72. The amenities cater for the total Squadron complement of 180 personnel. The proposed General Amenities will incorporate:

- lunch room;
- ablutions and toilets; and
- change and locker rooms.

73. The proposed facilities will provide for general staff amenities, including facilities in which staff can change into working or physical fitness clothing, shower and consume meals and refreshments. The lunch room will also be used for Squadron briefings. Rest facilities are used by duty personnel, often working outside normal hours.

Aircraft Storage

74. The proposed aircraft storage facilities will utilise two existing Bellman Hangars, each being capable of storing three F-111 aircraft with their wings folded.

75. Storage is required for spare aircraft being kept for the possible replacement or supplementation of the existing F-111 fleet.

76. Some minor de-commissioning and maintenance procedures will be undertaken on the aircraft necessitating the provision of additional power outlets for power tools and lighting.

Replacement Aircraft

77. The proposed facilities are designed to accommodate F-111 aircraft whose LOT will expire by 2015-20. The Committee asked Defence if the dimensions of the facilities proposed could accommodate F-111 replacement aircraft. Defence believes an F-111 replacement will be no larger than the F-111.

Benefits derived from the proposed works

78. Defence believes the proposed development will result in:

- communication and management being improved by collocating the Squadron's activities;

- aircraft maintenance being facilitated by the provision of an improved working environment both in terms of the standard of facilities and the location of associated workshops;
- training tasks being facilitated by the provision of sufficient facilities of an appropriate standard and design;
- ancillary stores being less likely to deteriorate with the provision of appropriate storage facilities. Accessibility to those ancillary stores will also be improved;
- the provision of adequate and safe storage of the attrition/rotation aircraft which will make Hangar 373 available for aircraft maintenance activities, the purpose for which it was originally built;
- morale of personnel being improved by the provision of working accommodation to contemporary standards; and
- reduced Occupational Health and Safety problems, especially those related to working in noisy environments.

Committee's Conclusion

79. The extent of the proposed scope of the works can be justifed as being consistent with the functional requirements for squadron facilities.

CONSTRUCTION DETAILS

Extensions to Hangar 373

80. The eastern annex is to be single storied and the western annex double storied but with a single story support area extension.

81. The main annex structures will be steel framed, masonry clad on a stiffened concrete floor with high level footings and will abut the existing hangar. The single-storied extended portion of the western annex will be of similar construction but will be steel rather than masonry clad. The design of foundations and floor slabs will take account of the highly expansive soils at Amberley.

82. Movement joints will be incorporated within the building structures. The intermediate floor on the double storey annex will be of suspended concrete construction. Common walls between the hangar and the annexes will be designed to achieve a two hour fire rating. Metal clad roofs will be provided.

Office areas

83. Office areas will be carpeted, with steel framed stud-wall partitions, airconditioned to comfort levels and with acoustic treatment to ceilings and windows.

Workshops

84. Workshops will incorporate concrete floors, vinyl clad in specific instances, with airconditioning of internal areas, as well as exhausting from specified areas. Other workshops will be mechanically ventilated. Special airconditioning features will be incorporated for the Aircraft Life Support Workshop, where temperature and humidity are required to be controlled to specified tolerances and where solvents and adhesives are used. The Avionics Workshop and the Oxygen Workshop will incorporate anti-static features on floors.

Storage and amenities

85. Storage areas will be provided with mechanical ventilation but the Flying Clothing Store will be airconditioned to reduce equipment deterioration. Floors will be either slip resistant concrete or vinyl, depending on the nature of the equipment to be stored.

86. The lunch room will be airconditioned to comfort levels with additional exhausting in the food preparation area. Floors will be vinyl clad and walls will be painted plasterboard.

Noise attenuation

87. Enclosed working areas will be designed to achieve noise attenuation to 60 dBA, where practical.

88. Window glazing will address the issues of thermal efficiency, acoustics and the control of natural lighting. They will be double glazed, screened for sun protection and the glass will be tinted.

Airconditioning

89. The design of airconditioning systems will take into account heat loads generated by equipment to be contained within the work areas. All airconditioning and mechanical ventilation systems will be designed with energy saving features including variable air flow, external air intake under

appropriate temperature conditions and a total building management operating system for optimum plant control.

Electrical

90. Electrical supplies will be drawn from the Base electrical ring main. Consideration will be given to upgrading the existing substation if appropriate. Otherwise, a new 750 kVa external high voltage substation will be provided to service the facilities. The main switchboard will be separately housed and segregated and will incorporate surge protection on the incoming supply. Load shedding devices will be installed to disconnect non-essential loads under emergency conditions to ensure that critical work areas are provided with electrical power from the Central Emergency Power Station. Frequency converters with distribution boards will be provided to supply 60 Hertz and 400 Hertz power to specialist workshop areas requiring those power types (such as the Avionics Workshop).

Communications and security

91. Voice and data communications will be linked to the Base communications network.

92. Security and fire detection will be incorporated into the Base security and fire alarm systems and monitored at the Base Fire Station and the Main Entry Control Guard House.

Hydraulics

93. Water and sewerage connections will be made to the existing Base systems.

Landscaping

94. Landscaping work will be limited to new plantings in the Service Access Court and the western annex entry area.

Carparking

95. Car parking facilities for about 20 cars is proposed at the western annex. In addition, a loading dock capable of accommodating large trucks will be provided adjacent to the Equipment Store. The sealing of an existing gravel carpark to provide 34 carparks for No 6 Squadron personnel is also proposed.

Refurbishment of two Bellman Hangars (Hangars 255 and 260)

96. The proposed refurbishment of the two Bellman Hangars will incorporate the works described below:

- provision of fire detection sensors connected to the Base fire alarm system and monitored at the Base Fire Station;
- provision of additional 240 volt power outlets along the sides of each hangar;
- existing transportable structures will be removed from within the hangars;
- strengthening of external aircraft access pavements with a bituminous concrete overlay;
- modification of the existing door openings to provide a central tail gate hatch to facilitate aircraft access into the hangars; and
- structural upgrading.

Engineering Services, Demolition and Site Works

97. The proposed works require the demolition of several existing temporary and sub-standard structures around Hangar 373. These include the existing No 6 Squadron Flight Line facilities and the ex-No 5 Airfield Construction Squadron facilities to the north of Hangar 373. Engineering services already exist in the area and these will be used for the proposed new facilities, although some services require extension or relocation. The site is essentially level and only minimal site works will be required.

Disruption to Squadron Operations during construction

98. The Committee questioned Defence about the level of disruption from construction works and the means by which it will be minimised. Defence affirmed the need for No 6 Squadron to operate during construction. This will require the provision of temporary facilities for staff currently occupying the flight line building to make the site suitable for new construction. To enable Hangar 373 to be available for the construction of the annexes, it will be necessary to relocate stored aircraft. For this reason, Defence proposes to commence the work on the Bellman hangars first.

MASTER PLANNING AND DESIGN

Master Planning

99. Defence has recognised the need to undertake significant redevelopment of the Base for some time. Indeed, it was submitted by Defence that despite the development of the Base which has taken place over the past 30 years, a large proportion of Base facilities is over 50 years old. Facilities which were provided more recently were undertaken at short notice. The Committee, having undertaken an extensive inspection of working facilities on the Base, agrees with Defence that these facilities can best be described as "expedient forms of construction". Defence has recognised that the replacement of the facilities will be required in future if the functions which they support remain.

100. Factors which have affected the timing of the redevelopment of Amberley include the drain on available funds from higher priority Defence facilities projects involving the development of Australia's northern Defence infrastructure. The proposal under consideration in this report is a precursor to the much larger scale redevelopment proposal which Defence believes will be referred to the Committee later this year. The proposal, estimated to cost $55.5 million, is planned for inclusion in Defence's 1998/99 Capital Facilities Program.

101. Planning of the redevelopment proposal has been preceded by the development of a Master Plan for the long term development of the Base. This aims to accommodate current capabilities and future new capabilities to a 25-year planning horizon. The Master Plan identifies functional zones and aims to ensure compatibility within and between these functional zones. The siting of the proposed facilities in this reference is in accordance with the Master Plan.

Design standards

102. Where appropriate, the design of new facilities will conform to the relevant sections of:

- the Building Code of Australia;
- relevant current Australian Standards and Codes;
- the Defence Fire Protection Engineering Manual (FACMAN 2);
- the Defence Security Manual (SECMAN);
- Environmental Protection Act and Regulations;

- Workplace Health and Safety Act and Regulations; and
- Queensland Sewerage and Water Act.

Basis of design

103. The basis of the design includes the following features:

- the provision of austere, cost effective and utilitarian facilities of energy efficient design suitable for the rigours of the climate and of a style compatible with surrounding facilities;
- adoption, where possible, of conventional construction techniques and materials, in particular those commonly used by the construction industry in the area;
- utilisation of durable materials that combine long life with minimum maintenance;
- recognition of limitations of land availability, security requirements, functional relationship to existing facilities and operational determinants; and
- careful consideration of the impact of aircraft and vehicle noise on the working environment within facilities and the occupational health and safety of occupants.

Fire protection

104. The following principles were adopted for the design of the fire protection systems:

- all construction and fire protection requirements will, as a minimum, be in accordance with the provisions of the Building Code of Australia (BCA), the Defence Manual of Fire Protection Engineering (FACMAN 2) and all other applicable Codes and Standards. FACMAN 2 details Defence fire protection policy for asset and building function protection. The levels of fire protection specified are above BCA requirements and have been determined by a risk assessment and risk management approach to fire protection;
- Defence will require certification from a suitably qualified certifier, that the design and construction meet the requirements

of the BCA, FACMAN 2, relevant Codes and Standards and any additional State, Local Government and Defence requirements;

- the Queensland Fire Brigade will be invited to comment on the project, visit the site and ensure that the Brigade's operational requirements are met;
- any recommended departures from BCA requirements in relation to the project will be technically assessed by Defence specialist fire protection staff. Agreed departures (ensuring an equivalent or higher level of protection than BCA requirements) will require written approval at Director General level; and
- successful tenderers will be required to produce a Quality Assurance Plan to clearly show how BCA, Australian Standards and any additional Defence requirements in relation to fire protection/fire safety, will be met and the required standards for construction/installation maintained.

Energy management and lighting

105. The design of all power supply, electrical and mechanical equipment will include an assessment of energy use applying life cycle costing techniques and power demand analysis. Facilities will incorporate building management systems, metering and other provisions to measure and monitor energy use and to allow regular energy audits.

106. To reduce energy consumption, where possible, lighting is to be controlled by photo electric switches in conjunction with time-switch schedules. This is to include provision of personnel sensor controlled lighting to amenities and other intermittently occupied areas. Lamps are to be high efficiency fluorescent, compact fluorescent or discharge type. External lighting is to be designed to minimise glare and colour distortion. Solar hot water systems are to be used where practical and cost effective. Consideration will be given to the control and/or monitoring of building services from the existing Base energy management system.

Precautions against Legionella

107. As air cooled airconditioning systems are proposed, no specific precautions against legionella are considered necessary. Potable water will be below the temperature range where Legionella can breed to levels affecting health.

Committee's Conclusions

108. Design features to be adopted are consistent with functional requirements and recognise the need to comply with relevant standards and codes.

109. The scope of the proposed works capitalises on the adaptive re-use of existing hangars.

110. A Master Plan has been developed for the future development of RAAF Base Amberley with which the proposed works are consistent.

111. Careful phasing of the works will minimise disruption to the continued operation of No 6 Squadron during construction.

ENVIRONMENT AND HERITAGE

112. An Environmental Certificate of Compliance was issued by the Department of Defence in September 1996.

113. Defence advised that there are no direct environmental implications resulting from the provision of the proposed facilities. The Committee asked Defence to identify possible impacts and to describe the measures to be adopted in reducing, if not eliminating, their impact. Defence advised that a review of environmental issues had been undertaken as part of the development of the Master Plan. Aircraft apron areas have fuel interceptor pits which, in the event of a fuel spill, will trap any runoff containing hydrocarbons before it enters stormwater drains.

Aircraft Noise

114. The flying activities of No 6 Squadron will remain substantially the same and therefore no increase in aircraft noise is envisaged.

115. Defence has recently completed an Australian Noise Exposure Forecast (ANEF) for airborne noise based on predictions of aircraft operations in 2006. This ANEF has been based on military and civil operations, including deployed military aircraft activities. Defence believes the forecasts represent a realistic planning base for the airfield. The plan is being widely circulated and has been made available to the Ipswich City Council. The aircraft noise contours represent the maximum noise exposure that avoids the critical 25 ANEF contour protruding into adjacent residential areas. Defence advised that the plan has not varied to any significant extent from the one produced earlier and which had been made available to the Ipswich City Council and the previous Moreton

Shire Council. The limitations upon development from aspects of aircraft noise were recognised by both Councils and incorporated into their strategic development plans.

116. At the public hearing, Defence advised the Committee that any surrounding development will continue to be in accordance with local government zonings which are in alignment with the 2006 ANEF contours.

Heritage Implications

117. Defence advised that no heritage implications are evident in relation to the works in this reference.

CONSULTATION

118. The following Authorities have been advised or will be consulted during the planning stages:

- Federal and State Government Representatives for the area,
- Ipswich City Council, and
- Queensland Fire Brigade.

CONSTRUCTION WORKFORCE

119. Over the envisaged construction period of about eight months, an average of about 30 personnel will be directly employed on construction activities. In addition, it is anticipated that construction will generate further job opportunities off-site from the prefabrication of components and the manufacture and distribution of materials. The calling of tenders for the work will be advertised nationally and locally.

TIMING

120. Subject to Parliamentary approval, tenders will be called in mid 1997, with the objective of having construction completed by March 1998.

COST

Out-turn

121. The out-turn cost of this project is $10.25 million. This includes construction costs, professional fees and charges, furniture and fittings,

construction contingency and a predicted indexation adjustment over the construction period.

Contingencies

122. The Committee questioned Defence about the relatively significant proportion of the project cost allocated to contingencies. Defence stated that the funds allocated for contingencies are appropriate to a project of the magnitude and complexity proposed. Factors which may require contingency funds to be called upon are latent conditions and tender variations.

Committee's Recommendation

123. On the basis of evidence received, the Committee recommends the development of facilities for No 6 Squadron at RAAF Base Amberley at an estimated out-turn cost of $10.25 million.

CONCLUSIONS AND RECOMMENDATIONS

124. The Committee's conclusions and recommendations and the paragraphs in the report in which there occur are set out below:

1. No 6 Squadron is responsible for F-111 aircrew conversion training and the provision of an operational strike and reconnaissance capability. (Paragraph 46)

2. The Life of Type of F-111 aircraft will expire in 15-20 years. (Paragraph 46).

3. Both the aircraft and squadron personnel represent a substantial equipment and training investment (Paragraph 46)

4. Facilities at RAAF Base Amberley occupied by No 6 Squadron are inadequate due to their dispersed locations, age and condition. (Paragraph 47).

5. There is a need to provide new purpose built facilities for No 6 Squadron's existing command, administrative, technical and training functions at RAAF Base Amberley. (Paragraph 48)

6. The extent of the proposed scope of the works can be justifed as being consistent with the functional requirements for squadron facilities. (Paragraph 79)

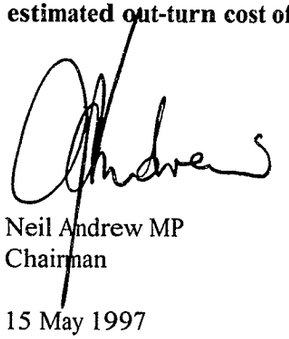
7. Design features to be adopted are consistent with functional requirements and recognise the need to comply with relevant standards and codes. (Paragraph 108)

8. The scope of the proposed works capitalises on the adaptive reuse of existing hangars. (Paragraph 109)

9. A Master Plan has been developed for the future development of RAAF Base Amberley with which the proposed works are consistent. (Paragraph 110)

10. Careful phasing of the works will minimise disruption to the continued operation of No 6 Squadron during construction. (Paragraph 111)

11. On the basis of evidence received, the Committee recommends the development of facilities for No 6 Squadron at RAAF Base Amberley at an estimated out-turn cost of $10.25 million. (Paragraph 123)



Neil Andrew MP
Chairman

15 May 1997

APPENDIX A

WITNESSES

BICEVSKIS, Mr Peter Andrei, Director, James Cubitt Architects Pty Ltd, 123 Charlotte Street, Brisbane, Queensland, 4000

HAMWOOD, Group Captain Jonathan Scott, Officer Commanding No. 301 Air Base Wing, RAAF Base Amberley, Queensland, 4306

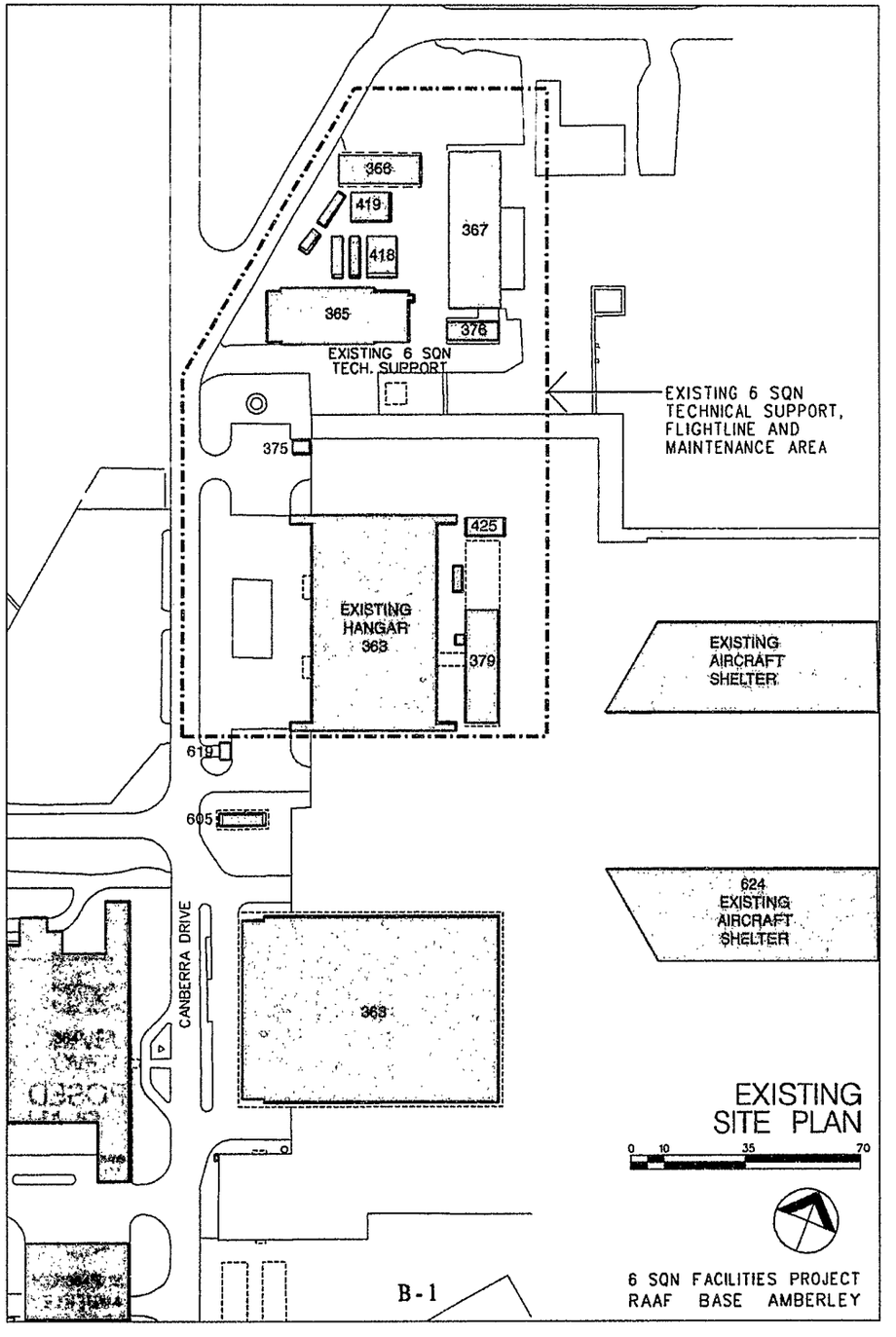
LANE, Group Captain Brian John, Director of Facilities Planning and Engineering, Department of Defence, CP3-3-16, Campbell Park Offices, Australian Capital Territory, 2600

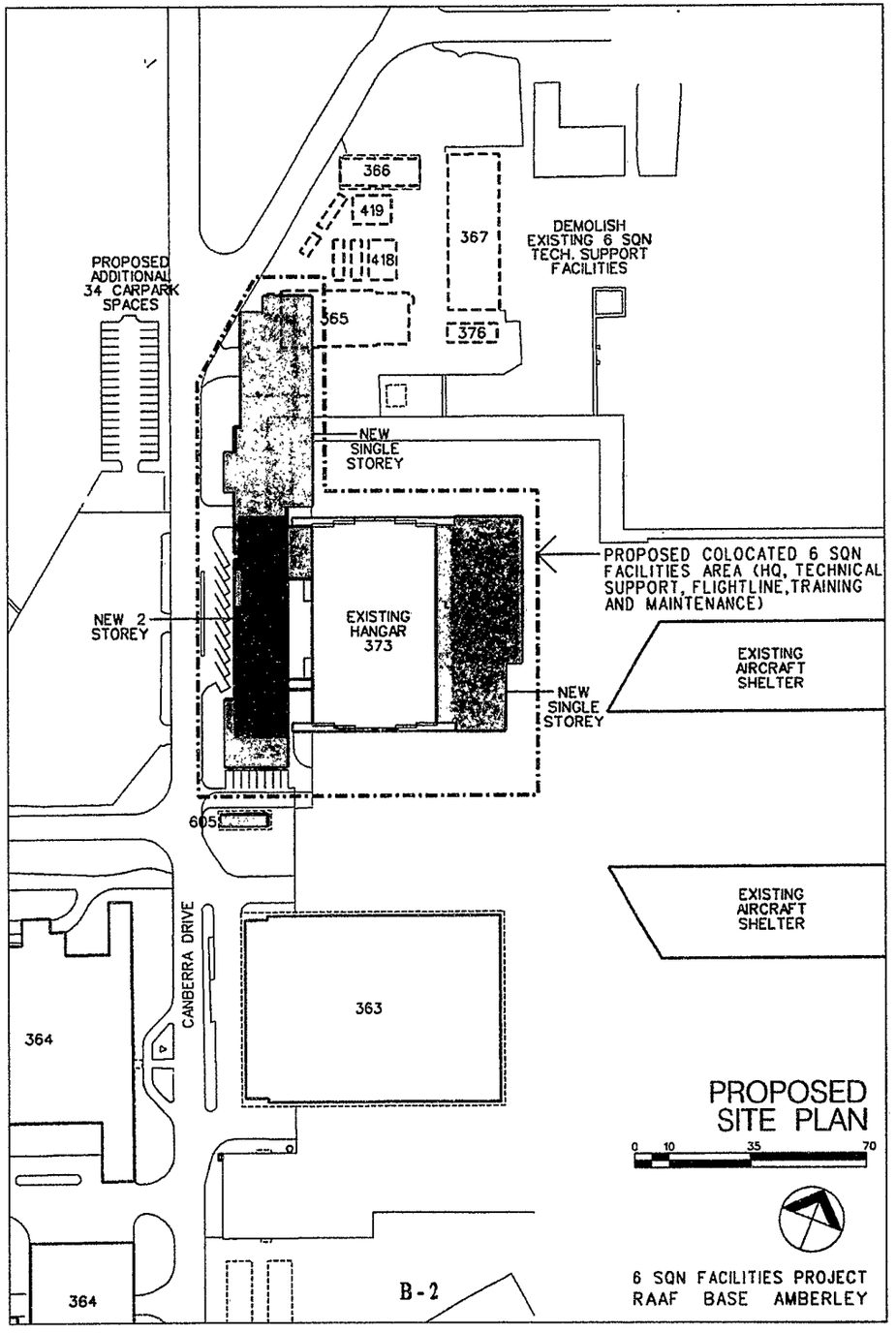
SHEPHERD, Group Captain Geoffrey David, Officer Commanding No. 82 Wing, Department of Defence, 82WG Headquarters, RAAF Base Amberley, Queensland, 4306

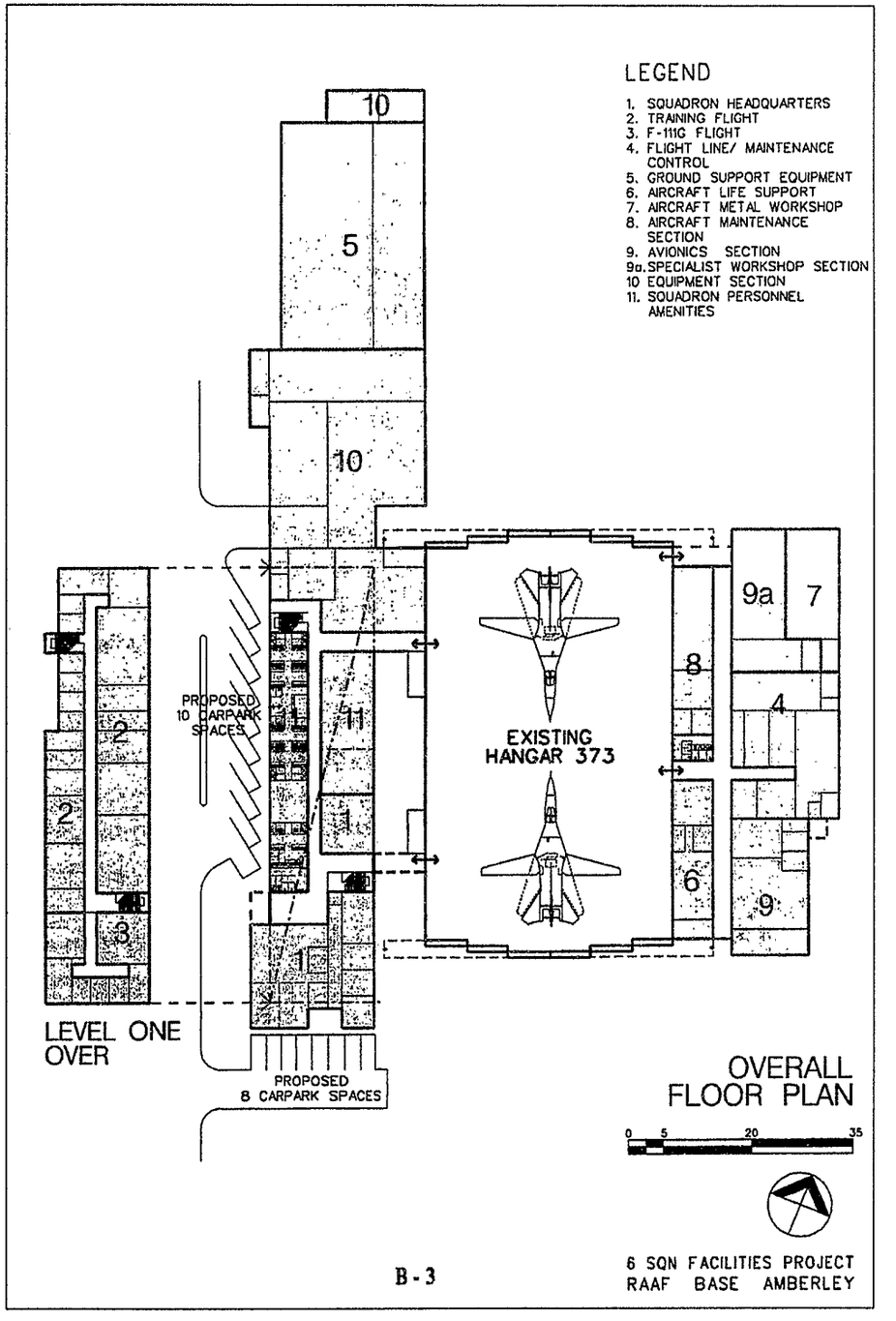
TOOTH, Wing Commander John Marsden, Project Director, Facilities and Property Division, Department of Defence, CP3-3-20, Campbell Park Offices, Australian Capital Territory, 2600

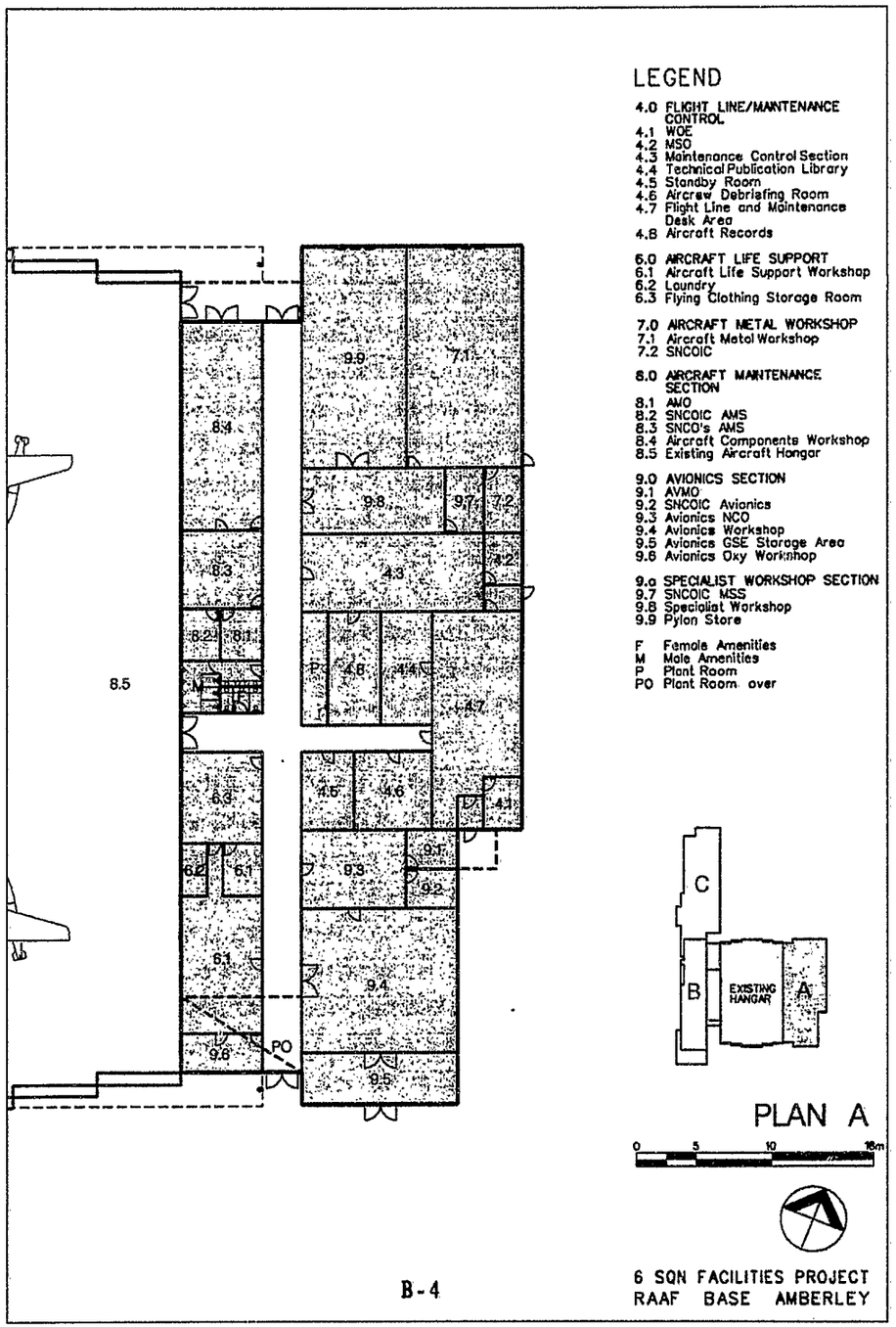
APPENDIX B

PROJECT MAPS AND DRAWINGS




366
419
418
367
DEMOLISH EXISTING 6 SQN TECH. SUPPORT FACILITIES
PROPOSED ADDITIONAL 34 CARPARK SPACES
365
376
NEW SINGLE STOREY
PROPOSED COLOCATED 6 SQN FACILITIES AREA (HQ, TECHNICAL SUPPORT, FLIGHTLINE, TRAINING AND MAINTENANCE)
NEW 2 STOREY
EXISTING HANGAR 373
EXISTING AIRCRAFT SHELTER
NEW SINGLE STOREY
605
EXISTING AIRCRAFT SHELTER
CANBERRA DRIVE
363
364
364
PROPOSED SITE PLAN
0 10 35 70
B-2
6 SQN FACILITIES PROJECT
RAAF BASE AMBERLEY


LEGEND
1. SQUADRON HEADQUARTERS
2. TRAINING FLIGHT
3. F-111G FLIGHT
4. FLIGHT LINE/ MAINTENANCE CONTROL
5. GROUND SUPPORT EQUIPMENT
6. AIRCRAFT LIFE SUPPORT
7. AIRCRAFT METAL WORKSHOP
8. AIRCRAFT MAINTENANCE SECTION
9. AVIONICS SECTION
9a. SPECIALIST WORKSHOP SECTION
10 EQUIPMENT SECTION
11. SQUADRON PERSONNEL AMENITIES
10
5
10
9a
7
8
4
PROPOSED 10 CARPARK SPACES
EXISTING HANGAR 373
6
9
LEVEL ONE OVER
PROPOSED 8 CARPARK SPACES
OVERALL FLOOR PLAN
0 5 20 35
B-3
6 SQN FACILITIES PROJECT
RAAF BASE AMBERLEY



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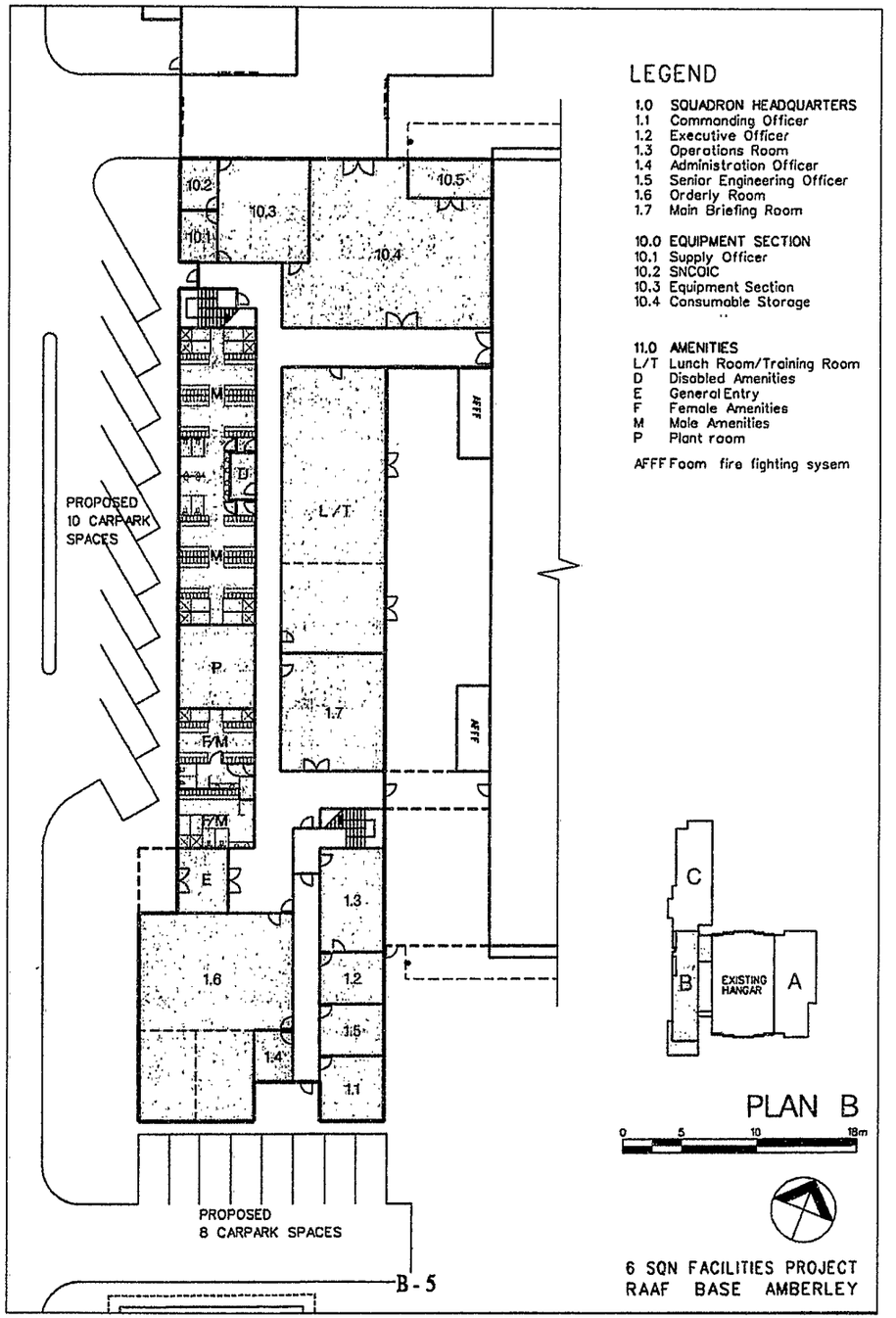
6 SQN FACILITIES PROJECT
RAAF BASE AMBERLEY



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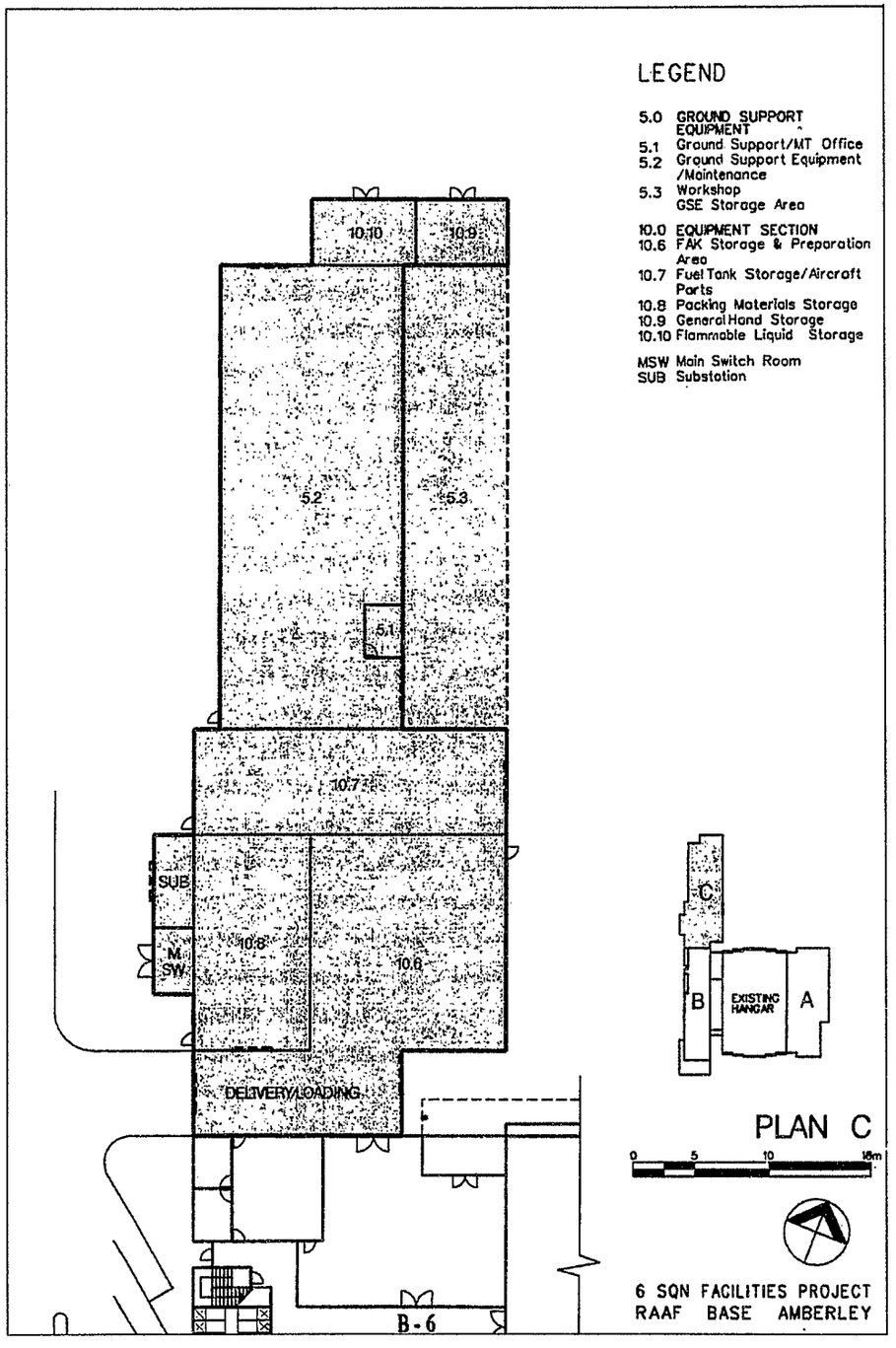
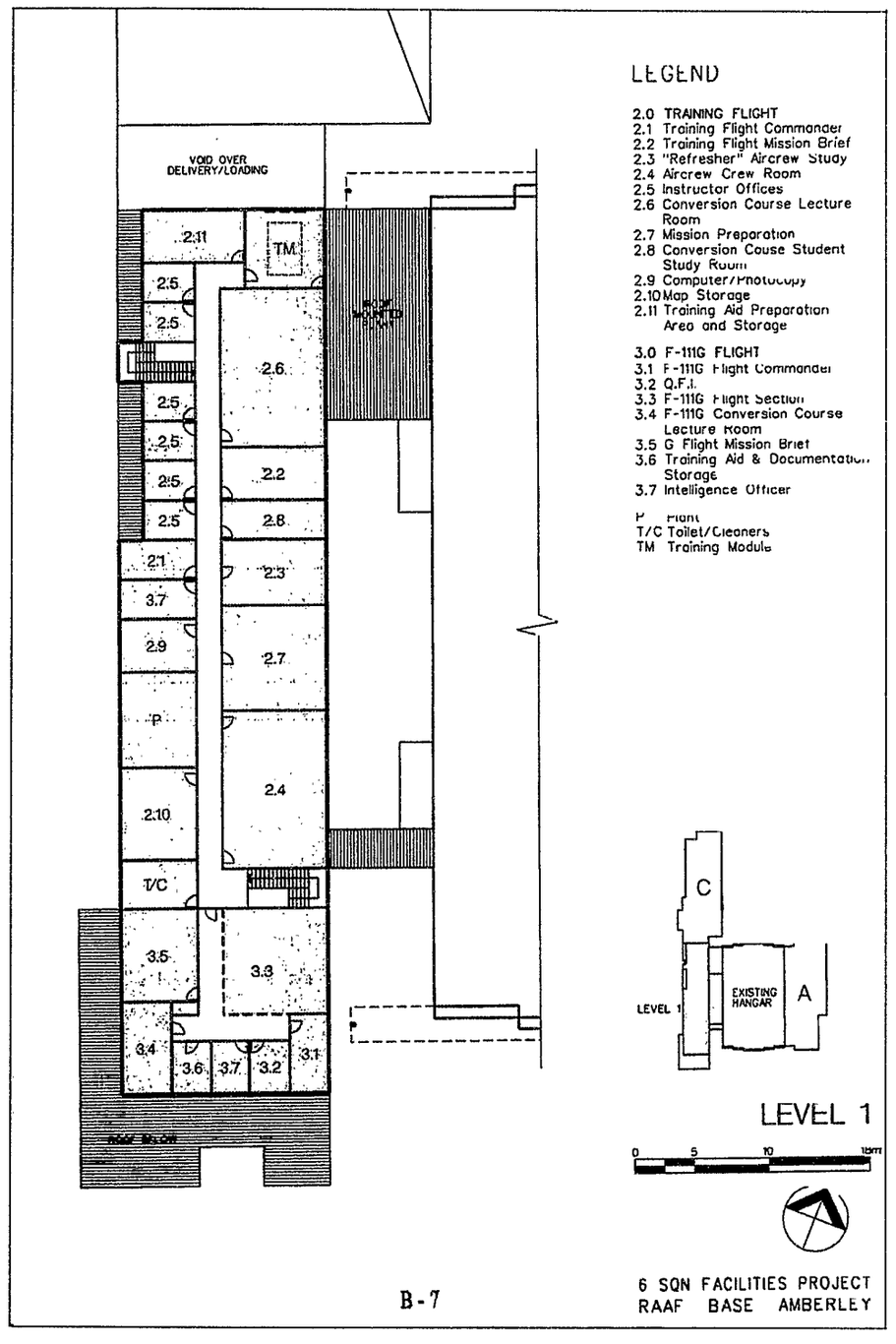
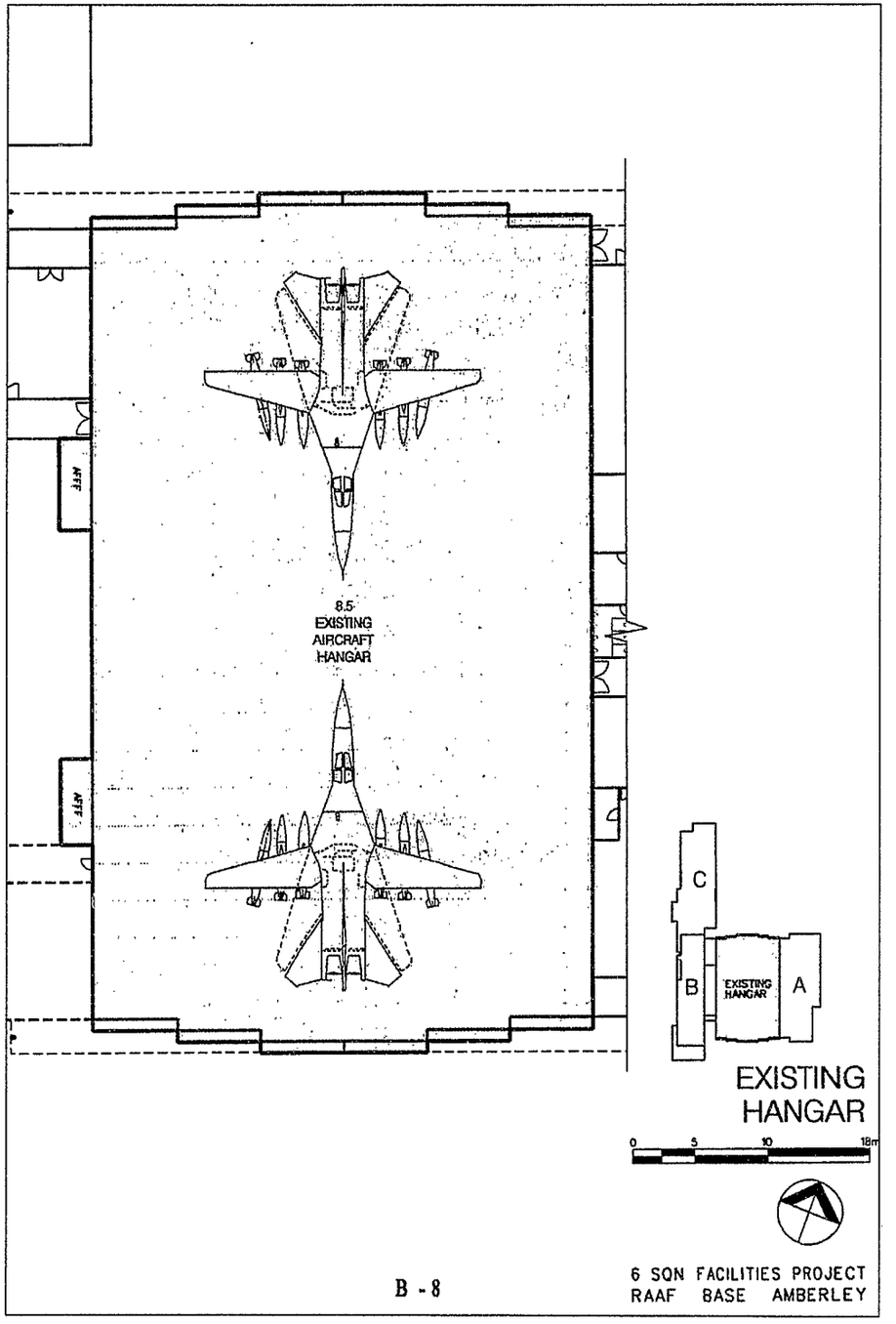
6 SQN FACILITIES PROJECT
RAAF BASE AMBERLEY


LEGEND
5.0 GROUND SUPPORT EQUIPMENT
5.1 Ground Support/MT Office
5.2 Ground Support Equipment /Maintenance
5.3 Workshop GSE Storage Area
10.0 EQUIPMENT SECTION
10.6 FAK Storage & Preparation Area
10.7 Fuel Tank Storage/Aircraft Parts
10.8 Packing Materials Storage
10.9 General Hand Storage
10.10 Flammable Liquid Storage
MSW Main Switch Room
SUB Substation
10.10
10.9
5.2
5.3
5.1
10.7
SUB
M SW
10.8
10.6
DELIVERY/LOADING
C
B
EXISTING HANGAR
A
PLAN C
0 5 10 15m
6 SQN FACILITIES PROJECT
RAAF BASE AMBERLEY
B-6


LEGEND
2.0 TRAINING FLIGHT
2.1 Training Flight Commander
2.2 Training Flight Mission Brief
2.3 "Refresher" Aircrew Study
2.4 Aircrew Crew Room
2.5 Instructor Offices
2.6 Conversion Course Lecture Room
2.7 Mission Preparation
2.8 Conversion Couse Student Study Room
2.9 Computer/Photocopy
2.10 Map Storage
2.11 Training Aid Preparation Area and Storage
3.0 F-111G FLIGHT
3.1 F-111G Flight Commander
3.2 Q.F.I.
3.3 F-111G Flight Section
3.4 F-111G Conversion Course Lecture Room
3.5 G Flight Mission Brief
3.6 Training Aid & Documentation Storage
3.7 Intelligence Officer
P Plant
T/C Toilet/Cleaners
TM Training Module
VOID OVER DELIVERY/LOADING
2.11
TM
2.5
2.6
2.2
2.8
2.1
2.3
3.7
2.9
2.7
P
2.4
2.10
T/C
3.5
3.3
3.4
3.6
3.7
3.2
3.1
C
LEVEL 1
EXISTING HANGAR
A
LEVEL 1
0 5 10 15m
6 SQN FACILITIES PROJECT
RAAF BASE AMBERLEY
B-7


AFT
AFT
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EXISTING
AIRCRAFT
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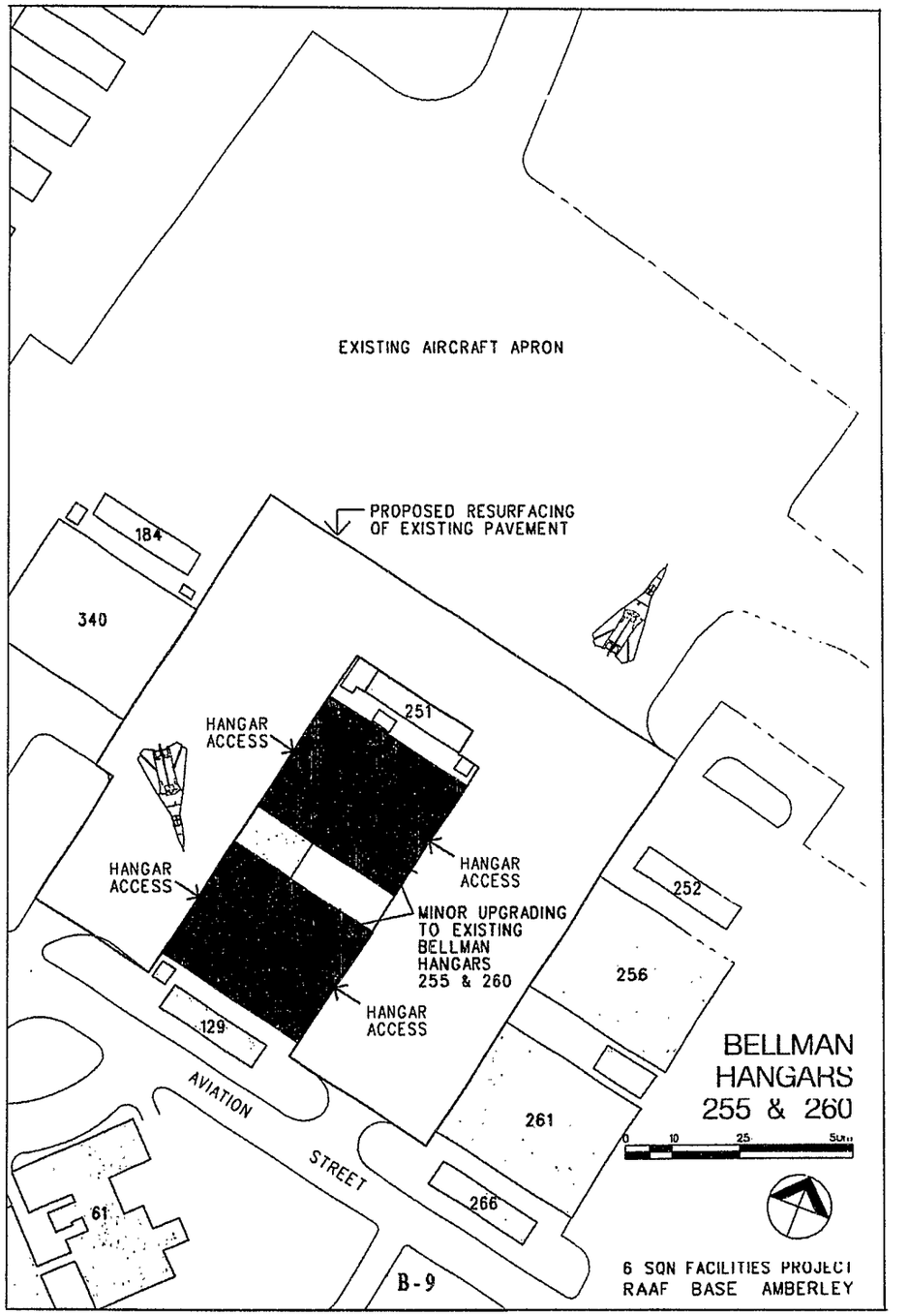
6 SQN FACILITIES PROJECT
RAAF BASE AMBERLEY


EXISTING AIRCRAFT APRON
PROPOSED RESURFACING
OF EXISTING PAVEMENT
184
340
251
HANGAR
ACCESS
HANGAR
ACCESS
HANGAR
ACCESS
MINOR UPGRADING
TO EXISTING
BELLMAN
HANGARS
255 & 260
HANGAR
ACCESS
252
256
129
261
AVIATION
STREET
266
61
BELLMAN
HANGARS
255 & 260
0 10 25 50m
6 SQN FACILITIES PROJECT
RAAF BASE AMBERLEY