



Australian Government
Department of Defence

RELOCATION OF RAAF COLLEGE
RAAF BASE EAST SALE, VICTORIA AND
RAAF BASE WAGGA, NEW SOUTH WALES

STATEMENT OF EVIDENCE
TO THE
PARLIAMENTARY STANDING COMMITTEE
ON PUBLIC WORKS

DEPARTMENT OF DEFENCE
CANBERRA, ACT
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INTRODUCTION

1. This evidence to the Parliamentary Standing Committee on Public Works (PWC) presents a proposal to provide facilities and infrastructure at RAAF Base East Sale and RAAF Base Wagga to bring about cost efficiencies and to overcome identified deficiencies in current RAAF College elements at RAAF Williams (Point Cook Base) and RAAF Base Edinburgh.
2. The proposed RAAF College Relocation project involves the relocation of the following RAAF elements:
 - a. the RAAF College Headquarters from Point Cook Base to RAAF Base Wagga,
 - b. the Officer Training School from Point Cook Base to RAAF Base East Sale, and
 - c. No 1 Recruit Training Unit from RAAF Base Edinburgh to RAAF Base Wagga.
3. The provision of these facilities will provide new facilities and infrastructure for the initial training of all RAAF airmen and airwomen recruits, and officer candidates. The proposal will provide purpose-built administration, training and living-in-accommodation facilities that will enhance RAAF's capability into the future.

OBJECTIVE

4. The objective of the RAAF College Relocation project is to replace aged facilities and infrastructure, overcome deficiencies where facilities do not meet contemporary occupational health and safety standards, bring about cost efficiencies and address problems where facilities are overcrowded and dysfunctional.
5. The RAAF College Relocation project was initiated as a result of the Defence Efficiency Review that identified cost efficiencies could be achieved with the closure of the Point Cook Base with its aging facilities and to accord with Defence policy to have fewer bases. Furthermore, the inadequacy of No 1 Recruit Training Unit facilities at RAAF Base Edinburgh was identified. The need to achieve cost efficiencies and address the deficiencies was considered a priority. Relocation to RAAF Base East Sale and RAAF Base Wagga was appropriate, as these bases had been identified for long-term retention as centres for RAAF training. The relocation also supports the Government's commitment to regional Australia.

BACKGROUND

6. RAAF College is responsible for the delivery of up to 100 courses and the training of up to 5500 recruits, senior non-commissioned officers, officer candidates, Australian Defence Force Academy cadets and junior officers each year. The majority of postgraduate courses are provided through distance learning. RAAF College elements are currently dispersed over several defence sites:

- a. RAAF Base Point Cook - Headquarters RAAF College and the Officer Training School;
- b. RAAF Base Edinburgh - No 1 Recruit Training Unit;
- c. RAAF Base Wagga - School of Postgraduate Studies;
- d. RAAF Base Richmond - School of Postgraduate Studies, Corporal Promotion Centre; and
- e. RAAF Base Amberley - School of Postgraduate Studies, Corporal Promotion Centre.

Geography

7. **RAAF Base East Sale.** RAAF Base East Sale is 3 kilometres to the east of the significant regional centre of Sale, Victoria within the Wellington Shire. Located approximately 200 kilometres east of Melbourne, the base occupies an area of approximately 800 hectares. A location map is provided in Annex A.

8. **RAAF Base Wagga.** RAAF Base Wagga is 11 kilometres to the east of the significant regional city of Wagga Wagga, within the Wagga Wagga City Council. Located approximately 450 kilometres south-west of Sydney, the base occupies an area of approximately 300 hectares. A location map is provided in Annex A.

History and composition

9. **RAAF Base East Sale.** RAAF Base East Sale was opened in April 1943 with the arrival of No 1 Operational Training Unit flying Beaufort and Hudson medium bombers. At that time it was staffed with 2500 personnel responsible for training operational aircrew. World War II saw the rapid expansion of the base with 3558 pilots, navigators, signallers and gunners training at RAAF Base East Sale. Since 1945, the base has remained the main postgraduate flying training centre of the RAAF and supports the Central Flying School, the School of Air Navigation and the School of Air Traffic Control. RAAF Base East Sale is also the home to the RAAF's premier aerobatic team 'The Roulettes'. The base currently has approximately 370 Service and 370 civilian staff. It is a significant RAAF training establishment and supports the following major units at the base:

- a. Headquarters Air Training Wing,
- b. Central Flying School,
- c. School of Air Navigation,
- d. School of Air Traffic Control,
- e. No 32 Squadron,
- f. No 44 Wing Detachment East Sale,
- g. Combat Support Unit East Sale,
- h. 4th/19th Price of Wales Light Horse Regiment (A Squadron),
- i. No 409 Squadron Australian Air Force Cadets, and
- j. Supporting agencies and minor units.

10. **RAAF Base Wagga.** RAAF Base Wagga was opened in 1940 with No 2 Flying Training School, using Wirraway and Anson aircraft. In 1942 the unit was replaced by No 5 Aircraft Depot that handled maintenance work for aircraft such as Beauforts, Beaufighters, Venturas and Mitchells. Following World War II, the base changed its focus from operations to training, with the relocation from Ascot Vale, Victoria of No 1 Engineering School, becoming in turn the RAAF Ground Training School and then the RAAF School of Technical Training. Headquarters Ground Training Wing is also collocated with many of its subordinate training units at the base. RAAF Base Wagga remains an important centre for airmen and airwomen technical training and hence is a very good 'fit' for the move of RAAF recruit training. Today, RAAF Base Wagga is staffed by approximately 800 Service and 300 civilian personnel. The units at RAAF Base Wagga comprise:

- a. Headquarters Ground Training Wing,
- b. RAAF School of Technical Training,
- c. School of Postgraduate Studies,
- d. Combat Support Unit Wagga, and
- e. supporting agencies.

GOVERNING CONSIDERATIONS

Siting

11. Neither RAAF Base East Sale nor RAAF Base Wagga have current Master Plans, although a Master Plan for RAAF Base East Sale is being developed. The siting for facilities

identified in the scope of works has been confirmed by Site Selection Boards that considered aspects such as:

- a. functional requirements;
- b. airfield planning criteria;
- c. aircraft operational requirements;
- d. obstruction clearance requirements;
- e. aircraft noise;
- f. explosive ordnance facilities and activities;
- g. security, ground and air defence of the base;
- h. environmental considerations;
- i. navigational aids; and
- j. potential future expansion.

12. The precincts selected for the RAAF College Relocation project are shown in Annex B (RAAF Base East Sale) and Annex C (RAAF Base Wagga).

Defence force disposition

13. The elements of this proposal are consistent with Government direction and with current Defence force disposition planning which identifies long-term retention for both RAAF Base East Sale and RAAF Base Wagga as centres for RAAF training. This proposal will provide a good outcome in terms of consolidating RAAF training, economic efficiencies and regional development.

SCOPE OPTION CONSIDERATIONS

14. The identified scope for the RAAF College Relocation project has been one of iterative development. The scope elements have been tested via a process of examining various options, vetting with user input and design consultant analysis. The final result is a design that is cost-effective in achieving the project goals. The following factors were tested and considered in the development of the elements, with the preferred solutions being adopted:

- a. Where practicable, utilising adaptive reuse of existing facilities to provide cost-effective solutions, either as an extension to an existing facility or by upgrading an existing infrastructure element. Multi-use considerations have been incorporated.
- b. Obtain the best mix in terms of size and type of rooms, including offices, classrooms, breakout and syndicate rooms, and living-in-accommodation.

- c. Alternative solutions for storage of training equipment and individual staff requirements to provide efficient workspace.
- d. Assessment of the various tasks undertaken and the capability of the identified solution to accommodate the tasks and adopt innovative work practices.
- e. Functional relationships between and within the various elements to minimise time lost through travel.
- f. Flexible design solutions to allow the ability to accommodate variations in course numbers.
- g. Consideration of Whole-of-Life and Environmentally Sustainable Design principals, to provide cost-effective solutions in regard to facility operation and maintenance, without compromising training capability or efficiency.
- h. Assessment of services and infrastructure to provide efficient and cost-effective designs while also considering future upgrade capability where appropriate.
- i. Materials selection providing low maintenance and high levels of durability.
- j. Landscaping appropriate for the precincts.

THE REQUIREMENTS - RAAF BASE EAST SALE

15. New and enhanced infrastructure elements will be required at RAAF Base East Sale as part of the RAAF College Relocation project to provide appropriate administration, training and living-in-accommodation for the RAAF's Officer Training School. The elements will replace existing aged facilities at Point Cook Base, with purpose-built training facilities in the new location. The following works elements are proposed;
- a. administration and training facilities,
 - b. external and physical training facilities,
 - c. living-in-accommodation,
 - d. a combined base mess facility, and
 - e. base domestic support facilities.
16. Each of these elements is addressed in greater detail in paragraphs 17 to 27.

Administration and training facilities for the Officer Training School

Function

17. The Officer Training School provides initial officer training for civilians joining the RAAF and for Airmen and Airwomen transferring to the Officer Corps. The Officer Training School also provides Single Service training to RAAF Australian Defence Force Academy cadets during their semester breaks. The main function of the Officer Training School is to train RAAF Junior Officers in basic military skills and procedures of the Australian Defence Force Organisation. The administration, working and training facilities identified in this proposal are primary requirements for the Officer Training School to undertake its function. In designing new facilities the project team has endeavoured to provide efficient, flexible and modern facilities that will allow the latest training methods to be adopted. There has also been significant modelling of operations and maintenance requirements to ensure cost-effective and environmentally sustainable solutions.

Proposal

18. The proposal encompasses purpose-built facilities for the administration and training elements of the Officer Training School as follows:

- a. **Staff and administration Headquarters.** The Officer Training School staff and administration Headquarters is a stand-alone single story building that will provide the primary working accommodation facility for staff. Working accommodation will be a mix of offices and open plan areas with support spaces including interview rooms, a conference room, a student induction centre and training equipment storage.
- b. **Officer Training School training accommodation.** The Officer Training School training accommodation (or learning centre) will be a two-storey building to accommodate initial officer classroom training. The facility will be a stand-alone building that will include various classrooms, syndicate rooms, a combined lecture and tactical room, small armoury and amenities.

Schematic

19. A schematic representation of the Officer Training School's administration Headquarters is in Annex D and the training accommodation (learning centre) floor plan and elevation are provided in Annex E and Annex F respectively.

External and physical training facilities for the Officer Training School

Function

20. External Training facilities will provide the majority of practical and physical training undertaken by officer candidates. These facilities combine a mix of task specific roles as well as general training areas. Primary considerations include all-weather training capability, functionality, relationship to other facilities and integration within the overall base and master planning provisions. The elements of the external training facilities will provide military skills and physical fitness for officer candidates and include parade grounds, weapons training shelters, ground defence facilities and areas to maintain fitness levels. Elements will be designed to have multi-use flexibility wherever practicable.

Proposal

21. The proposal for External Training Facilities encompasses the following purpose-built elements:

- a. **Ground defence training area.** Ground defence training is a core skill undertaken by officer candidates, simulating actual battle, while promoting leadership and problem solving skills. It involves protection of a designated area from attack, including bunkers and other defensive measures.
- b. **Outdoor weapons training shelters.** Outdoor weapons training shelters will provide, in an external environment, an area where officer candidates can become proficient in weapons handling even in hot or inclement weather. The facility will also be used for general external training activities.
- c. **Parade grounds.** Parades and drill practice are fundamental activities in the training program and there are two elements proposed. Firstly, minor repair to the existing base parade ground and provision of a viewing shelter. The viewing shelter will provide protection for families and dignitaries attending graduation parades for the officer candidates. Secondly, a smaller nearby practice drill training area is required. This is to be provided by using and extending an existing car park area adjacent to the base auditorium. This car park is generally used only for 'out of hours' parking during cinema screenings.
- d. **Physical training facilities.** The existing airmen's mess will become vacant when as part of this proposal a new combined mess is provided. The existing airmen's mess will become redundant and can be readily converted into a physical training area. This is a

very cost-effective solution when compared to provision of a new facility. The current base physical training area is required to enable extension to the current clothing store to cater for the increase in base population. The physical training facility will provide specific and recreational physical training for officer candidates to improve or maintain physical fitness and achieve officer candidate physical fitness level requirements. It also provides for remedial or injury treatment. The facility will contain weights, circuit and cardio fitness areas along with instructors' offices and amenities.

Living-in-accommodation for the Officer Training School

Function

22. The living-in-accommodation facilities provide purpose-built living and sleeping accommodation to align with and enhance the overall RAAF training programs. The living-in-accommodation will provide a space for the officer candidates to sleep, study, prepare for training, and to encourage team spirit and a sense of community that the RAAF training program instils. In designing new living-in-accommodation, the project team has endeavoured to provide efficient, flexible and modern facilities that enhance the training program and methods. Significant modelling has been undertaken for their operations and maintenance to ensure they are robust and appropriately designed to allow heavy usage during peak loads, cost-effective operation and maintenance, and are environmentally efficient.

Proposal

23. The proposal encompasses purpose built facilities for the following elements:
- a. Four individual two-storey facilities, accommodating 30 beds in each, with a central corridor connecting the sleeping quarters to common rooms, amenities, laundry and washing facilities.
 - b. Living-in-accommodation will be provided in accordance with Australian Defence Force standards for initial entrant officer training.
 - c. The living-in-accommodation buildings are to be closely located to the new Officer Training School training facilities, the combined mess and the drill practice area.
 - d. The living-in-accommodation buildings are to provide an appropriate level of quiet retreat spaces (bedroom studies) with shared spaces for relaxation and group study.

Schematic

24. A schematic representation of the living-in-accommodation for the Officer Training School is provided in Annex G.

Domestic support for the Officer Training School

Function

25. The domestic support facilities provide a support function to the Officer Training School, as well as for overall base use. They are generally located in various areas around the base, outside the Officer Training School precinct and will provide support such as medical, messing and general administrative support.

Proposal

26. The proposal for domestic support facilities encompasses purpose-built facilities for the following elements:

- a. **A new combined all ranks base mess facility.** A comprehensive review of the existing RAAF Base East Sale catering facilities has been undertaken. This has established that the three separate existing kitchens and dining facilities to cater for Officers, Sergeants and Airmen are all in poor condition and require significant refurbishment. This requirement, combined with the added Officer Training School numbers, provides for a cost-effective solution of a combined mess. The facility will have a centralised kitchen providing for the various segregated dining and amenity areas, which accommodate the various groups. The facility will be centrally located within the base to provide ready access to the various units and user groups. The centralised kitchen will provide for a more efficient facility than the dispersed messes currently operating on the base. The design will have flexibility by amalgamating areas to accommodate large groups and special functions when required.
- b. **Upgrade existing base clothing store.** An upgrade and extension to the existing base clothing store is required to accommodate the additional requirements of the Officer Training School. It will support the base and will provide all initial clothing issues to new officer candidates, along with their formal tailored dress uniforms.
- c. **Car parking.** Some additional car parking is to be provided to cater for individual building requirements as well as parking for officer candidates' longer-term parking needs. On street parking will be extensively used to meet requirements.

Schematic

27. A schematic representation of the new combined mess facility is provided in Annex H.

THE REQUIREMENTS - RAAF BASE WAGGA

28. New and enhanced infrastructure elements will be required at RAAF Base Wagga as part of the RAAF College Relocation project to provide:

- a. administrative facilities for the Headquarters RAAF College,
- b. administration and training facilities for No 1 Recruit Training Unit,
- c. external training facilities,
- d. living-in-accommodation, and
- e. base domestic support.

29. Each of these elements is addressed in greater detail in paragraphs 30 to 41.

RAAF College Headquarters

Function

30. RAAF College Headquarters is a small unit whose function is to provide administrative support to the Commandant of the RAAF College in his exercise of command and control of all RAAF College units.

Proposal

31. The proposal for the Headquarters RAAF College is to accommodate this function in an existing building to be refurbished. The following administrative support elements will be required:

- a. an office for the Commandant of the College and his/her staff,
- b. a mix of office and open plan work settings, and
- c. amenities and meeting rooms.

Administration and training facilities for No 1 Recruit Training Unit

Function

32. The administration and training accommodation forms the primary function for No 1 Recruit Training Unit to complete the initial training of RAAF recruits in the fundamentals of the RAAF and its operations.

Proposal

33. Specific administration and training accommodation facilities include:
- a. **No 1 Recruit Training Unit staff and administration Headquarters.** The No 1 Recruit Training Unit staff and administration building is a two storey office building incorporating a number of discrete functions including the induction centre, executive cell and training flights. The building will provide a combination of offices and open plan work areas, crew rooms, amenities and meeting and conference rooms.
 - b. **No 1 Recruit Training Unit training facilities.** The No 1 Recruit Training Unit training accommodation is a stand-alone single storey building located centrally within the unit precinct. This building contains the classrooms for recruits to undertake the academic elements of training. The major spaces include five double classrooms that will allow one room per unit intake. Classrooms are flexible and adaptable. Each large classroom will be a 'home' classroom for each recruit intake. The building will also provide for a classroom and syndicate room for Military Skills Instructor Courses. Military Skills Instructors are the supervising and instructing staff for recruits undergoing training at No 1 Recruit Training Unit. They train recruits in core military skills, knowledge and attitudes essential for their service.
 - c. **Indoor physical training area.** An indoor physical training area is required for recruit physical training and general fitness. Physical training sessions are a significant component of the curriculum and this facility will therefore have high usage rates. It needs to be located within the No 1 Recruit Training Unit precinct as there is minimal time between instruction sessions. Although there is a base gymnasium, it is currently operating at near maximum capacity and cannot accommodate the required regular and high usage rates required for No 1 Recruit Training Unit. The indoor physical training area will also be used out-of-hours for individual and group physical fitness activities. The facility will also be used for remedial treatment of injuries. The area is an essential element in meeting the course terminal objective of successful completion of the Air Force's physical fitness test.

Schematic

34. A schematic representation and elevation of the No 1 Recruit Training Unit's administration Headquarters are at Annex I and Annex J respectively. A schematic representation of the training accommodation is provided in Annex K and the Indoor Physical Training Area is in Annex L.

External training facilities for No 1 Recruit Training Unit

Function

35. Similar to the Officer Training School's external training requirements, these facilities will provide the majority of practical and physical training undertaken by recruits. These facilities combine a mix of task specific roles as well as general training areas. The elements will provide military skills and physical fitness for recruits.

Proposal

36. The proposal encompasses purpose-built facilities for the following elements:
- a. **A new small weapons range.** A new 300 m × 10 lane small arms range is proposed to be constructed at Kapooka Army base where space is available. Existing range facilities at Kapooka cannot accommodate the additional throughput and a new range is required. The facility would be available for RAAF / Army joint usage and will assist in alleviating Army's increasing requirements.
 - b. **No 1 Recruit Training Unit confidence course.** An outdoor confidence course that provides a series of physical and mental challenges for recruits to complete.
 - c. **No 1 Recruit Training Unit outdoor weapons training shelters.** The weapons training shelters provide an area where recruits can become proficient in weapons handling even in hot or inclement weather. The facility will also be used for general external training activities.
 - d. **No 1 Recruit Training Unit small drill training areas.** Recruits are required to undertake marching and drill practice on these areas that can also be used for general external training activities.
 - e. **Ground defence area.** Ground defence training is a core skill undertaken by recruits, simulating actual battle, while promoting teamwork and problem solving skills. It involves protection of a designated area from attack, including bunkers and defensive measures.

Living-in-accommodation and recreation facility for No 1 Recruit Training Unit

Function

37. The living-in-accommodation facilities provide purpose-built living and sleeping accommodation that is efficient and appropriate to align with and enhance the overall RAAF

recruit training program. The living-in-accommodation provides suitable accommodation for the recruits to sleep, study, prepare for training and encourage team spirit and a sense of community that the RAAF training program instils.

Proposal

38. The proposal encompasses purpose-built facilities for the following elements:
- a. Living-in-accommodation buildings centrally located within the precinct, consisting of three 2-storey buildings, with a further single storey building to accommodate Specialised Training Section recruits and the Military Skill Instructor course.
 - b. In accordance with Defence standards of recruit level accommodation, recruits will share bedrooms, with four recruits in each. Bedrooms are grouped to accommodate one course of up to 32 recruits on each end of a building floor, and then paired to accommodate, on one floor, one intake of up to 64 recruits.
 - c. Recruits will share toilet, shower and laundry facilities, a centrally located common room, and a small armoury. A series of movable doors within corridors will provide flexibility in male to female intake ratios.
 - d. A communal recreation facility (the Middleton VC Club) is to be provided specifically for recruit usage. This facility will promote team spirit and a sense of community amongst recruits in an environment separate from the main base population. It is a multi-purpose facility that will encompass common areas, a servery and brew area, TV and reading rooms, internet access and an outdoor recreation area. The facility will also be used for reception functions following graduations and on other special occasions.
 - e. Minor refurbishment of existing living-in-accommodation for senior non-commissioned officers attending the RAAF College School of Postgraduate Studies courses.

Schematic

39. A schematic representation of the living-in-accommodation is in Annex M and the Middleton VC Club is in Annex K.

Domestic support for No 1 Recruit Training Unit

Function

40. The domestic support facilities provide a support function to No 1 Recruit Training Unit, as well as for overall base use. They are generally located in various areas around the base, outside the No 1 Recruit Training Unit precinct and will provide support such as medical, messing and general administrative support.

Proposal

41. The proposal encompasses purpose-built facilities for the following elements:
- a. **Kitchen and servery refurbishment for airmen's mess.** The existing airmen's mess is in need of an upgrade and requires a re-configuration to accommodate the added recruit requirement. The refurbishment will extend the life of the facility and is more cost-effective than constructing a new airmen's mess. The mess will continue to provide all meals for Airmen and Airwomen as well as the new recruits.
 - b. **Extension and refurbishment to the existing medical and dental facilities.** All recruits undertake various medical and dental assessments during their training, as well as receiving general medical and dental care. The existing facilities will be inadequate to provide the required level of treatments, extension will be required to the medical facility and refurbishment to the dental facility.
 - c. **Provision of new psychology unit accommodation.** There will be a requirement for psychological services to meet the specific needs for the new recruits. A small counselling area will need to be provided, either within an existing facility or as a minor extension.
 - d. **No 1 Recruit Training Unit ground training equipment store.** This facility stores, manages, maintains and issues personal equipment such as packs, webbing, and accessories to recruits.
 - e. **Minor upgrades to existing facilities.** Modification or minor extension to the base registry, the base clothing store and other stores as necessary to accommodate the requirements of the recruit intakes.
 - f. **Car parking.** Some additional car parking is to be provided to cater for individual building requirements. On street parking will be used to meet requirements where appropriate.

ENGINEERING SERVICES

Deficiencies and need

42. The basic engineering services at RAAF Base East Sale and RAAF Base Wagga date from the time each area was developed, generally in the 1940s and 1950s. However, some improvements have been made in a piecemeal manner when the bases have expanded. Assessment by consultants has identified that the existing in-ground infrastructure at both bases is in reasonable condition and suitable for expansion to accommodate the new facilities, with some repair works.

Proposal

43. The specific needs to improve and upgrade a variety of engineering services components and other associated works are discussed in paragraphs 44 to 46.

44. **Hydraulic services.** The specific elements of the hydraulic services that require remedial action are identified below:

- a. **Sewerage lines.** Relocate existing systems clear of proposed buildings. Maintain base supply at all times during construction. System diversion connections will comply with current standards.
- b. **Water reticulation.** The water system will be segregated into potable and non-potable. Potable water will be provided by connection to town mains and will supply showers, basins, kitchenette sinks and the airmen's mess kitchen. Non-potable water will be supplied to toilet systems in office buildings, external hose taps and similar requirements. Connections for future irrigation will be considered and allowed as a part of these works.
- c. **Stormwater reticulation.** At RAAF Base Wagga, run-off from roof areas will be piped to the Retention Lake for potential re-use in order to reduce overall water consumption..
- d. **Fire services.** Fire protection systems will be installed in all new buildings where required under current regulations. Refurbishment of existing buildings will include extending any installed fire detection systems as necessary.

45. **Electrical services.** The specific electrical requirements for the project are identified below:

- a. New substations to be inserted into the existing ring main system.
 - b. New low voltage cabling will be extended from new and existing substations to new buildings as required.
 - c. Some existing high voltage cables may need to be relocated depending on the siting of buildings and other structures.
 - d. Integration with existing infrastructure will comply with relevant codes and authorities.
46. **Data and communications.** The specific elements of the communications services that require remedial action are identified below:
- a. Upgrade existing duct pits and duct systems in areas directly affected by the project. The upgrade will include additional pits and duct systems, constructed and locked to meet current Defence Standards.
 - b. Upgrades to PABX systems to accommodate the additional phone and data requirements. This will be necessary as existing PABX systems have little or no additional capacity.

DEMOLITION WORKS

47. As a result of the redevelopment a number of vacated facilities at RAAF Base Edinburgh have been identified as being surplus to requirements. These facilities have been identified as potentially available for demolition in order to minimise ongoing maintenance costs and to generally 'clean up' the area. These facilities may contain asbestos and prior to any demolition will require an asbestos survey. If required, a suitably qualified and licensed asbestos removal contractor would be engaged as part of the demolition works. Currently the project has not identified specific buildings for demolition, as heritage assessment of the entire base is being undertaken.

DESIGN CONSIDERATIONS

Design standards

48. Where appropriate, the design of new facilities will conform to the relevant sections of:
- a. the *Building Code of Australia (2004)*;
 - b. the *Defence Manual of Fire Protection Engineering (MFPE)*;
 - c. the *Defence Security Manual (SECMAN)*;
 - d. the *Occupational Health and Safety Commonwealth Employment Act*;

- e. relevant Australian Standards and Codes (including ISO 14001 *Environmental Management System*); and
- f. *Defence Infrastructure Management Tool*.

Design philosophy

49. The philosophy adopted in the design of the proposed facilities has incorporated the following considerations:

- a. The provision of cost-effective and utilitarian facilities of energy efficient design suitable for the rigours of the climate, and of a style compatible with surrounding facilities.
- b. Adoption, where possible, of conventional construction techniques and materials, in particular those commonly used in the construction industry in the respective areas.
- c. Utilisation of readily available and durable materials that combine long life with minimum maintenance.
- d. Recognition of site constraints, security requirements, functional relationships to existing facilities, and operational determinants.
- e. Recognition of occupational health and safety aspects impacting on the well-being of personnel using the facilities.

Environmentally Sustainable Development

50. The key Environmentally Sustainable Development (ESD) initiatives included in the design of the proposed facilities are identified in paragraphs 51 to 56. Certain ESD performance targets must be achieved for certain buildings within the precinct. The proposal for the office buildings in this project are 4-star rated. Where possible this project has reused existing facilities.

51. **Passive design.** Most buildings will be designed for mixed mode operation, that is, a combination of natural ventilation and mechanical ventilation, heating and cooling systems. To maximise the hours in the year that natural ventilation will provide comfortable internal conditions, and to also reduce the size and energy consumption of the mechanical plant, the buildings have been designed with a strong emphasis on passive design. The key passive design strategies are:

- a. The office and classroom buildings are orientated on an east–west axis that maximises winter sun and allows for effective shading of summer sun. Extensive external shading is provided to minimise solar penetration (and glare) during summer. The east and west facades typically have no, or limited, glazing.
- b. The building fabric will have a high level of thermal performance. This will be achieved through use of appropriate selection of building material.
- c. The widths of buildings are typically less than 18 m, which will allow cross ventilation to be effective.
- d. The glazing areas in the buildings will allow natural light to penetrate deep into the room space.
- e. Thermal mass is provided in buildings to temper outside air temperature fluctuations and provide radiant cooling.
- f. The buildings will be constructed to minimise air leakage.

52. **Lighting systems.** Internal lights generally will be T5 fluorescent or compact fluorescent. A lighting control system will be installed in the office and education buildings with occupancy sensors, daylight dimming and out-of-hours control where appropriate. In other buildings, timers and occupancy sensors will be widely used as appropriate in transient spaces (eg store rooms). Living-in-accommodation bedroom lighting will be manual with Defence energy management practices implemented to ensure lights are turned off when not required.

53. Task lighting will be considered for office spaces to reduce ceiling lighting design levels from 320 lux to 160 lux. This will be assessed during the design phase. Light switches will be well labelled with no individual switch controlling more than 100 m² of floor area. All individual spaces (eg partitioned offices and meeting rooms) will be individually switched.

54. **Renewable energy.** The domestic hot water systems in all buildings will be solar boosted gas fired storage systems. The systems will be sized so that a significant proportion of the annual hot water energy consumption is provided by solar energy.

55. **Energy and water management.** Utility meters will be provided to each building for electricity, gas and water. The building meters will have the ability to integrate into Regional Utility Management Systems if such systems are installed in the future. In the Headquarters

and training buildings, sub-meters will be provided to each floor or wing and to all major items of plant. The sub-meters will be linked back to the Building Management System to enable effective energy management practices to be implemented by Defence. Water sub-metering will be provided to the hot water, evaporative cooling and irrigation systems, and connected to the Building Management System, to monitor water usage and provide alarm for leaks.

56. To be consistent with Commonwealth and Defence policies, and Defence Sustainable Water Management Strategy, the project will include water sub-metering for monitoring and leak detection, as well as a Retention Lake at RAAF Base Wagga to capture any rainwater run-off. Water from the Retention Lake will be available for irrigation purposes.

TIMINGS

57. Subject to Parliamentary approval of the project, the proposed developments could proceed at both RAAF Base East Sale and RAAF Base Wagga with early works packages commencing by the end of 2005. The main construction packages would then follow in 2006. The project is planned for completion by the end of 2008.

ENVIRONMENTAL AND HERITAGE ISSUES

Environmental Management

58. The key areas of active environmental issues to be implemented are:
- a. protection of land and surface water on the site,
 - b. preservation of natural floral communities,
 - c. preservation and re-establishment of fauna communities and enhancement of the habitat of significant species,
 - d. waste collection and disposal,
 - e. handling of dangerous and hazardous goods, and
 - f. control of air and noise pollution.

Aboriginal heritage considerations

59. The Register of Aboriginal Sites and Objects does not contain entries for the RAAF Base East Sale or RAAF Base Wagga sites. Furthermore, neither site is subject to claims for Native Title. Further investigation is to be undertaken during design development.

Other heritage and environment issues

60. The recommendations of Environmental Management Plans have been considered when determining the proposed siting for facilities.

61. **RAAF Base East Sale.** ‘Red Gum’ trees extensively populate RAAF Base East Sale. The Regional Environmental Officer has advised that they are not protected or endangered but are regionally significant. The Environment Management Plan for RAAF Base East Sale recommends consideration of minimising removal of Red Gum trees. The project design has undertaken to locate buildings around established trees as far as practicable. Offset will be provided by way of a tree-planting program as part of the project.

62. **RAAF Base Wagga.** The identified construction site will be within the flight path of the ‘Superb Parrot’. A detailed consultant’s report in regard to the flight path of the Superb Parrot has been completed and has identified that the Superb Parrot does not nest at the base. Furthermore, the Regional Environment Officer has confirmed that this is not expected to be a significant issue as the area identified for development is a ‘brownfield’ site, having previously contained extensive buildings. Any potential impact will be further mitigated by a tree-planting program as part of the project. The program recommends that ‘Yellow Box’ trees should be maintained where possible, or be replaced or included in future tree plantings. This will be undertaken as part of the project.

63. A Heritage Management Plan and a detailed hazardous and contaminated materials assessment will be produced as part of the project design for RAAF Base Wagga and RAAF Base East Sale, however initial investigations indicate that there are no significant issues or restrictions on the planned construction works.

CONSULTATION

64. The following Authorities have been or will be consulted:
- a. Federal and State Government representatives for the area.
 - b. Education Departments.
 - c. New South Wales and Victoria Metropolitan Fire Service.
 - d. New South Wales and Victoria Water Authorities.
 - e. Department of the Environment and Heritage.
 - f. Wellington Shire Council.
 - g. City of Wagga Wagga Council.

65. There have been ongoing community consultations to advise the respective communities of Defence's intention, both in regard to the proposed construction works and the activities that will commence upon completion and relocation of the RAAF College. The community consultation has consisted of a series of open forum community briefings during the development of the Detailed Business Case and prior to the PWC hearing. These forums have included representation from local government, community groups, employment agencies and education.

STAFFING IMPLICATIONS

Establishment population

66. RAAF Base East Sale currently supports a work population of about 740 personnel. The relocation project will add a further 63 permanent Defence personnel who will provide training to approximately 690 officer candidates and RAAF Australian Defence Force Academy cadets each year.

67. RAAF Base Wagga currently supports a work population of about 1090 personnel. The relocation project will add a further 98 Defence personnel who will provide training to approximately 1200 recruits each year.

Construction workforce

68. Over the construction period of two years, an average of approximately 250 personnel will be directly employed on construction activities primarily at RAAF Base Wagga and RAAF Base East Sale. In addition, it is anticipated that construction will generate further job opportunities off-site for the supply, manufacture and distribution of components and materials for local and national contractors and suppliers.

COST OF THE PROJECT

69. The projected out-turn cost for the RAAF College Relocation project is \$133.4 million. The estimate includes construction costs, professional fees, furniture and fittings, escalation and contingency. Funding estimates comprise \$65.6 million for RAAF Base East Sale, \$66.7 million for RAAF Base Wagga and \$1.1 million for demolition, and furniture and fittings relocation costs at RAAF Base Edinburgh and Point Cook Base. The exact mix of these estimates will be subject to change within five to ten per cent as the apportionment of contingencies and priorities may vary over the time of delivery of the project.

FUTURE WORKS

70. **RAAF Base East Sale.** RAAF Base East Sale has not had any major development projects undertaken in the past ten years. A new child care centre is currently under construction and is expected to be complete by July 2005. The centre will be fully equipped and staffed to accommodate 50 day care places. There are no other current works other than ongoing minor and maintenance works. A base redevelopment is tentatively proposed for 2009–10.

71. **RAAF Base Wagga.** RAAF Base Wagga has not had any major development projects in the past ten years. There are also no current works in progress other than ongoing minor and maintenance works. A base redevelopment is tentatively proposed for 2011–12.

Annexes:

- A Location Plan RAAF Base East Sale and RAAF Base Wagga
- B RAAF Base East Sale Site Plan
- C RAAF Base Wagga Site Plan
- D RAAF Base East Sale Officer Training School Headquarters - Floor Plan
- E RAAF Base East Sale Officer Training School Learning Centre - Floor Plan
- F RAAF Base East Sale Officer Training School Learning Centre – Elevation
- G RAAF Base East Sale Officer Training School Living In Accommodation - Floor Plan
- H RAAF Base East Sale Combined Mess Facility – Floor Plan
- I RAAF Base Wagga 1 Recruit Training Unit Headquarters – Floor Plan
- J RAAF Base Wagga 1 Recruit Training Unit Headquarters – Elevation
- K RAAF Base Wagga 1 Recruit Training Unit Middleton VC Club and Training Building
- L RAAF Base Wagga 1 Recruit Training Unit GTE Store and Physical Training Building
- M RAAF Base Wagga 1 Recruit Training Unit Living In Accommodation – Floor Plan

**LOCATION AND SCHEMATIC
ANNEXES**

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