Australian Government

Department of Defence

RAAF BASE PEARCE
REDEVELOPMENT STAGE 1

PEARCE, WESTERN AUSTRALIA

STATEMENT OF EVIDENCE
TO THE
PARLIAMENTARY JOINT STANDING COMMITTEE
ON PUBLIC WORKS

DEPARTMENT OF DEFENCE
CANBERRA, ACT

April 2007

THIS PAGE IS INTENTIONALLY BLANK

INDEX

ANNEXES

PART A - IDENTIFICATION OF THE NEED

INTRODUCTION

1. This evidence to the Parliamentary Joint Standing Committee on Public Works presents a proposal for the Royal Australian Air Force (RAAF) Base Pearce Redevelopment Stage 1, Pearce, Western Australia. The proposed redevelopment aims to address the RAAF Base Pearce ageing, sub-standard, non-compliant and dysfunctional infrastructure and facilities through a combination of new construction and refurbishment works.

BACKGROUND

2. RAAF Base Pearce is crucial to the Air Force capability, being the flying training Base for the RAAF and Royal Australian Navy cadet pilots. It houses primarily two RAAF flying training units, which are as follows:

a) Number 2 Flying Training School, which provides pilot training with 41 Pilatus PC-9/A aircraft; and

b) Number 79 Squadron, which conducts jet-training courses with 14 Hawk 127 aircraft.

3. Since 1993, RAAF Base Pearce has also been the flying training base for pilots of the Republic of Singapore Air Force.

4. RAAF Base Pearce is the only fully manned military air base in Western Australia and is of high strategic and operational importance. The Base supports deployments and transit operations for aircraft of the Surveillance and Response Group, Air Combat Group and foreign military forces. The Base has also operated as an airhead in support of Australian Defence Force operations in the Middle East. It also acts as a support Base for the Special Air Services Regiment activities and deployments, and for search-and-rescue and fisheries patrols in the Indian and Southern Oceans. The Base also provides facilities and services to Royal Australian Navy units during major exercises in the Western Australia Exercise Area.

5. From a facilities and infrastructure perspective, the history of RAAF Base Pearce is broadly defined by six main development periods:

a) the original base development in 1936–8;

b) the expansion of permanent and temporary facilities during World War II;

c) realignment and sealing of the runways and aircraft movement areas around 1954;

d) additional facilities and infrastructure stemming from the formation of the former Number 1 Advanced Flying Training School Pearce (now Number 2 Flying Training School) in 1959;
e) development of the 130 Squadron Republic of Singapore Air Force facilities in 1994; and
f) minor facilities development as part of the Hawk 127 Lead-in-Fighter Project in 1998–1999.

6. The proposed redevelopment stage 1 aims to address critical aged infrastructure and facilities, with focus on facilities related to pilot training.

OBJECTIVES

7. This is the first redevelopment planned for RAAF Base Pearce, which will:
a) ensure continued and efficient operation of pilot training programs;
b) resolve Base operational issues arising from ageing infrastructure;
c) resolve Building Code of Australia compliance and associated occupational health and safety issues;
d) reduce operational costs by rationalisation and consolidation of duplicate and out of date facilities;
e) provide a combined mess reflecting an organisation which values those who make Defence a career choice;
f) provide living-in accommodation that is a major contributor to Defence capability by enabling personnel mobility, morale, esprit de corps, training outcomes, attraction and retention;
g) improve the environment and preserve the heritage of the Base; and
h) enhance facilities to ensure continued capability to support deployment operations.

NEED FOR WORK

8. ***Engineering Services***. The age of some of the engineering services at RAAF Base Pearce is 40-50 years and an assessment report indicates that more than 80% of the water and sewerage engineering services are in poor condition and need to be replaced. The existing engineering services continue to suffer frequent outages which not only inconveniences users but more importantly have an impact on the Base operations. These impacts could, in certain circumstances, render some facilities inoperable. Currently, reactive repair and maintenance is an ongoing and regular occurrence. This level of maintenance will increase with time as

further demands are made on the existing infrastructure, unless significant upgrades are undertaken.

9. ***Fuel Farm.*** The fuel farm is an important asset at RAAF Base Pearce as it is crucial to flying training and operations. The existing fuel farm is aged, non-compliant and has potential environment ground contamination issues. The Department of Defence, after detailed analysis, determined that it is not economical to refurbish the old fuel farm and hence the requirement for a new fuel farm.

10. ***Fuel Farm Quality Control Centre.*** The existing fuel quality control centre is dysfunctional and has deficiencies in regards to Occupational Health and Safety and Australian Standards. This facility needs to be co-located with the fuel farm and hence the need to construct a new compliant fuel farm quality control centre next to the proposed new fuel farm.

11. ***Combined Mess***. RAAF Base Pearce is currently serviced by four separate messes comprising five kitchens, four dining rooms and three bars to cater separately for Officers, Senior Non-Commissioned Officers, Airmen, Cadet Pilots and In-flight Meal preparation. The messes are generally in poor condition due to age and are in need of refurbishment or major repair. The kitchens do not meet contemporary food health and hygiene requirements. Additionally, the provision of four separate messes is inefficient and costly in terms of maintenance, energy use, catering equipment and personnel and cleaning costs. Therefore, the need for a new combined mess that is compliant and efficient.

12. ***Air Movements Facility.*** The current size, layout and functionality of the Air Movements facility is inadequate for multiple deployments and increased air movements. The existing office facilities for 1 Air Terminal Squadron Detachment, Pearce are based on ‘demountable’ extensions to the main cargo handling hangar, which provides no visibility to the aircraft parking aprons and also overcrowds the cargo handling hangar. The flight planning area is inadequate for multiple deployments and there are no change rooms or shower facilities in the building or within close proximity. Refurbishment and extension of the existing facilities is required to meet the operational and personnel support requirements.

13. ***PC 9 Maintenance Facility.*** The condition of the existing maintenance facility for Pilatus PC-9/A aircraft, constructed in 1937, has deteriorated and has numerous Building Code of Australia, Occupational Health and Safety, Defence Manual of Fire Protection compliance issues. Also, the office facility is dysfunctional in its existing layout. These

facilities are mandated for use by a Defence Contractor (for maintenance of PC9s) and as such Defence has a duty of care to ensure these facilities comply with relevant Building Code of Australia and Occupational Health and Safety requirements. Therefore , the need to refurbish this facility to achieve legislative compliance and efficient layout.

14. ***Noise Attenuated Engine Run-up Facility.*** RAAF Base Pearce currently has no purpose built engine run up facility that meets the Occupational Health and Safety regulations and noise pollution requirements for the engine run up procedures of the resident BAe Hawk 127 aircraft. The engine run up procedures are required to be performed as part of maintenance checks and adjustments. Therefore, the need to build a compliant, purpose built, noise attenuated engine run-up facility.

15. ***Defence Restricted Network Connection.*** The former Base Cinema, being adaptively utilised as the Base Briefing facility, is constrained in terms of visual presentations for briefings due to absence of a Defence Restricted Network (DRN) connection. The small investment in a DRN connection will enhance capability of the Base Briefing facility.

16. ***Living-In-Accommodation.*** The general standard of the existing living-in accommodation facilities at RAAF Base Pearce is poor, does not comply with contemporary Building Code of Australia requirements and does not meet the required Defence standards for living-in accommodation. The standard of the living-in-accommodation impacts the Australian Defence Force retention, morale and hence capability. The existing living-in-accommodation blocks cannot be economically refurbished to meet the required standards. Therefore, the need for new living-in-accommodation for Cadet Pilots, who are required to live-in as part of flying training.

17. ***Demolitions.*** As a result of this proposed redevelopment, a number of facilities at RAAF Base Pearce will become redundant. As these facilities are dilapidated and surplus, they are planned to be demolished to minimise ongoing maintenance costs, to allow space for future redevelopments and to generally improve the Base aesthetic appearance.

DESCRIPTION OF THE PROPOSAL

18. The RAAF Base Pearce Redevelopment Stage 1 project will involve:
    a) upgrade and replacement of the ageing Base-wide engineering services (water, sewer, stormwater, irrigation, power and communications) to comply with Australian Standards, State and local codes and guidelines;
    b) construction of a new Base Fuel Farm to replace the current sub-standard facility;

c) construction of a new Fuel Quality Control Centre to replace the current non-compliant facility;
d) construction of a new combined mess to meet the needs of all personnel on Base, replacing four substandard individual messes and thereby reducing operating costs;
e) upgrade/replace the Air Movements terminal and restore air cargo hangar facilties;
f) upgrade of the PC9/A maintenance facilties to ensure compliance with Building Code of Australia, Occupational Health and Safety regulations and Defence Manual of Fire Protection Engineering and to achieve functional effectiveness;
g) construction of a new noise attenuated Engine Run-Up Facility to provide noise protection for personnel and to reduce noise emissions outside of the Base;
h) installation of a Defence Restricted Network connection to the Base Briefing facility to enhance its adaptive re-use as the Base Briefing facility;
i) construction of 128 new Living-in Accommodation rooms for Cadet Pilots to replace the current sub-standard facilities; and
j) demolition of derelict and redundant facilities.

OPTIONS CONSIDERED

19. Alternative options for the individual project elements were considered as part of the development of the Detailed Business Case for the project.

20. ***Engineering Services Upgrade*** – An alternative option to address the problems associated with the engineering services was to retain and maintain the existing infrastructure with minimum modifications required to service the proposed redevelopment. This involved replacing sections of the services infrastructure on an as-need basis at the end of their operating life. This option was discounted as staged replacement of the entire mains system did not offer good value for money and would not eliminate the ongoing issues with service failures and disruptions.

21. An option to connect to the Western Australia Water Corporation systems for the supply of potable and non-potable water, and disposal of waste water has been investigated during the development of the RAAF Base Pearce Redevelopment Stage 1 proposal. Management of the water supply and waste water disposal is not a core business of the Department of Defence and the results of preliminary investigations consider connection with the Western Australia Water Corporation a viable option in the future.

22. ***Base Fuel Farm*** – Consideration was given to upgrading the existing fuel farm but this option was discontinued due to a number of issues, including:

a) upgrading did not provide a satisfactory solution to environmental risks as the upgrade was unable to provide spill containment directly under the existing tanks;

b) retention of the existing fuel farm would obstruct the master planned future expansion of the aircraft parking area;

c) upgrading the fuel farm would generate greater potential for disruption to aircraft refuelling capability during the construction phase; and

d) whole of life costs will be higher compared to constructing a new facility, due to increased maintenance requirements.

23. ***Fuel Quality Control Centre*** – Alternatives were not considered for this project element. New construction was deemed the most viable solution to meet the user requirement to situate the Fuel Quality Control Centre with the new fuel farm. This ensures common activities are located together for improved efficiency. The Fuel Quality Control Centre is a critical component of the Fuel Farm operations.

24. ***Combined Mess Facility*** – An alternative option of retaining and refurbishing the four existing messes and servicing these from a single refurbished kitchen facility was considered. This option did not offer the logistical and cost saving advantages of a fully rationalised facility. Additional concerns regarding the ability to supply quality meals at the required hygiene standards from a remote kitchen, following a trial to this effect, supported the development of one new combined mess facility.

25. ***Air Movements Facilities*** – Refurbishment of the existing facilities was also considered. This option was discontinued on the basis that refurbishment of the dilapidated transportable buildings was neither feasible nor able to meet the spatial requirements of the user. Such an option did not provide a sustainable, value for money solution to meet the Air Movements terminal functional requirements. The delivery of expansion of Air Movements cargo hangar is being delivered under a separate project, the Heavy Air Lift C17 project.

26. ***PC9/A Maintenance Facilities*** – An option to undertake a partial upgrade of the PC9/A maintenance facilities has been investigated. A lesser upgrade was discontinued during the design development as cost estimates were up to 90% of the major upgrade/replacement

works. This partial upgrade did not resolve the functional and administrative objectives for this facility nor satisfy the objective of full Occupational Health and Safety compliance.

27. ***Noise Attenuated Engine Run-Up Facility*** – Alternative options were considered utilising the existing run-up pad, earth berm sound attenuation and provision of personnel weather and sound protection. Noise modelling during the design development concluded that the noise level at the perimeter fence would be of an unacceptable level hence all alternative options were discontinued with a noise attenuated facility required to manage noise pollution.

28. ***Defence Restricted Network Communication Connection to the Base Briefing Facility*** – Options were considered to undertake a substantial upgrade to the Base Cinema to improve its level of amenity for alternative use as a Base Briefing Facility. To provide a functional Base Briefing Facility the provision of Defence Restricted Network connection has been prioritised for delivery within the funding for Stage 1 Redevelopment.

29. ***New Cadet Pilot's Living-In Accommodation*** – The option for refurbishment of the existing sub-standard Cadet Pilot's living-in-accommodation was considered in the development of this proposal. The structural design of the existing buildings does not allow for economical upgrade to the required standard. The current layout of these buildings is an inefficient use of space within the living-in-accommodation precinct, thus prohibiting expansion. In addition, the existing living-in accommodation facilities are scattered and would not have allowed consolidation of the living-in-accommodation facilities with the combined mess in the master planned "domestic precinct". The delivery of accommodation for Officers, Senior Non-Commissioned Officers, Airmen and Airwomen is being delivered under a separate project, the Single Living Environment and Accommodation Precinct project.

30. ***Demolitions.*** Alternatives were not considered for this project element as this element simply involves demolition of facilities that become redundant as part of this redevelopment.

REASON FOR ADOPTING THE PROPOSAL

31. This proposal redevelopment, which uses a mix of new construction and refurbishment works, will address crtitical aged dysfunctional infrastructure and facilities. It will ensure continued and efficient operation of pilot training programs and resolve Building Code of Australia compliance and associated occupational health and safety issues. It will further allow Defence to improve recruitment and retention through provision of modernised

combined mess and living-in-accommodation. The redevelopment strategy will also enhance the operational capability of the Base, reduce operational costs by rationalisation and consolidation of duplicate and out of date facilities and improve the environment of the Base.

ENVIRONMENTAL AND HERITAGE CONSIDERATIONS

32. Defence has carefully planned the siting of the works to avoid significant impacts on the sensitive environment areas of RAAF Base Pearce. The Initial Environmental Review and the Environmental Impact Assessment conducted for RAAF Base Pearce Redevelopment Stage 1 have indicated that there will be no significant impact on flora and fauna at RAAF Base Pearce. Therefore, it is considered that a referral to the Department of the Environment and Water Resources under the *Environmental Protection and Biodiversity Conservation Act, 1999* is not required.

33. The proposed redevelopment works will enhance the environment at RAAF Base Pearce through addressing potential ground contamination issues by the provision of new sewerage mains and remediation of the old fuel farm site. The provision of a noise attenuated facility will improve the environment for the local community and Base personnel.

34. Defence has developed preliminary environment management plans and the Managing Contractor will be required to develop Construction Environmental Management Plans covering all proposed works.

35. None of the sites at RAAF Base Pearce have been listed on the Commonwealth Heritage List. However, Defence has conducted a heritage assessment, which identifies a heritage precinct at the Base. This precinct focuses on the main development area stemming back to the original 1936-38 construction period. Within this precinct, a range of buildings and sub-precincts are categorised within varying levels of heritage significance, specifically, ‘high’, ‘medium’ and ‘low’. The redevelopment will preserve high heritage buildings through adaptive re-use of buildings. A number of dilapidated redundant buildings of lesser heritage significance have been identified for demolition and architectural records will be captured before demolition. An Aboriginal heritage assessment of the Base determined the absence of any aboriginal heritage sites or artefacts.

36. Defence proposes to develop heritage themes in the messing and living-in accommodation heritage precinct through the selection of appropriate construction materials. The Initial Review and the Heritage Impact Assessment conducted for RAAF Base Pearce Redevelopment Stage 1 have indicated that there will be no significant impact on heritage at

RAAF Base Pearce. Therefore, it is considered that a referral to the Department of the Environment and Water Resources under the *Environmental Protection and Biodiversity Conservation Act, 1999* is not required.

CONSULTATIONS

37. Discussions have been held, or are planned to be held, with the Federal Member for Pearce, Local Members of the City of Swan and the Chittering Chamber of Commerce, the Western Australian Water Corporation, the Department of Environment and Water Resources (Australian Greenhouse Office) and the Department of Conservation and Land Management, Western Australia.

REVENUE

38. This proposal will not produce revenue.

PART B - TECHNICAL INFORMATION

PROJECT LOCATION

39. RAAF Base Pearce is located adjacent to the town of Bullsbrook and is in the electorate of Pearce in Western Australia, as shown at Annex A.

PROJECT SCOPE OF WORKS

40. A detailed description of the proposal for each project elements is provided in the following paragraphs. The location of the proposed works within RAAF Base Pearce is shown at Annex B.

Engineering Services Upgrade

41. Upgrade of the Base engineering services includes:

a) replacement of sub-standard water supply and sewerage mains;

b) provision of a separate fire main to the key Base aircraft hangar facilities;

c) introduction of new and separate second-class water system for irrigation purposes;

d) upgrade of stormwater mains;

e) replacement/upgrade of the sub-standard high voltage and low voltage electrical network;

f) upgrade of the Central Emergency Power Station control and protection systems; and

g) completion of the optic fibre supervisory cable ring on the western side of the Base.

42. Negotiations are progressing under the Stage 1 Redevelopment project with the Western Australian Water Corporation for connection with town potable, non-potable and waste-water systems. These negotiations have indicated that connection for potable and non-potable water can be achieved within the project delivery timeframe. However, the resolution of negotiations in relation to the waste water connection may not be achieved within the project delivery timeframe but the project will make allowance for future connection.

Base Fuel Farm

43. A new compliant fuel farm facility will include bulk fuel storage (4.4 million litres), quality control tanks, dispensing bays, unloading bay and tanker parking facilities. The fuel farm will include bunding, environmental monitoring, and automatic data capture and reporting, to comply with all regulations and industry best practice. The concept plan for the new fuel farm is at Annex C.

44. This element includes decommissioning and remediation of the existing fuel farm facility and site.

Fuel Quality Control Centre

45. This work element involves the construction of a purpose-built fuel quality control centre with associated laboratory, storage, workshop and office adjacent to the proposed new fuel farm. The concept plan for the new fuel quality control centre is at Annex D.

Combined Mess Facility

46. The new combined mess will consist of a centralised kitchen, storage and staff areas servicing separate dining rooms for the four rank groups. The facility will also have separate bar, ante-room and function room facilities for each of these groups. The dining areas are capable of catering for Base personnel as well as peaks in demand during exercises and or deployments (through the use of operable walls). The concept plan for the new combined mess is at Annex E.

Air Movements Facilities

47. The facility will provide new office facilities and staff amenities, and new passenger facilities. An extension to the building allows the removal of administrative and passenger functions out of the existing cargo hangar, thus returning it to its original function. The concept plan for the Air Movements facilities is at Annex F.

PC 9/A Maintenance Facilities

48. The aim of this work element is to upgrade/replace the PC-9/A maintenance facilities to provide administration and maintenance staff with a modern, efficient and safe workplace which meets the current standards. Specific works include configuration of the office and work space to improve functional relationships, upgrade the fire protection and detection systems, provision of evaporative cooling to the maintenance facility and air conditioning and ventilation to the offices, upgrade of lighting and power systems, provision of adequate sound proofing, and provision of hand basins and emergency eye wash facilities to the maintenance areas. The concept plan for the PC/9 maintenance facilities is at Annex G.

Noise Attenuated Engine Run-Up Facility

49. The aim of this work element is to construct a new engine run-up facility designed principally for use by the Hawk 127. This work element includes provision of a hardstand to accommodate one aircraft, an enclosed aircraft shelter with a tube sound attenuator and deflector end, and a sound attenuated personnel booth. The concept plan for the noise-attenuated facility is at Annex H.

Defence Restricted Network Connection to Base Briefing Facility

50. The Base Briefing facility will be connected with the Defence Restricted Network to enable visual presentations for conferences and briefings.

Living-in Accommodation

51. This proposal includes the construction of 128 new living-in-accommodation rooms to Building Code of Australia and Defence's standards for Cadet Pilots. The new accommodation will provide an individual bedroom including an ensuite, data and telephone connection, access to low-density laundry facilities and secure storage areas. The concept plan for the new living-in accommodation is at Annex I.

Demolition of Redundant Facilities

52. The project has identified dilapidated and surplus buildings that will be demolished as part of this redevelopment. Before demolition, architectural and photographic records will be taken as required for heritage purposes. Annex J illustrates the facilities identified for demolition.

MASTER PLANNING

53. Each of the project work elements will be constructed on sites that are consistent with the RAAF Base Pearce Master Plan, zones and precincts. Relocating fuel farm, messing and living-in-accommodation areas and proposed demolitions will clear valuable space for future redevelopment in accordance with the RAAF Base Pearce Master Plan.

SITE PLANNING, SELECTION AND DESCRIPTION

54. All the proposed works are contained within the existing boundary of RAAF Base Pearce. All work sites were carefully sited in accordance with the RAAF Base Pearce Master Plan and other siting criteria such as environment, heritage, geotechnical, operational, security, proximity to airfield, fuel and explosive ordnance facilities, engineering services, property issues and costs.

ZONING AND APPROVALS

55. This property is Commonwealth owned and Defence controlled. No civilian authority design or construction approvals are required, although works will comply with the relevant standards and regulations.

56. Upgrading of the in-ground infrastructure includes the replacement of Defence owned water supply mains outside of the Base perimeter. The mains provide service connections to the groundwater bore field, and to the main storage tanks in Bullsbrook. Since these services run across property which is not Defence owned, coordination of the proposed works external to the Base with the relevant external stakeholders will be undertaken.

LAND ACQUISITION

57. This project does not require the acquisition of land.

CODES AND STANDARDS

58. Where appropriate or as far as practicable, the design and construction of the proposed works and services will conform to the relevant sections of the following standards and codes:

a) Building Code of Australia;

b) Occupational Health and Safety (Commonwealth Employment) Act 1991;

c) Western Australian Government Occupational Health and Safety legislation;

d) Environment Protection and Biodiversity Conservation Act 1999;

e) Australian Standards and Codes;

f) Defence Manual of Fire Protection Engineering;

g) Department of Defence Occupational Health and Safety Manual;

h) Defence Facilities Communications Cabling Standard;

i) Defence Security Publications;

j) Defence's 'Disabled Access and Other Facilities for Disabled Persons' policy;

k) National Code of Practice for the Construction Industry September 2006;

l) Commonwealth Government Employment Code of Practice (Office and Amenities Guidelines);

m) Commonwealth 'Energy Efficiency in Government Operations' policy 2006; and

n) Defence's Ecologically Sustainable Development policy.

PLANNING AND DESIGN CONCEPTS

59. The adopted designs offer good economy in relation to floor area, while achieving the necessary functional requirements and work flow patterns. The project's design team has considered, during the preliminary design stage, the implications and estimates of costs for designs, materials, construction techniques, finishes, equipment and energy systems, which will deliver economies on a whole-of-life basis.

60. Maximum flexibility is required for most internal office accommodation facilities. Except where the need for security or noise reduction dictates otherwise, minimum use has been made of structural internal walls or columns in the new facilities to allow future flexibility.

61. This project will maximise use of the suitable existing infrastructure of buildings and engineering services to minimise capital facilities costs. Conventional construction techniques commonly used by the local construction industry will be adopted, with due regard given to climatic conditions.

62. The buildings will be fully fitted out with all communications, light fittings, partitions, floor treatments, furniture, plant and equipment. New facilities will incorporate building management systems, metering and other provisions to measure and monitor energy use and to allow regular energy audits.

ENERGY CONSERVATION MEASURES AND ECOLOGICALLY SUSTAINABLE DESIGN

63. The Commonwealth is committed to Ecologically Sustainable Development and the reduction of greenhouse gas emissions. Defence reports annually to Parliament on its energy management performance and on its progress in meeting the energy efficient targets established by the Government as part of its commitment to improve Ecologically Sustainable Development.

64. The preliminary design of the new facilities has considered the following measures to reduce energy consumption in a cost effective manner:

a) reuse of existing infrastructure and recycling of materials where possible;

b) siting buildings to make maximum use of prevailing winds and the sun for temperature control and lighting;

c) using insulation and weatherproofing seals;

d) using energy efficient lighting and lighting control systems;

e) using energy efficient plant and equipment;

f) providing the capability to control energy use by zones within the facility;

g) specification of waterless urinals and water efficient fixtures; and

h) using computer automated Building Management Systems as part of an area-wide energy management strategy with metering and other provisions to measure and monitor energy use and to allow regular energy audits.

65. All buildings included in this project will be designed, constructed, operated and maintained to ensure that they use energy efficiently. To achieve this, as a minimum, the buildings will comply with:

a) Part I2 and Section J of Volume One of the Building Code of Australia;
b) Part 3.12 of Volume Two of the Building Code of Australia;
c) The Energy Efficiency in Government Operations (EEGO) policy 2006; and
d) Defence Green Building Requirements Part 1.

As applicable to the classification of each building.

66. The office areas within the redevelopment facilities, that have floor area less than 2000 square metre, will be designed to comply with the minimum energy performance standards in accordance with the Energy Efficiency in Government Operations policy 2006.

67. The Australian Greenhouse Office, in the Department of Environment and Water Resources, has been consulted with respect to these energy efficiency requirements.

MATERIALS AND FINISHES

68. Materials and finishes will be selected from those readily available locally for their functionality, durability, low maintenance and for their ecologically sustainable design properties. Materials and finishes will be sympathetic to each precinct and with the existing building finishes and landscaping.

STRUCTURAL DESIGN

69. The design philosophy has been to provide a building structure that works with the architectural design of the building. Where possible facilities have been designed to suit residential construction techniques to simplify construction and reduce specialist trades. Where residential construction could not be used, a simple steel framed cost effective solution has been implemented.

70. Internal walls to office buildings have in general remained non-load bearing to maximise the flexibility for future refurbishment and use.

MECHANICAL SERVICES

71. New and refurbished facilities, with the exception of vehicle garages and workshops, will generally be air-conditioned. The selection of building services and associated equipment will achieve an economic balance between capital cost and operation and maintenance costs. Selection of equipment has been based on a life cycle costing analysis.

72. New facilities will incorporate building management systems linked to the base regional utility management system. Metering and other provisions to measure and monitor energy use and to allow regular energy audits will be provided where practicable. Mechanical plant will have a level of spare capacity to ensure future flexibility.

HYDRAULIC SERVICES

73. New facilities will be connected to the upgraded fire, water and sewage infrastructure within RAAF Base Pearce. Hydraulic Services have been designed to meet all Australian Standard requirements while offering maximum water efficiency.

ELECTRICAL SERVICES

74. Lamps will be high efficiency fluorescent, compact fluorescent or discharge type and lighting will include sensor controlled lighting to intermittently occupied areas.

FIRE PROTECTION

75. The design of the fire protection systems will comply with the Building Code of Australia requirements and specifically with any additional requirements of the Defence Manual of Fire Protection Engineering.

ACOUSTICS

76. The design of all facilities will comply with the acoustic requirements of the Building Code of Australia and the relevant Australian Standards.

SECURITY

77. Appropriate security protection will be provided in accordance with the Defence Security Manual and specific project requirements.

OCCUPATIONAL HEALTH AND SAFETY

78. The proposed facilities will comply with the requirements of the Occupational Health and Safety (Commonwealth Employment) Act 1991, the Department of Defence Occupational Health and Safety Manual and relevant Western Australian Government Occupational Health and Safety legislation. The facilities will also operate in accordance with an approved project Occupational Health and Safety Plan.

PROVISION FOR DISABLED PERSONS

79. Access and facilities for the disabled will be provided where necessary and appropriate in accordance with the Building Code of Australia, Australian Standards, and Defence's policy "Disabled Access and Other Facilities for Disabled Persons".

CHILDCARE PROVISIONS

80. No additional childcare facilities are being provided under this project.

LANDSCAPING AND IRRIGATION

81. This proposal will significantly reduce the number of irrigated lawn areas to reduce the Base water consumption. The remaining lawn areas are proposed to be irrigated through a proposed second class water supply system, with the non-potable water proposed to be sourced from Water Corporation. The gardened areas are proposed to be replaced with native

vegetation. Other landscaping works will aim to restore the areas that will be disturbed during construction and generally enhance the immediate built environment.

IMPACT ON LOCAL COMMUNITY

82. The RAAF Base Pearce redevelopment project will employ a diverse range of skilled consultants, contractors and construction industry workforce over the four year construction period. It is estimated that approximately fifty local trade sub-contractors and ten local sub-consultant companies will be contracted for this project. The project will also generate some job opportunities from the supply and manufacture of materials.

83. This project should have minimal impact on the day to day activities of the local community during or post construction.

PROJECT COSTS

Cost of Works

84. The estimated out turn cost of this project is $142.2 million based on construction between 2007 and 2011. Costs include all planning, management and design fees, construction costs, furniture, fit-outs, equipment and contingencies.

Operating Costs

85. The total operating cost savings as a result of the proposed Stage 1 Redevelopment works is estimated to be in the order of $0.5 million annually. Operating cost savings are largely influenced by the rationalisation of messing and living-in-accommodation on Base, which are expected to result in significant savings in contract costs for catering, cleaning and facility maintenance.

PROJECT DELIVERY

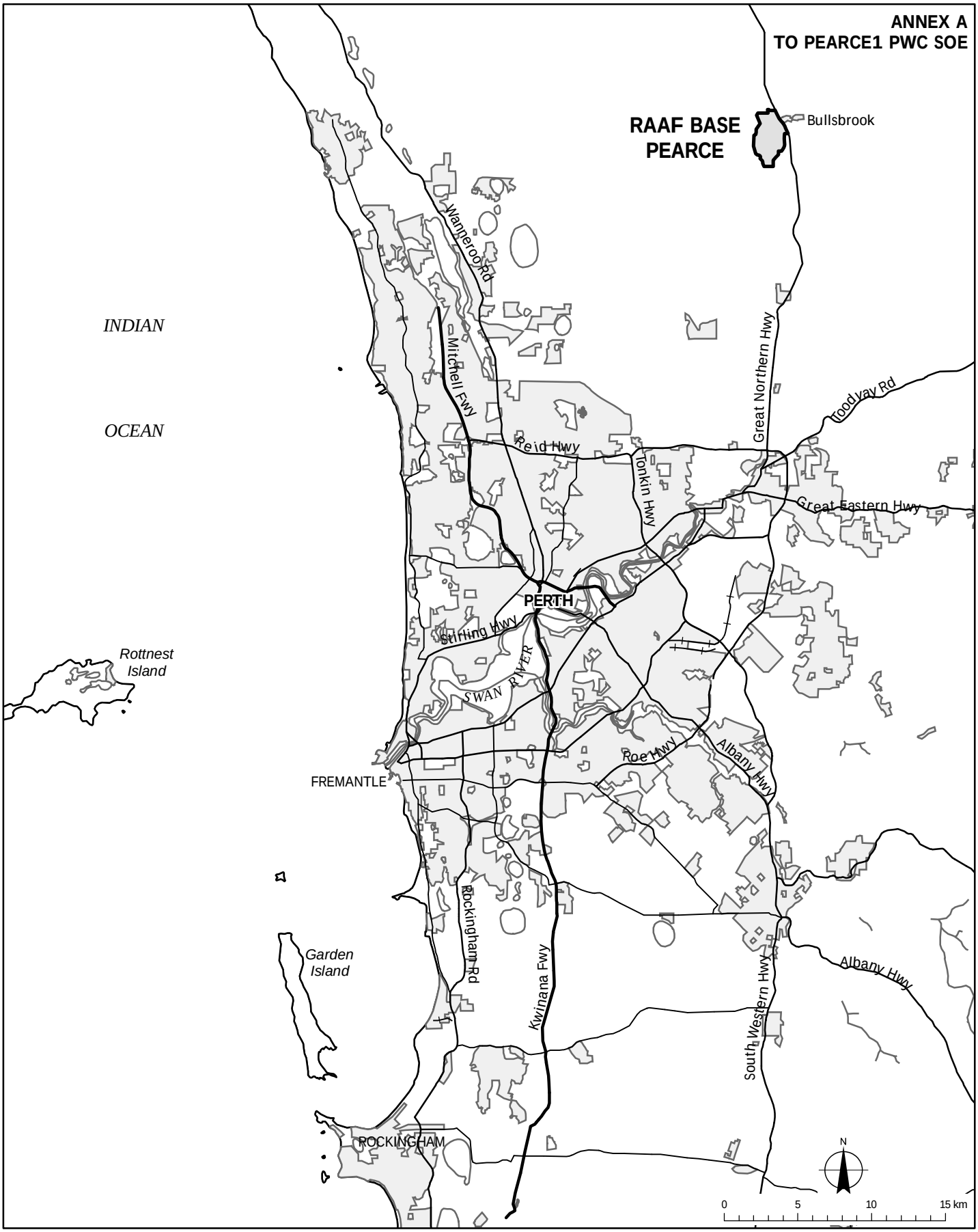
86. The proposed delivery system is via Managing Contractor. This form of delivery is well suited to projects where there will be a significant number of individual works being executed over a large area. Due to the need for RAAF Base Pearce to continue operations throughout the project period, this project will demand a high degree of coordination. The Managing Contractor has the ability to control and coordinate concurrent design and construction of disparate works and maintain a schedule which relies upon a tight sequence of events.

87. A Project Manager, that will represent Defence at RAAF Base Pearce and acts as Contract Administrator to the Managing Contractor, will be appointed for the delivery phase of the project.

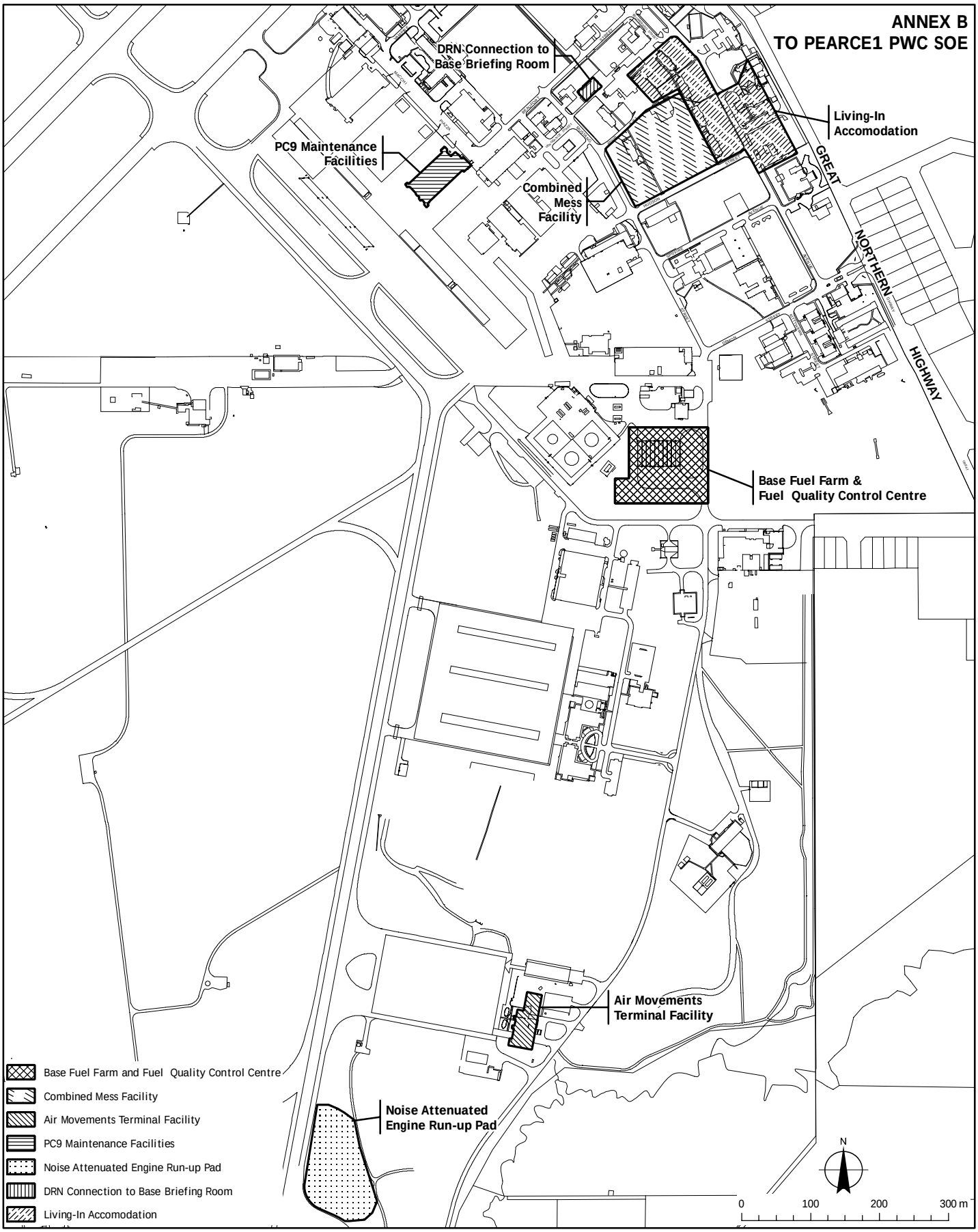
PROJECT SCHEDULE

88. Subject to Parliamentary clearance of this project, further design, tendering and then construction is scheduled to commence late 2007, with completion by mid 2011. Construction will be staged to minimise disruption to Base operations.

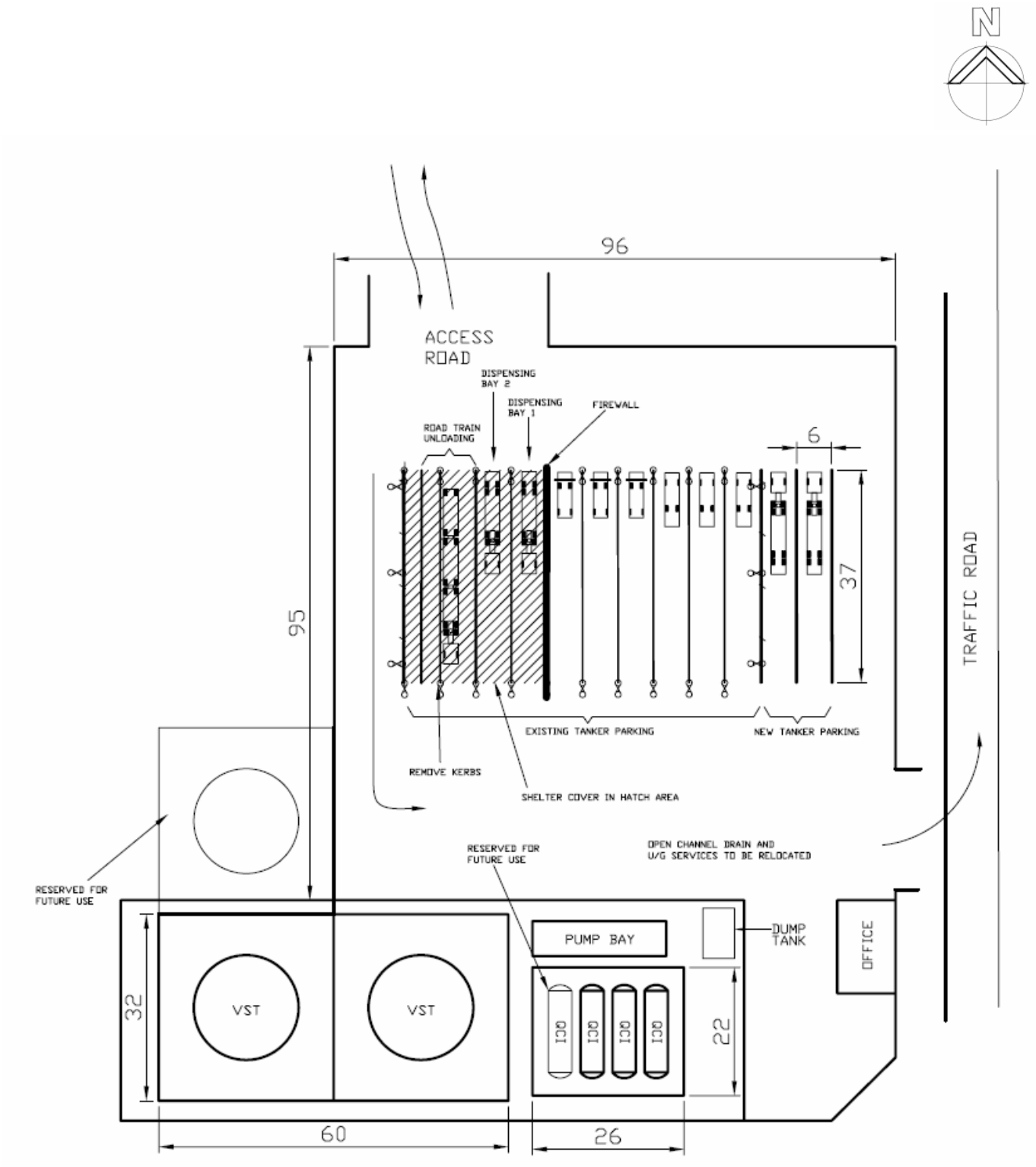
ANNEX A
TO PEARCE1 PWC SOE



RAAF Base Pearce Redevelopment Stage 1
Location Plan



RAAF Base Pearce Redevelopment Stage 1
Proposed Works Site Plan


N
96
ACCESS
ROAD
DISPENSING
BAY 2
DISPENSING
BAY 1
FIREWALL
ROAD TRAIN
UNLOADING
6
37
95
TRAFFIC ROAD
EXISTING TANKER PARKING
NEW TANKER PARKING
REMOVE KERBS
SHELTER COVER IN HATCH AREA
RESERVED FOR
FUTURE USE
OPEN CHANNEL DRAIN AND
U/G SERVICES TO BE RELOCATED
RESERVED FOR
FUTURE USE
PUMP BAY
DUMP
TANK
OFFICE
VST
VST
32
22
60
26

PROPOSED NEW
FUEL FARM

PROPOSED FUEL
QUALITY CONTROL
CENTRE

OVEN
WORKBENCH WITH
OPEN SHELVING UNDER
LABORATORY
C.01
26m²
FUME
CUP'D
WORKSTATION
TRAILER PARK
C.06
ESB
COMMS
STORE / WORKSHOP
C.03
24m²
VERANDAH
C.05
TOILET / CHG / SHWR
C.04
11m²
LUNCH ROOM
C.01.01
14m²
OFFICE
C.02
16m²
ENTRY
A
-

2 SITE PLAN / FLOOR PLAN
- 1:100

SECURITY
FENCE

METAL ROOF
SHEETING @
22.5° PITCH
CL
2719
FL
BRICK
PIER
270 CAVITY
BRICKWORK
21c
21c
BRICK
PIER

1 SOUTH ELEVATION
- 1:100

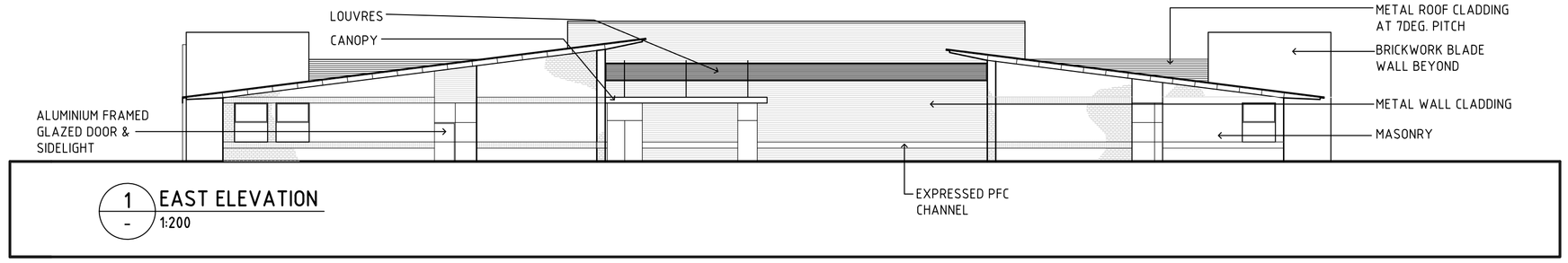
STEEL TRUSS ROOF TO
STRUCTURAL DRAWINGS
METAL ROOF SHEETING
@ 22.5° PITCH
75 ANTICON
GUTTER AND FASCIA
FLUSH PLASTERBOARD
WITH 75 INSULATION OVER
270 CAVITY BRICKWORK
REINFORCED CONCRETE
STRIP FOOTING TO
STRUCTURAL
DRAWINGS
REINFORCED CONCRETE FLOOR SLAB
TO STRUCTURAL DRAWINGS
BRICK PIER
LABORATORY
C.01
OFFICE
C.02
VERANDAH
C.05
CEILING LEVEL
2719
FLOOR LEVEL

A SECTION A-A
- 1:50

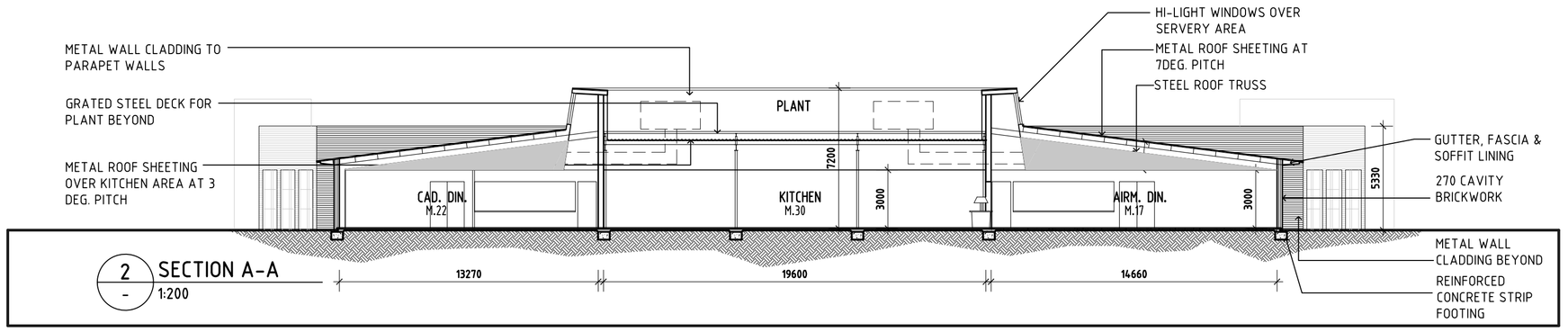
NORTH

ANNEX D
TO PEARCE 1 PWC SOE

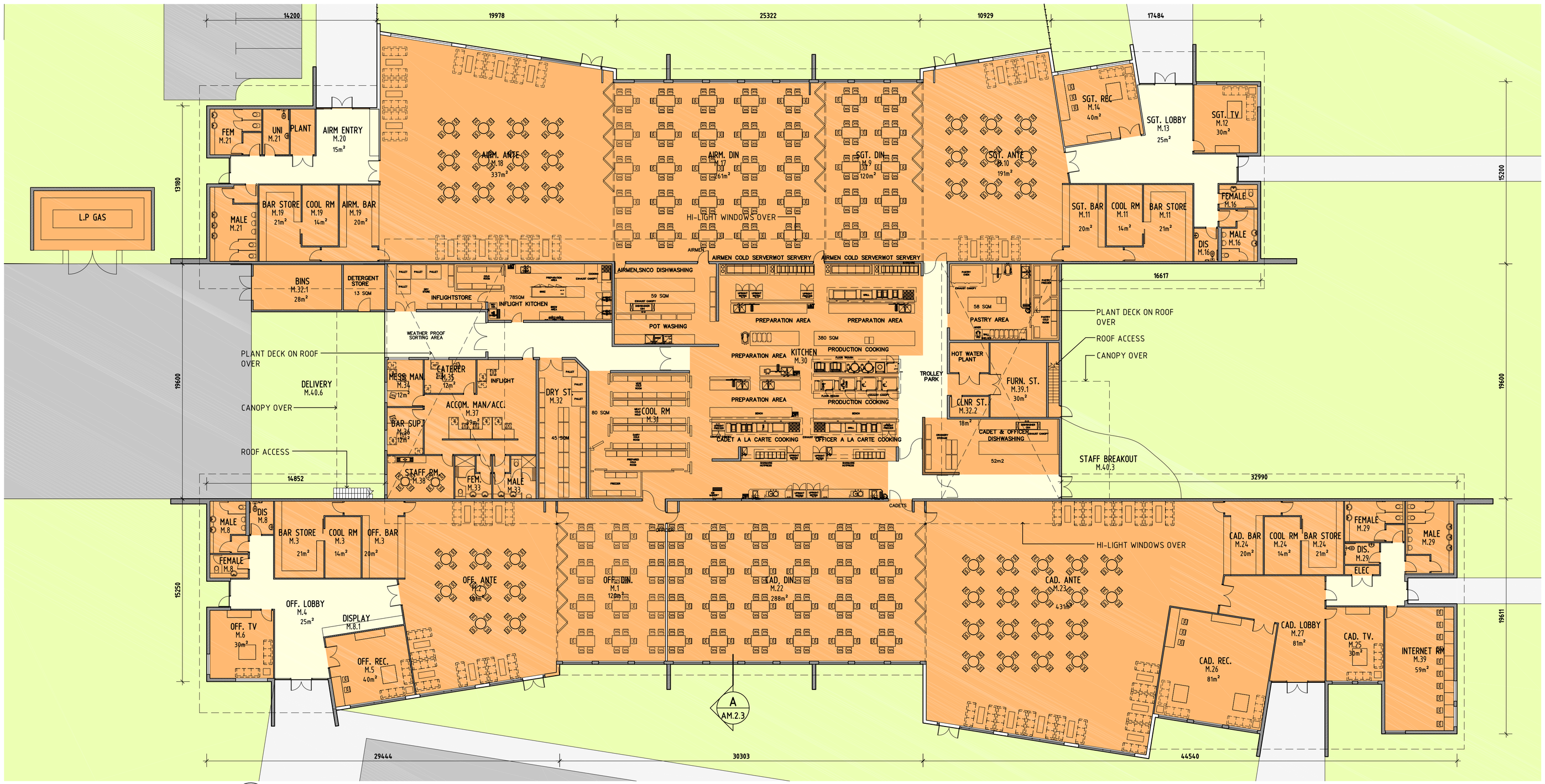
RAAF Base Pearce Redevelopment Stage 1
Fuel Quality Control Centre - Concept Plan



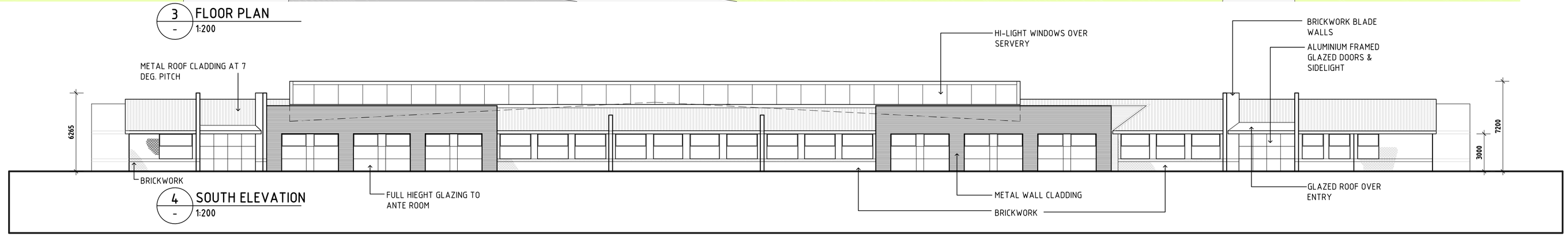
1 / - EAST ELEVATION
1:200



2 / - SECTION A-A
1:200



3 / - FLOOR PLAN
1:200



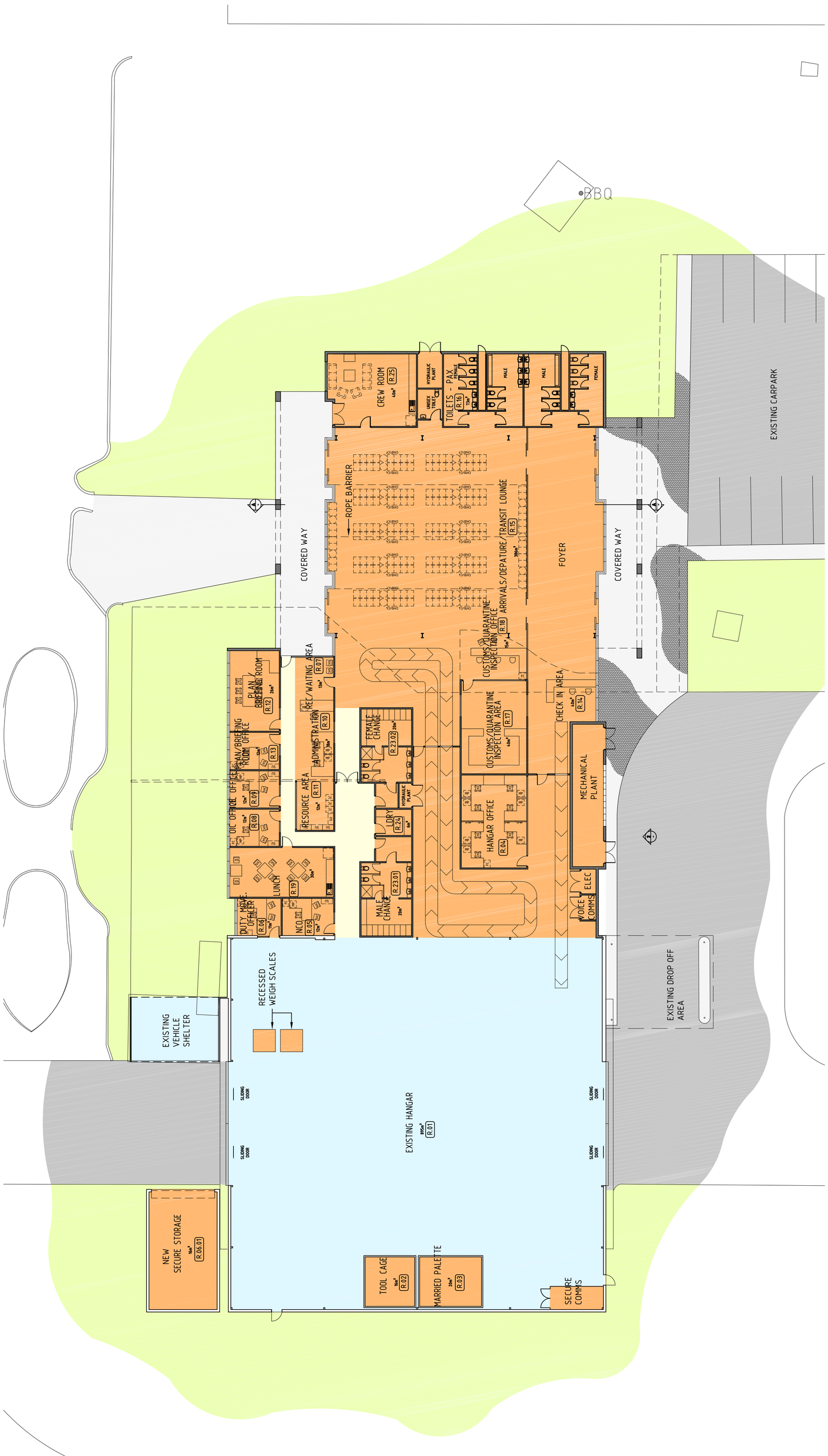
4 / - SOUTH ELEVATION
1:200

NORTH

RAAF Base Pearce Redevelopment Stage 1
Combined Mess Facility- Concept Plan

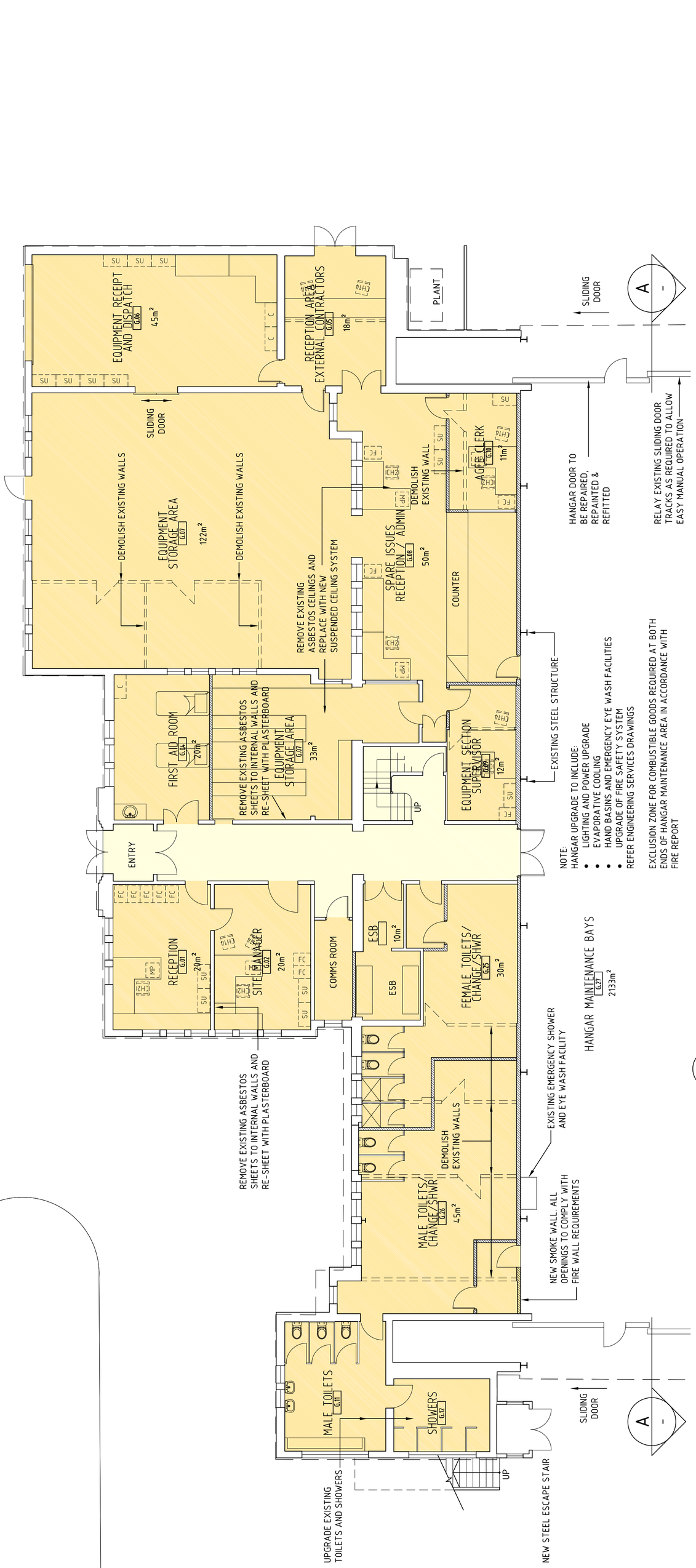
ANNEX E
TO PEARCE 1 PWC SOE

ANNEX F
TO PEARCE 1 PWC SOE

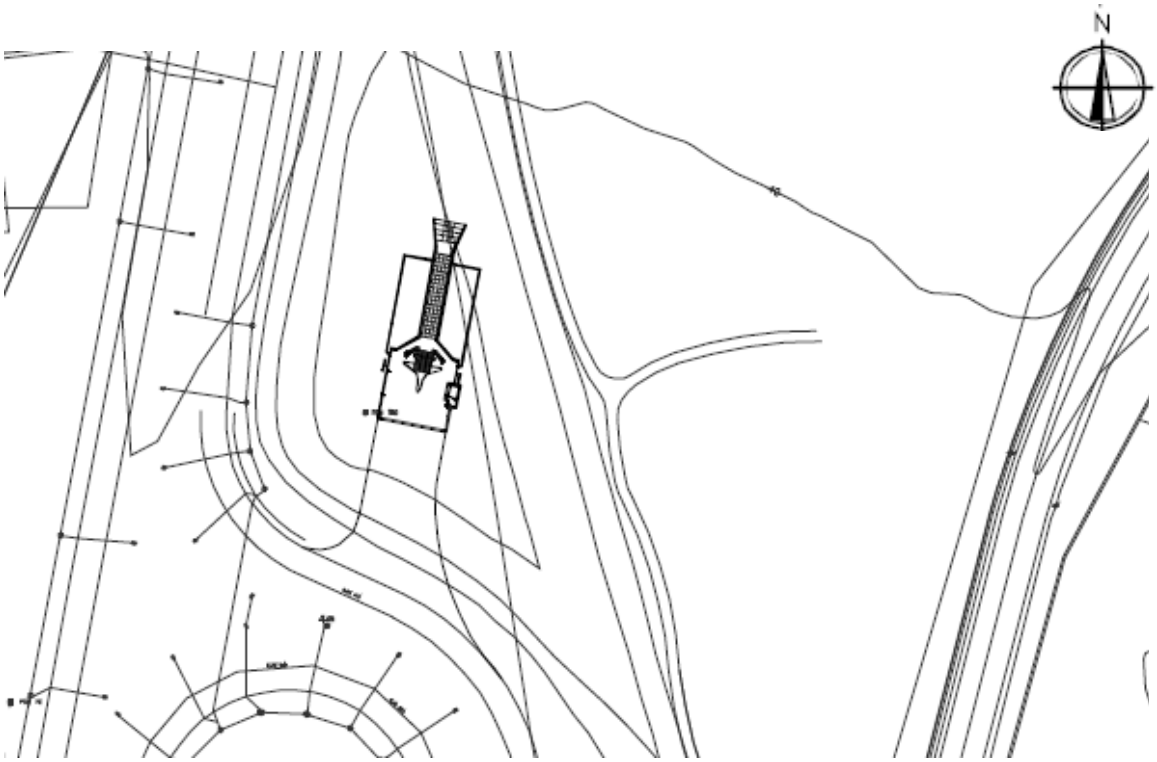


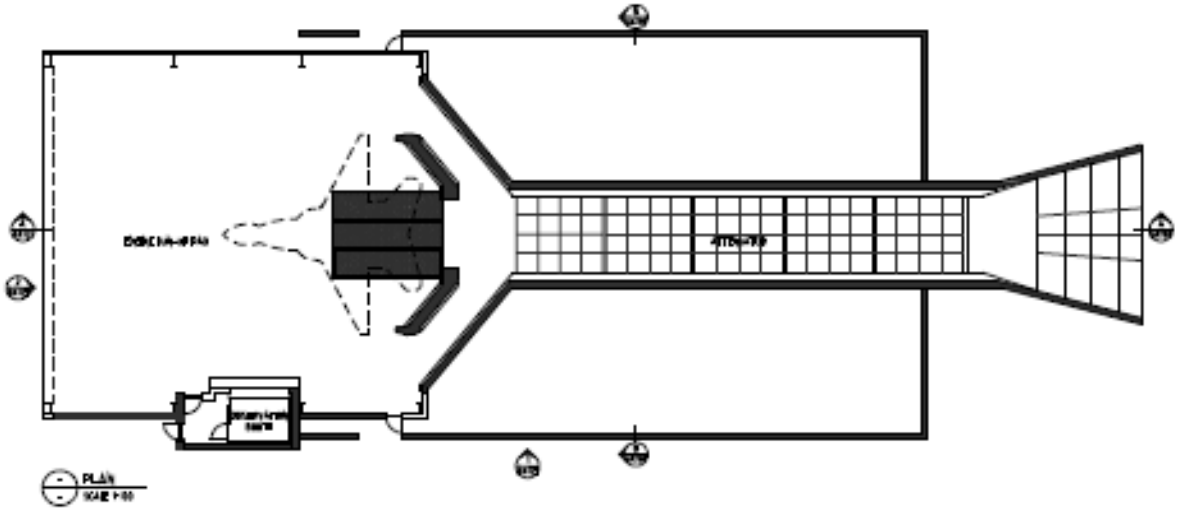
RAAF Base Pearce Redevelopment Stage 1
Air Movements Facilities - Concept Plan

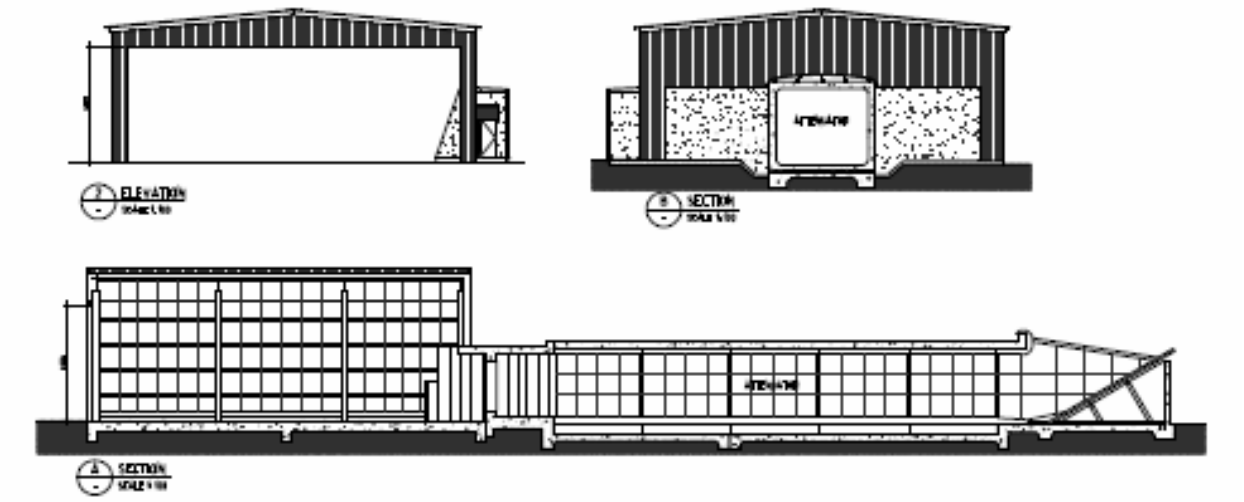
ANNEX G
TO PEARCE 1 PWC SOE

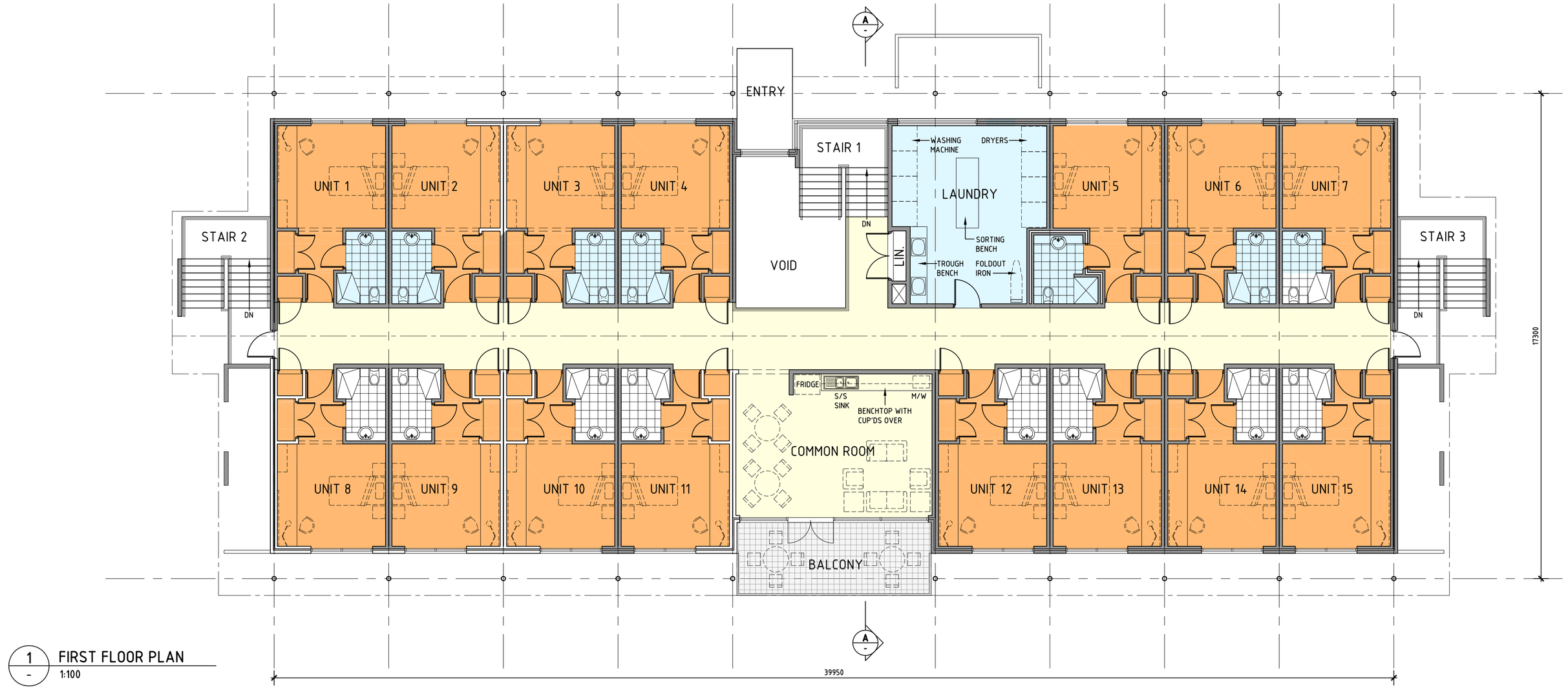


RAAF Base Pearce Redevelopment Stage 1
PC9/A Maintenance Facilities – Concept Plan

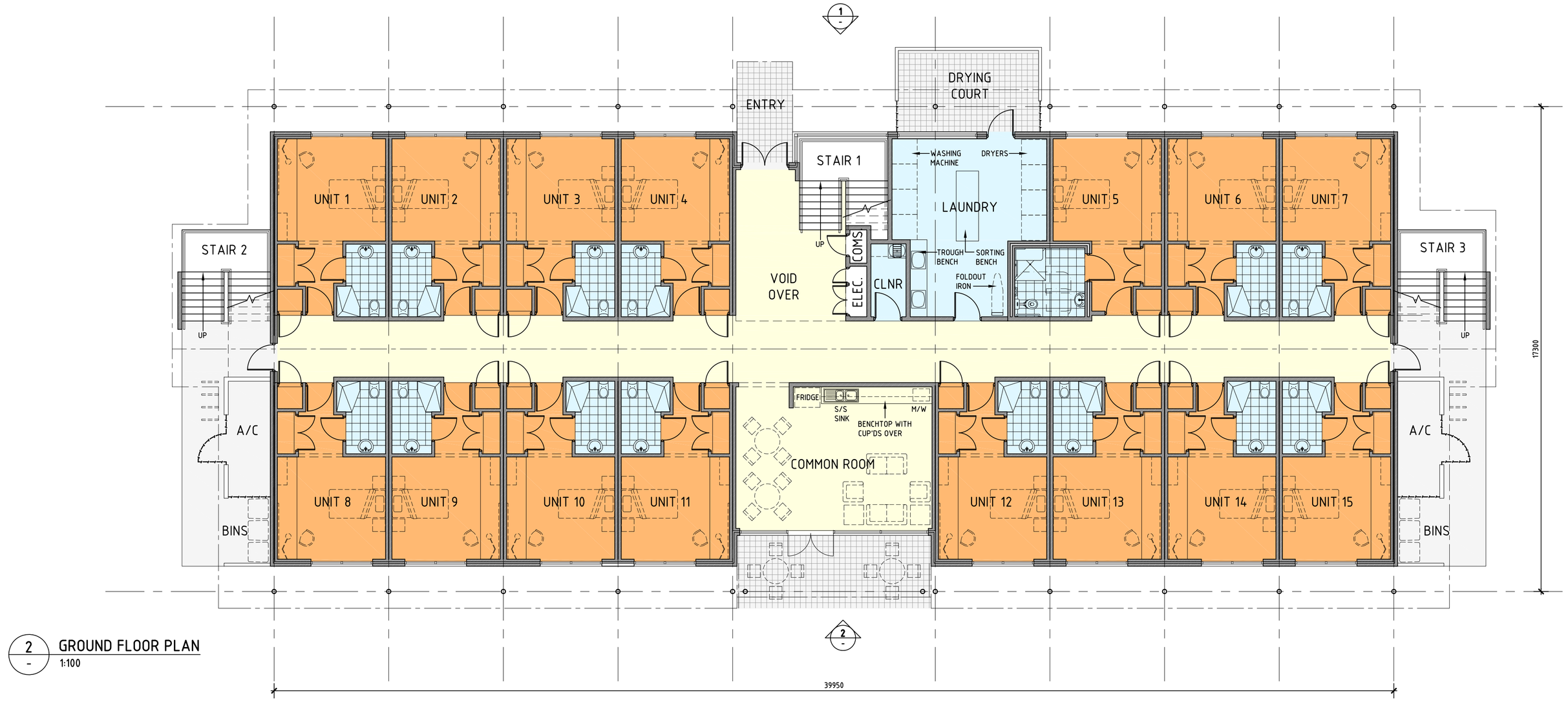

N


PLAN


ELEVATION
SECTION
SECTION



1 - FIRST FLOOR PLAN
1:100

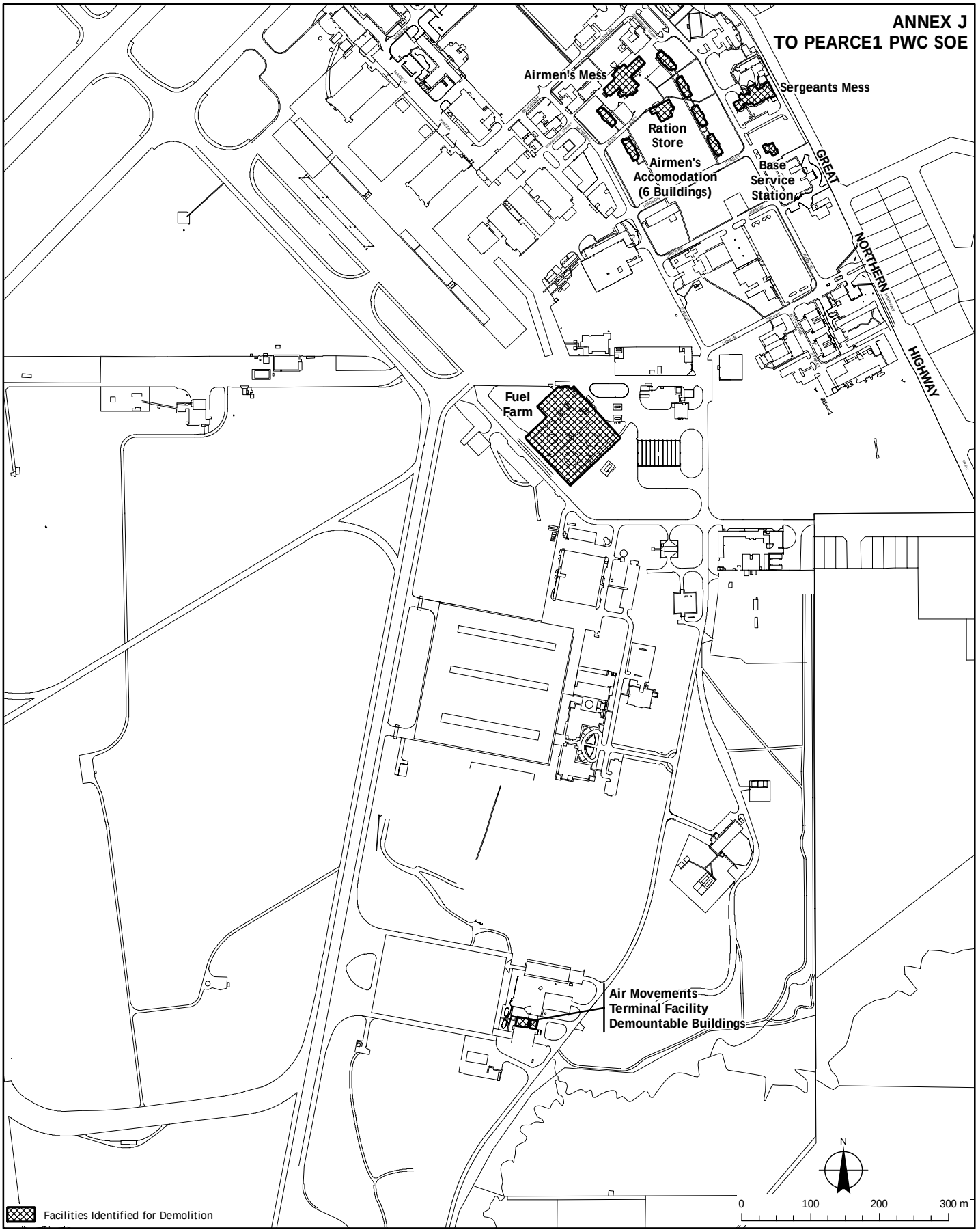


2 - GROUND FLOOR PLAN
1:100

RAAF Base Pearce Redevelopment Stage 1
Living-In Accomodation - Concept Plan

ANNEX I
TO PEARCE 1 PWC SOE

NORTH



RAAF Base Pearce Redevelopment Stage 1
Facilities Identified for Demolition