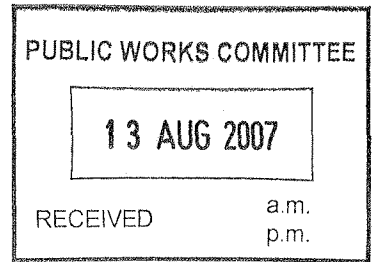




Australian Government
Department of Defence



SUBMISSION |

HARDENED AND NETWORKED ARMY
EDINBURGH DEFENCE PRECINCT FACILITIES

ADELAIDE, SOUTH AUSTRALIA

STATEMENT OF EVIDENCE
TO THE
PARLIAMENTARY STANDING COMMITTEE
ON PUBLIC WORKS

DEPARTMENT OF DEFENCE
CANBERRA, ACT
AUGUST 2007

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TABLE OF CONTENTS

PART A – IDENTIFICATION OF THE NEED	1
INTRODUCTION	1
PROJECT OBJECTIVES	1
BACKGROUND	1
NEED FOR THE WORK	2
CAPABILITY OUTCOMES	2
DESCRIPTION OF THE PROPOSAL	3
OPTIONS CONSIDERED	4
ECONOMIC IMPACTS	5
ENVIRONMENT AND HERITAGE	5
Development of the Edinburgh Defence Precinct	6
Management of Environment and Heritage Issues	7
RELATED PROJECTS	8
PART B – TECHNICAL INFORMATION	10
PROJECT LOCATION	10
PROJECT SCOPE	10
SITE DESCRIPTION	14
LAND ACQUISITION & LEASING ARRANGEMENTS	15
ZONING AND APPROVALS	15
SITE SELECTION	16
APPLICABLE CODES AND STANDARDS	17
PLANNING AND DESIGN CONCEPTS	17
STRUCTURE	19
MATERIALS AND FINISHES	19
MECHANICAL SERVICES	19
HYDRAULIC SERVICES	19
ELECTRICAL AND COMMUNICATIONS INFRASTRUCTURE	20
CIVIL WORKS AND INFRASTRUCTURE	20
LANDSCAPING	21
ACOUSTICS	22
ECOLOGICALLY SUSTAINABLE DEVELOPMENT MEASURES	22
Energy Efficiency	22
Overall ESD Response	23
PROVISIONS FOR PEOPLE WITH DISABILITIES	26
CHILDCARE PROVISIONS	26
FIRE PROTECTION	26
SECURITY	26
OCCUPATIONAL HEALTH AND SAFETY	26
STAKEHOLDER CONSULTATION	26
PROJECT COSTS	27
PROJECT DELIVERY SYSTEM	27
PROJECT SCHEDULE	28
ATTACHMENTS	28

**HARDENED AND NETWORKED ARMY
EDINBURGH DEFENCE PRECINCT FACILITIES
ADELAIDE, SOUTH AUSTRALIA**

PART A – IDENTIFICATION OF THE NEED

INTRODUCTION

1. The increasing lethality and availability of weapons affects the type of threat that the Australian Defence Force (ADF) may confront in the future. Australia is likely to continue to face situations such as those previously experienced in recent deployments, but must be prepared to face a far more lethal adversary with the will and the capability to fight conventional forces. The Hardened and Networked Army (HNA) initiative is Army's response to the need to fight on a more complex and lethal battlefield. It will provide increased combat weight through a redistribution of combat vehicles. It will also generate greater organisational depth in Army and a greater focus on combined arms battle groups rather than infantry battalion groups. HNA will provide increased options for Government in terms of both the combat weight of the force that can be deployed and the duration that forces can be sustained on operations.

2. One of the restructuring initiatives to occur under HNA is the establishment of a mechanised battalion group at the Edinburgh Defence Precinct (EDP) in Adelaide. EDP provides a cost-effective location that is readily accessible to training areas, strategic transport and Defence industry. Adelaide will also be an attractive posting location, with positive outcomes for recruitment, retention and Defence family welfare.

PROJECT OBJECTIVES

3. The project aim is to provide Adelaide-based elements of 1st Brigade with facilities and supporting infrastructure ready for occupation from January 2011 in order to achieve the Government intent for the Hardened and Networked Army. The project will provide permanent working accommodation for a mechanised infantry battalion, artillery, engineer and combat services support sub-units, plus infrastructure and replacement common user facilities to meet both Army and RAAF requirements at EDP. Off-site works at Murray Bridge and Cultana Range, South Australia are also included.

BACKGROUND

4. The HNA proposal was considered by Government in late 2005 and formally announced by the Minister for Defence on 16 December 2005. The HNA initiative included relocation of the 3rd Battalion, Royal Australia Regiment (3 RAR) to Adelaide and re-rolling it as a mechanised infantry

battalion with supporting sub-units from 1st Brigade. Subsequent Government direction in August 2006 to increase the size of the Army was titled the Enhanced Land Force (ELF) initiative. As a result of ELF, 3 RAR will be re-located to Townsville, and will remain a light infantry unit. The Adelaide facilities will instead be occupied by 7 RAR, which will be raised as a new mechanised battalion. This change does not affect the facilities requirements at EDP.

NEED FOR THE WORK

5. The proposal provides the necessary facilities to support Army's relocation of approximately 1,200 1st Brigade personnel to Edinburgh Defence Precinct. These comprise the 7th Battalion, the Royal Australian Regiment (7 RAR), a Medium Artillery Battery (Self Propelled) from 8/12th Medium Regiment, a Combat Engineer Squadron from 1st Combat Engineer Regiment, and a Combat Services Support Team from 1st Combat Services Support Battalion.

6. The proposal also provides for common user facilities and long-term reinvestment in essential base infrastructure to maintain existing RAAF and DSTO capabilities, to support the additional base population arising from the HNA initiative and allow for future expansion at EDP.

7. The current Base population is approximately 1,850 uniformed personnel. The HNA initiative will increase the Base population to approximately 3,000 uniformed personnel. The design of common use facilities is therefore based on a military population of 3,000, with provision for further expansion of facilities if and when required. The exception is the combined mess facility design. Given the high cost of mess facilities and the inherent difficulty with expansion of key built elements (e.g. kitchen), the target design population has been established at 3,600 to cater for surge (mounting base operations, training activities, transit personnel) and to provide some provision for future growth.

CAPABILITY OUTCOMES

8. This project will deliver facilities to support Defence capability for combined arms operations in accordance with the Government-approved HNA initiative. Analysis of the HNA capability requirements identified that the following considerations need to be made in developing facilities and infrastructure:

- a. Sustained operational tempo requiring a high level of preparedness for short-notice operations. Facilities must allow EDP to be used as a mounting base for operations, and support operational deployment by all strategic means;
- b. Joint and inter-agency campaigning in a coalition framework. Facilities must support joint/inter-agency and combined training, plus cultural and procedural integration. The

HNA initiative project has particular benefits for RAAF, Army and DSTO in this regard;

- c. Modular battlegrouping of land forces, tailored at short notice for specific operations. Facilities must support discrete EDP-based force elements preparing for operations separately, and deploying as part of Joint Task Forces (JTF) based elsewhere. Facilities must also support an influx of non EDP-based JTF elements preparing for deployment with EDP force elements;
- d. Enduring requirement for close combat and combined arms warfighting skills for all Army personnel. Training facilities must be provided accordingly, and designed to support evolving doctrine;
- e. Increasing use of technology and network-centric warfare. Facilities are required to house both current and future generations of warfighting materiel. High technology training facilities are required for development of skills and procedures. Information Technology architecture must be designed to enable future requirements;
- f. Complex operational environments with rapidly-changing situations across the spectrum of warfare. This means that individual soldier competencies must become more sophisticated, and will in future increasingly rely on education ('how to think') in addition to training ('what to do'). Facilities must be provided to support both;
- g. Substantial growth of education and training requirements beyond the capacity of Training Command - Army institutions. Distributed learning methods (primarily via the internet) and unit-based training will be required to overcome this, with facilities to support them; and
- h. Attraction and retention of Army personnel in a very competitive employment market. Facilities must support the development of esprit-de-corps and must provide appealing working conditions. Facilities must also support family welfare and satisfaction with Service life, in order to offset the demands of high operational tempo for serving members.

DESCRIPTION OF THE PROPOSAL

9. This proposal provides new working accommodation and training facilities for Army, common use facilities and site infrastructure upgrades. The works involve 12 project scope element groups as follows:

- a. New working accommodation for Headquarters 1st Brigade Forward Detachment;

- b. New working accommodation for 7 RAR mechanised infantry battalion;
- c. New working accommodation for the Medium Artillery Battery (Self Propelled);
- d. New working accommodation for the Combat Engineer Squadron;
- e. New working accommodation for the Combat Services Support Team;
- f. A new combined mess facility;
- g. A new physical fitness centre, include a swimming pool and other training and recreational facilities;
- h. A new combined health facility, plus training and support facilities;
- i. New vehicle wash and fuel facilities;
- j. Demolition of redundant facilities, remediation of contamination and heritage preservation works where required;
- k. Upgrading of site infrastructure including high-voltage electrical, emergency power generation, communications and civil infrastructure including new road networks, water, sewer, stormwater and gas supply; and
- l. Off-site works consisting of a new Marksmanship Training Range at Murray Bridge Field Firing Range and a new vehicle wash point at Cultana Range, South Australia.

10. **Impact on Existing EDP Facilities.** The HNA project (and other Defence facilities projects in development) will impact on existing facilities at EDP as follows:

- a. Some existing facilities will be replaced. This includes the 25 metre Firing Range, messes, medical, fitness, community and commercial facilities. Most vacated buildings will be demolished to minimise ongoing maintenance costs;
- b. Some facilities will need to be demolished to provide space for new buildings. Some of these will be replaced in new locations and some will be demolished and not replaced as they have become surplus to requirement; and
- c. Some facilities that become redundant will remain in place and be adaptively re-used.

OPTIONS CONSIDERED

11. HNA is a new capability requirement at EDP and the majority of the facilities proposed in this project involve new construction located on greenfield sites. Defence has also considered the viability of adaptively re-using or refurbishing facilities to reduce the need for new construction. In

most cases, the option to re-use facilities is not cost effective because of the age, structural inadequacy, functional inadequacy or inappropriate location of the facilities.

12. The proposal has been subject to refinement of requirements, consideration of options and value management throughout the design process to date and delivers the required scope within the project budget. Training and support facilities are to be shared to the maximum extent possible while still providing for the full range of specialist facilities required to meet the required capability outcomes. Deployable logistics support facilities have been designed to support individual unit management and stores accounting requirements, while still achieving economies through shared facilities where appropriate.

ECONOMIC IMPACTS

13. The proposal will have a positive economic impact on the community. The project will generate a significant amount of employment during the construction phase through on-site labour and construction materials fabrication and supply. Works will be delivered by a small number of Head Contracts. Defence anticipates that local building sub-contractors would be employed on a large proportion of the construction works. More broadly, the move of close to 1,200 Army personnel plus their dependents to Adelaide will generate significant long term economic benefits to the community by attracting Defence industry to the local area and by increasing local spending on goods and services. Another positive economic impact is expected from additional local staff hired to provide increased garrison support and comprehensive maintenance services during the facilities' operation.

ENVIRONMENT AND HERITAGE

14. Environment and Heritage issues at EDP have been actively managed by Defence over an extended period. An Environment and Heritage Impact Assessment (EHIA) has been completed for this project, and was based on a number of previous studies and policy documents.

Native Title / Indigenous Land Use Agreements

15. The EDP is of cultural heritage interest to the Kaurna aboriginal group. Traditionally this area was part of a migratory pattern of indigenous land use. Previous finds in the general area have included burial mounds, nomadic camp sites, and dispersed artefacts. For the most part these are now buried under alluvial deposits and in many cases have been disturbed by subsequent land usage. The proposed works at EDP and Murray Bridge Field Firing Range have no known Native Title issues and are not subject to an Indigenous Land Use Agreement. The EHIA found that the EDP is not a Commonwealth Heritage Place and there are no parts of the EDP that are indicatively listed on the Commonwealth Heritage List (CHL) for Indigenous reasons.

16. Kaurna representatives were consulted during the preparation of the EHIA, and participated in site surveys of the HNA project site. The EHIA supported existing EDP protocols for construction works, and for actions to be taken in the event of potential finds being identified. These protocols were reiterated in the EHIA and will be incorporated in the HNA Site Management plan and all other relevant procedures. Consultation with Kaurna representatives confirmed that these procedures continue to be appropriate.

Development of the Edinburgh Defence Precinct

17. The EDP site and the surrounding area were used for agricultural purposes from the mid 19th Century to the early 20th Century. Evidence of this remains to the south of the HNA site. The Sturton Church complex contains a small church, graveyard and farmhouse dating back to the 1850's. Development of the area began during World War II when the site was used for an explosives and ordnance manufacturing facility. The Salisbury Explosives Factory played an important role in supplying Australian forces with munitions throughout the war.

18. Some areas of RAAF Base Edinburgh were formally the Cordite Area and Acid Section of Salisbury Explosives Factory. Two features remaining from this period are the Nitro-Cellulose (NC) Charge houses located to the south of the domestic area. The Salisbury Explosives Factory ceased production in 1945 and then became the site for a joint Anglo-Australian project into Long Range Weapons Establishment (LRWE). The site continued to be used for technology and research purposes and in 1978 DSTO was established.

19. The RAAF have a long term involvement in the site and RAAF Base Edinburgh was established in 1954. During this period of change post World War Two many of the 1,595 buildings which made up Salisbury Explosives Factory were removed or have been redeveloped. Remnants of the Salisbury Explosives Factory, in addition to the historic buildings, include the landfill site and a number of contaminated areas previously used for waste burial and Underground Storage Tanks.

20. The EHIA found that parts of the EDP (former Salisbury Explosives Factory and Sturton Church and Graveyard) are listed on the Register of the National Estate (RNE) for historic reasons. They are also both listed as indicative places on the Commonwealth Heritage List (CHL). Indicative places and places listed on the RNE have no formal protective status other than ss.26, 28 and 391A of the EPBC Act (test of significant impacts to determine compliance).

21. The majority of built infrastructure at RAAF Base Edinburgh was constructed between 1940 and late 1960. The current building stock is generally poorly performing and does not meet current

Defence green building and ESD requirements. Maintenance and current running costs are estimated to be high.

22. The EHIA considered that project targets (ESD, green building etc) have been balanced with other requirements for Defence buildings (heritage considerations, OHS, security) to ensure that, first and foremost, Defence's operational capability is not compromised. The findings and mitigation measures for historic heritage impacts have been balanced with Defence's 'whole of life' approach to asset development.

Management of Environment and Heritage Issues

23. The proposed works were required to be assessed for compliance with Commonwealth obligations imposed primarily through the Environment Protection and Biodiversity Conservation Act 1989 (EPBC Act). The EHIA completed for the project takes a holistic view of the cumulative impact of this proposal, together with the other current or proposed Defence projects at EDP. The potential impacts of the project on heritage and environmental values were considered as part of the EHIA referred to above and in the context of the existing Heritage Management Plan (HMP) for the site.

24. The EHIA identified several issues including:

- a. areas of the site containing significant remnant trees, historic tree lines and regionally important flora species that should be retained;
- b. areas of significant contamination that are currently mapped and controlled; site planning needed to consider any potential disturbance of these areas; and
- c. several heritage classified structures, tree lines, grid patterns and boulevards.

25. Site planning for the HNA facilities considered these issues and includes the maximisation of vegetation retention and offset plantings, the retention of several representative buildings and structures of heritage value, and site layout which minimises impacts. Archival recording, interpretative display and signage of heritage values and structures are included as part of the proposal.

26. The EHIA concluded that:

- a. The consideration of environmental and heritage issues early in the design process has and will continue to provide an efficient and sustainable means of meeting environmental legislative requirements;

- b. The HNA project does involve some permanent impacts on historic heritage at the site, but all prudent and feasible alternatives to demolition were assessed within the EHIA and no suitable alternative to the capability requirements was identified;
- c. Proposed landscaping as part of the project is expected to increase the biodiversity and ecological values of the site;
- d. Implementation of best practice ESD principles will result in improved environmental outcomes from the project, including water sustainable urban development (onsite storage of stormwater for non-potable reuse);
- e. The replacement of ageing buildings that currently demonstrate poor energy, health (due to contamination) and maintenance performance will provide for improved living and working accommodation as well as potential whole of life cost savings; and
- f. Environmental impacts that have been identified can be mitigated to varying degrees during further design considerations and by applying appropriate environmental controls during construction and operation.

27. Based on the EHIA recommendations, Defence has determined that the project will not require referral under the EPBC Act, provided the mitigation measures included in the EHIA are implemented. A Construction Environmental Management Plan will be prepared to articulate environmental control measures and approval conditions to be complied with throughout the project. Environmental Clearance Certificates will be sought prior to any construction activities on site.

RELATED PROJECTS

28. EDP is a site that has multiple projects at various planning stages, all working towards construction within the next decade. An EDP Coordination Group has been established by Defence to ensure consistency in siting, works definition and programming. It is also responsible to ensure that industry engagement and facilities-related public communications are fully comprehensive.

29. **Infrastructure Projects.** Other Defence infrastructure developments potentially impacting the HNA project include the following:

- a. **RAAF Colleges Relocation (Approved).** The RAAF Colleges Relocation Project is currently in construction and will relocate the current RAAF No 1 Recruit Training Unit (1 RTU) from Edinburgh to RAAF Base Wagga, NSW. This project was considered by the PWC in November 2005.

- b. **Single LEAP Phase 2 (Approved).** Defence has determined that living in accommodation for EDP will be delivered by the Single LEAP Phase 2 project by private financing. The HNA project will provide the necessary infrastructure to support the living in accommodation at designated connection points. This project was considered by the PWC in June 2007.
- c. **RAAF Edinburgh Redevelopment Stage 2 (Yet to be Approved).** The Edinburgh Redevelopment Stage 2 Project is programmed for PWC consideration in 2008 and construction during the period 2008 - 2010. Works proposed include new and enhanced RAAF facilities, security works, entry precinct upgrades, demolition of surplus buildings and some infrastructure within RAAF areas.
- d. **Cultana Expansion Project (Yet to be Approved).** The Cultana Expansion Project proposes to expand the Cultana Field Firing Area (CFFA) to provide a larger training area for Defence. The HNA project scope includes a vehicle wash point at Cultana.

30. **Defence Materiel Organisation (DMO) Capability Projects (including Land 17, Land 106, Land 121).** Land 17 involves the introduction of new self-propelled artillery weapon systems. Land 106 will see the M113 armoured personnel carrier fleet upgraded, resulting in a longer vehicle. Land 121 will replace the Army's wheeled vehicle fleet with new vehicles of differing dimensions, storage requirements and maintenance regimes. Numerous other Defence Capability Plan projects will upgrade individual weapons, personal equipment, communications systems and materiel in general. These projects have been considered during the development of the HNA facilities and infrastructure designs to ensure planned equipment can be accommodated.

PART B – TECHNICAL INFORMATION

PROJECT LOCATION

31. The proposed Project Site consists of the following three locations:
 - a. Edinburgh Defence Precinct located approximately 30 km north of Adelaide;
 - b. Murray Bridge Field Firing Range site approximately 77 km southeast of Edinburgh (incorporating the site for the new Mechanical Target Range); and
 - c. Cultana Range located between Port Augusta and Whyalla, South Australia (incorporating the off-site vehicle wash point).
32. A location plan for the project is provided at Attachment 1.

PROJECT SCOPE

33. The complete facilities required contain 128 project scope elements. These scope items have been consolidated into 12 element groups summarised below. HNA Site Development Plans are provided at Attachment 2, and individual facility plans are provided at Attachments 3 to 14.
34. **Element A - Headquarters 1st Brigade Forward Detachment.** A new headquarters building is required to exercise local command and control of 1st Brigade elements at Edinburgh. The project will provide working accommodation for the Headquarters 1st Brigade Forward Detachment including after hours duty staff and car parking for staff and visitors.
35. **Element B – Infantry Battalion.** New working accommodation is required for 7 RAR at Edinburgh as follows:
 - a. Battalion headquarters building, guard house and rear gate house;
 - b. Company headquarters buildings (x 5);
 - c. Mechanised company working accommodation (including vehicle hangars) (x 3);
 - d. Support company working accommodation (including vehicle hangars);
 - e. Admin company working accommodation, including battalion Q-Store, workshop, vehicle hangars (x 2), petrol/oils/lubricants, battery, hazardous materials and defensive stores buildings;
 - f. Pipes and Drums section building;
 - g. Training facility; and
 - h. Provision of car parking for staff and visitors.

36. **Element C – Artillery Battery.** Facilities to be provided as follows:
- a. Battery headquarters building and gate house;
 - b. Battery working accommodation (including vehicle hangars);
 - c. Artillery stores building;
 - d. Battery store, hazardous materials and defensive stores buildings; and
 - e. Provision of car parking for staff and visitors.
37. **Element D – Engineer Squadron.** Facilities to be provided as follows:
- a. Squadron headquarters building and gate house;
 - b. Squadron working accommodation (including vehicle hangars);
 - c. Engineer stores building;
 - d. Battery store, hazardous materials and defensive stores buildings; and
 - e. Provision of car parking for staff and visitors.
38. **Element E – Combat Services Support Team (CSST).** Facilities to be provided as follows:
- a. Headquarters building and gate house;
 - b. CSST working accommodation (including vehicle hangar);
 - c. Workshop;
 - d. Q-store building;
 - e. Battery store, hazardous materials and defensive stores buildings; and
 - f. Provision of car parking for staff and visitors.
39. **Element F – Combined Mess Facility.** RAAF Base Edinburgh currently has three messes (Officers, Senior Non Commissioned Officers and Airmen), which are too small to cater for the new base population under HNA and are located some distance from the new Level 5 permanent Living-In Accommodation being delivered as part of the Single LEAP Phase 2 project. Under a complete rationalisation of the messing arrangements at RAAF Base Edinburgh, this project proposes a combined mess facility with a single kitchen and separate mess wings that provide formal and informal spaces for each rank group. This arrangement provides opportunity for staff development and continuation training, locates the messes with the new living in accommodation and the commercial and fitness precinct. It also provides significant economies in kitchen fittings, furniture and equipment.

40. **Element G – Physical Fitness Facility.** A high level of physical fitness is an essential requirement for all Australian Defence Force personnel. The current RAAF Base Edinburgh Physical Fitness Centre is ageing and inadequate to support the new base population under HNA. It cannot be cost effectively modified to meet the current and future physical training demands. The proposed Physical Fitness Facility will include venues for group physical training and regular fitness testing and assessment. These include an indoor heated 50 metre swimming pool, weight training areas, cardio theatre and a multi-purpose gymnasium floor suitably sized to support large classes of instruction. Individual training equipment and areas for sporting and recreational activities, such as sports ovals, tennis courts and squash courts are also proposed. The new Physical Fitness Centre will be located in close proximity to the new combined mess facilities and the proposed living in accommodation precinct.

41. **Element H – Combined Health Facility, Training and Support Facilities.** The current RAAF Base Edinburgh health support facilities are located in a collection of ageing buildings that are inadequate to support the new base population under HNA. It is proposed to rationalise all health support functions at Edinburgh into a single facility for all RAAF and Army EDP-based personnel. The facility will comprise outpatient, inpatient, diagnostic, dental, rehabilitation, training and related clinical support facilities, as well as co-located command and administration facilities.

42. A range of training and support facilities are also required to support training at EDP under HNA. Facilities to be provided include:

- a. Driver training track;
- b. Community centre;
- c. Commercial facilities;
- d. Close training area (including infantry minor tactics area, engineer training area, and artillery gun park);
- e. Training facility and Battlefield Simulation Centre (BSC) (combined);
- f. Method of Entry (MOE), Weapons Training Simulation System (WTSS) and night fighting training buildings;
- g. 25 metre zero template firing range;
- h. Training shelters;
- i. Run, dodge, jump course;

- j. Parade ground;
- k. Vehicle engine running track; and
- l. Obstacle course.

43. **Element I – Vehicle Wash and Fuel Facilities.** This project will see a large increase in the number of vehicles at EDP, particularly M113 armoured personnel carriers, self-propelled medium artillery and a range of trucks and support vehicles. A vehicle wash point is required to clean these vehicles after off-road training to prevent the cross-contamination of roadways and stormwater drains at EDP with soil and seeds, and to help maintain vehicle serviceability. A modern vehicle wash point with on-site water treatment and re-use is proposed. Fuelling facilities including diesel fuel storage, a refuelling point and a bunded fuel tanker vehicle parking area are also required to meet the increased demand for diesel and other petrol/oils/lubricants (POL) at EDP.

44. **Element J – Demolition and Remediation.** Demolition of redundant facilities and site remediation where required is proposed to free up space for future development and reducing the ongoing facilities maintenance costs associated with the upkeep of these facilities. The buildings proposed for demolition have reached the end of their economic and functional life, and have no potential for adaptive re-use.

45. **Element K – Site Infrastructure.** The existing base services infrastructure at EDP is in need of significant, long-term reinvestment both to maintain existing capability and to support the increased base dependency under HNA. This project proposes to upgrade site-wide electrical and communications infrastructure and provide the civil infrastructure necessary to service the HNA site. Infrastructure to be provided includes:

- a. Road network for the HNA site (interlocked paving/concrete for tracked vehicle areas and standard paving elsewhere);
- b. Civil infrastructure to support the HNA site (stormwater, sewer, water, fire, gas);
- c. DSTO high voltage electrical power link upgrade;
- d. Building Management System;
- e. PABX upgrade;
- f. EDP High voltage supply and reticulation;
- g. Central Emergency Power Supply (CEPS) facility upgrade;
- h. EDP trunk data and communications infrastructure upgrade;
- i. Landscaping;

- j. Site build up to raise facilities above 1-in-100 year flood level;
- k. Heritage preservation works; and
- l. Temporary works and site management facilities required during construction.

46. **Element L – Off-Site Works.** In addition to the above works proposed at EDP, two off-site facilities are required to support the HNA units. Facilities to be provided include a Marksmanship Training Range for small arms training at Murray Bridge Field Firing Range and a Vehicle Wash Point at Cultana Range.

SITE DESCRIPTION

47. The project site includes three locations: EDP, Murray Bridge Field Firing Range and Cultana Range.

48. The EDP is situated in Northern Adelaide on the coastal fringe of the North Adelaide Plain. It occupies an area of approximately 15 square kilometres, and overlays the former site of the Salisbury Explosives Factory. The EDP is bordered by residential development to the north, east and south. The Adelaide – Port Augusta railway line forms the eastern boundary of the EDP, acting as a clear boundary between the EDP and the residential suburbs to the east.

49. Along with the residential areas surrounding the site there is also a mixture of industry, manufacturing and horticulture facilities. The suburb of Edinburgh falls under the jurisdiction of the City of Salisbury, and has been a target for the North Urban Improvement Project (SA Government and City of Salisbury, 2003), which has involved attracting industry through improvements in infrastructure, increased commercial property and residential housing developments. Part of this initiative has been the development of new main roads and rail services in the area.

50. Current activities at RAAF Base Edinburgh focus on flying and support operations, with training and some research. This includes Number 92 Wing Logistics Operations, which provides operational logistics support, aircraft maintenance, systems development and administration, the Surveillance and Response Group (SRG), the Aerospace Operations Support Group (AOSG), the Maritime Patrol System Program Office (MPSPO) and 92 Wing. Key existing RAAF Base facilities include the aerodrome, fire station, fuel complex, warehousing and storage, and the domestic residential complex.

51. The Murray Bridge Field Firing Range is located 77 kilometres south east of EDP (incorporating the Marksmanship Training Range). Cultana Range is located between Port Augusta and Whyalla, South Australia (incorporating the off-site vehicle wash point). Expansion of Cultana

Range is under consideration by Defence as a separate project. Any such expansion will be contiguous with the current training area.

LAND ACQUISITION & LEASING ARRANGEMENTS

52. **Acquisition of Area 9C/9D.** Immediately to the south of the current EDP boundary there is 59ha of open space known as Area 9C/9D, currently owned by the SA Land Management Corporation (LMC). Although not part of the HNA project, Defence is negotiating with LMC for the purchase of this land to use for ongoing EDP requirements. This process is anticipated for completion by mid 2008.

53. The stormwater design for the HNA facilities includes the development of a major surface stormwater drain on Area 9C/9D. This stormwater drain is part of the wider Edinburgh Parks stormwater management system and should be located on Area 9C/9D for engineering reasons, regardless of ownership. This has already been agreed-in-principle between Defence, the City of Salisbury Council and the Land Development Agency.

54. **Cultana Range Expansion.** Although not part of the HNA project, Defence is planning to expand the existing Defence owned Cultana Range. The expansion provides additional options for siting of the HNA vehicle wash point, so this will not be decided until the expansion is approved and finalised.

55. **Leasing Arrangements.** There is no requirement for Defence to lease land for construction of the proposed works, however the following existing leases within EDP will be affected by the project:

- a. **Service Station.** The project will require termination of the leasing arrangements for the service station on RAAF Base Edinburgh. This is currently being arranged. Stakeholders have agreed that there is no future requirement for a retail fuel outlet on Defence land at EDP.
- b. **Commercial Facilities.** The commercial facilities currently located on RAAF Base Edinburgh will be relocated into new premises to be constructed by the project. Leasing and relocation arrangements will be made in due course.

ZONING AND APPROVALS

56. Subject to the acquisition of land area 9C/9D, all works referred to in this evidence will be constructed within the designated boundaries of Defence land designated "Defence Special Purposes". No civilian authority design or construction approvals are required, although the works will comply with the relevant Standards and Regulations as applicable.

SITE SELECTION

57. The EDP Zone and Precinct Plan was developed during 2006 in order to ensure coherent, long term site planning. The HNA Site Development Plan was developed accordingly and Site Selection Boards have been conducted to ensure all siting issues have been appropriately considered. The HNA working accommodation, training and support facilities will be located on a largely greenfields site at the south of RAAF Base Edinburgh. The common user facilities will be located in a redeveloped base support zone central to the Base.

58. A Range Siting Board was required and approved the siting of the Marksmanship Training Range at the Murray Bridge Field Firing Range. The 25 metre zero template range at EDP will be the subject of a separate Range Siting Board at a later date. The proposed location is acceptable in terms of the EDP Zone and Precinct Plan and all other site selection criteria.

MASTER PLANNING & FUTURE DEVELOPMENT

59. The EDP Zone and Precinct Plan was used as the primary spatial planning tool for the HNA Site Development Plan. Within the requirements of the Zone and Precinct Plan the over-riding principle has been the optimum achievement of functional and spatial capability with provision for incremental expansion within units and adaptability for future requirements.

60. **Future Expansion Capacity.** An important long-term requirement is to make provision for future needs at EDP. This has been considered at four levels, as described below and shown in Attachment 1.

- a. **Individual Buildings.** Every vehicle hangar was sited and designed to allow for expansion at each end, thus providing expansion potential of both office and vehicle storage areas. HQ buildings were also designed to account for potential future expansion.
- b. **Common User Facilities.** The common user facilities were designed around the target military population only. The mess, health facility and fitness centre were designed to be extended if the need arises.
- c. **Base Infrastructure.** Alignment of services easements and space allocations for infrastructure nodes were guided by both current and future needs.
- d. **Future EDP Relocations.** While the nature of any future unit relocations is unknown, flexible provision was made for ongoing development at EDP.

APPLICABLE CODES AND STANDARDS

61. Where appropriate, the design and construction of the proposed works and services will conform to the relevant sections of the applicable Building Codes and Standards including the following:

- a. Building Code of Australia;
- b. Australian Standards and Codes;
- c. Commonwealth and State legislation;
- d. Defence Manual of Fire Protection Engineering;
- e. Defence Facilities Communications Cabling Standard;
- f. Defence Security Publications;
- g. Occupational health, safety and welfare legislation and the Defence Occupational Health and Safety Manual; and
- h. Defence Infrastructure Management (IM) internet / intranet site.

62. A qualified and practicing certifier will be required to certify that the design and finished construction of the proposed facilities meet the requirements of the Building Code of Australia, relevant Australian Standards and codes, the Defence Manual of Fire Protection Engineering and any additional State, Local Government and Defence requirements.

63. Head Contractors will be required to produce Project Management Plans. These will clearly show how the building codes, Australian Standards and any additional Defence requirements in relation to security, fire protection and fire safety will be met, and how the required standards for construction and installation are to be maintained.

PLANNING AND DESIGN CONCEPTS

64. The proposed designs are substantially based on the exploitation of proven, precedent design solutions from Robertson Barracks and other Defence bases that have been found to suit the requirements of 1st Brigade units. The designs draw on the best aspects of these precedent designs, modified to suit the Adelaide climate and reflect current and future equipment, manning and training needs. While the working accommodation facility designs reflect the highly utilitarian industrial building types of Robertson and Lavarack Barracks, the design team has sought to develop a distinctive style of buildings which give renewed character to the Edinburgh site and which will influence the future development of facilities.

65. The approach to the design of the HNA facilities is based on the following principles:
- a. The creation of a consistent architectural style which is distinctly recognised as Edinburgh within the wider Defence Estate;
 - b. The subtle differentiation of zones within the precinct to reflect the particular functions therein, (working, training and living/support);
 - c. The creation of an environmental quality (internal and external) that supports personnel engagement and productivity in the Defence Force based on personal well being and satisfaction;
 - d. An architecture that is sensitive to the context of the Edinburgh precinct;
 - e. A particular focus on sustainability as a criteria for assessing design solutions in a whole of life (WOL) manner;
 - f. Planning and engineering system design that is sufficiently flexible to accommodate functional change over the life cycle of the facilities;
 - g. Enabling design that does not build out the potential for application of evolving technologies eg future wide spread application of solar arrays as a renewable energy source; and
 - h. An emphasis on pedestrian/bicycle circulation within the site for individual movement needs.

66. **Construction.** The design team has consulted with local industry regarding the suitability of various construction techniques and reviewed the most recent facility projects undertaken by Defence at Edinburgh, including the RAAF Edinburgh Stage 1 Redevelopment. Construction techniques proposed for the HNA project reflect commercial construction methodologies currently employed in South Australia and as appropriate to the relative scale of the facility. The possibility of maximising off site fabrication of elements has been a consideration in the design and will be further examined as the designs are fully developed. Similarly the potential to standardise building designs, building elements and construction details will provide significant economies to the project. Industry consultation has also highlighted the following issues which the PM/CA and design teams will address as the project progresses:

- a. Phasing of tendering of large construction packages to promote competitive pricing;
- b. Alerting the sub-contract industry with particular emphasis on steelwork shop detailing, steel supply and fabrication;

- c. Eliminating the use of blockwork on critical path activities; and
- d. Identifying efficient site access and locating contractors' facilities to support the significant spread of the work sites.

STRUCTURE

67. The bulk of the HNA development comprises single storey facilities, with some small extents of two storey work. The buildings are typically to be of a 'robust' construction utilising simple details to expedite the construction and minimise the cost. Typically the building forms will be:

- a. Stiffened raft footing system with slab on grade;
- b. Steel columns supporting simply supported steel roof beams with cold formed purlins and metal roof sheeting;
- c. Roof and wall bracing for stability; and
- d. Lightweight cladding typically with some areas of blockwork or precast panels for durability, security and architectural requirements.

MATERIALS AND FINISHES

68. Materials and finishes will be selected from those readily available locally for their functionality, durability, and low maintenance and for their ecologically sustainable design properties.

MECHANICAL SERVICES

69. Air conditioning will be provided to areas where climate and usage dictates a need. The selection of building services and associated equipment would be required to achieve an economic balance between capital cost and operation and maintenance costs. Selection would be based upon a whole-of-life analysis and particular consideration would be given to energy efficient design solutions employing passive solar energy. New facilities would incorporate building management systems, metering and other provisions to measure and monitor energy use and to allow regular energy audits where practicable. Mechanical plant will incorporate modular systems to ensure flexibility.

HYDRAULIC SERVICES

70. HNA facilities will be connected to the upgraded potable water and sewage infrastructure being constructed as part of RAAF Base Edinburgh Redevelopment Stage 2 project. Recycled water supply and distribution will be via a non-potable 3rd pipe system to all buildings for toilet flushing

and irrigation of site. Gas mains will be connected to EDP as part of this project. Solar hot water systems are generally provided for all locations with significant hot water demands.

ELECTRICAL AND COMMUNICATIONS INFRASTRUCTURE

71. Building electrical services including lighting, power, residual current device protection, emergency evacuation lighting, local emergency generator sets, lightning protection, fire detection and security alarms will be provided in accordance with the relevant Australian Standards and Defence Infrastructure Management requirements. Low voltage electrical infrastructure and switchboards will have spare capacity to allow for future growth.

72. Communications infrastructure including secure and unclassified data networks, voice networks, video-conferencing and audio-visual systems will be provided in accordance with relevant Australian Standards, Defence Infrastructure Management and Defence security requirements. Active information and communications technology components will also be provided by the project.

73. The existing high voltage power supplies to RAAF Base Edinburgh are inadequate to supply the existing RAAF Base load and the new load of the HNA facilities. The project will provide 66kV high voltage power supply and reticulation, upgrade the central emergency power station and communications infrastructure including cabling, data networks, voice networks, fire alarm monitoring and building management systems.

CIVIL WORKS AND INFRASTRUCTURE

74. The HNA site is low-lying, flat and subject to flooding. A major extension to the existing stormwater drainage system at EDP is therefore proposed. This will involve the construction of new drains and bulk fill over the HNA site to raise it above the 1-in-100 year flood level. Stormwater collection and reuse options are being considered as part of the project's ESD initiatives. A major component of this system is expected to be an underground stormwater retention basin.

75. The HNA project will increase traffic at EDP and the surrounding area, and a Traffic Impact Assessment has been undertaken to ensure the design provides a safe and efficient transport network. Traffic modelling was undertaken which considered traffic growth expectations both from the HNA project and development of the broader Edinburgh Parks precinct. Traffic modelling confirmed that the EDP is well connected to the external road network. The current roundabout at West Avenue / McNamara Drive is expected to perform satisfactorily until at least 2011, when provisions for turning storage lanes may be required on the West Avenue approaches to EDP. From 2016 West Avenue may require dual lane approaches and road reserves have been reserved to

accommodate this. The design of the main entry precinct and southern (heavy vehicle) entry precinct by RAAF Edinburgh Redevelopment Stage 2 is planned to take into account the requirement for third lane security checking and safe vehicle entry and egress to the external road network. Consultation is ongoing with LMC and Salisbury and Playford City Council authorities for traffic management issues.

76. The internal road network has been designed based on traffic modelling of both heavy and light vehicles. The road layout and entry precincts aim to separate heavy and light traffic as far as possible. A combination of interlocking paving and concrete pavement is proposed for the heavy vehicle road network. Asphaltic concrete is proposed for remaining roads. An extensive network of pedestrian paths and cycle paths is proposed to reduce reliance on cars within the base. Car parking for staff and visitors is provided at each new facility.

LANDSCAPING

77. Landscaping will be sympathetic to heritage values associated with existing vegetation described in the EHIA and HMP. The principles directing the design of the landscape include the provision of:

- a. Structured distribution of open space providing open space opportunities for all personnel;
- b. A highly visible network of vehicle, pedestrian and cycle circulation throughout the base;
- c. High quality open spaces of varying character and structure;
- d. A range of amenity and recreational uses to suit formal (ceremonies and parades) and informal use;
- e. A safe and accessible pedestrian and cycle network throughout the development (suited also to night time use);
- f. Sustainable environmental practices, including use of recycled and renewable materials, appropriate long term maintenance requirements,
- g. Waterwise irrigation strategies and stormwater management, retention and reuse for irrigation within the open space;
- h. Public art to provide interest and identity within the landscape and reinforce the base's sense of place (such as unit memorials and static displays of aircraft and armoured vehicles);

- i. A planting scheme that utilises local native species and appropriate exotic species which have low long term maintenance requirements and are drought tolerant; and
- j. Integration of stormwater treatment (retention and filtration) and other infrastructure provisions within the design of the landscape in accordance with Water Sensitive Urban Design (WSUD) principles.

ACOUSTICS

78. Noise criteria are set out in South Australia's *Environment Protection (Industrial Noise) Policy 1994*. Criteria for Urban Residential is 55 dB(A) for the daytime period of 7am to 10pm and 45 dB(A) for the night time period 10pm to 7am.

79. EDP is surrounded by both residential and industrial land to the north, east, and south, with open farmland to the west. The new Army presence will not produce any significant noise that would affect residential areas, the closest of which is 900 metres from the site. The existing noise due to RAAF activities will continue to be the dominant acoustic impact of EDP.

80. The HNA site is located outside ANEF 20 contours. No special aircraft noise attenuation measures are therefore required for the new facilities to be built within EDP.

81. Noise from construction will come from a number of sources including earthworks, road construction and building construction. The range of construction noise generated, from the nearest site boundary to the furthest site boundary for earthworks (the noisiest construction activity) is predicted to be 26-47 dB(A). This predicted construction noise complies with nominated SA criteria.

82. No acoustic impacts or required mitigation have been identified at Murray Bridge or Cultana.

ECOLOGICALLY SUSTAINABLE DEVELOPMENT MEASURES

83. The Commonwealth is committed to Ecologically Sustainable Development (ESD) 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 efficiency targets established by the government as part of its commitment to improve ESD. This project has addressed this policy by adopting cost effective ESD, as a key objective in the design development and delivery of new facilities.

Energy Efficiency

84. 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 (BCA);
- b. Part 3.12 of Volume Two of the BCA;
- c. Energy Efficiency in Government Operations (EEGO) policy; and
- d. Defence Green Building Requirements.

85. All buildings will comply with the relevant energy efficiency provisions in the BCA, except where there are energy efficiency requirements imposed by Defence Green Building Requirements that are of a higher standard. In this project, all buildings are subject to the higher standard of a 20% improvement on the minimum BCA energy efficiency performance requirements.

86. In addition to the above, all new offices and offices subject to major refurbishment will comply with the minimum energy performance standards in the EEGO policy. As all proposed office buildings have a floor area of less than 2000 m² separate digital on market status metering will be installed and office lighting will not exceed 10 W/ m². An energy management plan will be developed for implementation by Defence. Where available, fit for purpose and cost-effective, appliances will be US EPA 'Energy Star' compliant with power management features enabled at the time of supply.

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

88. For this project, the 1st Brigade Headquarters Forward Detachment building will aim to achieve a minimum 5 star Green Star – Office As-Built rating. The other office buildings will be designed to achieve 4 star GBCA green buildings standards but will not be formally accredited. The project also proposes to develop a rating tool for Hangars and Workshops, based on the Green Star principles, to informally rate these buildings and to benchmark equivalent performance to a 4 star Green Star Office Design.

Overall ESD Response

89. ESD targets for water savings, materials and waste reduction have been considered in the 30% design report in accordance with Defence Green Building Requirements Part 1 and will be confirmed as the design progresses. The ESD initiatives for this project are summarised below.

90. **Building Form & Fabric.** Energy use will be reduced by passive design features including:
- a. Orientating buildings where possible on east-west axis (a change from the traditional grid layout of buildings at RAAF Edinburgh where appropriate) with external shading;
 - b. The internal layout of the hangar buildings has been reconfigured so that all offices have an external window;
 - c. All windows to HQ and hangar buildings are openable (where Defence security design requirements permit);
 - d. Use of clerestories and skylights to introduce daylight and/or allow cross ventilation in deep plan buildings (e.g. hangars and mess); and
 - e. Increased levels of insulation to walls and roofs.
91. **Energy.** Energy usage will be reduced by cost-effective active design features including:
- a. HVAC zoning and control to allow areas not in use to be switched off;
 - b. Widened temperature set-point control to reduce energy use;
 - c. Efficient lighting with labelled lighting controls (and timers / motion sensors in transient spaces);
 - d. Skylights to corridors to reduce lighting consumption;
 - e. Thermal chimneys to allow mixed mode operation in lecture theatres;
 - f. Solar hot water to all buildings;
 - g. Small combined heat & power unit proposed for the Health facility; and
 - h. Consideration of biomass boilers for pool heating and hot water in the combined Mess.
92. **Water.** Water consumption will be reduced by passive and active design measures including:
- a. Recycled water supply and distribution via non-potable 3rd pipe system to all buildings for toilet flushing and irrigation of site (options being considered include rainwater tanks, site stormwater collection, and participating in the City of Salisbury Aquifer Storage and Recycling System);
 - b. Reducing demand for potable water (2.5 / 5 litre dual flush toilets and 4 star WELS rated taps & showers, drought tolerant native planting, low precipitation rate irrigation system, mulching and use of planting where possible to control dust);
 - c. Local filtering and re-cycling at vehicle wash points;

- d. Collection of rainwater from the Mess & Physical Fitness Centre roof for pool water top-up; and
- e. Pool blanket to reduce pool water evaporation.

93. **Alternative Transport.** The use of alternative transport is encouraged and supported by providing:

- a. Bike racks to each building;
- b. Bike paths throughout; and
- c. Site layout and provision of pedestrian paths and car parks in a manner that minimises vehicular traffic within the base, in particular for access to common user facilities at the centre of EDP.

94. **Materials & Waste.** Impacts due to materials use and waste will be managed as follows:

- a. Adherence to Defence Green Building Requirements for recycling and waste management during construction, and waste minimisation targets established by the National Package Covenant;
- b. Waste recycling areas provided in each completed building;
- c. Bokashi organic waste fermentation system proposed in Mess; and
- d. ESD-based materials selection according to the principles shown in Table One below.

Table One: Materials selection principles for ESD outcomes

Type	Proposed Material
Insitu Concrete	30% fly ash / slag content to reduce embodied energy
Insulation	Zero ODP – wool, polyester, air cell
MDF / Particleboard	E0 or E1 low formaldehyde Australian Forestry Standard
Timber	Australian Forestry Standard
Paints	Low VOC
Carpets	Low VOC Recycled PVC backing or no PVC content
Floor sheeting	No PVC – use marmoleum or rubber
HVAC Refrigerants	Zero ODP
Plumbing	No PVC pipes - use HDPE

PROVISIONS FOR PEOPLE WITH DISABILITIES

95. Access and facilities for the disabled will be provided in accordance with the Defence Infrastructure Management requirements for Disabled Access and Other Facilities for Disabled Persons, the Building Code of Australia and relevant Australian Standards.

CHILDCARE PROVISIONS

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

FIRE PROTECTION

97. The design and construction of the fire protection systems will comply with the Building Code of Australia, the Defence Manual of Fire Protection Engineering (based on the building Asset Classification), and all other applicable Codes and Standards.

SECURITY

98. A Security Threat Assessment and a Security Risk Assessment have been completed, and appropriate security protection will be provided in accordance with the Defence Security Manual and specific project requirements.

OCCUPATIONAL HEALTH AND SAFETY

99. The proposed facilities will comply with the requirements of the Occupational Health and Safety Act 1991, the Department of Defence Occupational Health and Safety Manual and relevant Queensland Government Occupational Health and Safety legislation and operate in accordance with an approved Occupational Health and Safety Plan.

100. All construction sites will be appropriately secured to prevent public access during the construction period. No special or unusual public safety risks have been identified.

STAKEHOLDER CONSULTATION

101. Discussions have been held, or are planned to be held, with the following organisations:

- a. Australian Greenhouse Office;
- b. ETSA Utilities;
- c. South Australian Water Corporation (SA Water);
- d. Telstra;
- e. Origin Energy;
- f. Salisbury City Council;

- g. Playford City Council;
- h. Town of Gawler Council;
- i. Land Management Corporation of South Australia;
- j. South Australian Government Defence Unit;
- k. South Australian Metropolitan Fire Service;
- l. Federal Member for Wakefield;
- m. Kaurna aboriginal group;
- n. Tappa Iri Indigenous Business Centre; and
- o. South Australian Government Aboriginal Affairs and Reconciliation Division (AARD).

COMMUNITY IMPACT

102. Given the proximity of large residential areas close to EDP, a separate Public Consultation Strategy has been developed as part of the EHIA to address and engage local residents and other stakeholders who have an interest in the potential impacts of the HNA project.

PROJECT COSTS

103. The estimated out-turn cost of this project is \$623.68 million (excluding GST). This cost estimate includes the construction costs, management and design fees, furniture, fittings and equipment, active Information and Communications Technology, contingency and an escalation allowance.

104. An increase in net personnel and operating costs is expected due to the construction of the new facilities and the associated increases in facilities maintenance, communications and information technology services, cleaning, utilities and other property and garrison support services.

105. No revenue will be derived from this proposal.

PROJECT DELIVERY SYSTEM

106. The proposed delivery system is by a series of Head Contracts. This project delivery system has been selected on the basis of value for money, project risk profile, clarity of scope and construction industry capability. A single Project Manager has been engaged to represent Defence, co-ordinate the works and act as Contract Administrator.

PROJECT SCHEDULE

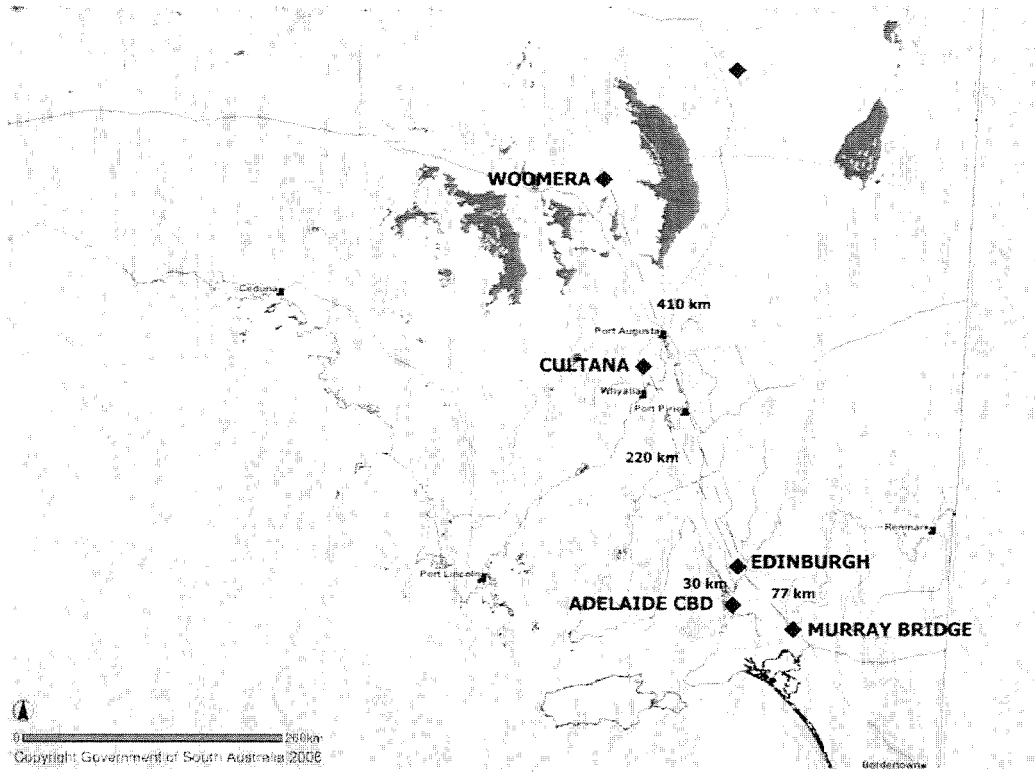
107. Subject to Parliamentary clearance of the project, construction of the first elements is expected to commence in mid 2008. Works required for 7 RAR relocation from Darwin to Adelaide are expected to be complete by late 2010. The remainder of the works are expected to be complete by late 2011.

ATTACHMENTS

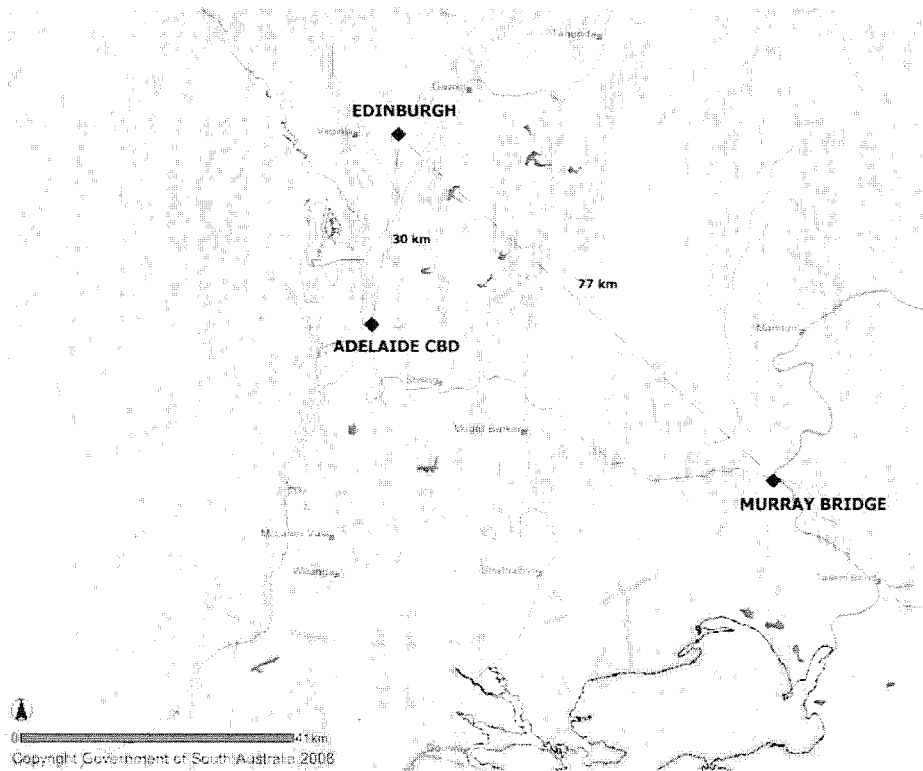
- Attachment 1. HNA EDP Facilities Project - Location Plans
- Attachment 2. HNA EDP Facilities Project - Site Development Plans
- Attachment 3. HQ 1st Brigade Forward Detachment Plans
- Attachment 4. 7 RAR Battalion Headquarters Plans (typical)
- Attachment 5. 7 RAR Company Headquarters Plans (typical)
- Attachment 6. 7 RAR Company Hangars Plans (typical)
- Attachment 7. Medium Artillery Battery (Self-Propelled) Headquarters Plans
- Attachment 8. Combat Engineer Squadron Q-Store Plans
- Attachment 9. Combat Services Support Team Workshop Plans
- Attachment 10. Combined Mess Facility Plans
- Attachment 11. Physical Fitness Centre Plans
- Attachment 12. Community and Commercial Facilities Plans
- Attachment 13. Health Facility Plans
- Attachment 14. Training Facility Plans

ATTACHMENT 1 - LOCATION PLANS

STATE-WIDE LOCATIONS

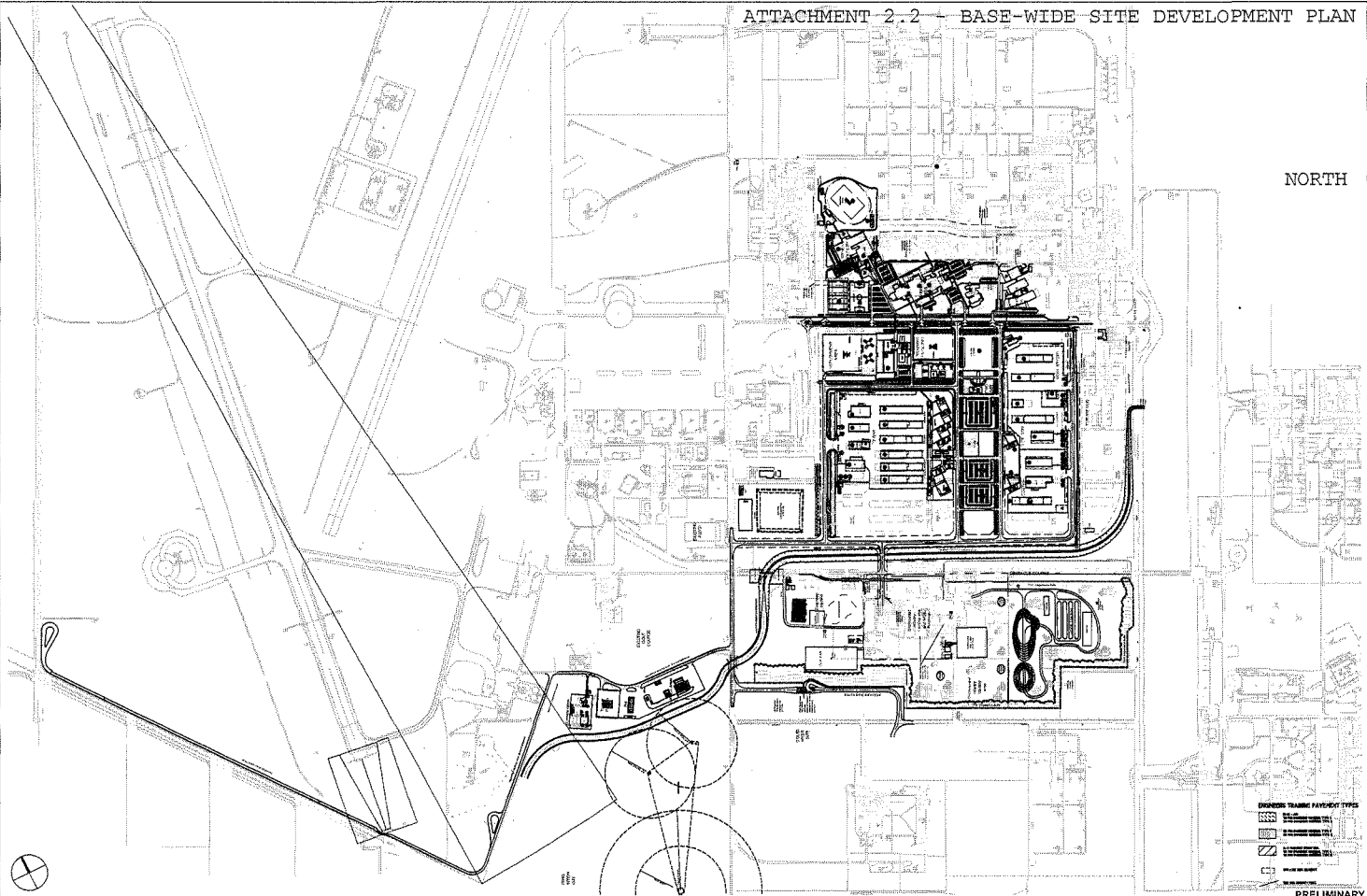


ADELAIDE AND SURROUNDING LOCATIONS



ATTACHMENT 2.2 - BASE-WIDE SITE DEVELOPMENT PLAN

NORTH



DISCRETE TRAINING FACILITY TYPES

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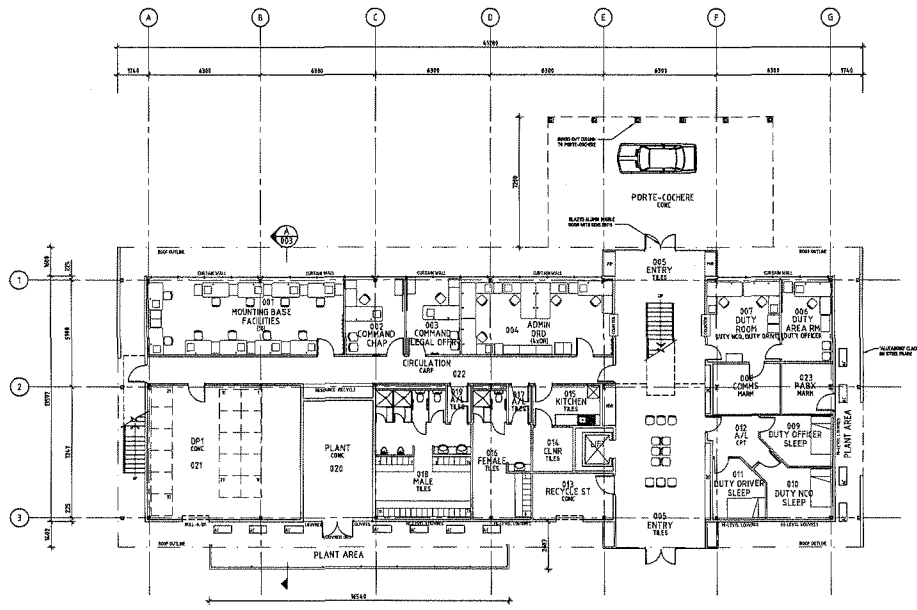
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4	FOR INFORMATION	28/07/2010

DEPARTMENT OF DEFENCE
 HARMONISED and NETWORKED ARMY - Edinburgh, BA
 SITE PLAN
 PREFERRED OPTION 1
 EDINBURGH DESIGN TEAM

woodhead
 Central Glasgow
 EDINBURGH DESIGN TEAM

DEPARTMENT OF DEFENCE
 HARMONISED and NETWORKED ARMY - Edinburgh, BA
 SITE PLAN
 PREFERRED OPTION 1
 Drawing No: HNA-GHD-P1-08-SP-101
 Rev: J

ATTACHMENT 3.1 - HQ 1 BRIGADE DET GROUND FLOOR PLAN



GROUND FLOOR PLAN
SCALE 1/50

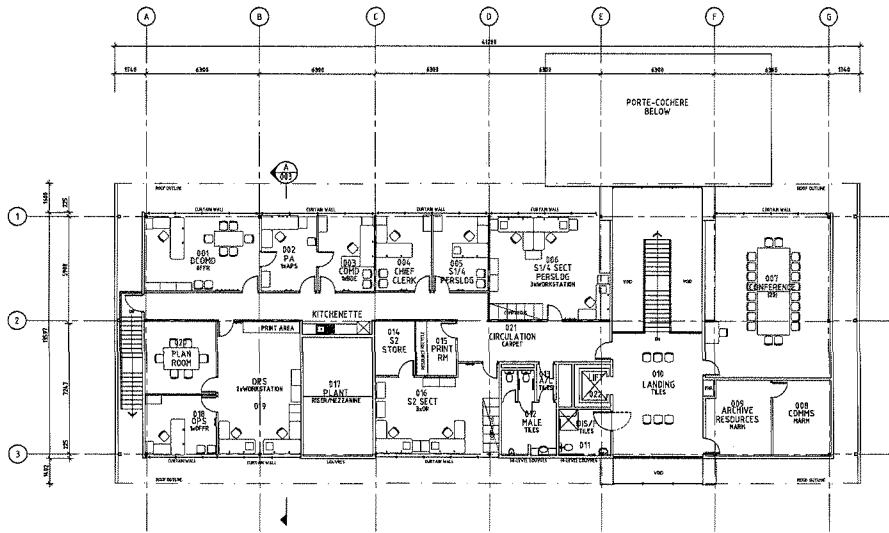


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H4 The Client has accepted the original scope of drawing and the number of sheets.		Drawn: [Name]		Checked: [Name]		Approved: [Name]		Date: [Date]		Drawing No: HNA-GHD-P1-A1-ARC-002 Rev: B	

ATTACHMENT 3.2 - HQ 1 BRIGADE DET FIRST FLOOR PLAN



FIRST FLOOR PLAN
SCALE 1:100



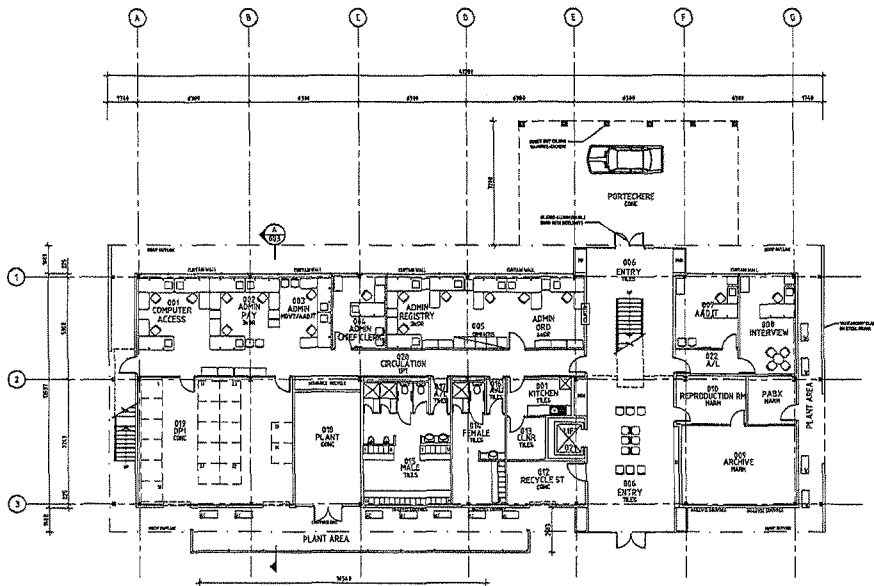
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PRELIMINARY

The Company and its employees accept no liability for errors or omissions in this drawing.		DO NOT SCALE		Approved by: SKN		Approved by: woodhead		Approved by: Connell Wagner		Client: DEPARTMENT OF DEFENCE Project: HARDENED and NETWORKED ARMY - Edinburgh, SA	
Drawn: HJ		Designed: GH		Prepared by: SKN		Checked by: woodhead		Checked by: Connell Wagner		Date: AS SHOWN	
Checked: GH		Design: GH		Prepared by: SKN		Checked by: woodhead		Checked by: Connell Wagner		Title: A1 HQ - BDE DET FIRST FLOOR PLAN	
Date: 23.03.07		Date:		Produced by: GH		Produced by: woodhead		Produced by: Connell Wagner		Drawing No: HNA-GHD-P1-A1-ARC-003	
Date:		Date:		Produced by: GH		Produced by: woodhead		Produced by: Connell Wagner		Rev: B	

EDINBURGH DESIGN TEAM

ATTACHMENT 4.1 - 7 RAR BATTALION HQ GROUND FLOOR PLAN



GROUND FLOOR PLAN
SCALE 1:100



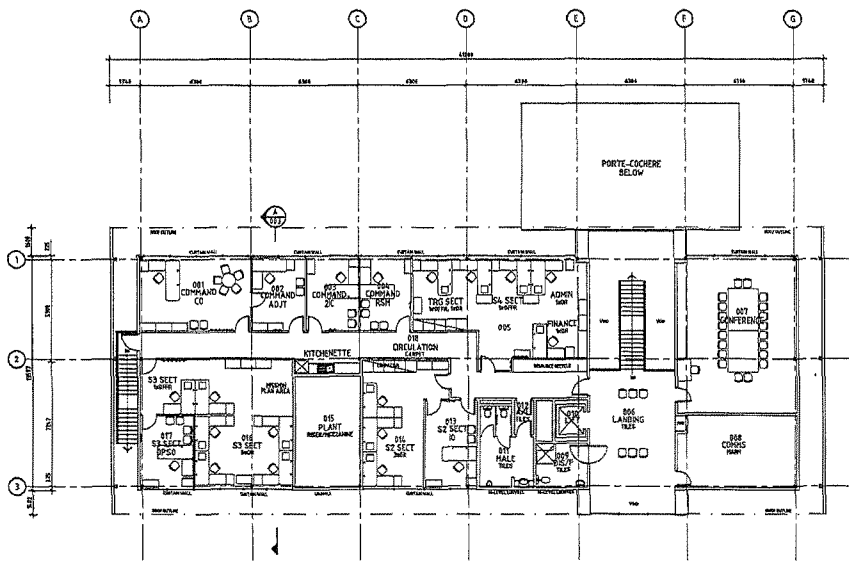
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PRELIMINARY

Approved for issue by GDF Date: AS SHOWN		GDF DEPARTMENT OF DEFENCE HARDENED and NETWORKED ARMY - Edinburg, SA B1 7RAR - BATTALION HQ GROUND FLOOR PLAN	
Design: HJ Checked: GJM Drawn: GJM Date: 02/02/07		Project: HNA-GHD-P1-B1-ARC-002 Rev: B	
Design: HJ Checked: GJM Drawn: GJM Date: 02/02/07		Project: HNA-GHD-P1-B1-ARC-002 Rev: B	

EDINBURGH DESIGN TEAM

ATTACHMENT 4.2 - 7 RAR BATTALION HQ FIRST FLOOR PLAN



FIRST FLOOR PLAN
SCALE 1/100



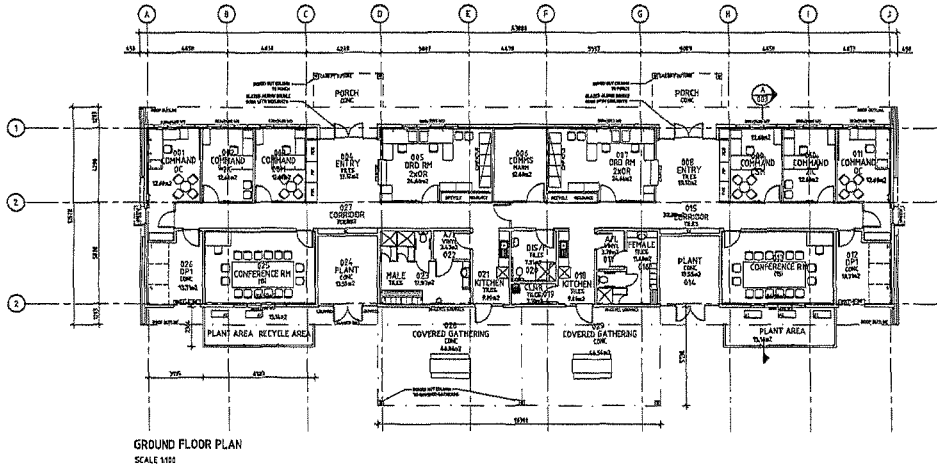
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PRELIMINARY

<p>DO NOT SCALE</p>		<p>Department of Defence Department of Defence Support Group</p>		<p>woodhead Currie & Brown</p>		<p>Department of Defence HARDENED and NETWORKED ARMY - Edinburgh, SA B17RAR - BATTALION HQ FIRST FLOOR PLAN</p>	
<p>Issue: 01</p>		<p>Drawn: G.H.</p>		<p>Project: B17RAR</p>		<p>Scale: A3 (1/100)</p>	
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Drawing No: HNA-GHD-P1-B1-ARC-003 Rev: B

ATTACHMENT 5 - 7 RAR COMPANY HQ FLOOR PLAN



GROUND FLOOR PLAN
SCALE 1:100

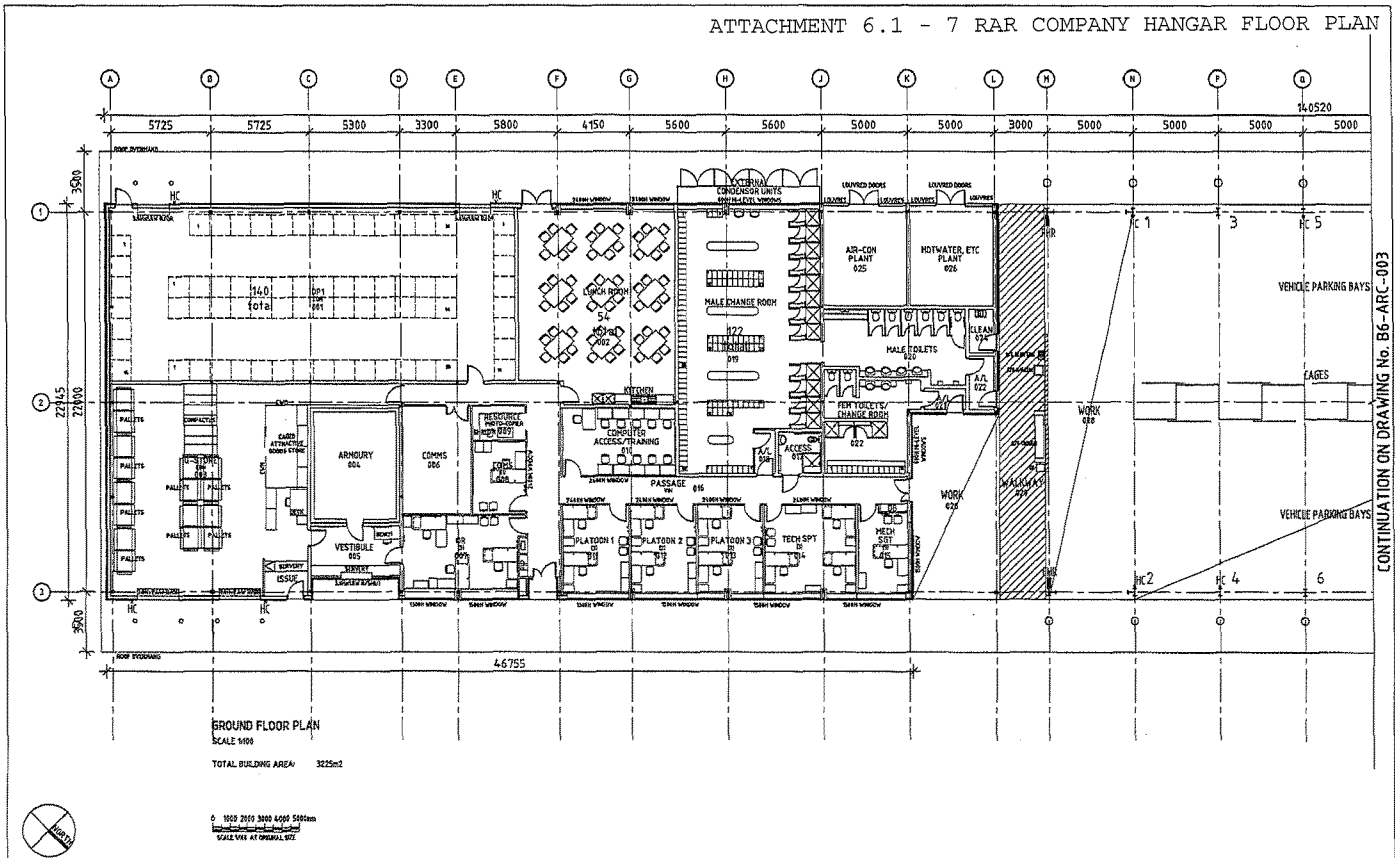


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<p>Issue: B ISSUE FOR DDA DESIGN REVIEW</p>		<p>Author: NU</p>	<p>Checked: GJM</p>	<p>Produced by: DJD</p>	<p>Checked (Rev 1):</p>	<p>Currie & Brown Rider Hunt</p>		<p>Scale: A3 D24071</p>		<p>Sheet No: A1</p>	
<p>Issue: A ISSUE TO PMCA</p>		<p>Author: NU</p>	<p>Checked: GJM</p>	<p>Produced by: DJD</p>	<p>Checked (Rev 1):</p>	<p>EDINBURGH DESIGN TEAM</p>		<p>Scale: A3 D24071</p>		<p>Sheet No: A1</p>	

ATTACHMENT 6.1 - 7 RAR COMPANY HANGAR FLOOR PLAN



GROUND FLOOR PLAN
SCALE 1:100
TOTAL BUILDING AREA 3225m²

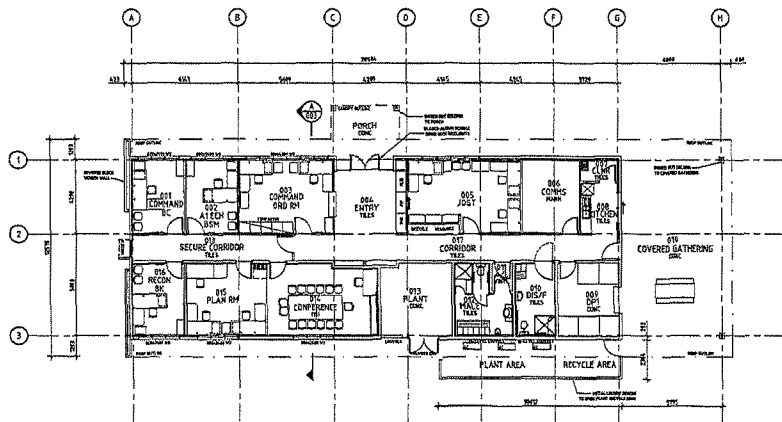
0 1000 2000 3000 4000 5000mm
SCALE Varies AT DIFFERENT SCS

CONTINUATION ON DRAWING No. B6-ARC-003

PRELIMINARY

The Australian Government Department of Defence Defence Support Group		Project Support Contract Administrator SKM Currie & Brown Rider Hunt		Approved for Issue by CD77 Date: AD 08/04/14 Scale: AD 08/04/14		Client: DEPARTMENT OF DEFENCE Project: HARDENED and NETWORKED ARMY - Edinburg, SA The B66 RIFLE COMPANY A HANGAR GROUND FLOOR PLAN	
Drawn: RS Checked: MC Approved: GHD	Designed: MC Checked: GHD Produced by: GHD	Consultant and Title:	File Name:	Drawing No: HNA-GHD-P1-B6-ARC-002	Rev: B	This document is confidential and the property of the Commonwealth of Australia. Disclosure of its contents, in whole or in part, without the authority of the Commonwealth of Australia is prohibited.	

ATTACHMENT 7.1 - MEDIUM ARTILLERY BATTERY HQ FLOOR PLAN



GROUND FLOOR PLAN
SCALE 1:100



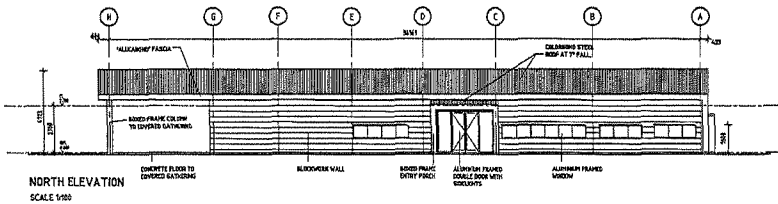
0 1000 2000 3000 4000 5000mm
SCALE 1:100 AT ORIGINAL SIZE

PRELIMINARY

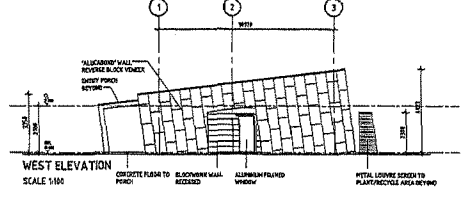
<p>DO NOT SCALE</p>		<p>Approved for Issue by CDPT</p>		<p>Client: DEPARTMENT of DEFENCE HARDENED and NETWORKED ARMY - Edinburgh, SA</p>	
<p>Author: HJ</p>		<p>Date: AS SHOWN</p>		<p>Project: C1 MEDIUM BATTERY (SP) HQ</p>	
<p>Drawn: HJ</p>		<p>Checked: AS SHOWN</p>		<p>Task: GROUND FLOOR PLAN</p>	
<p>Scale: AS SHOWN</p>		<p>Project No: HNA-GHD-P1-C1-ARC-002</p>		<p>Rev: B</p>	
<p>Project: HNA-GHD-P1-C1-ARC-002</p>		<p>Task: GROUND FLOOR PLAN</p>		<p>Rev: B</p>	

woodhead. **Edinburgh Design Team**
Currie & Brown Rider Hunt

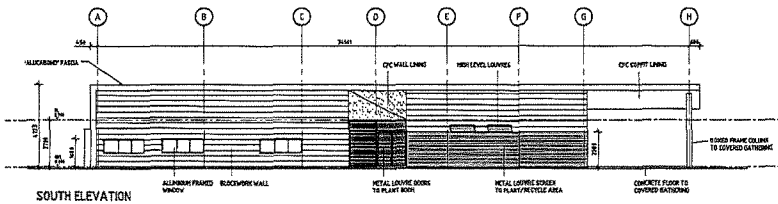
ATTACHMENT 7.2 - MEDIUM ARTILLERY BATTERY HQ ELEVATIONS



NORTH ELEVATION
SCALE 1:100

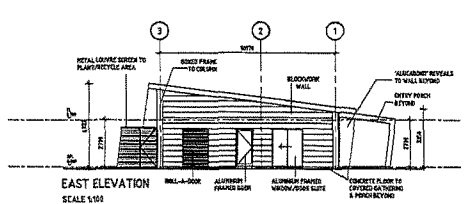


WEST ELEVATION
SCALE 1:100

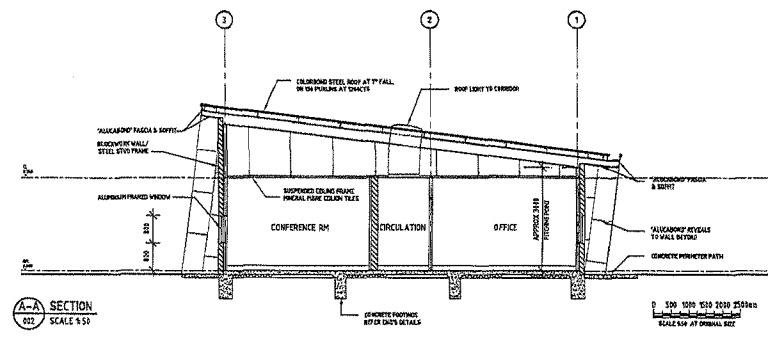


SOUTH ELEVATION
SCALE 1:100

0 1000 2000 3000 4000 5000mm
SCALE 1:100 AT ORIGINAL SIZE



EAST ELEVATION
SCALE 1:100



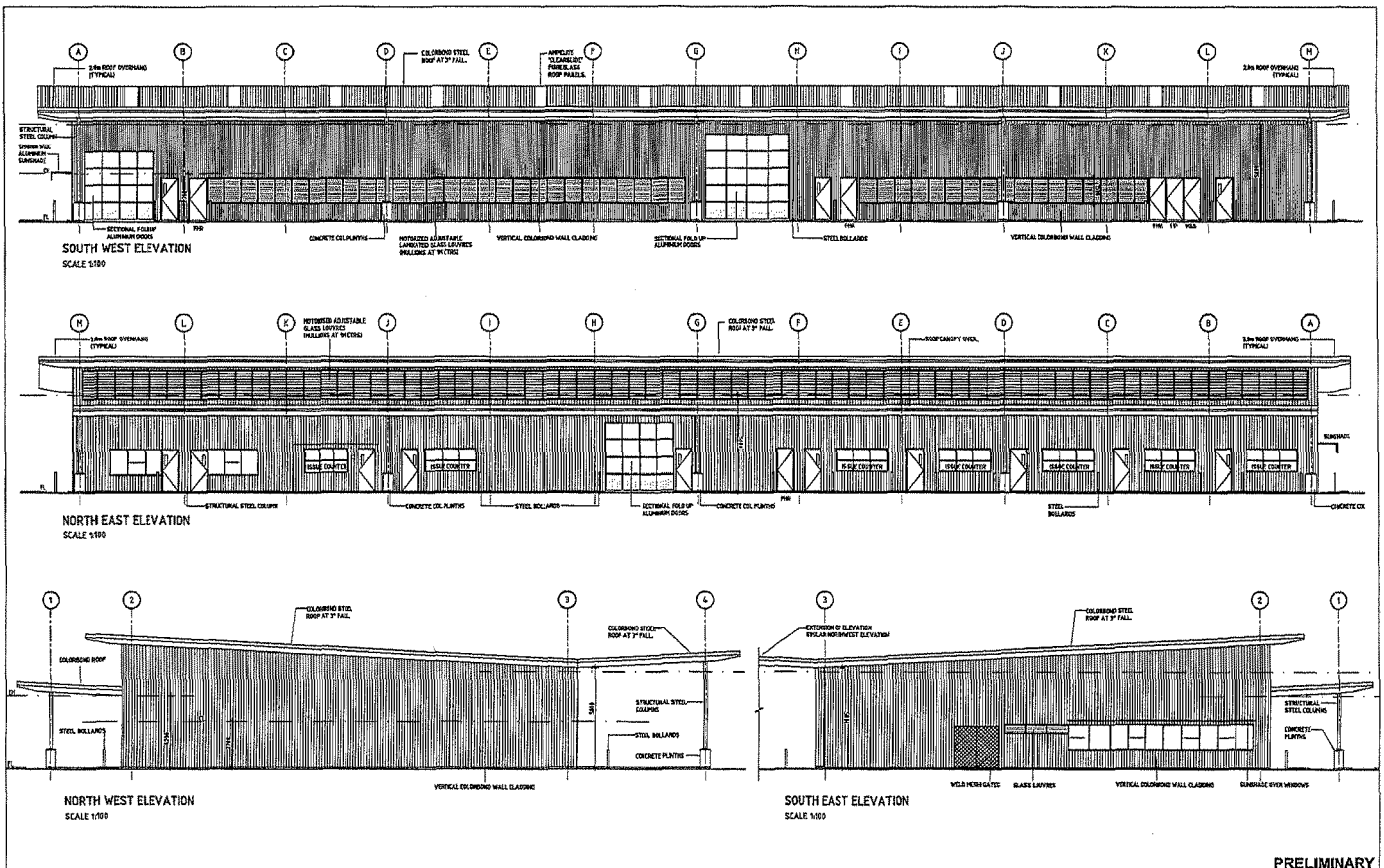
A-A SECTION
SCALE 1:50

0 100 200 300 400 500mm
SCALE 1:50 AT ORIGINAL SIZE

PRELIMINARY

<p>ISSUED FOR 30% DESIGN REVIEW</p>		<p>DO NOT SCALE</p>		<p>woodhead</p>		<p>Approved for issue by EDT Date: 08/01/2010</p>		<p>DEPARTMENT OF DEFENCE HARDENED and NETWORKED ARMY - Edinburgh, SA C1 MEDIUM BATTERY (SP) HQ ELEVATIONS & SECTION</p>	
<p>Author: HJ</p>		<p>Checked: GJM</p>		<p>Currie & Brown</p>		<p>Scale: A1:1000</p>		<p>Drawing No: HNA-GHD-P1-C1-ARC-003 Rev: A</p>	
<p>Drawn: HJ</p>		<p>Checked: GJM</p>		<p>Rider Hunt</p>		<p>Scale: A1:1000</p>		<p>Edinburgh Design Team</p>	
<p>Author: HJ</p>		<p>Checked: GJM</p>		<p>Edinburgh Design Team</p>		<p>Scale: A1:1000</p>		<p>Edinburgh Design Team</p>	

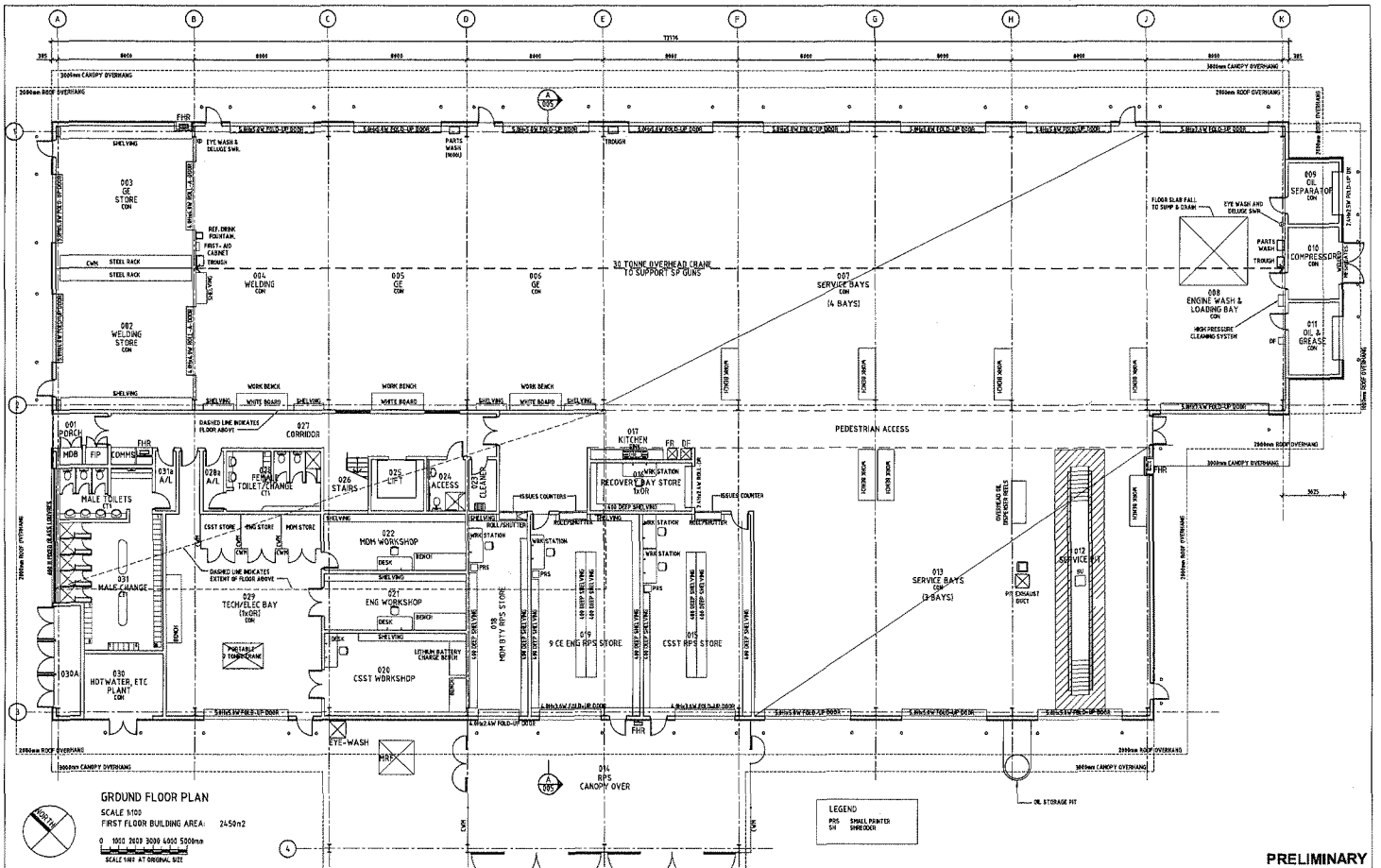
ATTACHMENT 8.2 - COMBAT ENGINEER SQUADRON Q-STORE ELEVATIONS



PRELIMINARY

<p>DO NOT SCALE</p>		<p>Approved for Issue by EDPF</p>		<p>Client: DEPARTMENT OF DEFENCE HARDENED and NETWORKED ARMY - Edinburgh, SA</p>	
<p>Issue: 01/03/2011</p>	<p>Drawn: [Name]</p>	<p>Checked: [Name]</p>	<p>Scale: A3 (ENIGMA)</p>	<p>Project: D3 9 CE SQN Q STORE ELEVATIONS</p>	<p>Revision: A1</p>
<p>Author: [Name]</p>	<p>Drawn: [Name]</p>	<p>Checked: [Name]</p>	<p>Scale: A3 (ENIGMA)</p>	<p>Project: D3 9 CE SQN Q STORE ELEVATIONS</p>	<p>Revision: A1</p>
<p>EDINBURGH DESIGN TEAM</p>			<p>Drawing No: HNA-GHD-P1-D3-ARC-003 Rev: B</p>		

ATTACHMENT 9.1 - COMBAT SERVICES SUPPORT TEAM WORKSHOP GROUND FLOOR PLAN



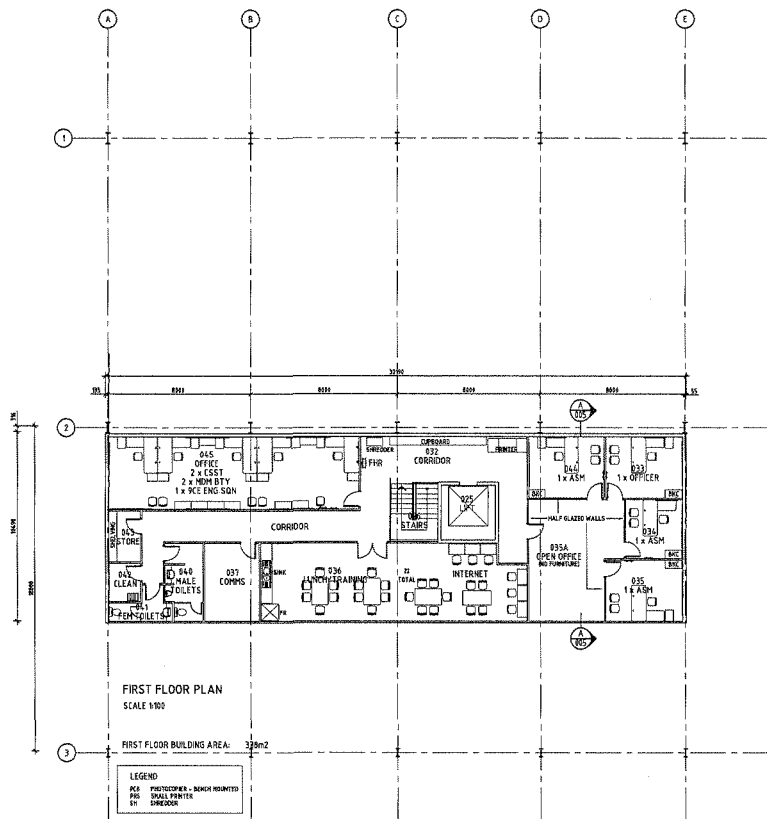
GROUND FLOOR PLAN
SCALE 1:50
FIRST FLOOR BUILDING AREA: 24,50m²
0 1000 2000 3000 4000 5000mm
SCALE BAR AT ORIGINAL SIZE

LEGEND
--- SMALL PRINTER SHREDS

PRELIMINARY

B ISSUED FOR 30% DESIGN REVIEW AA ISSUED FOR INFORMATION A ISSUED TO PWCA		RSI PC* CTR* 20-04-20	PFI PC* CTR* 10-04-20	PFI PC* CTR* 25-03-20	Drawn: PFI Designed: PC Checked: PFI Approved: PFI Date: 20-04-20 Produced by: PFI File Name:	Australian Government Department of Defence Defence Support Agency Project Manager / Contract Administrator SKM woodhead Connell Wagner Client: Defence Project: H10 Date: AS SHOWN THIS DOCUMENT IS COPYRIGHT AND THE PROPERTY OF THE COMMONWEALTH OF AUSTRALIA. DEPARTMENT OF DEFENCE, COPYRIGHT ACT 1969 AND MUST NOT BE COPIED WITHOUT THE AUTHORITY OF THE COMMONWEALTH.	Client: DEPARTMENT OF DEFENCE Project: HARDENED and NETWORKED ARMY - Edinburgh, SA Top: E2 CSST WORKSHOP Drawing No: HNA-GHD-P1-E2-ARC-002 Rev: B
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ATTACHMENT 9.2 - COMBAT SERVICES SUPPORT TEAM WORKSHOP FIRST FLOOR PLAN



FIRST FLOOR PLAN
SCALE 1:100

FIRST FLOOR BUILDING AREA: 328m2

LEGEND

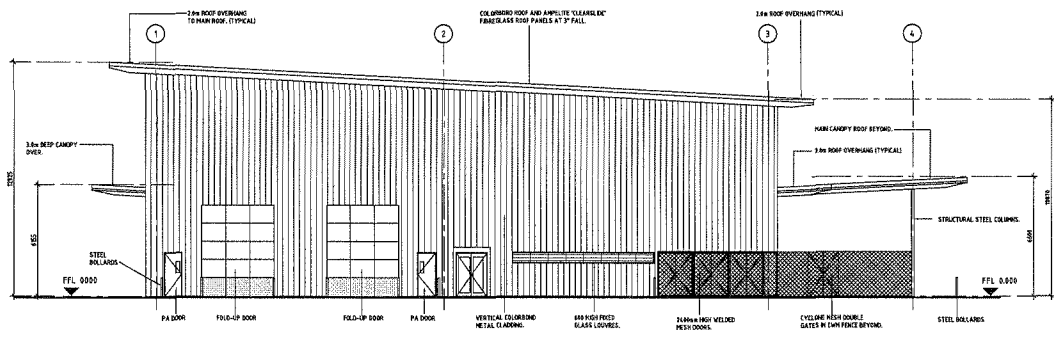
- PC PHOTO-COPYER - BENCH MOUNTED
- PS SMALL PRINTER
- SP SPREADER



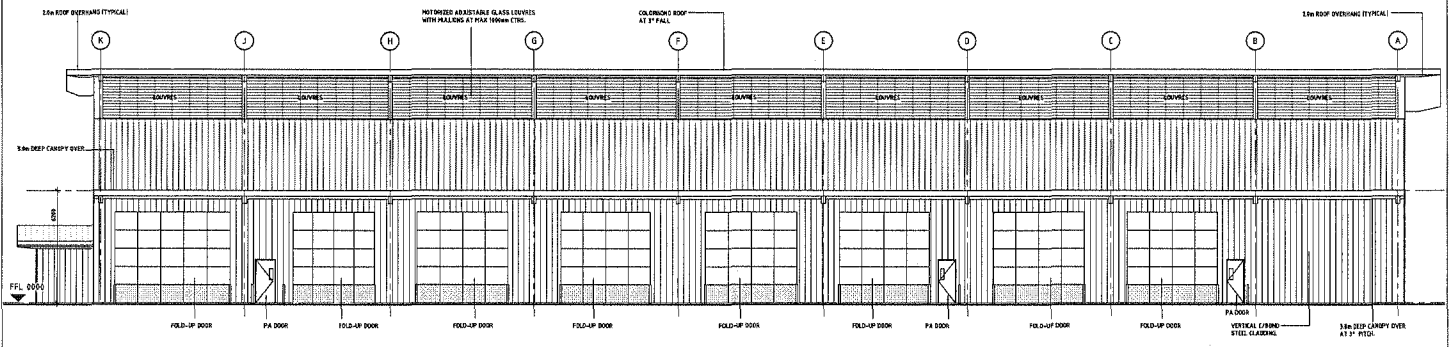
PRELIMINARY

R TRULLED FOR 5% DESIGN REVIEW Date: 08/04/09 Drawn: PEF Design: PC		AA ISSUE FOR INFORMATION Date: 13/04/09 Drawn: PEF Design: PC		A ISSUE TO PACA Date: 23/05/09 Drawn: PEF Design: PC		Approved: [Signature] Date: 23/05/09		Approved by ECU Date: AB 8/10/09		Client: DEPARTMENT of DEFENCE Project: HARDENED and NETWORKED ARMY - Edinburgh, SA Title: E2 CSST WORKSHOP Drawing No: HNA-GHD-P1-E2-ARC-003	
The ECU is a trade mark of the ECU Group.				DO NOT SCALE		Approved by ECU		Client: DEPARTMENT of DEFENCE		Drawing No: HNA-GHD-P1-E2-ARC-003	
0 1000 2000 3000 4000 5000mm SCALE 1/84 AT ORIGINAL SIZE		Approved by ECU		Client: DEPARTMENT of DEFENCE		Drawing No: HNA-GHD-P1-E2-ARC-003		Drawing No: HNA-GHD-P1-E2-ARC-003		Rev: B	

ATTACHMENT 9.3 - COMBAT SERVICES SUPPORT TEAM WORKSHOP ELEVATIONS



NORTH WEST ELEVATION
SCALE 1/100

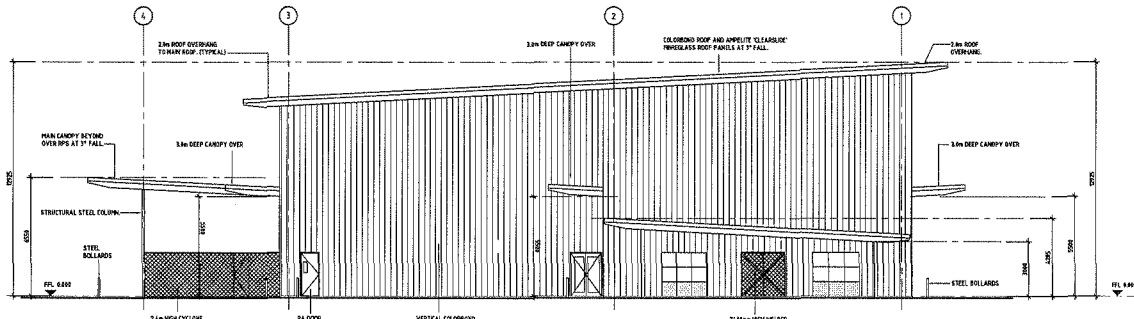


NORTH EAST ELEVATION
SCALE 1/100
0 1000 2000 3000 4000 5000mm
SCALE 1/100 AT ORIGINAL SIZE

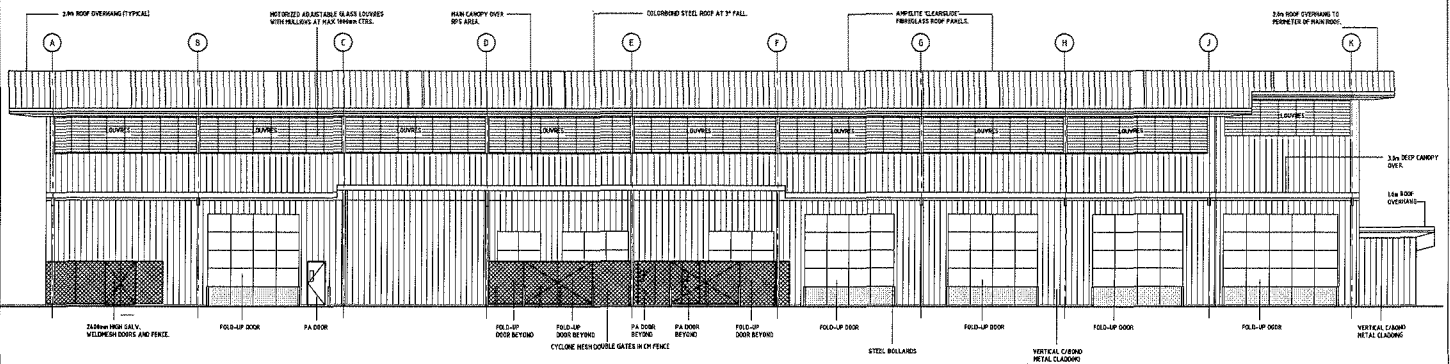
PRELIMINARY

<p>DO NOT SCALE</p> <p>Drawn: [] Checked: [] Date: []</p>		<p>Produced by: [] Consultant Job No: [] Title: []</p>		<p>Approved by: [] Date: [] Scale: AS SHOWN</p>		<p>Client: DEPARTMENT OF DEFENCE HARDENED and NETWORKED ARMY - Edinburgh, SA Title: E2 CSST WORKSHOP ELEVATIONS SHEET 1 Drawing No: HNA-GHD-P1-E2-ARC-004 Rev: B</p>	
<p>ISSUED FOR 30% DESIGN REVIEW</p>		<p>ISSUED FOR INFORMATION</p>		<p>ISSUED TO PMCA</p>		<p>DEPARTMENT OF DEFENCE HARDENED and NETWORKED ARMY - Edinburgh, SA E2 CSST WORKSHOP ELEVATIONS SHEET 1 Drawing No: HNA-GHD-P1-E2-ARC-004 Rev: B</p>	

ATTACHMENT 9.4 - COMBAT SERVICES SUPPORT TEAM WORKSHOP ELEVATIONS (CONT)



SOUTH EAST ELEVATION
SCALE 1/100



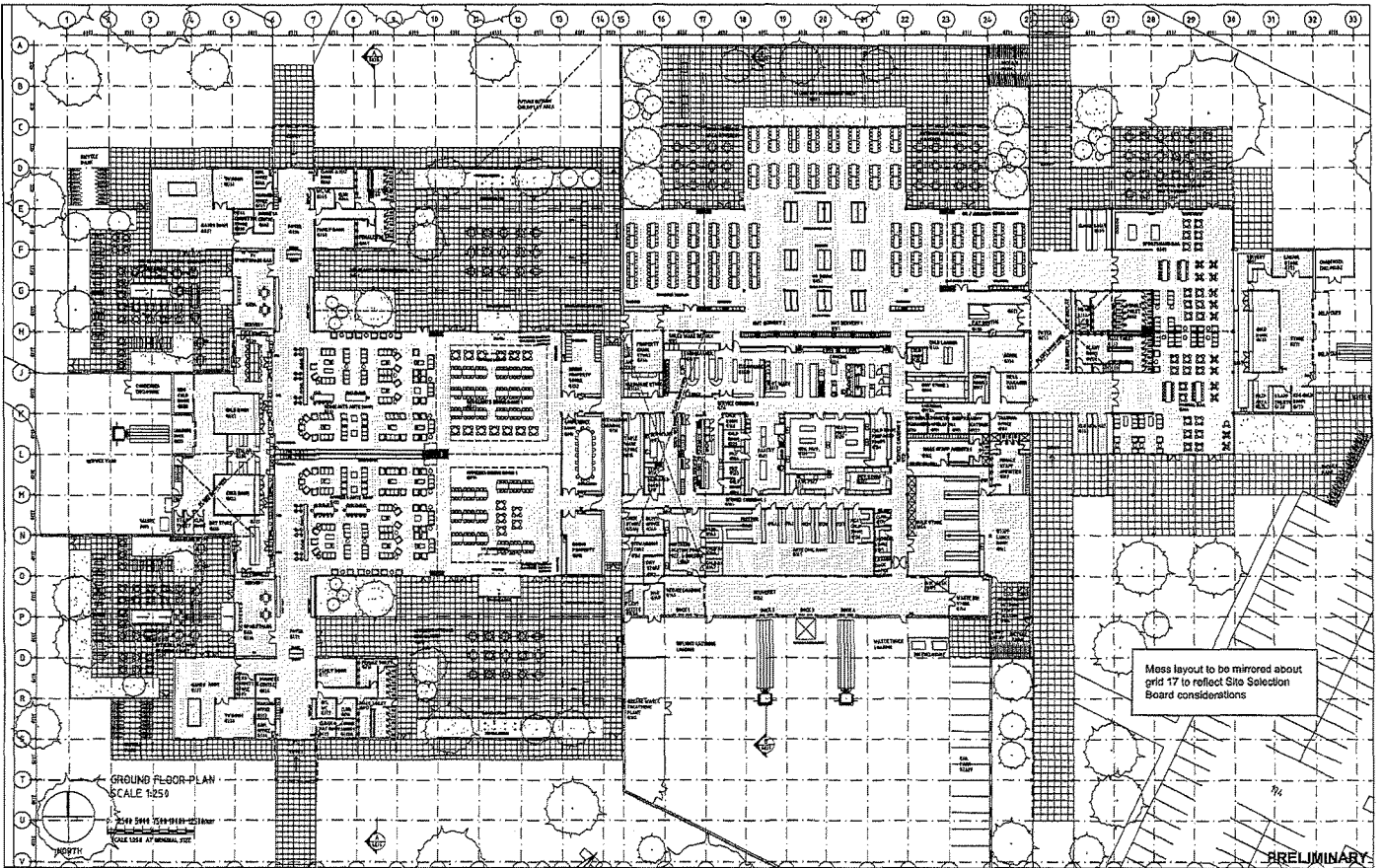
SOUTH WEST ELEVATION
SCALE 1/100

© 1020 2060 3000 4000 5000mm
SCALE 1/100 AT ORIGINAL SIZE

PRELIMINARY

The drawing shall not be used for any other purpose without the written consent of the design team. Drawn: PDP Checked: PC Design: PC Date:		DO NOT SCALE Australian Government Department of Defence Edinburg Support Centre		Project Manager: Daniel Anderson SKM Structural Engineering Chartered Engineers Chartered Structural Engineers		woodhead. Chartered Engineers Chartered Structural Engineers		Corrigan Wagner Chartered Engineers Chartered Structural Engineers		Approved by issue by EDP Date: AS SHOWN Issue: AS SHOWN		Client: DEPARTMENT OF DEFENCE Project: HARDENED and NETWORKED ARMY - Edinburg, SA Title: E2 CSST WORKSHOP ELEVATIONS SHEET 2	
B. ISSUED FOR 5th DESIGN REVIEW AN. ISSUE FOR INFORMATION A. ISSUE TO PMCA		Date: 10/10/2018 Drawn: PDP Checked: PC Design: PC Date:		Published by: EDINBURGH DESIGN TEAM Project Job No:		This document is copyright and the property of the Commonwealth of Australia. Department of Defence. Copyright Act 1969 and must not be copied, reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the authority of the Commonwealth.		Drawing No: HNA-GHD-P1-E2-ARC-005 Rev: B		A1			

ATTACHMENT 10 - COMBINED MESS FACILITY FLOOR PLAN



<p>DO NOT SCALE</p> <p>Approved for Issue by EDT:</p> <p>Client: DEPARTMENT OF DEFENCE Project: HARDENED and NETWORKED ARMY - Edinburgh, SA Title: F1 COMBINED MESSSES Drawing No: HNA-WH-P1-F1-ARC-SK02-PDF Rev: D</p>		<p>Approved for Issue by EDT:</p> <p>Client: DEPARTMENT OF DEFENCE Project: HARDENED and NETWORKED ARMY - Edinburgh, SA Title: F1 COMBINED MESSSES Drawing No: HNA-WH-P1-F1-ARC-SK02-PDF Rev: D</p>	
<p>Revised: None</p> <p>Drawn: [Name]</p> <p>Checked: [Name]</p>	<p>Author: [Name]</p> <p>Design: [Name]</p> <p>Check: [Name]</p>	<p>Project Manager: [Name]</p> <p>Project Engineer: [Name]</p> <p>Project Designer: [Name]</p>	<p>Project Architect: [Name]</p> <p>Project Engineer: [Name]</p> <p>Project Designer: [Name]</p>

EDINBURGH DESIGN TEAM

WOODHEAD CONSULTANTS

SKM

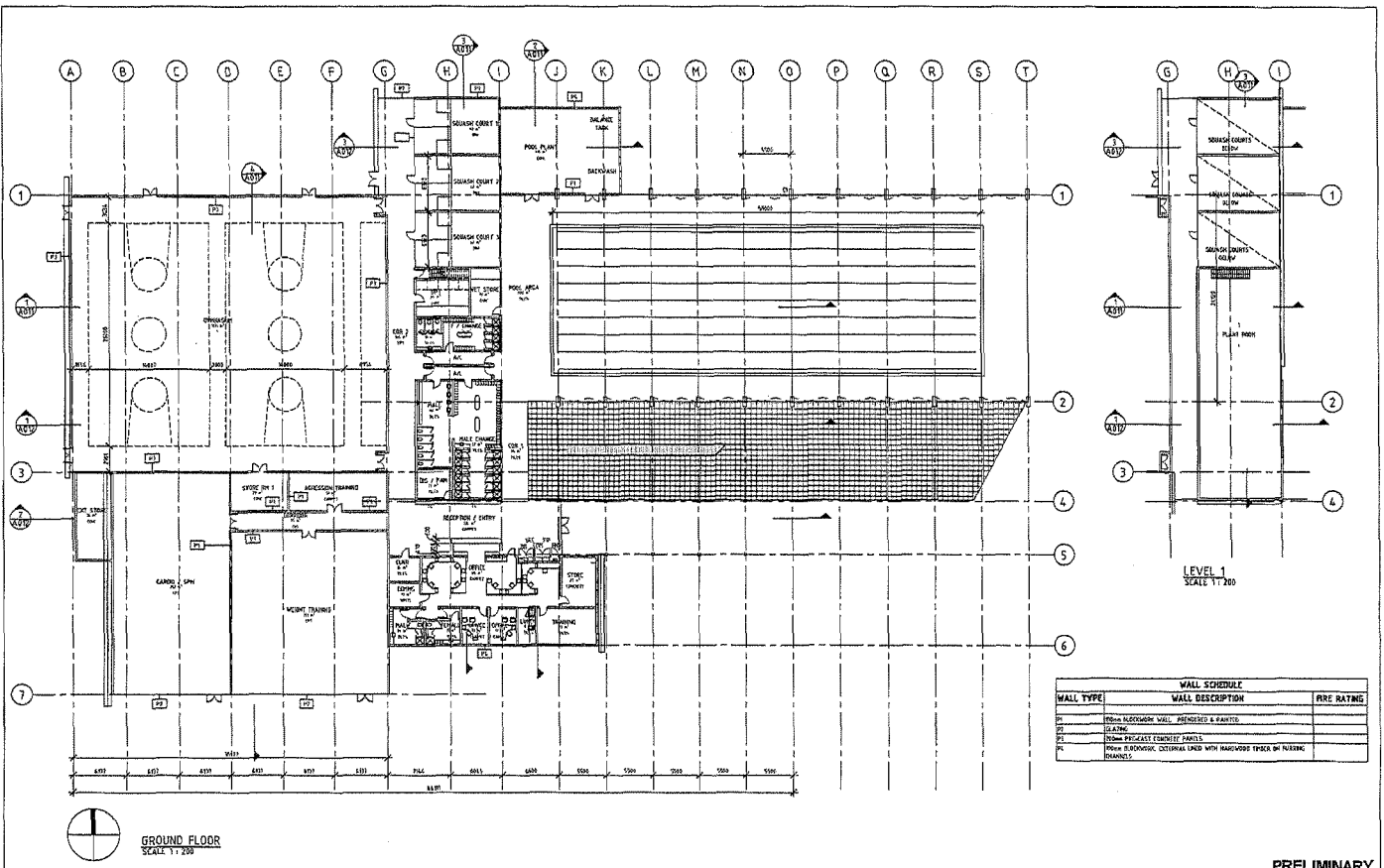
General Wagner

Currie & Brown

Rider Hunt

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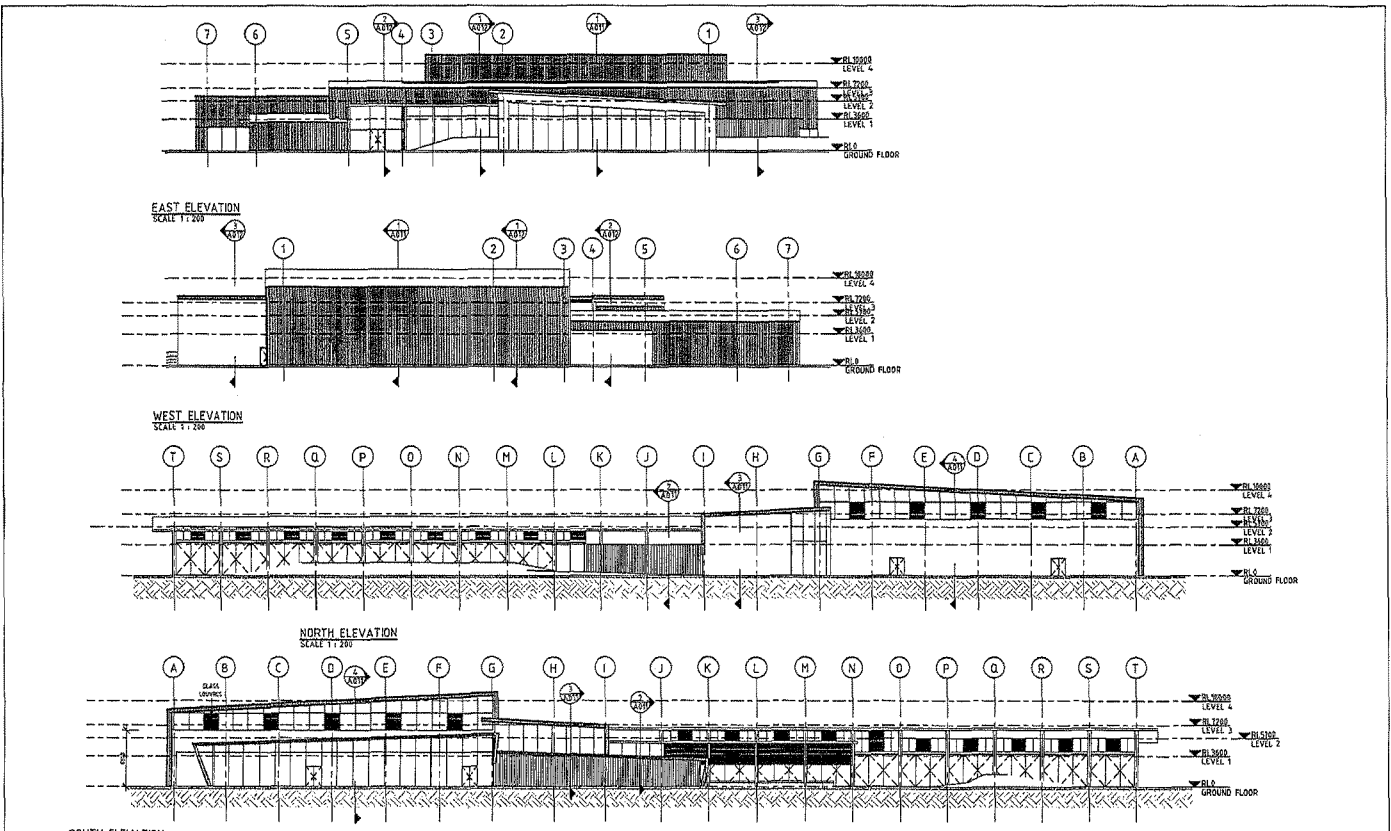
ATTACHMENT 11.1 - PHYSICAL FITNESS FACILITY FLOOR PLAN



PRELIMINARY

<p>DO NOT SCALE</p> <p>The Drawing shall be used for reference only. Dimensions shall be taken from the Drawing.</p>		<p>Authorised Personnel Department of Defence Defence Support Group</p>		<p>woodhead Currie & Brown</p>		<p>Approved for issue by DDT Date: 1/200</p>		<p>Client: DEPARTMENT OF DEFENCE Project: HARDENED and NETWORKED ARMY - Edinburgh, SA Title: FITNESS CENTRE FACILITY Drawing No: HNA-GHD-P1-G1-ARC-A003 Rev: A</p>	
<p>Drawn: [Name]</p>		<p>Checked: [Name]</p>		<p>Consultant Job No: [Number]</p>		<p>Scale: 1:200</p>		<p>THIS DOCUMENT IS CONFIDENTIAL AND THE PROPERTY OF THE CORPORATION OR ITS AFFILIATED. NO PART OF THIS DOCUMENT, COPY, OR REPRODUCTION THEREOF IS TO BE COPIED, REPRODUCED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT THE AUTHORITY OF THE CORPORATION.</p>	

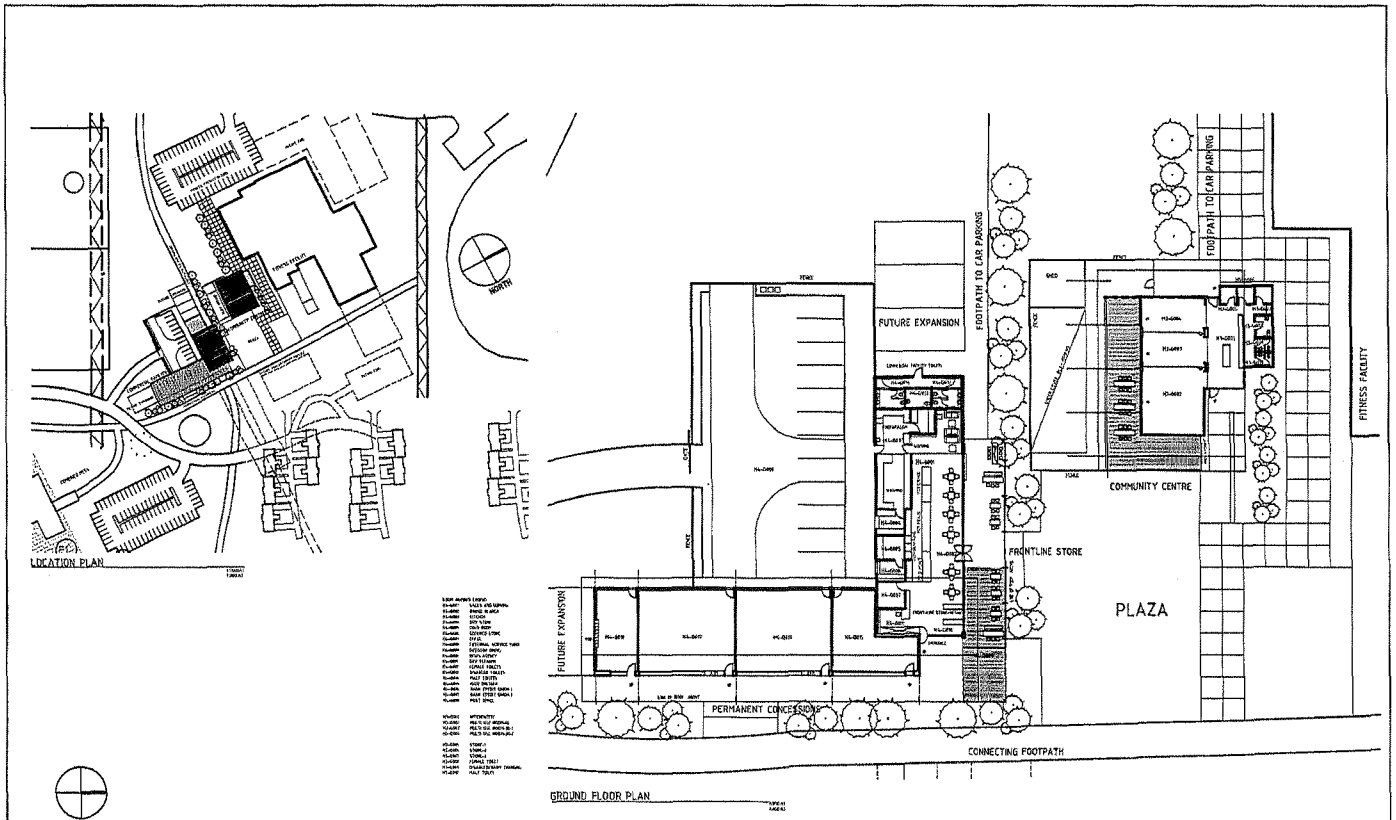
ATTACHMENT 11.2 - PHYSICAL FITNESS FACILITY ELEVATIONS



PRELIMINARY

<p>DO NOT SCALE</p> <p>Author: JAH Designer: G212/01 Checker: JAH Date: 11/2005</p>		<p>Approved for Issue by CDT</p> <p>Date: 11/2005</p> <p>Notes: THIS DOCUMENT IS CONFIDENTIAL AND THE PROPERTY OF THE COMMONWEALTH OF AUSTRALIA. DEPARTMENT OF DEFENCE. APPROVED FOR RELEASE TO THE PUBLIC WITHOUT THE AUTHORITY OF THE COMMONWEALTH OF AUSTRALIA.</p>		<p>Client: DEPARTMENT OF DEFENCE Project: HARDENED and NETWORKED ARMY - Edinburgh, SA Title: FITNESS CENTRE FACILITY Discipline: ELEVATIONS</p>	
<p>Produced by: SKM Consultant Job No: EDINBURGH DESIGN TEAM</p>		<p>Woodhead Currie & Brown Rider Hunt</p>		<p>Drawing No: HNA-GHD-P1-G1-ARC-A008 Rev: A</p>	

ATTACHMENT 12.1 - COMMUNITY AND COMMERCIAL FACILITIES FLOOR PLAN



3 2017 1400 0101 0011
SCALE 1:1000 AT ORIGINAL SIZE

PRELIMINARY

DO NOT SCALE This drawing is for information only and should not be used for construction purposes.		Approved by: [Signature] Date: 19/01/2017		Approved for issue by: [Signature] Date: 19/01/2017	
Client: DEPARTMENT OF DEFENCE Project: HARDENED and NETWORKED ARMY - Edinburgh, SA Title: H3,H4 COMMUNITY AND COMMERCIAL FACILITY Location: LOCATION PLAN-GROUND FLOOR PLAN		Drawn: [Name] Checked: [Name] Date: [Date]		Scale: 1:1000 Drawing No: HNA-WH-P1-H3,H4-ARC-SK01-PDF Rev: B	

woodhead
 Certis & Brown
 Riddler Hunt
 EDINBURGH DESIGN TEAM

Approved for issue by: [Signature]
 Date: 19/01/2017

Client: DEPARTMENT OF DEFENCE
 Project: HARDENED and NETWORKED ARMY - Edinburgh, SA
 Title: H3,H4 COMMUNITY AND COMMERCIAL FACILITY
 Location: LOCATION PLAN-GROUND FLOOR PLAN
 Drawing No: HNA-WH-P1-H3,H4-ARC-SK01-PDF Rev: B

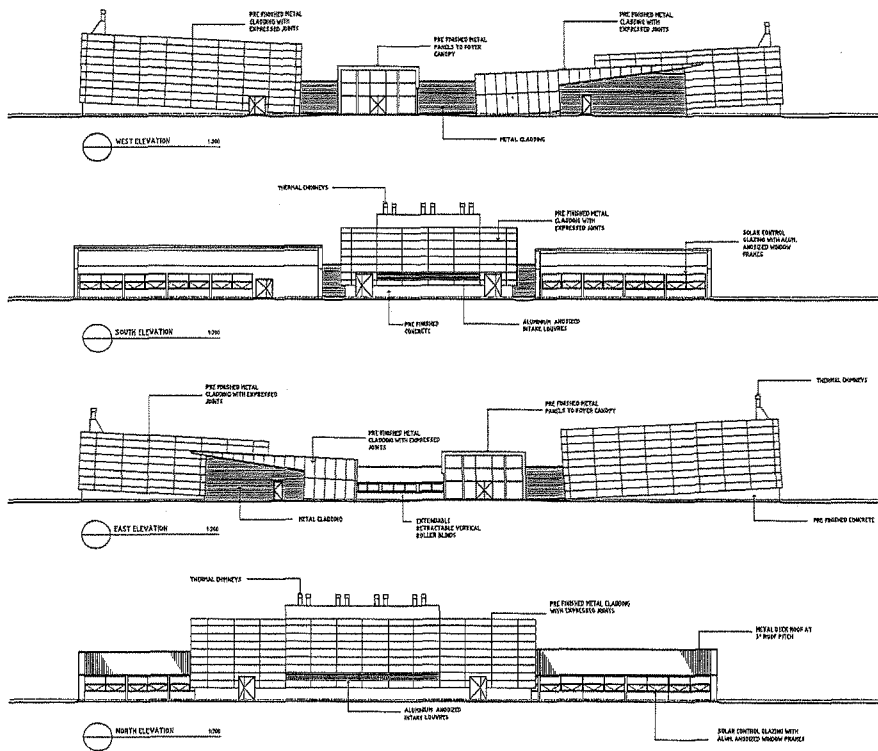
ATTACHMENT 13 - HEALTH FACILITY FLOOR PLAN



PRELIMINARY

<p>DO NOT SCALE</p>		<p>Approved for issue by EGT: Date: 03/06/2010</p>		<p>Client: Project: Site: AD ENCHIN</p>	
<p>Department of Defence Defence Support Group</p>		<p>woodhead Carlic & Brown Ryder Hart</p>		<p>DEPARTMENT OF DEFENCE HARDENED and NETWORKED ARMY - Edinburgh, SA H1 HEALTH FACILITY GROUND FLOOR PLAN</p>	
<p>Issued by: WOODHEAD Consultant Job No: 000000148 The Name:</p>		<p>Edinburgh Design Team</p>		<p>Drawing No: HNA-WH-P1-H1-ARC-SK02-PDF Rev: B</p>	

ATTACHMENT 14.2 - TRAINING FACILITY ELEVATIONS



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 SCALE SHOWN AT DRAWING SIZE

PRELIMINARY

<p>DO NOT SCALE</p>		<p>Approved by: </p>		<p>Approved by: </p>		<p>Approved by: </p>	
<p>Client: DEFENCE</p>	<p>Project: H7 TRAINING FACILITY</p>	<p>Location: Edinburgh, SA</p>	<p>Scale: 1:500</p>	<p>Date: 10/08</p>	<p>Drawn by: AT</p>	<p>Checked by: AT</p>	<p>Project No: HNA-WH-P1-H7-ARC-SK02-PDF Rev. B</p>
<p>EDINBURGH DESIGN TEAM</p>							