

Submission No. 01

(Air Warfare Destroyers)

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Australian Government

Department of Defence

AIR WARFARE DESTROYER SHIP SUSTAINMENT FACILITIES

Garden Island Defence Precinct, Randwick Barracks and
HMAS *Watson*, Sydney, New South Wales

STATEMENT OF EVIDENCE TO THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

Canberra, Australian Capital Territory

March 2013

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Air Warfare Destroyer

Ship Sustainment Facilities

Need for the Works

Identified Need

1. The 2000 Defence White Paper¹ stated the Australian Defence Force (ADF) would replace the Royal Australian Navy's (RAN's) *Adelaide* Class Guided Missile Frigates (FFGs) with a class of at least three new air defence capable ships.
2. In 2007 the Australian Government approved the acquisition of three new *Hobart* Class Air Warfare Destroyers (AWDs) to replace the *Adelaide* Class FFGs through the SEA 4000 Phase 3 AWD Ship Build Program. The new *Hobart* Class AWD will provide the RAN with one of the world's most capable all purpose warships and will deliver to the Australian Government an affordable, effective, flexible and sustainable air defence capability for the defence of Australia and its national interests.
3. Specifically, the AWDs will provide air defence for accompanying ships, land forces and infrastructure in coastal areas, and for self-protection against enemy aircraft and missiles. The new AWDs will also carry a helicopter for surveillance and response operations and be equipped with long range anti-ship missiles, modern sonar systems, decoys, surface-launched torpedoes and an array of effective close-in defensive weapons. A rendering of the *Hobart* Class AWD and a summary of its basic characteristics are detailed at Attachment 1.
4. The *Hobart* Class AWDs are currently under construction at three shipyards in Newcastle, New South Wales (NSW); Williamstown, Victoria (VIC); and Osborne, South Australia (SA). The first of the new AWDs, HMAS *Hobart*, is due to arrive in its home-port of Sydney, NSW in the first quarter of 2016, with the second and third AWDs expected to arrive in Sydney in the third quarter of 2017 and the first quarter of 2019.

5. The ADF base in Sydney at which the AWDs will be home-ported and from where they will deploy on operations is Fleet Base East, which is located within the Garden Island Defence Precinct (Garden Island).
6. To enable the introduction into service of the three *Hobart* Class AWDs and then sustain the capability these ships are required to generate over their life of type, there is the need to enhance and augment existing infrastructure in Sydney to support AWD specific command and crew training, combat and platform systems, through life support and maintenance, and berthing.
7. Accordingly, the AWD Ship Sustainment Facilities project proposes to provide permanent training, systems support and maintenance facilities, and berthing infrastructure within the Sydney region in order to sustain the AWD capability and support the mounting of AWD operations from Fleet Base East.

Options Considered for Fulfilling the Need

8. **Strategic siting options.** On 22 June 2011, the Minister for Defence announced a Force Posture Review to assess whether the ADF is correctly geographically positioned to meet Australia's current and future strategic challenges. The subsequent *Australian Defence Force Posture Review*² (the Review) was submitted to the Australian Government on 30 March 2012.
9. The Review outlines a range of options for Government consideration, which are being considered as part of the 2013 Defence White Paper development process. The Review also states that 'while the recommendations in this report are expressed in the form, 'Defence should...' most of these recommendations would in fact require decisions by Government before Defence would have the authority and the resources to implement them.'³
10. With respect to ADF basing, the Review states that 'ADF bases have two main functions: generating and sustaining capability, and mounting and supporting operations. Some bases are

¹ Commonwealth of Australia, '*Defence 2000 – Our Future Defence Force*', 2000

² A. Hawke and R. Smith, '*Australian Defence Force Review*', 30 March 2012

³ Ibid, p.4

better suited for only one of these roles, or one particular element of a role such as training, while others can effectively fulfil both roles. Generating and sustaining military capability requires bases to have a number of key characteristics. Bases must have sufficient facilities, infrastructure and training areas for their ‘raise, train and sustain’ activities, access to necessary industry support for platforms and systems and access to services for ADF members and their families. The importance of both ‘industry support’ and ‘family friendly’ locations that facilitate recruitment and retention is also recognised in the strategic basing principles as set out in the 2009 Defence White Paper.’⁴

11. With respect to the challenges facing ADF basing in the generation and sustainment of future capabilities, the Review notes that the greatest challenge will result from the introduction into service of the new *Hobart* Class AWDs and the new *Canberra* Class Landing Helicopter Dock (LHD) amphibious assault ships, which at approximately 27,800 tonnes and 231 metres long will be the largest class of ship that the RAN has ever operated.⁵
12. With respect to the basing or ‘home-porting’ of the AWDs, the Review notes that Fleet Base East in Sydney Harbour remains a highly effective home-port location for RAN vessels and that it is an appropriate home-port for the *Hobart* Class AWD, particularly given the specific industry support requirements of its combat systems and the lack of alternatives in the short-term, although it should not be the only naval base capable of supporting extended AWD deployments.⁶ The Review also states that ‘The Captain Cook Graving Dock located at Garden Island is a fundamental component of RAN ship repair and maintenance on the east coast of Australia, and as such is a driver for an enduring RAN presence at Fleet Base East.’⁷
13. However, the Review also considers that ‘the encroachment and commercial sector pressures – including the cruise ship industry’s requests for berth access – could present increasing challenges in the future, particularly for accommodating large ships such as the LHD at Garden Island in Sydney.’⁸

4 Ibid, p.2
 5 Ibid, p.28
 6 Ibid, p.32
 7 Ibid
 8 Ibid

14. The Review subsequently discusses some options for fleet basing to accommodate these pressures, including a possible future supplementary fleet base, but goes on to conclude that ‘Any option for enhanced cruise ship access to Garden Island in Sydney should not come at the expense of the primacy of Defence access or operational outcomes’,⁹ and makes the recommendation that ‘Defence should proceed with its plans to homeport the AWDs and LHDs at Fleet Base East in the short-term but also develop additional options involving Brisbane and Fleet Base West.’^{10,11}
15. **Operational siting options.** Consistent with Defence planning policy, Defence has considered various siting options within the Sydney region for the location of the proposed facilities required to generate and sustain the AWD capability.
16. In assessing and selecting the sites, Defence has sought to maximise the use of existing infrastructure to create synergies with respect to the functions of training, through life systems support and maintenance, to provide ease of access to ships’ crews and industry / contractor support, and to minimise any potential environmental, heritage or community impacts. The sites subsequently selected within the Sydney region were Garden Island, Randwick Barracks and HMAS *Watson*. A plan showing the relative location of each of these sites is at Attachment 2.
17. Within each of the selected sites, various site layout options have also been considered to ensure that the site layouts as proposed are functional and cost effective.
18. **Procurement options.** Defence considered a number of procurement options for the delivery of the proposed facilities, including:
 - a. delivery of the facilities via a traditional contracting methodology; and
 - b. delivery of the facilities through a public-private partnership arrangement.

⁹ Ibid

¹⁰ Ibid, p.35

¹¹ An analysis of a supplementary base in Brisbane has been undertaken, however Government is yet to consider the recommendations, which are also to be considered as part of the 2013 Defence White Paper development process. An assessment of Fleet Base West’s capacity to berth a forward deployed AWD has also been undertaken and is also yet to be considered by Government.

19. The options analysis concluded that delivery of the proposed facilities via a traditional contracting methodology would offer better value for money as compared to a public-private partnership arrangement, which in addition to being considered not cost effective was also considered not commercially attractive. This chosen form of procurement also offers Defence:
 - a. greater flexibility in controlling delivery time frames;
 - b. greater flexibility in managing likely disruptions due to construction; and
 - c. greater cost certainty.
20. **Adaptive reuse / refurbishment options.** To meet the identified need, Defence has considered the viability of adaptively re-using or refurbishing existing facilities to reduce the need for new construction. In most cases, the option to re-use facilities was found not to be cost effective due to dilapidation, structural inadequacy, dysfunctional layout and / or inappropriate siting of the available facilities. These options are discussed in more detail for each project scope element under the 'Project Scope of Works' section of this Statement of Evidence.

Historical Background

21. Garden Island is located on the southern foreshore of Sydney Harbour and has supported naval activities since 1788. In 1859 it became a dry docking and general maintenance facility and in 1883 it became the headquarters for the Royal Navy in Australia (prior to the official creation of the RAN). Today, Garden Island is a strategically vital and enduring Defence base. Its primary role is to support and maintain the ten major RAN ships based in Sydney, plus visiting RAN and foreign warships. The Garden Island complex provides a vital range of fleet base facilities that are fundamental to mounting and supporting maritime operational capability.
22. Randwick Barracks has been used for military training since the early 1860s. The site has also been used as a Naval Stores Depot and Army Transportation Squadron facility. Today, Randwick Barracks is home to several major Army units, has well established base support facilities and provides transit and training accommodation for some 250 personnel.
23. HMAS *Watson* has been a Defence base since the nineteenth century. During World War II the RAN became joint occupants with Army until the Army vacated the site in the 1970's.

Navy undertook major construction activity on the site in the 1950's. HMAS *Watson* is currently the principal RAN establishment for maritime warfare training.

Environment and Heritage Assessment Process

24. A combined Environment and Heritage Impact Assessment was prepared in June 2011 to determine the impact of the proposed works at Garden Island, Randwick Barracks and HMAS *Watson*.¹²

Heritage Impact

25. The Environment and Heritage Impact Assessment concluded that there will be no significant impacts on the historical, indigenous, archaeological or heritage values at the proposed sites.
26. At HMAS *Watson* there are however works proposed in proximity to a site identified as having some indigenous heritage values and an area identified as a 'Low Impact Zone' of archaeological sensitivity. To avoid any potential impacts on these areas, and in accordance with the heritage impact assessment recommendations, the proposed works have been developed based on a 'considered siting' and a 'sympathetic design'.
27. Defence's Directorate of Environmental Protection and Assessments has considered the proposed works in relation to the Heritage Management Plan and the *Environment Protection and Biodiversity Conservation Act (EPBC Act) 1999 (Cth)*, and has advised that a referral will not be required under the EPBC Act for the proposed scope.

Environmental Impact

28. The Environment and Heritage Impact Assessment prepared in June 2011 advised of the potential impact of the new works on visual amenity, traffic management, soil contamination, noise, water quality, waste management, air quality, flora and fauna. The assessment

¹² As the physical dimensions (less full load displacement) and the conduct of alongside operations and maintenance of the AWDs are very similar to those of the *Adelaide* Class FFGs, which are currently home-ported at Garden Island, the assessment process adopted did not include any 'Class' specific environmental issues associated with the 'berthing' of the AWDs at Garden Island.

concluded that minimal impact would occur as a result of the proposed works and a referral will not be required under the EPBC Act.

29. The proposed works will be managed in accordance with the Defence Environmental Management framework. Environmental procedures for all proposed construction activities will be required to comply with an approved Construction Environmental Management Plan, from which a Defence Environmental Clearance Certificate will be issued prior to commencing any construction activities.

Key Legislation

30. The following key legislation is relevant to this project:
 - a. *Environment Protection and Biodiversity Conservation Act 1999* (Cth);
 - b. *Building and Construction Industry Improvement Act 2005* (Cth);
 - c. *Work Health and Safety Act (WH&S) 2011*(Cth);
 - d. *Disability Discrimination Act 1992* (Cth); and
 - e. *Fair Work Act 2009* (Cth)
31. The design will comply with all relevant and current Defence Standards, Australian Standards, Codes and Guidelines including, but not limited to, the following:
 - a. National Construction Code, 2011;
 - b. Defence Manual of Fire Protection Engineering; and
 - c. Defence Estate Quality Management System (DEQMS).

Impacts on Local Communities

32. Defence has remained cognisant of potential impacts on local communities in developing the designs for the proposed works. Considerations have included the Sydney Opera House Buffer Zone, and impacts on residents and traffic adjacent to the Garden Island, Randwick Barracks and HMAS *Watson* sites. Further details with respect to the impacts on residents and traffic, and where required the mitigation measures, are discussed under the 'Local Road and Traffic Concerns' section of this Statement of Evidence.
33. As noted previously, the physical dimensions (less full load displacement) and the conduct of alongside operations and maintenance of the AWDs are very similar to those of the *Adelaide*

Class FFGs, which are currently home-ported at Garden Island. As such, no specific visual and noise impact assessments were undertaken for the ‘berthing’ of the AWDs at Garden Island. With respect to the management of noise on local residents following the arrival of the AWDs, the well established practices to manage noise resulting from current activities at Fleet Base East will be applied to the operation of the AWDs while berthed at Garden Island.

34. Details with respect to the positive economic impacts within the Sydney region are discussed under the ‘Public Value’ section of this Statement of Evidence.

Consultation with Stakeholders

35. Consultation has occurred, or will occur, with the list of stakeholders as detailed at Attachment 3.

Purpose of Works

Project Objectives

36. The purpose of the project is to provide ship sustainment facilities within the Sydney region for the ongoing training, systems through life support and maintenance, and berthing of the new *Hobart* Class AWDs. Key objectives are to:
 - a. achieve greater efficiency and increased flexibility in the provision of shore side support for the new AWD capability through the sustainment phase;
 - b. meet the Commonwealth’s obligations for the provision of Government Furnished Facilities; and
 - c. provide modern, fit for purpose, high quality, safe and energy efficient facilities that meet these needs.

Site Selection

37. The site selection for each project scope element has been undertaken in accordance with Infrastructure Division’s planning policy requirements as set out in the DEQMS. A Site Selection Board was conducted in May 2011, which considered applicable Defence policy regarding environment, heritage and operational requirements, and where available, existing planning guidance under the relevant Zone and / or Master Plans for each site.

Project Locations

38. The proposed works will be undertaken at the following Commonwealth owned and Defence controlled establishments within Sydney, NSW:
- a. Garden Island, which is located approximately two kilometres east of the City of Sydney;
 - b. Randwick Barracks, which is located approximately twelve kilometres south of the City of Sydney; and
 - c. HMAS *Watson*, which is located approximately eight kilometres east of the City of Sydney.
39. The proposed site plans for Garden Island, Randwick Barracks and HMAS *Watson* are at Attachments 4, 5 and 6 respectively.

Project Scope of Works

40. To meet the project objective of ‘achieving greater efficiency and increased flexibility in the provision of shore side support for the new AWD capability through the sustainment phase’, Defence has taken the initiative to develop the AWD and LHD Ship Sustainment Facilities projects together to produce a holistic solution that maximises the benefits of operating both capabilities from Sydney.¹³
41. The provision of the proposed AWD ship sustainment facilities shares similar risks in development and delivery to that of the proposed LHD ship sustainment facilities. To coordinate the mitigation of these risks, Defence has investigated opportunities for synergies between the sustainment, logistic support and other training requirements that may be either shared or collocated to produce a value for money outcome for the Commonwealth.
42. To meet all project objectives for the ongoing sustainment, training, maintenance and support of the AWD capability, there are seven proposed project scope elements, which are as described below.

¹³ The LHD Ship Sustainment Facilities project has been separately referred to the Parliamentary Standing Committee on Public Works.

Project Scope Element 1 – AWD Training Centre at Randwick Barracks

43. Existing training spaces available at Garden Island in the Combat System Maintenance School and the Navy Technical Training Unit – East are fully allocated to training crews of the existing classes of ships. Redevelopment of the existing training spaces at Garden Island was considered but rejected because of the costs to decant and relocate training spaces to leased premises off the Defence estate while new training spaces were being constructed. Rebuilding new training spaces on Garden Island is also incompatible with the Defence endorsed Garden Island Defence Precinct Strategic Accommodation Management Plan. The Strategic Accommodation Management Plan aims, in the long-term, to relocate all training facilities from Garden Island to other locations, including both Randwick Barracks and HMAS *Watson*, in order to optimise the effectiveness and efficiency of Garden Island as a dedicated operational and maintenance support base.
44. The proposed AWD Training Centre aims to provide ship class specific training on both the ship's combat systems and the platform systems. This training will build upon category training conducted at other RAN training establishments. The proposed Training Centre will be located at Randwick Barracks and will provide three types of training spaces: computer learning classrooms of varying sizes; specialist teaching spaces using part task training simulators and emulators; and equipment based training areas requiring specialist power and mechanical plant. The proposed Training Centre will also include instructor office spaces, resource rooms and meeting rooms; general amenity areas for a library, break out, kitchenettes, and ablutions; a theatre to enable briefings for larger numbers of staff and trainees; office areas for staff to manage the training centre and its systems; and ancillary spaces for server rooms, a reception area and building services.
45. The proposed AWD Training Centre at Randwick Barracks is a new two-storey purpose built building of approximately 5,800 square metres constructed on a 'brown field' site adjacent to the proposed LHD Training Centre. An existing dilapidated warehouse, Building 301, will be demolished as part of these works. A new carpark adjacent to the proposed AWD Training Centre and combined with the proposed LHD Training Centre carpark is also proposed to be provided. Plans of the proposed works are shown at Attachments 7 to 10.

Project Scope Element 2 – AWD Command Team Trainer at HMAS Watson

46. The RAN centre for Command Team Training expertise is located at HMAS *Watson*. Defence proposes to locate the AWD Command Team Trainer at HMAS *Watson* to leverage off and augment the wider maritime warfare training and simulation environments at HMAS *Watson*. Existing training spaces available at HMAS *Watson* are fully subscribed to existing programs. While re-use of vacant spaces inside an existing facility (the Ritchie Building) would have been ideal, there was insufficient space available to accommodate the training needs of the AWD without wholesale reorganisation of the building. This would have resulted in significant costs, and more critically, disruption to the current maritime warfare training continuum. This option was therefore considered unacceptable from both a cost and capability perspective.
47. The proposed Command Team Trainer is a replication of an AWD's on board operations room, complete with combat systems. The proposed Command Team Trainer is slightly larger than the space on-board the ship due to maintenance and upgrade requirements of equipment. The proposed Command Team Trainer will be running the United States Navy Aegis Mini-suite and will be linked to other simulation systems allowing cross platform scenarios to be exercised. The proposed Command Team Trainer will also include ancillary spaces to support the learning environment for staff and trainees such as staff offices, equipment rooms, a monitor room, a debriefing room, breakout spaces, ablutions, server rooms, a reception area and building services.
48. The proposed Command Team Trainer at HMAS *Watson* is a new single-storey building of approximately 1,400 square metres, built adjacent to the Ritchie Building and on the site of an existing dilapidated asset (Building 43), which will be demolished as part of the works. Plans of the proposed Command Team Trainer are shown at Attachments 11 to 13.

Project Scope Element 3 – AWD Through Life Support Facility at Garden Island

49. The AWD requires an on-shore facility in which the software associated with the combat and platform systems of the ship are maintained. The Through Life Support Facility primarily houses computer laboratories in which changes and updates to the combat and platform systems are tested prior to loading onto the ship. The facility also needs to provide an office environment for staff engaged in maintenance and testing activities.

50. The proposed new Through Life Support Facility will be located at Garden Island in part of a new three-storey building of approximately 5,600 square metres, built adjacent to the Captain Cook Graving Dock, on the existing site of Building 314, which will be demolished as part of the works. This new office complex includes the AWD Systems Program Office (see Project Scope Element 4) plus the proposed LHD ship Through Life Support Facility and Systems Program Office,¹⁴ to maximise the efficiencies and synergies of these functional areas.
51. Re-use of the existing Building 314 at Garden Island, an asset currently occupied by Thales under licence with Defence until 30 June 2013, was considered for this facility. Defence made an assessment of Building 314 based on known factors that included the dilapidation, structural inadequacy, the dysfunctional layout of the building and the need for building compliance upgrades to meet the Defence Manual of Fire Protection Engineering and green building initiatives. Defence subsequently concluded that construction of new purpose-designed facilities would provide a more cost effective whole of life outcome.
52. The functional spaces required for the proposed Through Life Support Facility include computer laboratories, workshops and storage areas; office areas, resource rooms and meeting rooms; general amenity areas for break out spaces, kitchenettes, and ablutions; and ancillary spaces for server rooms, a reception area, and building services. Plans of the proposed AWD Through Life Support Facility section of the new building are shown at Attachments 14 to 18.

Project Scope Element 4 – AWD Systems Program Office at Garden Island

53. The AWD Systems Program Office requires an office based work area with a requirement for secure tender suites to allow the evaluation of maintenance tenders let at various times through the life-of-type of the ship.
54. As identified earlier, the new Systems Program Office is proposed to be located on Garden Island in part of the new three-storey building proposed to be constructed on the site of the existing Building 314, which will be demolished as part of the works. This will allow for collocation of the AWD Through Life Support Facility and Systems Program Office with the

¹⁴ Funded separately under the LHD Ship Sustainment Facilities project.

proposed LHD Through Life Support Facility and Systems Program Office,¹⁵ with associated gains in operating effectiveness and spatial efficiency.

55. The functional spaces required for the proposed Systems Program Office include staff office areas, tender suites, meeting rooms and a training room; general amenity areas for break out spaces, kitchenettes, and ablutions; and ancillary spaces for a library, archives storage, general storage, server rooms, a reception area, and building services. Plans of the proposed Systems Program Office section of the new works are shown at Attachments 14 to 18.

Project Scope Element 5 – AWD Lay Apart Store at Garden Island

56. There is a requirement to have a lockable storage area located near the maintenance berths for each AWD where general equipment allocated to a ship can be stored and secured when not required on the ship. Re-use of the existing Building 104 at Garden Island, an asset currently occupied by Thales under its licence with Defence, was considered and found to be a cost effective solution to meet the store requirement.
57. The proposed Lay Apart Store will partially occupy one end of Building 104 after the Thales licence expires on 30 June 2013. The store will provide a 50 square metre caged enclosure for each ship, totalling 150 square metres, and a shared office on an existing mezzanine level.
58. Plans of the proposed Lay Apart Store are shown at Attachment 19.

Project Scope Element 6 – AWD Integrated Platform Monitoring System Remote Monitoring Station at Garden Island

59. Each AWD has the requirement for monitoring remotely the performance of the Integrated Platform Management System via a laptop computer electronically (and physically) connected to the ship's system. There is a requirement to provide a location ashore, proximate to the ships' berth, with the capacity for duty personnel from each ship to operate their vessel's Remote Monitoring System. Re-use of vacant space in Building 122 at Garden Island, an asset currently occupied by the RAN Port Services Manager - East, was considered and is proposed to be adopted as a cost effective solution for this function.

¹⁵ Funded separately under the LHD Ship Sustainment Facilities project.

60. The proposed Integrated Platform Monitoring System Remote Monitoring Station requires a partial fitout at the first floor level within the southern end of Building 122. The LHDs have a similar requirement and Defence proposes to collocate both requirements within the same space as shown on the plans at Attachment 20.¹⁶

Project Scope Element 7 – AWD Berthing Infrastructure at Garden Island

61. Existing berthing infrastructure at Garden Island is unsuitable for the new AWD because the wharfside connection points to shore supplied engineering services (for electric power, water supply, sewerage disposal, compressed air, and communications) are incompatible and require upgrading to the systems specifications of the AWD. If this work is not completed, the AWD will be able to berth but will be unable to connect to shore supplied engineering services.
62. The proposed berthing infrastructure will include additional new cope points at four berthing positions; Fleet Base East 4 and 5, the Cruiser Wharf, and East Dock Wall. These proposed cope points will provide communications, compressed air, sewerage and electricity connections to provide the necessary flexibility for these ships to berth and connect to required services at various locations in their home-port. Plans of the proposed works are shown at Attachment 21.

Public Transport

63. Garden Island is well served with bus stops at the Base entry on Cowper Wharf Road and Kings Cross railway station is located approximately 1.25 kilometres from the Base entry. A travel pattern survey undertaken for Garden Island found that approximately 25% of commuters travelled via public transport and 62% travelled by private car.
64. At Randwick Barracks, the nearest bus routes travel along Rainbow Street to the north of the Barracks. Anzac Parade, which connects to Avoca Street, also has a high frequency of buses and is a major public transport corridor. There is a relatively high dependency on private motor vehicles by Defence personnel commuting to and from Randwick Barracks.

¹⁶ Funded separately under the LHD Ship Sustainment Facilities project.

65. There are currently three bus routes that serve the suburb of Watsons Bay. The interchange is located approximately 600 metres from the entrance to HMAS *Watson*. The majority of the base population consists of trainees who reside at HMAS *Watson* during their training.

Local Road and Traffic Concerns

66. There will be a net increase in personnel accessing Randwick Barracks and HMAS *Watson* following the introduction of the new AWD capability. The net increase in personnel per working day accessing Randwick Barracks is approximately 110 and approximately 40 for HMAS *Watson*. The net expected increase of personnel at HMAS *Watson* will be a short-term increase until 2019, at which time the planned phasing out of existing training systems will take effect. There will be no net increase in personnel accessing Garden Island because following the introduction of each new AWD, the *Adelaide* Class FFGs will be successively withdrawn from service.
67. A Traffic Impact Assessment was conducted in June 2011 that covered both the construction period and the net increase in base populations following completion.
68. The report concluded that at Garden Island, the proposed demolition of Building 314 and construction of the proposed combined AWD and LHD Through Life Support Facilities and Systems Program Offices is anticipated to generate a maximum of 45 trucks per day. There is potential that this will impact the intersection of Cowper Wharf Road and Wylde Street due to trucks queuing back from the site barrier access along Cowper Wharf Road. However, the lane allocation on Cowper Wharf Road means that vehicles would be able to queue in the left hand lane of Cowper Wharf Road when accessing the site through the main gate. This would reduce the impact to right turning vehicles at the intersection onto Wylde Street as they have their own dedicated lane, which is over 500 metres long. As the site is well connected to public transport, current travel patterns and sustainable travel options are expected to continue with minimal impact.
69. At Randwick Barracks, construction of the proposed combined AWD and LHD Training Centres is anticipated to generate a maximum of 55 trucks per day. This is not considered likely to have a significant impact on the local road network. Vehicle parking generated by occupants of the proposed AWD Training Centre will be accommodated in a purpose built car park of 187 spaces. The majority of vehicles accessing the AWD Training Centre will be

intra-Barracks traffic, where a number of trainees may choose to drive from their living-in accommodation to the Training Centre. Overall, the combined AWD and LHD Training Centres will have a negligible impact on Avoca Street traffic and minimal impact on traffic in surrounding streets.

70. At HMAS *Watson*, the proposed demolition of Building 43 and construction of the proposed Command Team Trainer is anticipated to generate a maximum of 28 trucks per day. Car parking is limited in the vicinity of the proposed Command Team Trainer, so trainees will be transported via a shuttle bus from Garden Island in order to minimise the impact on the Base.
71. To alleviate the impact of extra traffic at each establishment, Construction Traffic Management Plans and Green Travel Plans will be prepared and implemented. Heavy machinery used during construction is also expected to have minimal impact on the local road network as such machinery is expected to remain on site for prolonged periods of time.

Zoning, Local Approvals and Land Acquisition

72. The proposed works are contained wholly within Commonwealth owned and Defence controlled land.
73. Each of the project elements at Garden Island are to be constructed on sites consistent with the current Zone and Precinct Plan. Site planning of the Training Centre at Randwick Barracks is consistent with the Randwick Barracks Preliminary Zone Plan. Site planning of the Command Team Trainer at HMAS *Watson* is consistent with the HMAS *Watson* Zone and Precinct Plan.
74. Some works at Garden Island are proposed to be undertaken on buildings currently occupied by Thales and under licence from Defence. However, these works are not scheduled to commence until after the expiration of the Thales licence on 30 June 2013.
75. The proposed works do not require acquisition of additional land or involve land disposal aspects. There will be no change to existing land use conditions at each site.

Planning and Design Concepts

76. The general philosophy adopted for the design of the proposed facilities incorporates the following considerations:
- a. provision of cost effective and functional facilities of energy efficient design suitable for the climate of the site and of a style compatible with the existing base aesthetics;
 - b. adoption where possible of conventional construction techniques and materials, in particular those commonly used by the construction industry and consistent with those already utilised on the base;
 - c. maximum use of existing infrastructure and facilities to minimise capital costs;
 - d. utilisation of readily available and durable materials that combine long life while minimising maintenance;
 - e. recognition of site constraints, security requirements, the established zone plans, functional relationships to existing facilities and operational determinants; and
 - f. planning services and structure design to accommodate flexibility.

Structural Design

77. Structural design will take into account the local geotechnical profile and the marine environmental conditions encountered on Sydney Harbour and at Randwick Barracks. The proposed new facilities will be reinforced concrete framed structures with post-tensioned upper level floor slabs and a post-tensioned concrete waterproofed roof appropriate to the environment. Internal walls are non-load bearing frames, lined with plasterboard to provide maximum flexibility in future layout.

Materials and Furnishings

78. External walls for new buildings will be a mixture of concrete panels and metal cladding with curtain wall glazing. A metal louvre sun screening system will be installed to improve environmental performance of the buildings. Where required, pre-finished steel roofing and rainwater fittings have also been selected for their resilience to a marine environment.

Mechanical Services

79. The mechanical services for each new building have been designed according to the function and needs of each building. The purpose of the mechanical services systems is to provide mandatory ventilation, thermal comfort and air quality facilities in accordance with specific user needs and the requirements of the National Construction Code.

Hydraulic Services

80. Existing natural gas, sewerage and storm water services are proposed to be extended to each facility to suit design requirements. Potable water will be connected to the existing supply via sub-metering to each new building. Roof water will be collected and stored in above ground storage tanks and plumbed for use in toilet flushing and landscape irrigation.

Electrical Services and Fire Protection

81. Lighting, power and lightning protection will be provided in accordance with Australian Standards and Defence engineering requirements.
82. Electrical infrastructure and switchboards will have spare capacity to allow for future growth. Sub-metering will be included to each re-used and new building. The meters will be monitored through a new Building Management System, which will support an active energy management program on the site.
83. Fire and Rescue New South Wales has been consulted and fire detection systems, indication panels, emergency and exit lighting are proposed to be provided to suit the existing site systems. All construction and fire protection will comply with the National Construction Code, the Defence Manual of Fire Protection Engineering, and all other applicable Codes and Australian Standards.

Acoustics

84. The new facilities will comply with the National Construction Code and Australian Standards for noise and acoustics. Acoustic separation has been considered between rooms, and walls are being designed to meet user requirements and building functions.

Landscaping

85. Proposed new landscape works will complement and enhance the character of each site. The landscape design will focus on a functional, low maintenance, water sensitive approach with the use of indigenous plants. Precautions will be taken to avoid compromising environmental sensitivities by adopting landscaping practices in accordance with local environmental conditions and the Construction Environmental Management Plan.

Water and Energy Conservation Measures

86. 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 efficiency targets established by the government as part of its commitment to improve Ecologically Sustainable Development. Defence also implements policies and strategies in energy, water and waste to improve natural resource efficiency and to support its commitment to the reduction of energy consumption, potable water consumption and waste diversion to landfill. This project has addressed this policy by adopting cost-effective and ecologically sustainable development as a key objective in the design development and delivery of new facilities.
87. The ecologically sustainable measures for the project are balanced with other requirements for Defence buildings, including security, heritage and work health and safety considerations, to ensure that Defence's operational capability is not compromised.
88. All new offices and offices subject to major refurbishment that are greater than 2,000 square metres in floor area are required to comply with the minimum energy performance standards in the Energy Efficiency in Government Operations (EEGO) policy. Proposed buildings that are required to comply are:
- a. the AWD Training Centre at Randwick Barracks; and
 - b. the combined AWD Through Life Support Facility and Systems Program Office at Garden Island.
89. All other proposed buildings will be designed, constructed, operated and maintained to ensure that they use energy efficiently and comply with:
- a. Part 1.2 Section J of Volume One of the National Construction Code, 2011;

- b. Part 3.12 Section J of Volume Two of the National Construction Code, 2011;
 - c. Defence Green Building Requirements; and
 - d. The EEGO policy.
90. Although not specifically identified by legislation, enhanced environmental outcomes will be achieved for all other habitable buildings through the use of Green Building Requirements to guide design.
91. Ecological sustainable development objectives and solutions are considered in the design to reduce the impact on the wider environment by the use of sustainable design and construction techniques and management systems that will reduce energy consumption and the use of natural resources by:
- a. reusing existing buildings where possible, in preference to new builds, where reuse of the building meets user requirements;
 - b. demand mitigation and management by means of passive design solutions, energy efficient heating, ventilation and air-conditioning, lighting, water efficient fittings and fixtures, recycling and reuse of water, energy and water management, and material selection and minimisation;
 - c. providing high levels of user amenity and indoor environment by means of passive solar design, active design solutions such as high performance lighting design, operational initiatives for users including operational waste management and cycle racks, and green landscaping spaces to increase user amenity;
 - d. examining alternative technologies to provide heating, cooling and lighting to reduce the environmental footprint of the site;
 - e. examining alternative solutions to reduce water supply to the site;
 - f. examining alternative modes of transport, particularly for internal site transportation; and
 - g. complying with 'Ecologically Sustainable Design Targets' and 'Essential Requirements' as outlined in the Defence Green Building Requirements document and other ecologically sustainable design requirements specific to the project (including energy, water, waste and Green Star rating targets).
92. In addition to the above initiatives, the Defence Essential Requirements for Ecologically Sustainable Design incorporated into the proposed new facilities are:

- a. appliances and office equipment to be United States of America EPA 'Energy Star' compliant;
- b. maximum of 10 Watts per square metre or equivalent for lighting to office areas;
- c. separate digital energy metering for tenanted areas, central services, and computer data centres;
- d. sub-metering of energy sources linked to a Building Management System;
- e. sub-metering in accordance with the Defence Energy Management Strategy and the requirements of the Commonwealth EEGO Policy;
- f. spaces with intermittent and variable occupancy separately zoned with presence detection control and/or carbon dioxide demand control ventilation;
- g. minimum energy efficiency ratings of 3.5 stars for dishwashers and 4 stars for refrigeration; and
- h. water sources to be metered and linked to the Building Management System.

Demolition and Disposal of Existing Structures

- 93. Building 314 at Garden Island, Buildings 301 and 302 at Randwick Barracks and Building 43 at HMAS *Watson* are proposed to be demolished to facilitate the construction of new works. Demolition materials will be separated and recycled where possible. Demolition is proposed to be conducted in accordance with the requirements of the Defence Heritage Management Plan relevant to each site.
- 94. Following an analysis of the Defence Asbestos Register and the conduct of a Hazardous Substance Audit (conducted in accordance with AS 2601-2001 'The Demolition of Structures) an assessment has been made of the type, location and extent of hazardous materials present at the proposed demolition sites. The assessment has indicated that a low risk is posed to Defence employees, contractors, adjoining residents and the environment given the known presence of hazardous materials at each proposed demolition site.
- 95. To further mitigate this risk, the following actions will be taken prior to the proposed demolition and disposal of the existing structures:
 - a. Procedures for the safe removal, management and disposal of hazardous materials (including an unexpected finds protocol) will be developed in accordance with all

applicable Codes of Practice and Guidance Notes and then documented within the Construction Environmental Management Plan.

- b. The removal, management and disposal of hazardous materials will only be conducted by appropriately qualified and certified contractors.

Provisions for People with Disabilities

96. Access and facilities for the disabled will be provided where necessary in accordance with the National Construction Code, Australian Standard AS1428 and Defence's policy 'Disabled Access and Other Facilities for Disabled Persons'. Passenger elevators will be provided in the proposed Training Centre at Randwick Barracks and in the proposed combined Through Life Support Facility and Systems Program Office at Garden Island.

Childcare Provisions

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

Work Health and Safety Measures

98. The facilities to be provided under this project will comply with Department of Defence Work Health and Safety policy, the *Work Health and Safety Act (WHS) 2011* (Cth), Work Health and Safety (Commonwealth Employment - National Standards) Regulations and the Defence Work Health and Safety manual.
99. In accordance with Section 35(4) of the *Building and Construction Industry Improvement Act 2005* (Cth), contractors will be required to hold full work health and safety accreditation from the Office of the Federal Safety Commissioner under the Australian Government Building and Construction Work Health and Safety Accreditation Scheme. All construction sites will be appropriately secured to prevent access during the construction period. No special or unusual public safety risks have been identified.

Cost-Effectiveness and Public Value

Outline of Project Costs

100. The estimated cost of this project is \$109.9 million, excluding Goods and Services Tax, which includes all delivery costs inclusive of management and design fees, construction costs, information communication technology, furniture, fittings and equipment, contingencies, and an allowance for escalation.
101. An increase in the net operating costs is expected due to the construction of new and re-used facilities containing more technical and environmentally compliant equipment, upgraded infrastructure and engineering services.

Details of Project Delivery System

102. Subject to Parliamentary approval of the project, a Project Manager / Contract Administrator will be appointed by the Commonwealth to manage the proposed works and administer the contracts for construction. Also subject to Parliamentary approval of the project, a Managing Contractor will be appointed using the Defence form of Managing Contractor Contract to control the completion of design development, to procure trade packages, and manage the overall construction of the proposed works. The Managing Contractor will also provide the Commonwealth with professional engineering advice on buildability efficiencies and provide facilities fit for purpose with associated warranties. The Managing Contractor is also required to actively promote the engagement of small to medium enterprises in design and construction trade packages.

Construction Schedule

103. Subject to Parliamentary approval of the project, construction is expected to commence in mid 2013 and be completed by late 2015.

Public Value

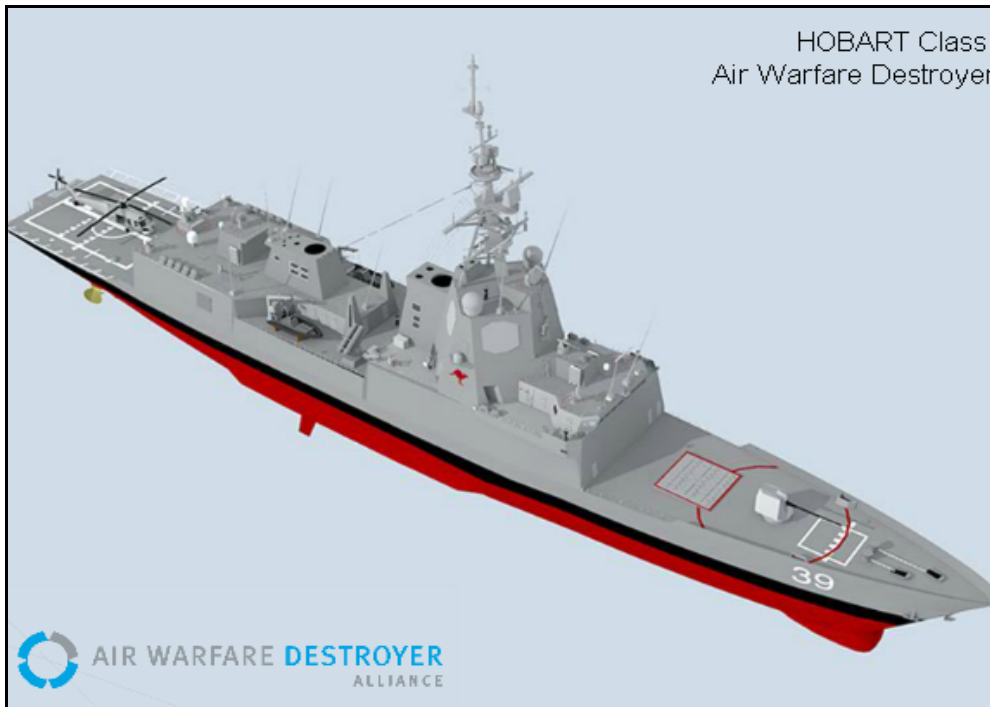
104. The proposed works contributes significantly to RAN capability outputs by providing effective new and re-used facilities at Garden Island, Randwick Barracks and HMAS *Watson* to support the introduction of the AWD capability.
105. Existing facilities have been re-used where they viably meet the operational needs of the RAN and to minimise operating costs and environmental impacts. The cost of investment, both in capital and operating terms, has been optimised in a number of proposed purpose designed facilities. The proposed works includes the renewal of engineering services infrastructure to ensure these services will be adequate for at least the next 30 years.
106. The proposed project will also have a positive economic impact on the Sydney region. The project will employ a diverse range of skilled consultants, contractors and construction workers over the construction period. It is estimated that the project will create the opportunity for approximately 535 full-time jobs over a period of 29 months, peaking at approximately 150 full time jobs. This will provide a positive impact for small and medium businesses in the Sydney region.

Revenue

107. No revenue will be derived from this proposal.

Attachment 1

Characteristics of the *Hobart* Class Air Warfare Destroyer



Characteristics:	Length: 146.7 metres
	Beam: 18.6 metres
	Draft: 7.2 metres
	Full Load Displacement: 7,000 tonnes
Performance:	Top Speed: 28+ knots
	Range: 5,000+ nautical miles at 18+ knots
Crew:	Approx 180
Aviation:	1 Hangar
Boats:	Two Rigid Hulled Inflatable Boats

Stakeholder List

- The Honourable Malcolm Turnbull MP, Federal Member for Wentworth
- The Honourable Peter Garrett MP, Federal Member for Kingsford Smith
- The Honourable Tanya Plibersek MP, Federal Member for Sydney
- Alex Greenwich MP, New South Wales State Member for Sydney
- Michael Daley MP, New South Wales State Member for Maroubra
- Gabrielle Upton MP, New South Wales State Member for Vacluse
- City of Sydney
- Randwick City Council
- Woollahra Municipal Council
- Fire and Rescue New South Wales
- Sydney Water
- AusGrid
- Sydney Harbour Foreshore Authority
- New South Wales National Parks
- Community consultations in Sydney, Watson's Bay and Randwick
- Department of Climate Change and Energy Efficiency
- Department of Sustainability, Environment, Water, Population and Communities



GARDEN ISLAND



RANDWICK BARRACKS



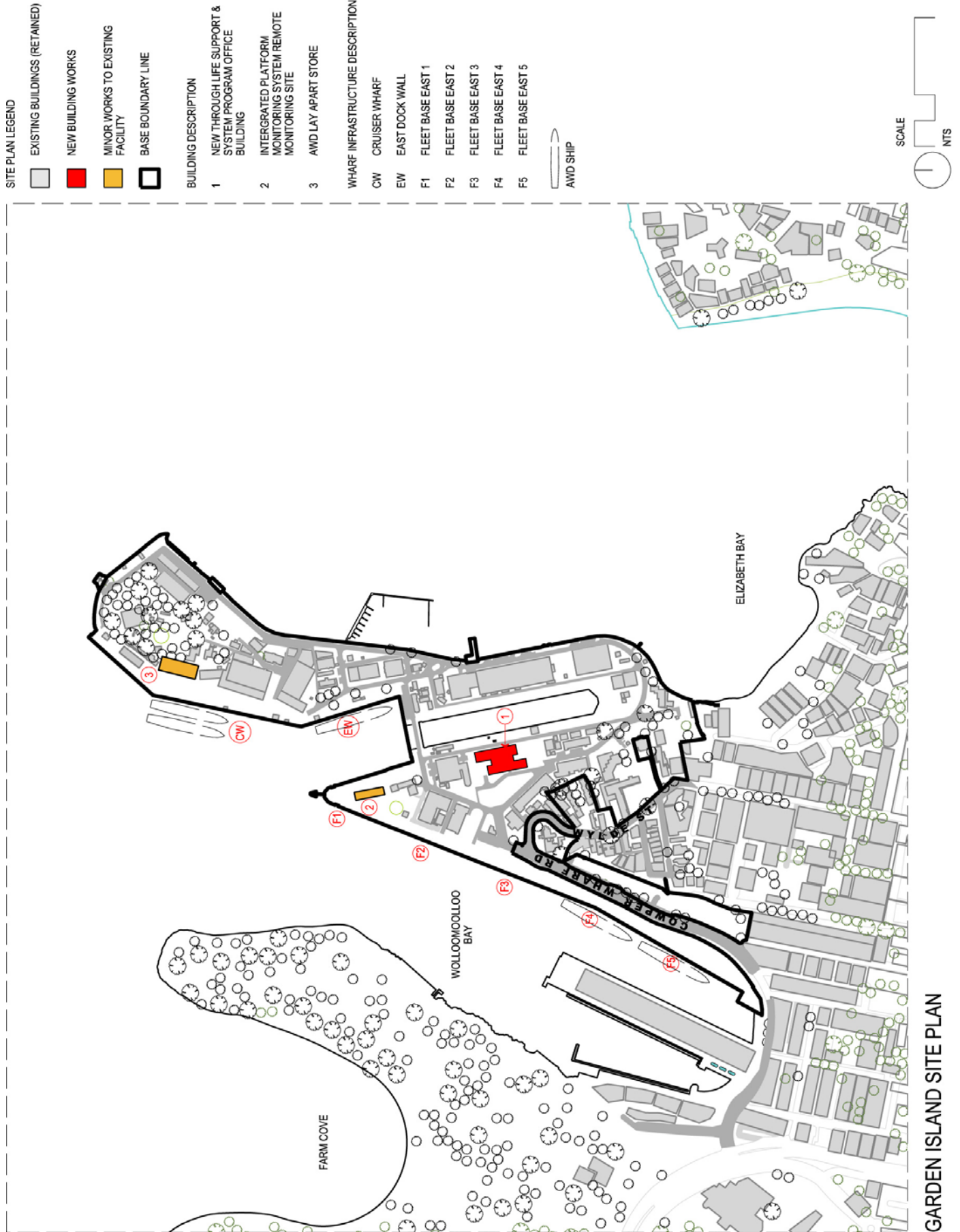
HMAS WATSON



LOCATION PLAN, SYDNEY NSW



LOCATION PLAN

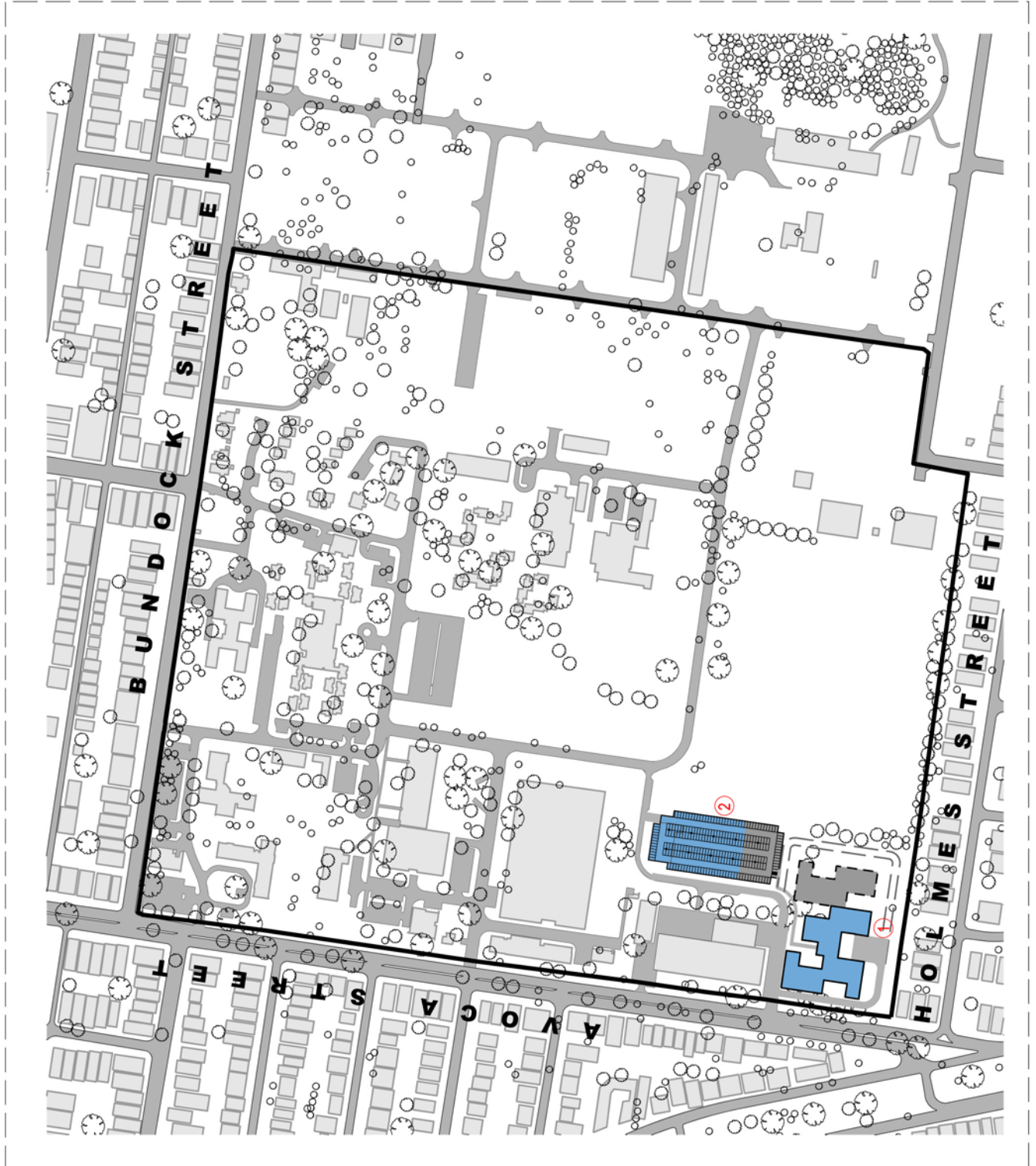
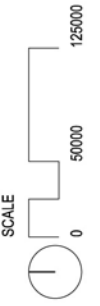


SITE PLAN LEGEND

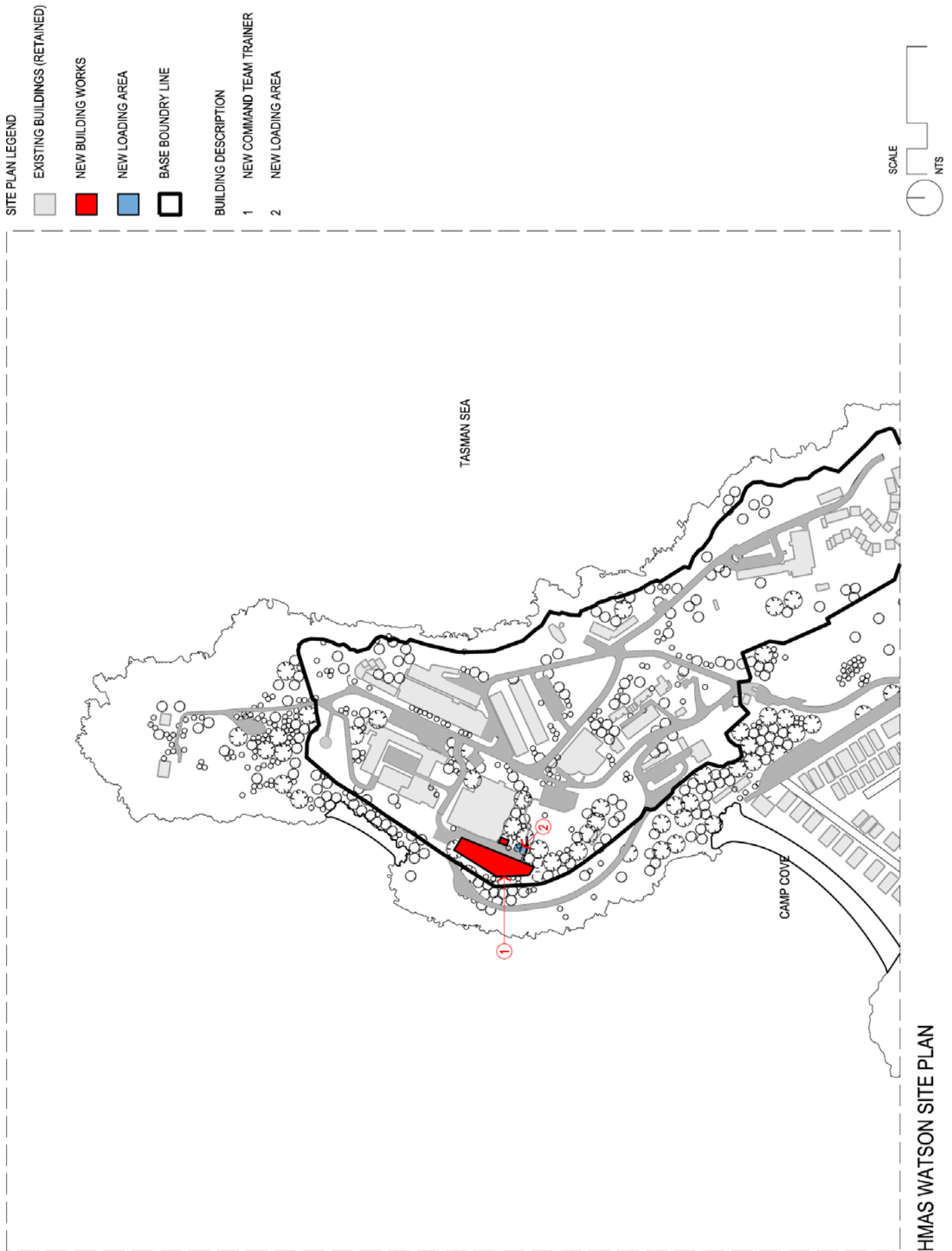
-  EXISTING BUILDINGS (RETAINED)
-  NEW AWD TRAINING CENTRE
-  NEW AWD CARPARK
-  LHD WORKS
-  BASE BOUNDARY LINE

BUILDING DESCRIPTION

- 1 NEW TRAINING CENTRE
- 2 NEW CARPARK

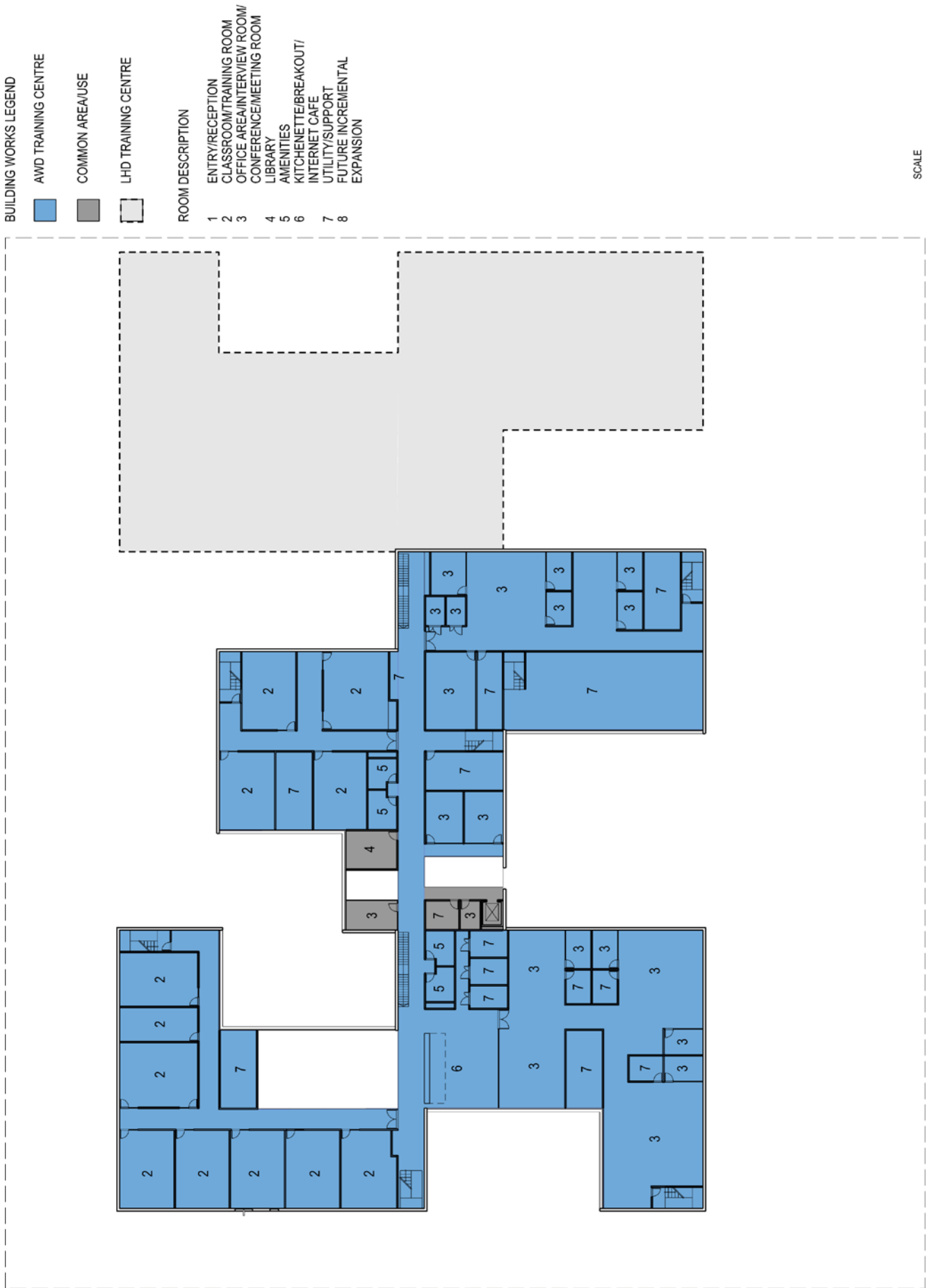


RANDWICK BARRACKS SITE PLAN





TRAINING CENTRE SITE PLAN/GROUND FLOOR PLAN (RANDWICK BARRACKS)

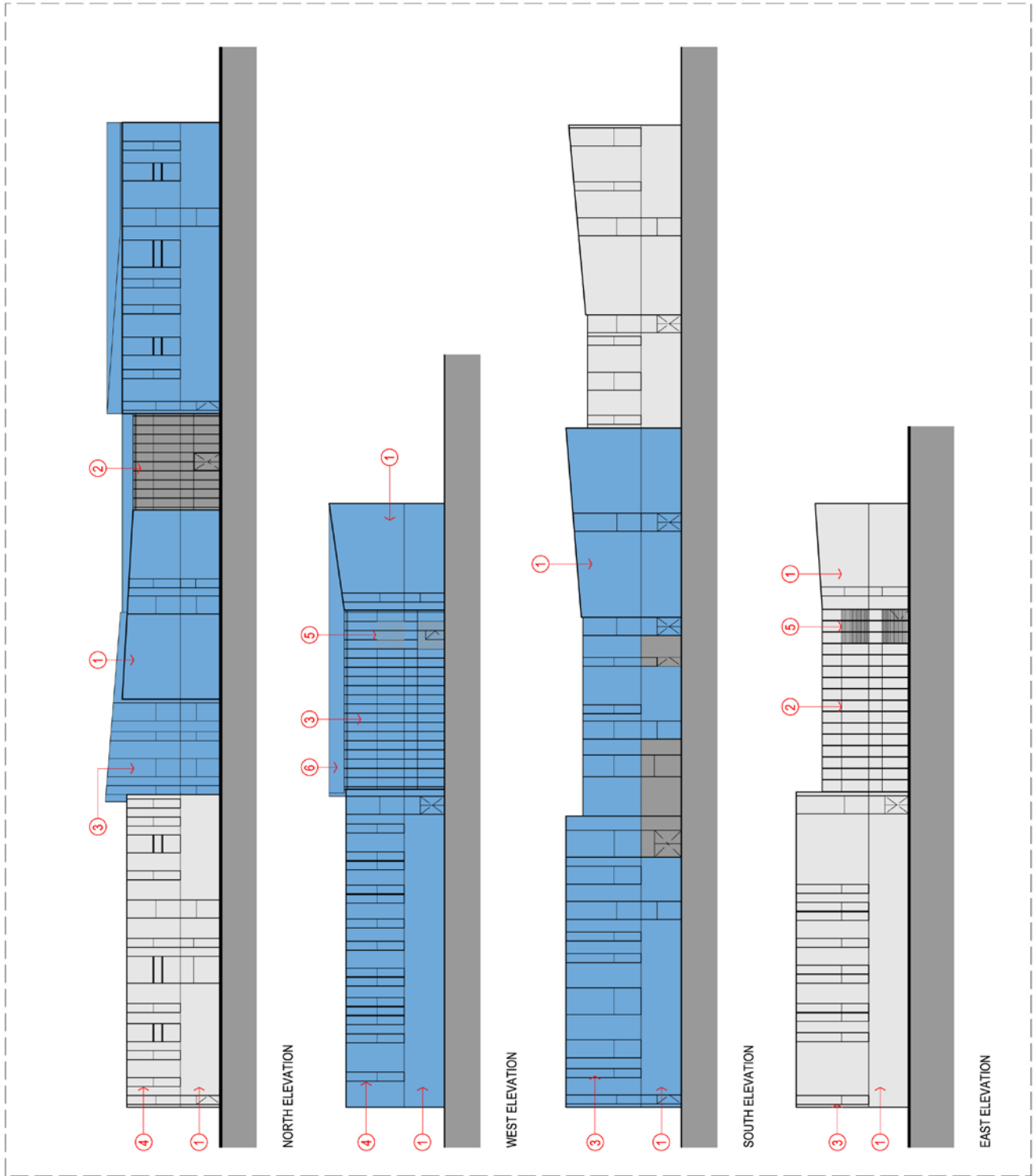
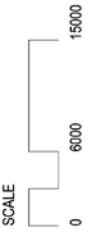


TRAINING CENTRE LEVEL 1 FLOOR PLAN (RANDWICK BARRACKS)



- EXTERNAL MATERIAL LEGEND**
- ① PRE CAST CONCRETE PANELS
 - ② GLAZED FACADE SYSTEM WITH SOLID SPANDRELS
 - ③ GLAZED FACADE SYSTEM
 - ④ GLAZED WINDOW SYSTEM
 - ⑤ ALUMINIUM LOURVE SYSTEM
 - ⑥ PREFINISHED METAL ROOF

- BUILDING WORKS LEGEND**
- AWD TRAINING CENTRE
 - COMMON AREA/USE
 - LHD TRAINING CENTRE



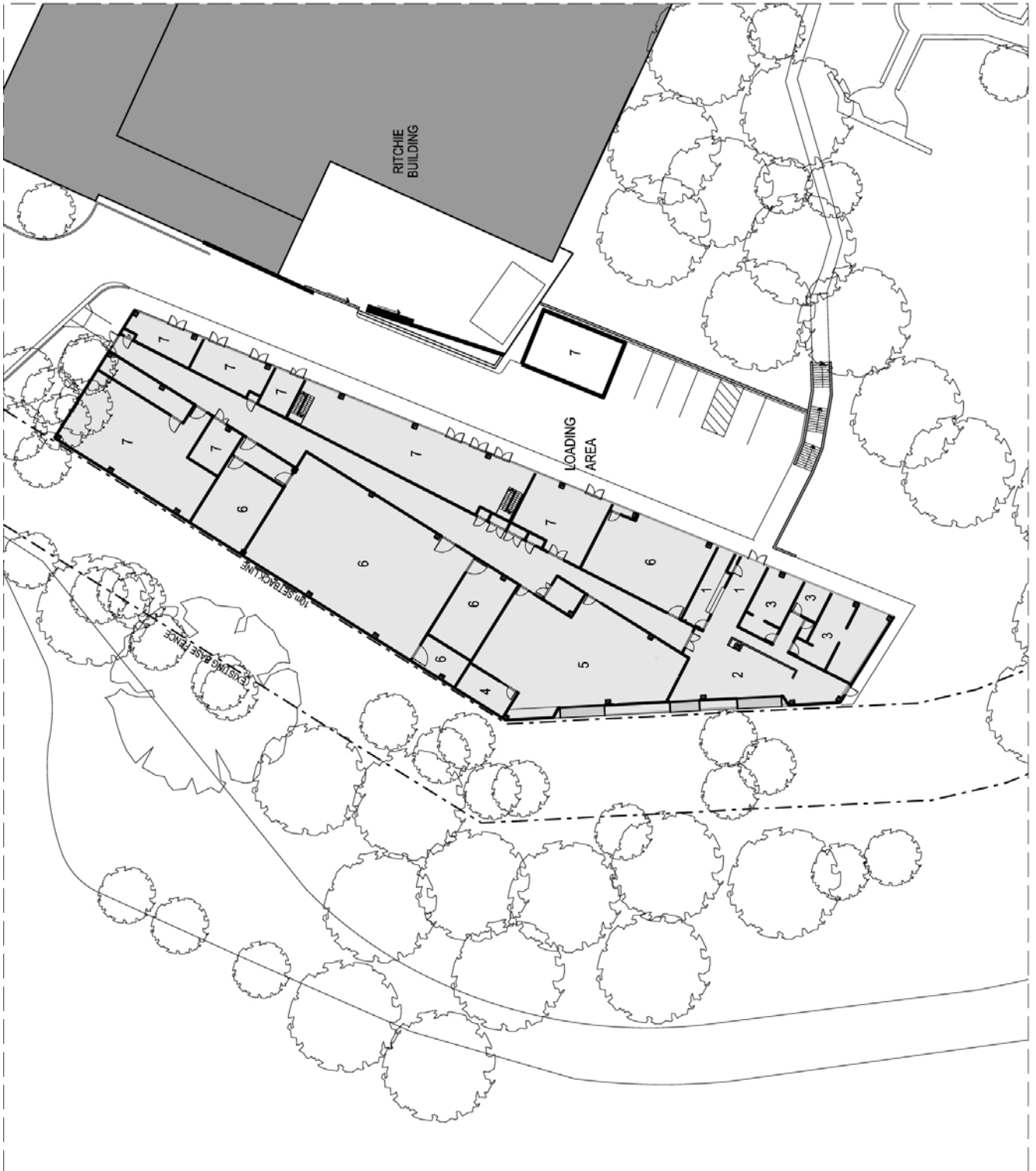
NOTE:
EXTERNAL COLOUR OF THE
FACILITY TO BLEND WITH
LANDSCAPE



TRAINING CENTRE PERSPECTIVE, VIEW FROM PROPOSED CAR PARK (RANDWICK BARRACKS)

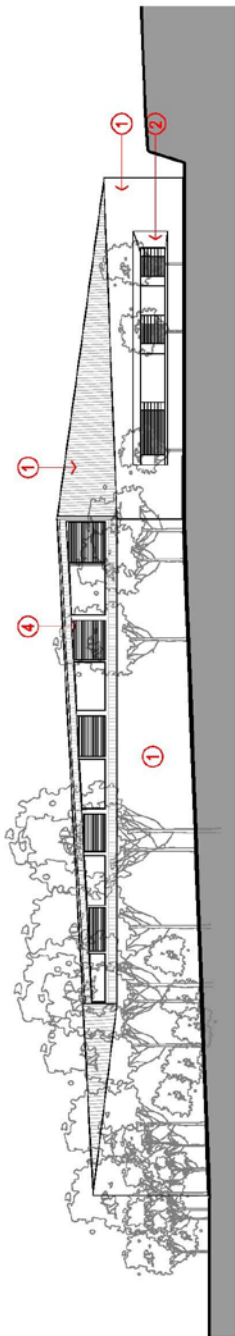


- BUILDING WORKS LEGEND**
- NEW BUILDING WORKS
 - EXISTING FACILITY
- ROOM DESCRIPTION**
- 1 ENTRY/RECEPTION
 - 2 KITCHENETTE/BREAKOUTSPACE
 - 3 AMENITIES
 - 4 SINGLE OFFICE
 - 5 OPEN PLAN OFFICE AREA
 - 6 CLASSROOM/TRAINING ROOM
 - 7 UTILITY/SUPPORT

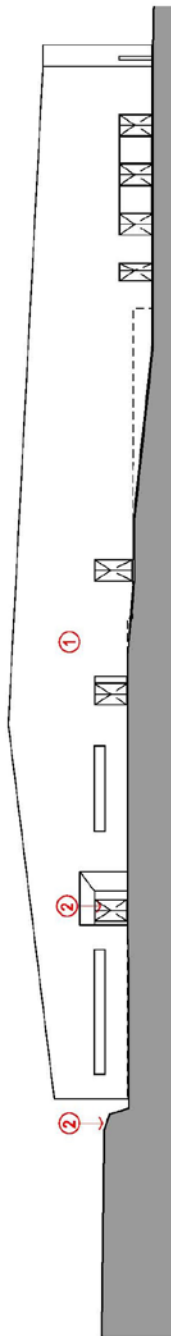


COMMAND TEAM TRAINER SITE PLAN (HMAS WATSON)

- EXTERNAL MATERIAL LEGEND**
- ① PRECAST CONCRETE CLADDING SYSTEM
 - ② GLAZED WINDOW SYSTEM
 - ③ PREFINISHED METAL ROOF
 - ④ ALUMINIUM LOUVRE SYSTEM



WEST ELEVATION

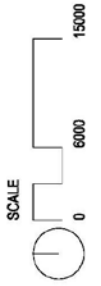


EAST ELEVATION



NORTH ELEVATION

SOUTH ELEVATION



COMMAND TEAM TRAINER ELEVATIONS (HMAS WATSON)

NOTE:
EXTERNAL COLOUR OF THE
FACILITY TO BLEND WITH
LANDSCAPE

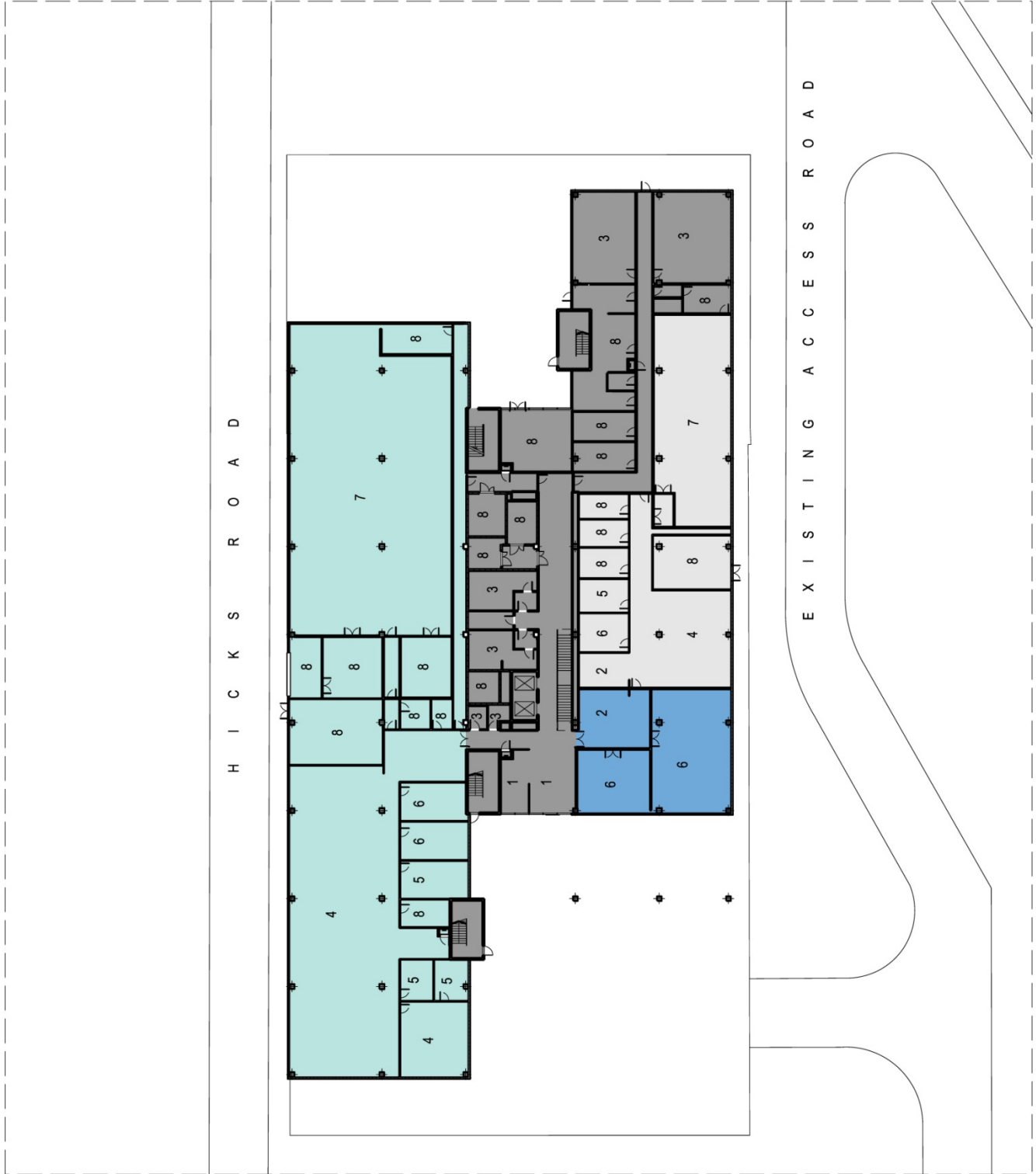


FAÇADE OF NEW
COMMAND TEAM TRAINER
AS SEEN FROM THE HARBOUR

COMMAND TEAM TRAINER PERSPECTIVE, VIEW FROM SYDNEY HARBOUR (HIMAS WATSON)

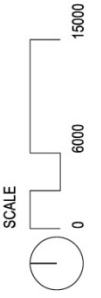
- BUILDING WORKS LEGEND**
- AWD THROUGH LIFE SUPPORT FACILITY
 - AWD SYSTEM PROGRAM OFFICE
 - COMMON AREA/USE
 - LHD COMPONENT

- ROOM DESCRIPTION**
- 1 ENTRY/RECEPTION
 - 2 KITCHENETTE/BREAKOUT
 - 3 AMENITIES
 - 4 OPEN PLAN OFFICE AREA
 - 5 SINGLE OFFICE
 - 6 CONFERENCE/MEETING ROOMS
 - 7 COMPUTER ROOM
 - 8 UTILITY/SUPPORT



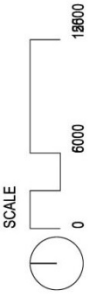
THROUGH LIFE SUPPORT FACILITY & SYSTEM PROGRAM OFFICE, GROUND FLOOR PLAN (GARDEN ISLAND)

- BUILDING WORKS LEGEND**
- AMD SYSTEM PROGRAM OFFICE
 - COMMON AREA/USE
 - LHD COMPONENT
- ROOM DESCRIPTION**
- 1 ENTRY/RECEPTION
 - 2 KITCHENETTE/BREAKOUT
 - 3 AMENITIES
 - 4 OPEN PLAN OFFICE AREA
 - 5 SINGLE OFFICE
 - 6 CONFERENCE/MEETING ROOMS
 - 7 COMPUTER ROOM
 - 8 UTILITY/SUPPORT



THROUGH LIFE SUPPORT FACILITY & SYSTEM PROGRAM OFFICE, LEVEL 1 PLAN (GARDEN ISLAND)

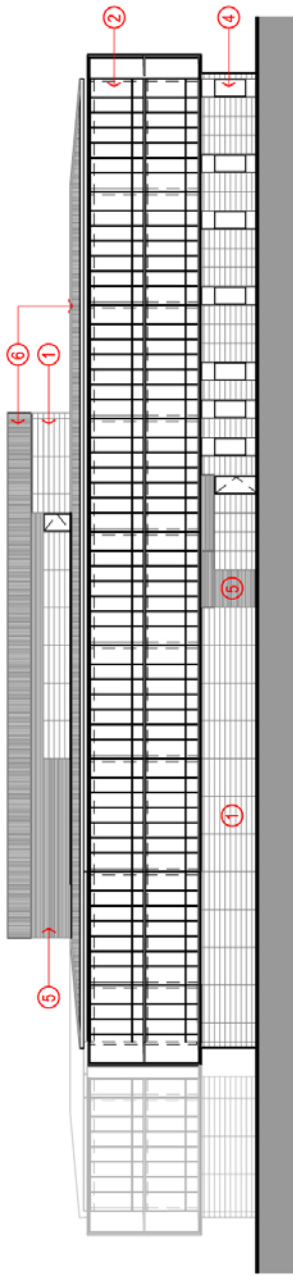
- BUILDING WORKS LEGEND**
- AMD SYSTEM PROGRAM OFFICE
 - COMMON AREA/USE
 - LHD COMPONENT
- ROOM DESCRIPTION**
- 1 ENTRY/RECEPTION
 - 2 KITCHENETTE/BREAKOUT
 - 3 AMENITIES
 - 4 OPEN PLAN OFFICE AREA
 - 5 SINGLE OFFICE
 - 6 CONFERENCE/MEETING ROOMS
 - 7 COMPUTER ROOM
 - 8 UTILITY/SUPPORT



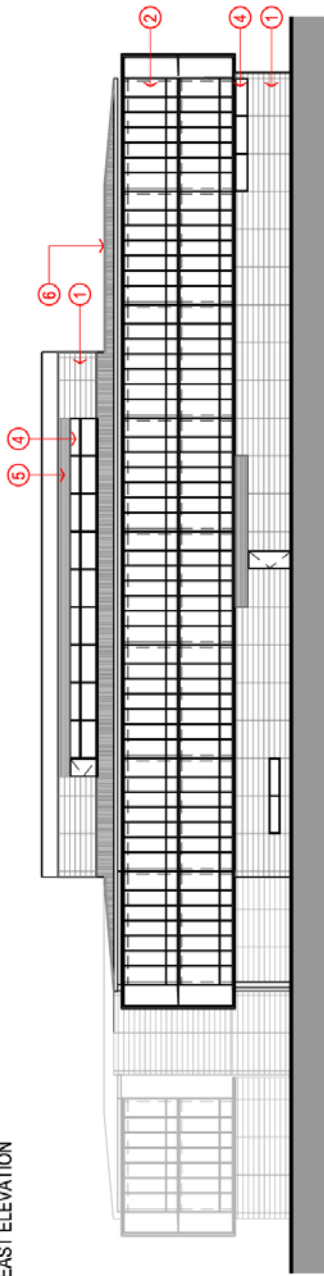
THROUGH LIFE SUPPORT FACILITY & SYSTEM PROGRAM OFFICE, LEVEL 2 PLAN (GARDEN ISLAND)

- EXTERNAL MATERIAL LEGEND**
- ① PRE CAST CONCRETE PANELS
 - ② GLAZED FACADE SYSTEM WITH SOLID SPANDRELS
 - ③ GLAZED FACADE SYSTEM
 - ④ GLAZED WINDOW SYSTEM
 - ⑤ ALUMINIUM LOUVRE SYSTEM
 - ⑥ PREFINISHED METAL ROOF

NOTE:
 EXTERNAL SUN SHADE DEVICES NOT SHOWN ON NORTH, EAST & WEST ELEVATIONS FOR CLARITY



EAST ELEVATION

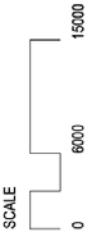


WEST ELEVATION



NORTH ELEVATION

SOUTH ELEVATION



NOTE:
EXTERNAL COLOUR OF THE
FACILITY TO BLEND WITH
LANDSCAPE



THROUGH LIFE SUPPORT FACILITY & SYSTEM PROGRAM OFFICE, PERSPECTIVE, VIEW FROM EXISTING RECREATIONAL AREA (GARDEN ISLAND)

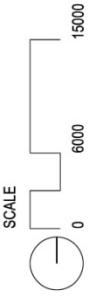
- BUILDING WORKS LEGEND**
- NEW (MINOR) BUILDING WORKS
 - EXISTING FACILITY
- ROOM DESCRIPTION**
- 1 LAY APART STORE
 - 2 SINGLE OFFICE





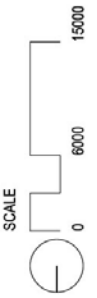
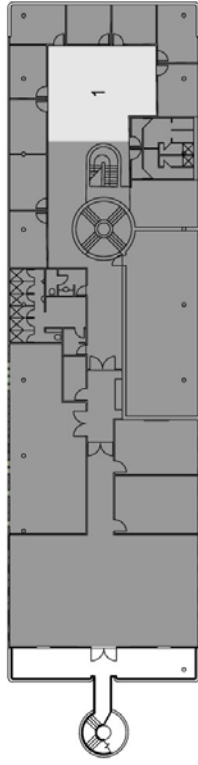
LEVEL 1 PLAN



GROUND FLOOR PLAN



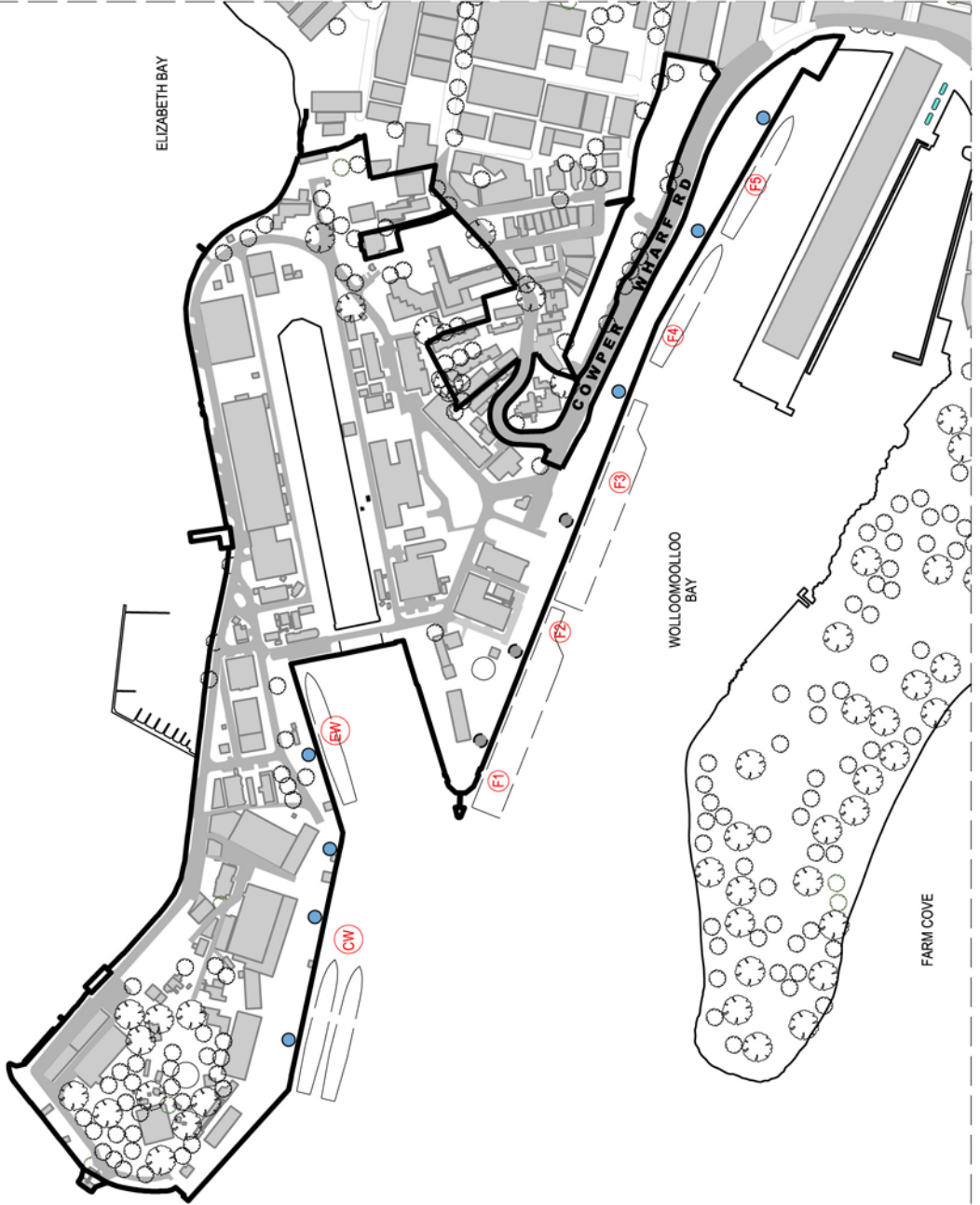
- BUILDING WORKS LEGEND**
-  NEW (MINOR) BUILDING WORKS
 -  EXISTING FACILITY
- ROOM DESCRIPTION**
- 1 INTERGRATED PLATFORM MONITORING SYSTEM REMOTE MONITORING SITE



INTERGRATED PLATFORM MONITORING SYSTEM REMOTE MONITORING SITE FLOOR PLAN
(BUILDING 122, GARDEN ISLAND)

INFRASTRUCTURE LEGEND

- AWD COPE POINT
- LHD COPE POINT
- BERTHING POSITIONS
- CW CRUISER WHARF
- EW EAST DOCK WALL
- F1 FLEET BASE EAST 1
- F2 FLEET BASE EAST 2
- F3 FLEET BASE EAST 3
- F4 FLEET BASE EAST 4
- F5 FLEET BASE EAST 5



INFRASTRUCTURE PLAN (GARDEN ISLAND)