



**Australian Government**  

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**Department of Defence**

# **JINDALEE OPERATIONAL RADAR NETWORK PHASE 6 FACILITIES PROJECT**

Harts Range, NT

Mount Everard, NT

Murray Bridge Training Area, SA

RAAF Base Learmonth, WA

Ajana, WA

Horn Island, QLD

## **Statement of Evidence to the Parliamentary Standing Committee on Public Works**

Canberra, Australian Capital Territory

May 2018

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# **Jindalee Operational Radar Network Phase 6 Facilities Project**

## **Identification of the need**

1. The surveillance of Australian air and sea space is a fundamental operation and responsibility of the Australian Defence Force (ADF). This surveillance capability is critical in providing security of Australian borders through the detection, validation and tracking of air and surface targets within assigned areas of Australia's national interests. The 2016 Defence White Paper highlighted the need for an enhanced situational awareness capability for Defence. Not only is this capability fundamental in providing protection of Australian interests, it is also an important asset in search and rescue operations.
2. The Jindalee Over-The-Horizon Radar (OTHR) is an indigenous capability that has evolved through decades of scientific research to become a world leading surveillance capability. The Jindalee Operational Radar Network (JORN) comprises three OTHR transmit and receive sites at Longreach (Radar 1), Laverton (Radar 2) and Alice Springs (Radar 3); the JORN Control Centre at RAAF Base Edinburgh, South Australia; and a Frequency Management System (FMS) consisting of a network of Ionospheric Sounder Sites (ISS) distributed throughout Australia.
3. With many elements of the existing JORN now reaching in excess of 20 years old, a significant upgrade of the JORN capability is being conducted to maximise its effectiveness and provide increased capability arising from innovation and technological advancements. The \$1.2 billion, ten-year AIR 2025 Phase 6 JORN Mid-life Upgrade Project (JORN Phase 6) will provide a substantial upgrade of the existing Jindalee OTHR operating system and extend the system life to beyond 2042. JORN Phase 6 will ensure the ADF has significantly enhanced situational awareness capabilities and the ability to effectively and safely conduct operations.

## **Background**

4. The JORN capability was first established in the early 1970 at the Radar 3 site at Alice Springs, and has continued to be developed, refined and improved over the following decades. These refinements have led to improved capability, enhanced accuracy and increased reliability of the JORN. These refinements have focused on the technical improvements to the JORN and have resulted in piecemeal upgrades to the facilities in order to keep the capability operational.
5. In the late 1990s, additional sites were subsequently constructed at Longreach, QLD and Laverton, WA, to extend the coverage of the JORN. These two additional sites were master planned to support the operational aspects of the JORN that had been learned from the development of the initial Radar 3 site. Accordingly, the facilities are considerably different to those at Radar 3 and in turn support the JORN capability more effectively. Radar 3 consists of a Transmit site at Harts Range and a Receive site at Mount Everard.
6. In December 2017, JORN Phase 6 achieved Second Pass Government Approval. The approval included funding for facilities upgrades required to support JORN Phase 6, including upgrades to three existing ISS, and establishment of one new ISS, to further enhance the capability of the FMS that is used to support JORN.

## **Description of the proposal**

7. The JORN Phase 6 Facilities Project aims to address obsolescence and supportability issues associated with the existing facilities at Radar 3 site, and provide supporting infrastructure at four ISS to be upgraded under JORN Phase 6.
8. JORN Phase 6 will also improve how the existing capability is operated and maintained. JORN's three radar sites are currently operated under different operational support models. The Laverton and Longreach radar sites are operated under a 'travel in / travel out' model, with staff based out of transit accommodation at the remote sites. The Alice Springs radar site, however, has personnel based in permanent living accommodation either at Alice Springs or Harts Range, some 200km north-east of Alice Springs. BAE Systems Australia has been appointed by the Australian Government as the Prime Contractor for JORN Phase 6, and will

standardise its operational model across all three sites, specifically changing the current operating model for the Alice Springs radar site (and its component facilities at Harts Range and Mount Everard) to be consistent with the other two radar sites.

9. Facilities upgrades are required at the Alice Springs sites as they are not fit for purpose and will not support the extension to the operational system. Existing permanent accommodation at Harts Range is reaching its end of life and is no longer fit for purpose. There is insufficient transit accommodation at both Harts Range and Mount Everard, and inadequate amenities to support the health and wellbeing of operations personnel, including catering facilities and staff amenities such as gymnasiums and recreation areas.
10. The current facilities are inadequate to support the revised maintenance requirements of the new JORN capability upgrades. New facilities are required to support the increased cooling requirements of the new computing equipment, and address building non-compliances identified during asset condition assessments. They are designed to provide consistent facilities across all three Radar sites. Both sites have redundant facilities that are able to be demolished.
11. These facilities are being provided as Government Furnished Facilities that will be operated and maintained by BAE Systems because they are located on Defence land.
12. No major facility works are required at the other two radar sites.

## **Facilities location**

13. The JORN Phase 6 Facilities Project proposes to deliver works at the Radar 3 Transmit site at Harts Range, Receive site at Mount Everard, and the following four ISS locations across Australia:
  - a. RAAF Base Learmonth, WA.
  - b. Ajana, WA.
  - c. Horn Island, QLD.
  - d. Murray Bridge, SA.

14. A national locality map depicting the various JORN sites is at Attachment 1, with locality and site specific plans for Harts Range and Mount Everard (Radar 3 sites) at Attachments 2-3.

### **Options considered to Fulfil the Need**

15. To determine the most appropriate facilities solutions for the project, Defence undertook master planning activities that included user consultation meetings to define the functional requirements of the facilities and detailed investigation of each location. During the investigation, refurbishment of existing facilities and consolidation of the Defence Estate were key considerations and, where appropriate, incorporated into the proposed solutions.
16. The current functionality of the Radar 3 site was reviewed to support the new JORN Phase 6 operational support model. Defence considered two options to address the obsolescence and supportability issues the JORN capability is currently experiencing: keep the existing facilities arrangements (i.e. 'Do Nothing'), or modify to support a consistent operational support model across the three radar sites ('preferred').
17. A 'Do Nothing' option would not support extension of the JORN system life past 2025 and would fail to provide the required level of surveillance capability required for ADF operations and to meet Government objectives.
18. The Preferred Option includes new and upgraded facilities and infrastructure at the Radar 3 site, as well as the four upgraded/new ISS locations. This option extends the JORN capability out to at least 2042, provides improvements to the FMS via the four new/upgraded ISS, and supports the change to a consistent 'travel-in, travel-out' operating model at Radar 3 site. Obsolescence and compliance issues associated with the existing facilities at Radar 3 site are addressed through selective refurbishment of existing facilities or the construction of new facilities.

### **Environmental and Heritage Assessment**

19. A specialist environmental consultant was engaged to undertake an Environmental Review at the Radar 3 site to assist Defence in determining whether a more substantive environmental impact assessment was required under the *Environmental Protection and Biodiversity Conservation (EPBC) Act 1999*. The risks identified are considered to be either medium or

low, and will be effectively managed through the design process and development of a Construction Environmental Management Plan. The Environmental Assessment Report confirmed that a referral will not be required under the *EPBC Act 1999*, and the project can proceed via Defence's internal process of Environmental Clearance Certification (ECC) subject to specified controls or mitigation measures being employed.

20. Defence's Asbestos Register for each of the sites was reviewed, and will guide the identification and removal of asbestos during the construction phase of the project. Any asbestos containing material will be disposed of in accordance with local statutory requirements.
21. Geotechnical testing has been undertaken at the selected sites for the Transit Accommodation at both Harts Range and Mount Everard. Contamination testing of soil samples indicated no concentrations of potential contaminants above relevant adopted guidelines.

### **Indigenous and non-Indigenous heritage considerations**

22. The Environmental Assessment Report confirmed that no Registered Native Title Claims exists for the Radar 3 site. Works conducted on site will observe the Indigenous discovery process to be defined in the Construction Environmental Management Plan to reduce risk.
23. Traditional Owners have been identified for both sites and will be engaged with as part of the consultation process. These include the Anmatjere Ward Councillors (Harts Range) and Central Land Council Members (Mount Everard).
24. As the sites have been constructed in the 1970s there were no recent heritage items identified at the sites.

### **Key legislation**

25. The following key legislation is relevant to this project:
  - a. *Environmental Protection and Biodiversity Conservation Act 1999 (Cth)*;
  - b. *Building and Construction Industry (Improving Productivity) Act 2016 (Cth)*;
  - c. *Work Health and Safety Act (WH&S) 2011 (Cth)*;



- d. *Work Health and Safety (National Uniform Legislation) Act and Regulations (NT);and*
- e. *Disability Discrimination Act 1992 (Cth).*

### **Applicable codes and standards**

- 26. The design of the proposed works will comply with all relevant and current Defence policies, Australian Standards, codes and guidelines including, but not limited to:
  - a. National Construction Code – 2016 (NCC 2016);
  - b. Defence Manual of Fire Protection Engineering (MFPE);
  - c. Defence Manual of Infrastructure Engineering – Electrical;
  - d. Defence Manual of Infrastructure Engineering – Bulk Fuel Installation – Design;
  - e. Defence Estate Quality Management System (DEQMS);and
  - f. Defence Security Manual.

### **Consultation with key stakeholders**

- 27. Defence recognises the importance of providing local residents, statutory authorities and other interested stakeholders an opportunity to provide input into, or raise concerns relating to major projects such as the JORN Phase 6 Facilities Project.
- 28. Within Defence, consultation has occurred with the following stakeholders:
  - a. Air Force Headquarters;
  - b. Capability Acquisition and Sustainment Group;
  - c. Defence Estate and Infrastructure Group; and
  - d. Royal Australian Air Force (RAAF) No 1 Remote Sensor Unit (1RSU).
- 29. Defence has also developed a community consultation and communications strategy that recognises the importance of providing local residents, statutory authorities and other

interested stakeholders, including action groups, an opportunity to provide input into, or raise concerns relating to the project. This communication strategy includes local newspaper advertisements and community information sessions.

30. In implementing this strategy, consultation has occurred or will occur, with the following key external stakeholders:
- a. Federal Member for Lingiari, Mr. Warren Snowden, MP;
  - b. Northern Territory Senator, the Hon Nigel Scullion;
  - c. Northern Territory Senator, Malarndirri McCarthy;
  - d. NT Chief Minister – Hon. Michael Gunner MLA;
  - e. NT Department of Trade, Business and Innovation (Defence NT);
  - f. Territory Legislative Assembly Member for Namatjir, Mr. Chanston Paech;
  - g. Central Desert Local Government Association (Harts Range), President Adrian Dixon;
  - h. Anmatjere Ward Councillors (Harts Range), President Adrian Dixon, Councillor James Jampajimpa Glenn, Councillor Audrey Inkamala;
  - i. MacDonnell Local Government Association (Mount Everard), Council President Roxanne Kenny;
  - j. Rodinga Ward Councillors (Mount Everard), Deputy Greg Sharman, Susan Doolan, Lyneete Ellis, Phillip Wilyuka;
  - k. Alice Springs Town Council, Mayor Damien Ryan;
  - l. NT Chamber of Commerce;
  - m. Alice Springs Chamber of Commerce;
  - n. Master Builders Association NT;
  - o. Australian Industry and Defence Network NT; and

- p. Northern Territory Industry Capacity Network;

## Purpose of the Works

### Project objective

31. The objective of the proposal is to provide new facilities to support the enhanced capability while addressing the obsolescence and maintainability issues associated with the current facilities.

### Detailed description of the proposed works

32. **Harts Range.** The proposed works at the Radar 3 Transmit site at Harts Range are depicted in the site plan at Attachment 2, and include the following elements:
- a. **Transit Accommodation Precinct.** Proposed facilities within the new Transit Accommodation Precinct are shown in Attachment 3 and include:
- (1) twenty single occupancy rooms (with two rooms being DDA compliant),
  - (2) kitchen and dining facilities for staff onsite,
  - (3) laundry and cleaner's store facilities,
  - (4) lounge, recreation and barbeque area with suitable ablution facilities,
  - (5) air-conditioned gymnasium facilities and outdoor recreation area,
  - (6) administrative office area for facilities management functions for two personnel and first aid room, adjacent the administrative area,
  - (7) unisex/accessible toilets,
  - (8) safety and security features, including lit perimeter fencing around the accommodation site, and
  - (9) appropriate linkages, pathways, and landscaping for the transit facility.

- b. **Site Infrastructure:** New and upgraded site infrastructure to support the new transit accommodation and associated new and upgraded facilities. Infrastructure includes augmentation to the existing electrical network, a new water treatment plant and new waste water treatment plant.
  - c. **Store Room Replacement:** A new Store Room is proposed to replace the existing facility to support revised operations and store palletised equipment without the need for breakdown pallets. Minor refurbishment works are also planned to the adjacent build as part of these works. Refer to Attachment 4.
  - d. **Demolition of Legacy Buildings:** The proposed works include demolition of various legacy buildings and structures to rationalise the asset base and support the new operating model at Radar 3 site, including removal of the permanent accommodation houses. Facilities to be demolished are indicated at Attachment 5.
  - e. **Transmit Building Replacement:** A new Transmit Building is proposed to meet the additional cooling requirements of the new JORN Phase 6 computing equipment and address building non-compliances in the existing Transmit Building. The existing Transmit Building will remain operational for a time post completion of construction to ensure successful changeover of equipment to the new Transmit Building. Refer to Attachment 6.
33. **Mount Everard.:** The proposed works at the Radar 3 Receive site at Mount Everard are detailed in the site plan at Attachment 7, and include the following elements:
- a. **Transit Accommodation Precinct:** A new Transit Accommodation Precinct is proposed, similar to that proposed at Harts Range, as shown in Attachment 8.
  - b. **Site Infrastructure:** Similar to the proposed works at Harts Range, new and upgraded site infrastructure will be provided to support the new transit accommodation and refurbished facilities. Infrastructure includes augmentation to the existing electrical network, a new water treatment plant and new waste water treatment plant.
  - c. **Receive Building Refurbishment:** The part refurbishment of the existing Receive Building is proposed to provide administration accommodation including open plan

office space for seven personnel, meeting rooms and breakout area. Refer to Attachment 9.

- d. **Demolition of Legacy Buildings:** The proposed works include demolition of various legacy buildings and structures to rationalise the asset base and support the new operating model at Radar 3 site, including removal of the permanent accommodation houses. Facilities to be demolished are indicated at Attachment 10.

- 34. **Ionospheric Sounder Sites (ISS):** The proposed works include supporting facilities for one new and three additional ISS installations located near existing installations to enhance the existing ISS network, refer to Attachment 11. This project will support the Prime Contractor's upgrade of the selected ISS under JORN Phase 6 by providing the following at each location:

- a. a flat, cleared area of 105m x 105m (inclusive of allowance for fire break);
- b. a nominated location for an equipment shelter;
- c. power connection to the site to enable connection of the equipment shelter; and
- d. site fencing to delineate the area and provide protection from stock and low level physical security.

### **Details of site selection**

- 35. In accordance with Defence planning policy requirements as set out in DEQMS, site selection boards have been undertaken for each of the proposed new builds. These have considered Defence policy, environment, heritage and operational considerations and existing planning guidance under the relevant zone plan for each site.
- 36. The site selection board was completed in November 2017 with agreement reached on the proposed siting of all new facilities at the Radar 3 Harts Range and Mount Everard sites. The site selection process for the four ISS locations is currently being finalised.

## **Information on zoning and approvals**

37. There is no endorsed Defence Estate Planning Base Plan, Master Plan or Zone Plan for the Harts Range, Mount Everard and the ISS at Horn Island. The ISS locations at Murray Bridge and Learmonth comply with the relevant Zone plans.
38. The ISS location at Ajana is the subject of a lease arrangement due to its location being on non-Defence controlled land.

## **Details of land acquisition**

39. The siting of all facilities and infrastructure for Harts Range, Mount Everard and three of the four new IIS are on Commonwealth owned land and no property issues have been identified. Consultation is ongoing by Defence to finalise leasing requirements for the fourth new ISS located at Ajana, Western Australia.

## **Planning and design concepts**

40. The planning for the new facilities has focused on providing low maintenance, functional transit accommodation to support the revised operational support model, and includes support facilities to encourage a mentally and physically healthy lifestyle for personnel on-site.
41. Ecologically sustainable design principles have been incorporated into the accommodation and support facilities to minimise the impact on the environment but to also minimise the impact on the existing infrastructure at these remote facilities.
42. Where possible, existing buildings have been repurposed to support the changing nature of the work conducted at each site. Where existing buildings are either not suitable for refurbishment due to compliance issues or are surplus to requirements, they have been scheduled for demolition to minimise facilities maintenance costs associated with legacy buildings. Where existing building cannot be refurbished in a cost effective way, new buildings have been designed.

## **Acoustics**

43. All proposed facilities will comply with relevant acoustic codes and standards including:
- a. National Construction Code 2016;
  - b. National Standard for Occupational Noise (NOHSC:1007 (2000));
  - c. National Code of Practice for Noise Management and Protection of hearing at Work (NOHSC: 2009 (2004));
  - d. AS/NZS ISO 717.1:2004 Acoustics – Rating of sound insulation in buildings and of building elements – Airborne sound insulation;
  - e. Australian Standard AS2021:2015 Acoustics – Aircraft noise intrusion – Building siting and construction;
  - f. Australian Standard AS2107:2016 Acoustics – Recommended design sound levels and reverberation times for building interiors; and
  - g. Australian Standard AS2670.2:1990 Evaluation of human exposure to whole body vibration – Continuous and shock-induced vibration in buildings (1-80 kHz).
44. For the Transit Accommodation at Harts Range, particular care was taken in the siting of the facilities in order to minimise any acoustic impact that the nearby generators would have on the occupants. Internally, acoustic requirements have been assessed for each individual room type within the refurbished facilities, with considerations given to audio security requirements inside the refurbished facilities. Wall treatments have been specified to comply with functionality and audio security requirements.

## **Water and energy conservation measures**

45. 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. Defence also

implements policies and strategies in energy, water and waste to improve natural resource efficiency and to support its commitment in the reduction of energy consumption, potable water consumption and waste diversion to landfill. This project has addressed this policy by adopting cost effective ESD initiatives as a key objective in the design development and delivery of new facilities.

46. Currently, potable water is not reticulated on site and personnel are reliant upon bottle water. The project will address this through the provision of water treatment plants at both Mount Everard and Harts Range. Water conservation measures have been implemented where possible with water efficient fittings specified in the design and use of grey water for irrigation around the Transit Accommodation.

### **Provisions for people with disabilities**

47. The Harts Range and Mount Everard Transit Accommodation facilities will include two rooms being *Disability Discrimination Act (DDA)* compliant. Furthermore, all new facilities will be DDA compliant and consideration has been given to site access.

### **Fire protection and security measures**

48. All construction and fire protection requirements will, as a minimum, be in accordance with the provisions of the NCC 2016, the MFPE and all other applicable codes and standards. The MFPE details Defence fire protection policies for asset protection and building function protection.
49. In terms of security measures for the facility, no public access is provided to the proposed facilities and entry will be monitored through controlled access points. The proposed buildings have been designed for the security classification stipulated by Defence requirements.

### **Occupational health and safety measures**

50. The proposed facilities to be provided under this project will comply with the Department of Defence's Work Health and Safety Policy, the *Work Health and Safety Act 2011*, Work



Health and Safety (Commonwealth Employment – National Standards) Regulations and the Defence Work Health and Safety Manual.

51. The Australian Government is committed to improving work health and safety outcomes in the building and construction industry. In accordance with Section 35(4) of the Building and Construction Industry Improvement Act 2005, contractors will therefore 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.

## **Landscaping**

52. Landscaping has been kept minimal to suit the arid environment of both sites. Some landscaping is planned around the transit accommodation with irrigation provided by reuse of grey water where possible. Native vegetation has been specified for all landscaping to be provided on site.

## **Impact on local community**

53. The change in the operational support model at the Alice Springs radar sites will impact current BAE Systems personnel employed there. For BAE Systems staff employed at Harts Range, and their families, this will result in a change from permanent on-site accommodation to transit accommodation for rostered staff only. For BAE Systems staff employed at Mount Everard, this will result in a change from staff commuting daily to Alice Springs to provision of transit accommodation for rostered staff only.
54. Consultation with the affected personnel and their families has been ongoing and occurred early in the JORN Phase 6 Project to provide awareness of the impending transition and the timelines associated with the change.
55. The revised accommodation model will result in a net reduction of personnel at Harts Range, due to families no longer residing onsite. This will reduce the workplace health and safety risks associated with family members living in Defence supplied housing located at an isolated site. For staff at Mount Everard the elimination of travel from Alice Springs to site each day through unfenced pastoral land used for grazing improves personnel safety.

56. The JORN Phase 6 Facilities Project will generate short term employment opportunities in the construction and related sectors in areas surrounding the Radar 3 site, directly benefiting the Northern Territory region and in particular, Alice Springs. This may include support services such as accommodation, Hospitality and other community resources to support the workforce during construction, particularly during the construction works at Mount Everard.
57. Given the remote location of both sites, a modular, offsite construction methodology is preferred. This will require transportation of large loads to site and associated crane operations to locate them in their final location. Care has been taken in the design of the modular facilities to minimize oversize loads and to reduce the impact on the road network.

## **Cost effectiveness and public value**

### **Outline of project costs**

58. The total estimated capital cost for the proposed works is \$50.7 million (excluding Goods and Services Tax). This estimate includes management and design fees; construction costs; furniture, fittings and equipment; information and communication technology; contingencies, risk and escalation provisions.

### **Details of project delivery system**

59. A Project Manager / Contract Administrator (PM/CA) engaged from the Defence Infrastructure Panel has been appointed by the Commonwealth to manage the project works and the associated administration of the contracts in the planning and construction phases. A Design Services Consultant has been appointed to design the works.
60. Subject to Parliamentary approval of the project, the intention is for the works to progress as a single contract package using the Department of Defence's Head Contract form of contract. This form of contract is well understood by industry.
61. Exemption 17 of Appendix A from Division 2 to the Commonwealth Procurement Rules enables Defence to procure an Indigenous Business Enterprise (IBE) as Head Contractor through a limited tender procurement process. This process will involve the PM/CA

identifying IBEs through Supply Nation, contacting the IBEs to confirm capability and capacity to deliver the work, and a select approach to market to identify a suitable IBE.

- 62. Should this process not deliver a value for money outcome, a Head Contractor will be sought through a single stage, open tender.
- 63. The new Transmit Building at Harts Range will be delivered at a later stage by the Prime Contractor (BAE Systems), due to integration risks with the upgraded JORN mission system hardware.

### **Construction program**

- 64. Subject to Parliamentary approval of the Project, construction is anticipated to commence in early 2019 and be completed by late 2020.

### **Public value**

- 65. The proposed works will support an important Defence capability and significantly enhance the ADF situational awareness capabilities and the ability to effectively and safely conduct operations.
- 66. The project will also employ a diverse range of skilled consultants, contractors and construction workers and also include opportunities for up-skilling and job training to improve individual skills and employability on future projects. The project will employ a maximum workforce of approximately 200 personnel and an average construction workforce of approximately 15 personnel.

### **Revenue**

- 67. No revenue is expected to be derived from this project.

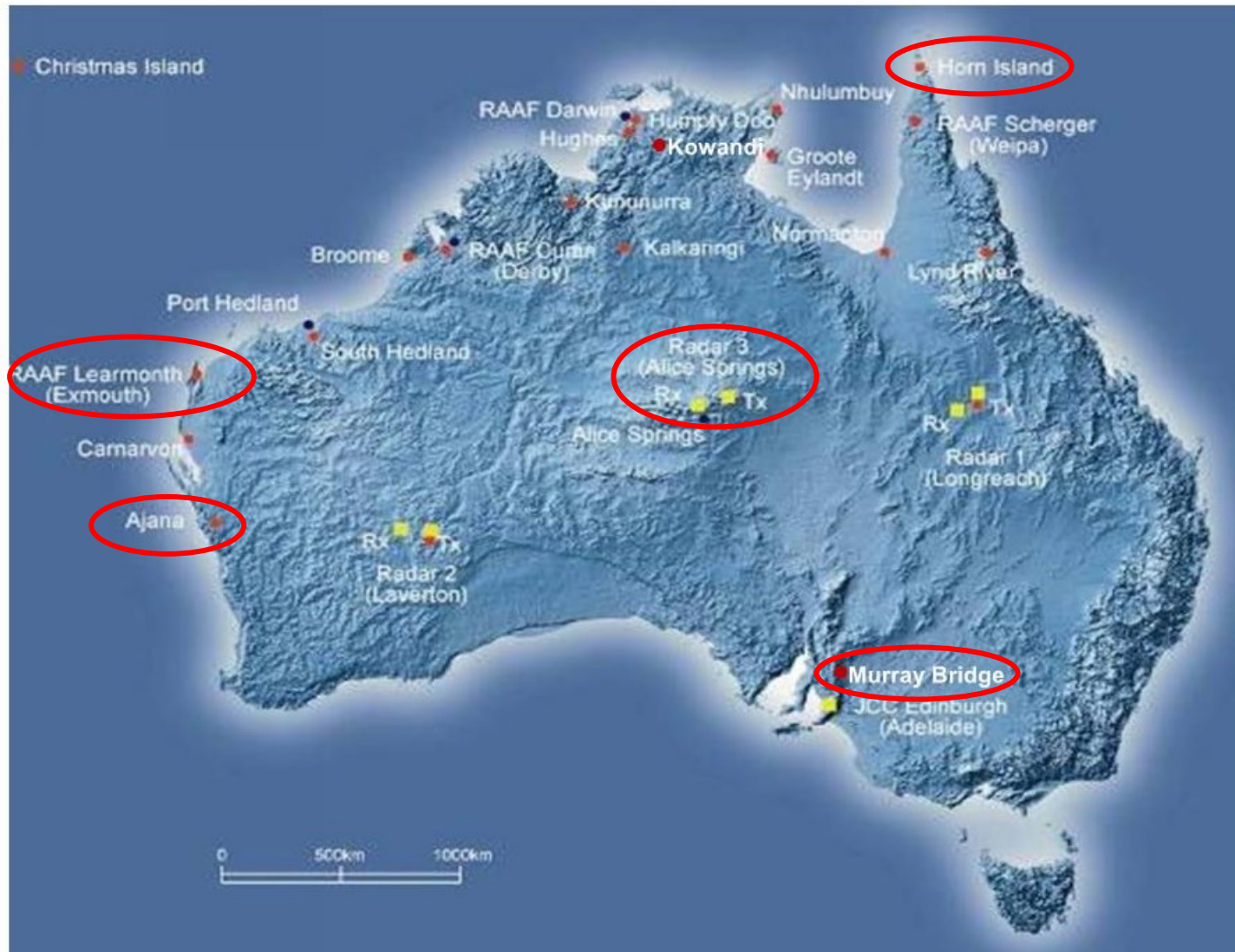
### **Associated plans and drawings**

- 68. Refer to Attachments 3 to 11.

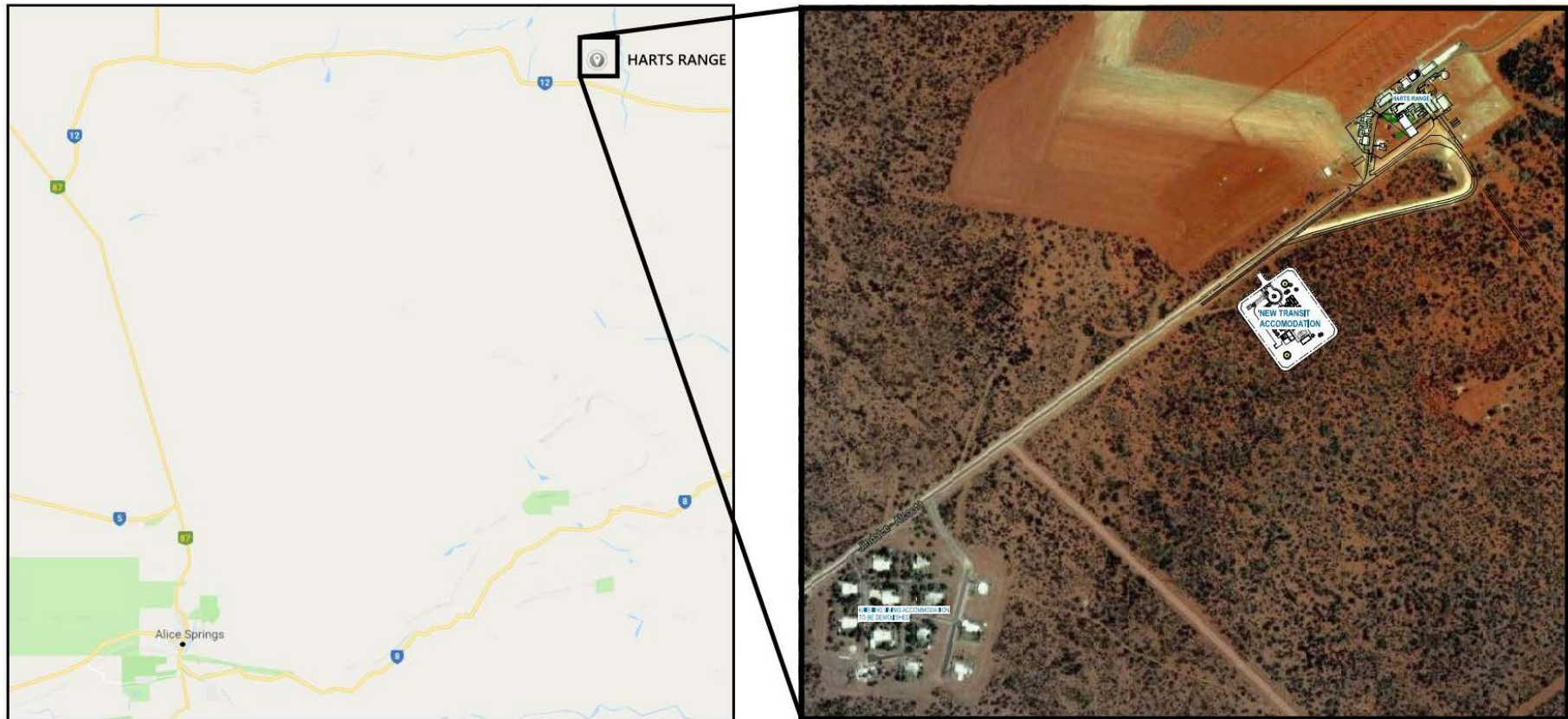
## **Attachments**

1. JORN National Facilities Map
2. Harts Range - Locality Map and Site Plan
3. Harts Range - Transit Accommodation Precinct
4. Harts Range - Store Room Replacement
5. Harts Range - Demolition of Legacy Buildings
6. Harts Range - Transmit Building Replacement
7. Mount Everard - Locality Map and Site Plan
8. Mount Everard - Transit Accommodation Precinct
9. Mount Everard - Receive Building Refurbishment
10. Mount Everard - Demolition of Legacy Buildings
11. ISS Indicative Site Layout

**Attachment 1 – JORN National Facilities Map**

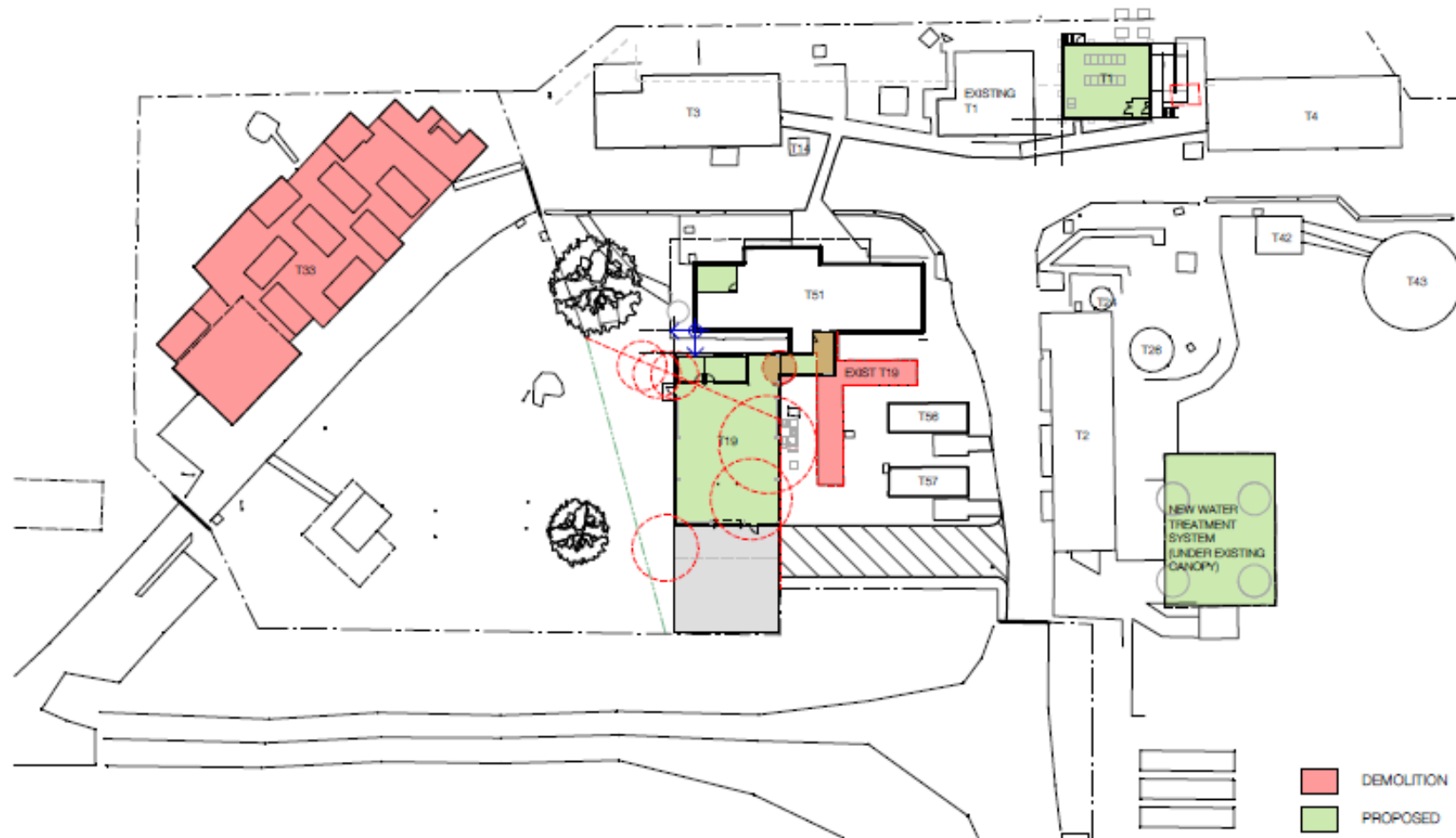


## Attachment 2 – Harts Range Locality and Site Plan

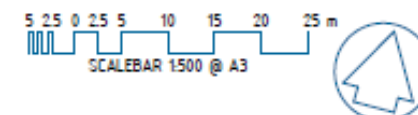


HARTS RANGE - LOCALITY PLAN

## ATTACHMENT 2

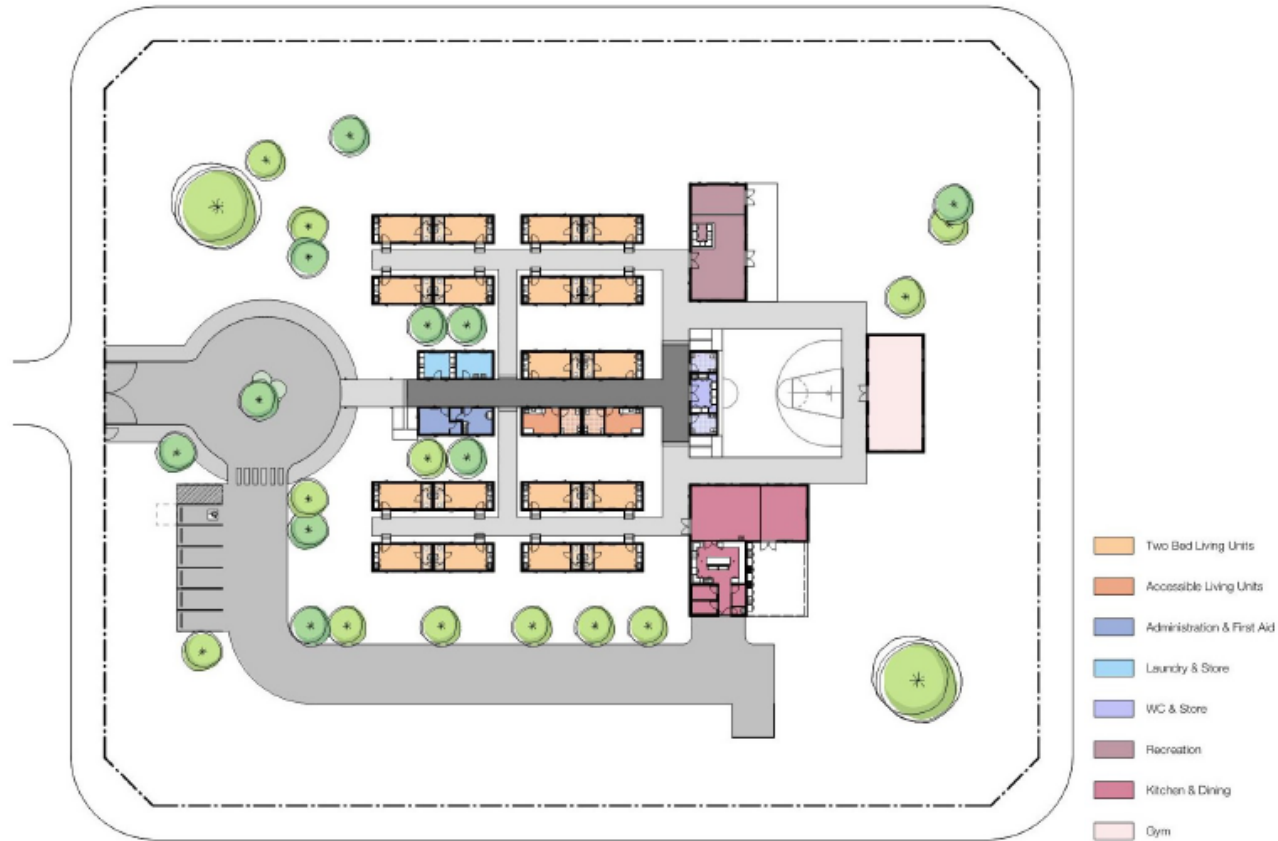


## HARTS RANGE - SITE PLAN

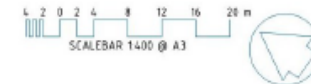




### Attachment 3 – Harts Range Transit Accommodation Precinct

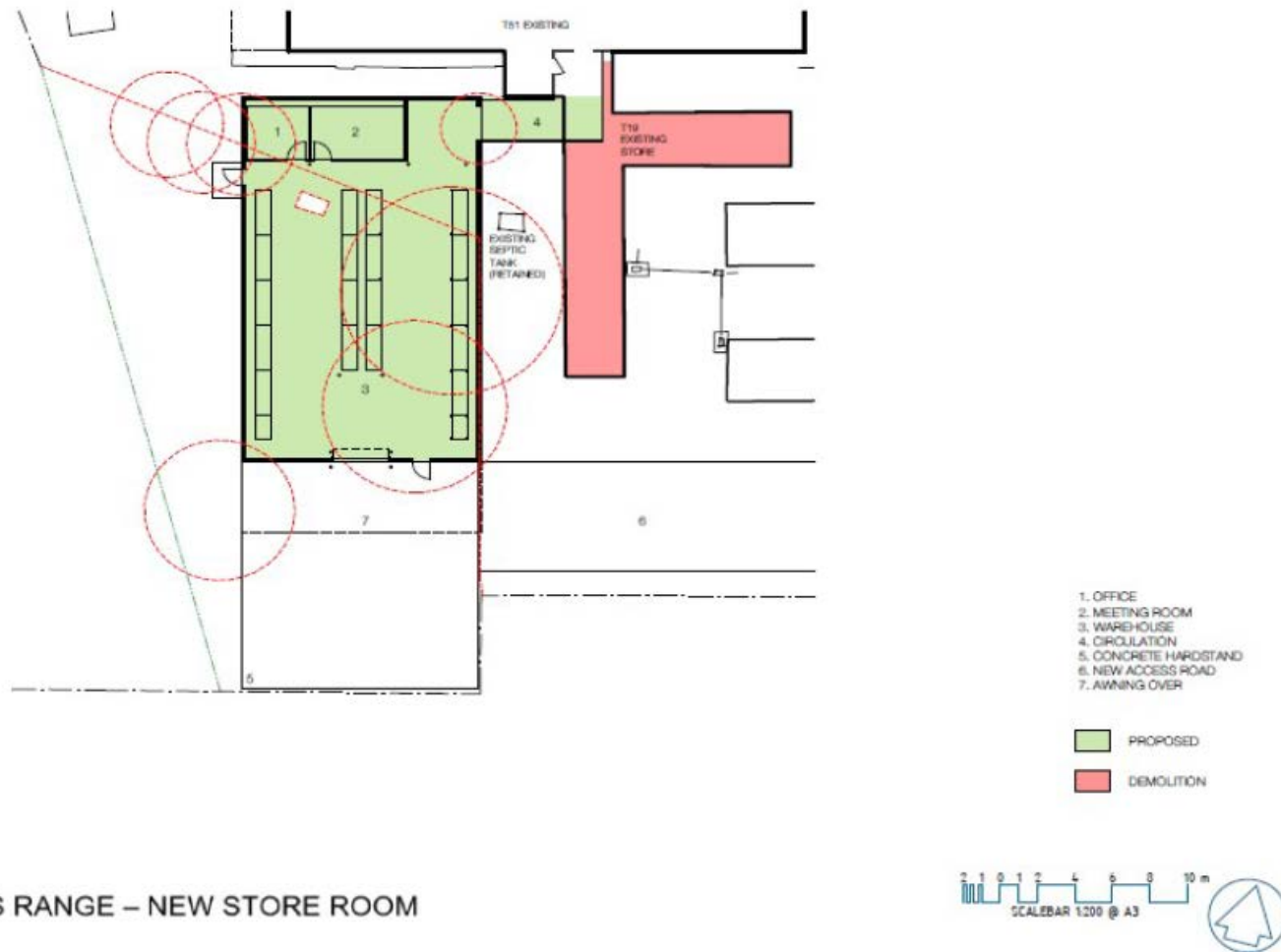


HARTS RANGE - TRANSIT ACCOMMODATION





## Attachment 4 – Harts Range Stores Building Replacement



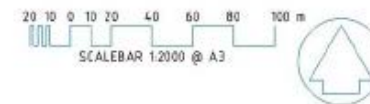
## Attachment 5 – Harts Range Demolition of Legacy Buildings



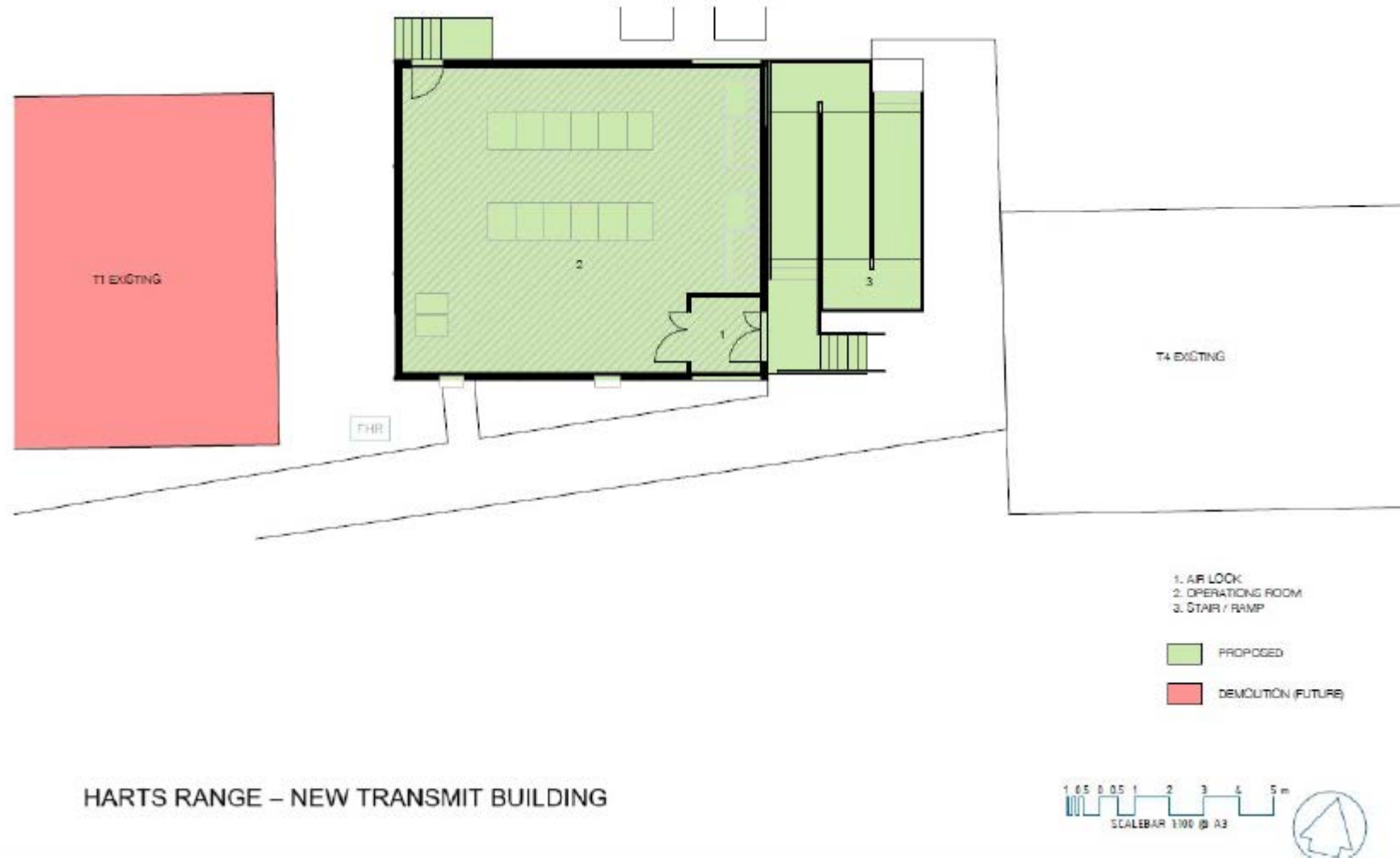
HARTS RANGE - DEMOLITION PLAN



HARTS RANGE - MARRIED QUARTERS DEMOLITION



## Attachment 6 - Harts Range Transmit Building Replacement





## Attachment 7 – Mount Everard Locality and Site Plan

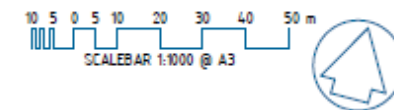


## MT EVERARD - LOCALITY PLAN

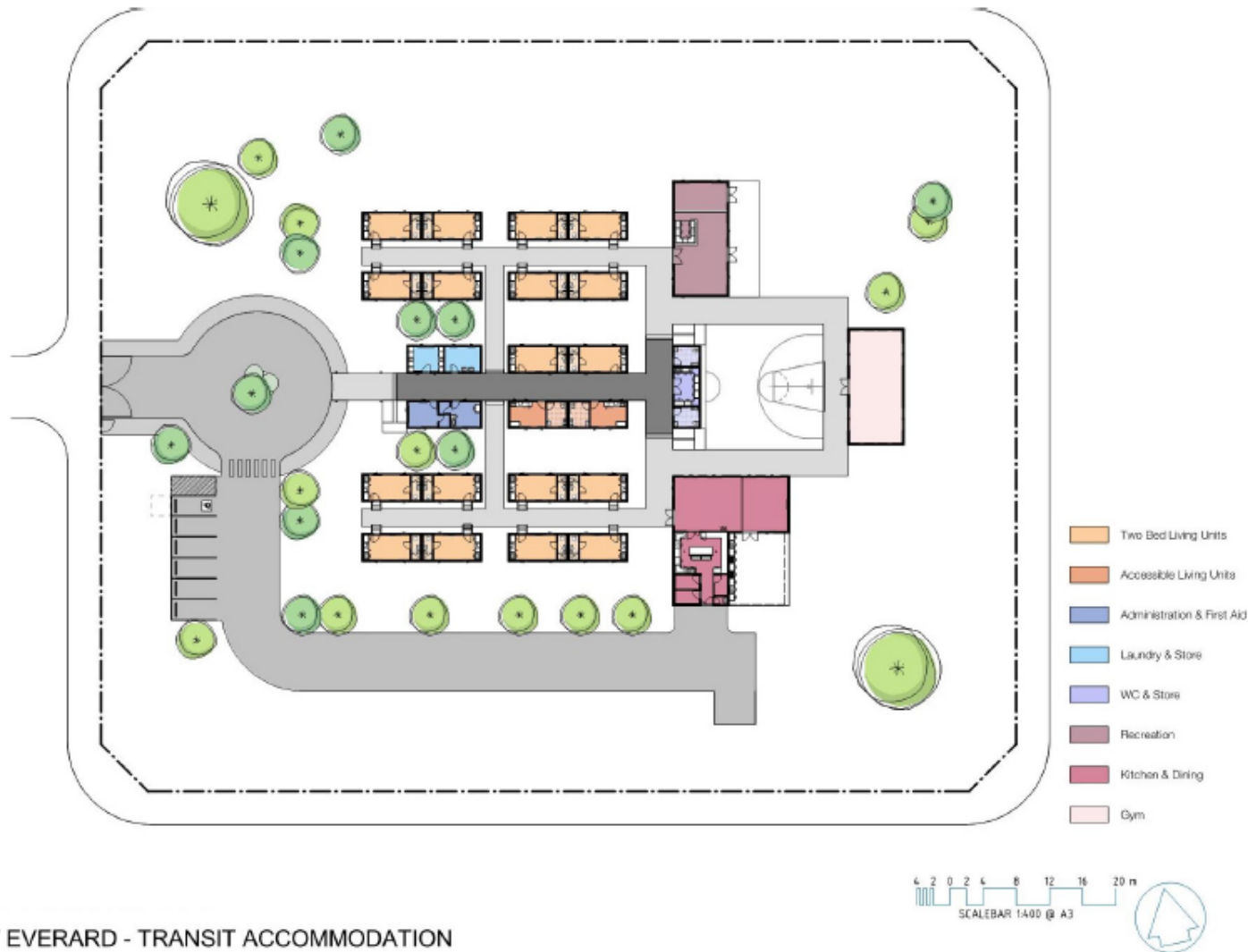


DEMOLITION  
PROPOSED

MT EVERARD - SITE PLAN



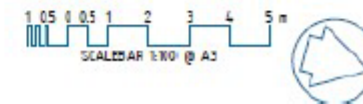
**Attachment 8 – Mount Everard Transit Accommodation Precinct**



## Attachment 9 – Mount Everard Receive Building Refurbishment



### MOUNT EVERARD – RECEIVE BUILDING REFURBISHMENT

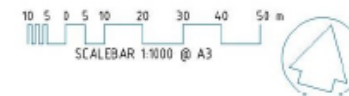




## Attachment 10 – Mount Everard Demolition of Legacy Buildings

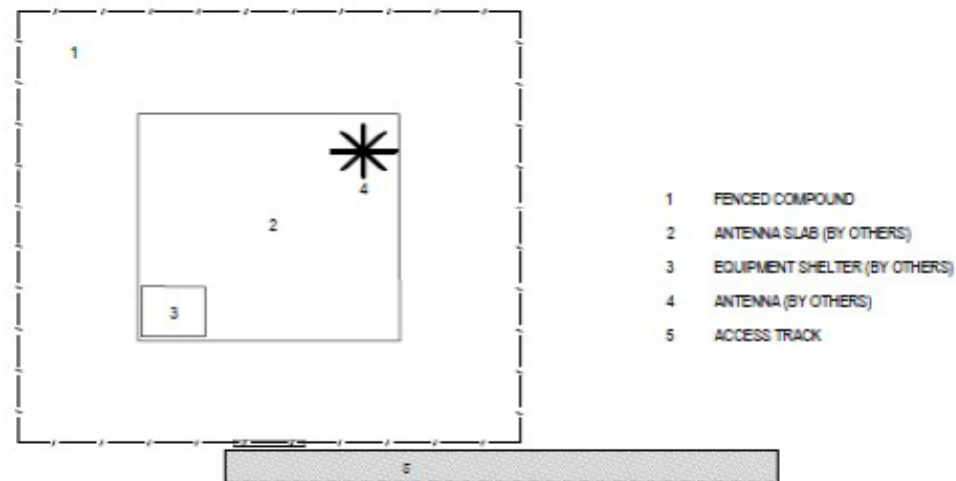


PROPOSED  
DEMOLITION



MT EVERARD - DEMOLITION PLAN

## Attachment 11 – ISS Indicative Site Layouts



IONOSPHERIC SOUNDER SITES  
TYPICAL ARRANGEMENT



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