



Australian Government

Department of Defence

LAND 155 ENHANCED GAP CROSSING CAPABILITY FACILITIES PROJECT

Joint Logistics Unit (South Queensland), Wallangarra, QLD

Joint Logistics Unit (North Queensland), Lavarack Barracks, QLD

Joint Logistics Unit (North), Robertson Barracks, NT

Liverpool Military Area, NSW

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

Canberra, Australian Capital Territory

February 2017

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Contents

Identification of the Need	5
Background	6
Description of Proposal	6
Options Considered to Fulfil the Identified Need	8
Environment and Heritage Assessment	8
Key Legislation	9
Applicable Codes and Standards	9
Consultation with Key Stakeholders	9
Purpose of the Works	11
Project Objectives	11
Details and Reasons for Site Selection	11
Detailed Description of the Proposed Works	13
Public Transport, Local Road and Traffic Concerns	14
Zoning and Local Approvals	14
Childcare Provisions	14
Impact on Local Community	14
Planning and Design Concepts	15
Structural Design	16
Materials	16
Hydraulic Services	16
Electrical Services	16
Fire Protection	17
Acoustics	17
Security	17
Environmental Sustainability of the Project	17
Landscaping	18
Energy Targets	18
Workplace Health and Safety Measures	18
Provision for People with Disabilities	19
Cost Effectiveness and Public Value	19
Outline of Project Costs	19
Details of the Project Delivery System	19
Construction Program	20
Public Value	20
Revenue	20

Attachments

1. Locality Plan
2. Project Element 1 – JLU (SQ) Wallangarra
 - 2.1 Regional Plan
 - 2.2 Site Plan
3. Project Element 2 – JLU (NQ) Lavarack Barracks
 - 3.1 Regional Plan
 - 3.2 Site Plan
4. Project Element 3 – JLU (N) Robertson Barracks
 - 4.1 Regional Plan
 - 4.2 Site Plan
5. Project Element 4- LMA SME & Camp Sapper
 - 5.1 Regional Plan
 - 5.2 Site Plan

LAND 155

INFRASTRUCTURE PROJECT

Identification of the Need

1. The Australian Army is highly trained and equipped to conduct a variety of military operations in support of Government objectives. As the Land Force, the Australian Army requires the ability to reduce or cross obstacles that maybe encountered during a broad range of military or humanitarian operations. A gap, either wet or dry, is a common natural or man-made obstacle that restricts the freedom of manoeuvre for the Land Force.
2. Capability Project LAND 155 will provide the Australian Army with an Enhanced Gap Crossing Capability (EGCC) through the acquisition of Military-off-the-Shelf (MOTS) / Commercial-off-the-Shelf (COTS) bridging solutions. The LAND 155 EGCC will replace the existing Medium-Girder and Floating Support Bridge capabilities with a new Medium-Girder Bridge (MGB) and Improved Ribbon Bridge (IRB) respectively. Bridge Erection Propulsion Boats (BEPB), to support the facilitation of IRB operations, will be refurbished from the existing fleet. The Dry Support Bridge (DSB) and Foot Bridge (FB) will be introduced as new capabilities. The EGCC will allow the Australian Army to be more effective and efficient as it 'trains to fight'. In order to do so, the new EGCC will be required to be sustained and maintained in a manner that is different from the current capability. Accordingly, there is a facilities deficiency as follows:
 - a. **Sustainment.** The EGCC is supported by the new LAND 121 vehicle fleet and associated trailers. The vehicles are required to transport the EGCC to the support the Australian Army training or deployment. The LAND 155 capability project will also deliver the Dry Support Bridge (DSB) Build Vehicle. Secure storage of the new EGCC equipment including vehicle circulation hardstand is deficient in some locations. Shelter for storage of the DSB Build Vehicle and critical equipment is insufficient in some locations to protect equipment from degradation.

- b. **Maintenance.** The EGCC is a larger and more capable fleet which will be stored in four locations across Australia in close proximity to the Australian Army end user and Joint Logistics Units. Currently, there is no suitable hardstand for equipment inspections and maintenance within the identified storage locations.

Background

- 3. In July 2015, LAND 155 achieved Second Pass Government Approval with Initial Operational Capability planned for FY 2018/19. The approval included funding for the infrastructure component related to these capabilities, to be provided under one project, referred to herein as LAND 155.

Facilities to Support LAND 155

- 4. The aim of the LAND 155 infrastructure project is to deliver new and upgraded facilities and infrastructure to support the introduction into service of the EGCC to the Australian Army. The key types of facilities proposed include the following:
 - a. **Shelters.** Shelters will allow for the storage of new critical bridging equipment which includes the DSB Build Vehicle, IRB Bridge Build Interface (BBI) and IRB BEPB.
 - b. **Hardstand.** Hardstand will allow for open storage space for non-critical bridging assets and associated circulation area to support vehicle movement as well as equipment loading and movement. This space will also be utilised for equipment inspections and maintenance where possible to reduce the requirements for transportation.
- 5. The facilities are to be provided to four separate locations across Australia. The extent of infrastructure works by site varies as a result of the differing allocations of equipment, availability of appropriate space within existing infrastructure and outcomes of consultation with stakeholders.

Description of Proposal

- 6. The LAND 155 infrastructure project will provide facilities for the introduction, training and operation of new military bridging equipment and supporting assets.

7. A Locality Plan showing the location of the four sites where the works are proposed is at Attachment 1, with individual Regional Plans at Attachments 2.1 to 5.1. The proposed works are categorised into four project elements as follows:
- a. **Project Element 1** – Joint Logistic Unit - South Queensland (JLU (SQ)), Wallangarra, QLD.
 - b. **Project Element 2** – JLU – North Queensland (JLU (NQ)), Lavarack Barracks, QLD.
 - c. **Project Element 3** – JLU – North (JLU (N)), Robertson Barracks, NT.
 - d. **Project Element 4** – Liverpool Military Area (LMA), NSW, School of Military Engineering (SME) and Camp Sapper.
8. The following table summarises the works associated with each of the project elements:

Project Element Number	1	2	3	4
Location	JLU(SQ) Wallangarra, QLD	JLU(NQ) Lavarack Barracks, QLD	JLU(N) Robertson Barracks, NT	LMA SME and Camp Sapper, NSW
Scope of Works				
Shelter, DSB Build Vehicle	✓	✓	✓	✓
Shelter, IRB BEPB	✓	✓	✓	✓
Shelter, IRB BBI	✓	✓	✓	✓
Shelter, IRB Module	-	-	✓	-
Hardstand, DSB Module	✓	✓	✓	✓
Hardstand, IRB Module	✓	✓	-	✓
Hardstand, MGB	✓	✓	✓	✓
Hardstand, FB	✓	✓	✓	✓
Hardstand, Maintenance and vehicle circulation	✓	✓	✓	✓
Perimeter Fencing	✓	✓	✓	✓
Pavement, Vehicle access to compound	✓	-	-	-

Table 1: LAND 155 Infrastructure Project - Scope of Works

Options Considered to Fulfil the Identified Need

9. 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 investigations, refit/reuse of existing facilities and consolidation of the Defence estate were key considerations and, where appropriate, incorporated into the proposed solutions.
10. Due to the nature and purpose of the equipment being acquired, proposed locations were limited to the locations which considered proximity to the user units, training areas and maintenance facilities. As a result of extensive value management, the use of an existing facility in Robertson Barracks was identified in order to minimise the facilities and infrastructure requirement for Project Element Three.

Environment and Heritage Assessment

Environmental Impact of the Proposed Works

11. An Initial Environmental Assessment (IEA) for the proposed works associated with this project was completed in Dec 2015, against the Environment Protection and Biodiversity Conservation Act (EPBC) 1999 (Cth). The conclusion of the IEA was that a referral under the EPBC was not required for the project. It was also determined that environment risks associated with the project are minor and manageable through the development of site specific Construction Environmental Management Plans.
12. 12. Construction Environmental Management Plans will also be required to comply with the project's Environmental Assessment Report, prepared by the Defence Directorate of Environment Protection and Assessment. These plans also address issues such as traffic management, noise and dust generation, and erosion and sediment control during construction.

Indigenous and Non Indigenous Heritage Considerations

13. The IEA concluded that heritage risks associated with the project are minor and manageable through the development of site specific Construction Environmental Management Plans.

Key Legislation

14. The following key legislation is relevant to this project:
 - a. EPBC 1999 (Cth);
 - b. Work Health and Safety Act (WH&S) 2011 (Cth);
 - c. Occupational Health and Safety Regulations 2007 (Vic & WA);
 - d. Disability Discrimination Act 1992 (Cth);
 - e. Fair Work Act 2009 (Cth); and
 - f. Fair Work (Building Industry) Act 2012 (Cth).

Applicable Codes and Standards

15. The design of the proposed works will comply with all relevant and current Defence standards, Australian standards, codes and guidelines including, but not limited to:
 - a. National Construction Code - Building Code of Australia;
 - b. Building Code 2016;
 - c. Defence Security Manual;
 - d. Manual of Infrastructure Engineering – Electrical;
 - e. Defence Manual of Fire Protection Engineering; and
 - f. Defence Estate Quality Management System.

Consultation with Key Stakeholders

16. 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 LAND 155 infrastructure project.

17. Within Defence, consultation has occurred with the following stakeholders:
 - a. Army Headquarters,
 - b. Capability Acquisition and Sustainment Group,
 - c. Defence Estate and Infrastructure Group,
 - d. Joint Logistics Command (JLC),
 - e. Joint Logistics Units (JLU),
 - f. 1st, 2nd and 3rd Combat Engineer Regiments (CER), and
 - g. School of Military Engineering (SME).
18. Defence has also developed a community consultation and communication 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.
19. 19. Community consultation will occur as follows for the areas where works are proposed:
 - a. **Wallangarra, QLD.**
 - (1) Mr David Littleproud MP, Federal Member for Maranoa;
 - (2) Mr Lawrence Springborg MP, State Member for Southern Downs;
 - (3) South Downs Region Council and the local community; and
 - (4) QLD utilities providers.
 - b. **Lavarack Barracks, QLD.**
 - (1) Mrs Cathy O'Toole MP, Federal Member for Herbert;
 - (2) Mr Dale Last MP, State Member for Burdekin;

- (3) Townsville City Council and the local community; and
- (4) QLD utilities providers.

b. Robertson Barracks, NT.

- (1) Mr Luke Gosling MP, Federal Member for Solomon;
- (2) Mr Gerard Wood MP, State Member for Nelson;
- (3) Municipality of Litchfield and the local community; and
- (4) NT utilities providers.

c. LMA, NSW.

- (1) Mr Craig Kelly, Federal Member for Hughes;
- (2) Ms Melanie Gibbons MP, State Member for Holsworthy;
- (3) Liverpool City Council and the local community; and
- (4) NSW utilities providers.

Purpose of the Works

Project Objectives

- 20. The purpose of the project is to provide infrastructure necessary to support the introduction into service of the EGCC acquired under LAND 155.
- 21. In meeting the purpose of the project, operational effectiveness of Australian Army personnel will be enhanced through modern equipment to support training and operations.

Details and Reasons for Site Selection

- 22. The works proposed to be delivered by LAND 155 infrastructure project include new and refit/reuse of facilities across four sites. A Site Selection Board (SSB) was held for each location to confirm that the selected sites were the most appropriate locations for the siting of

the facilities. The selected sites have been proposed to best support a balanced requirement for training by the end user, maintenance by the JLU and movement to training areas.

23. Paragraphs 24 to 28 summarise the site specific details and reasons.

Wallangarra

24. The shelter and hardstand is located in close proximity to the existing dry gap which is used for training. Sufficient open space was also required to allow for a large area of hardstand and vehicle access off an existing road network.

Lavarack Barracks

25. The shelter and hardstand is located within existing JLU footprint and is in close proximity to those who will manage and maintain the equipment.

Robertson Barracks

26. The refit/ reuse of shelters and hardstand was selected to meet project requirements for space and heavy vehicle access. The site is also located close to gap training areas but is not collocated with the JLU.

Liverpool Military Area

27. The site at Camp Sapper was chosen as this is the location that SME currently trains with floating bridges on the Georges River. The storage of IRB modules at Camp Sapper will reduce the need for transportation to and from SME, Holsworthy Barracks via public roads. This will reduce the need for heavy vehicle traffic and the associated degradation of local roads.
28. The site at the SME is within the existing bridging yard within Holsworthy Barracks. This is currently where SME stores and trains with the in service bridging fleet. This location has suitable space to best support efficient and effective training outcomes of SME.

Detailed Description of the Proposed Works

29. Detailed site plans for each of the proposed project elements are at Attachments 2.2 – 5.2.
This section outlines the proposed works for each of the elements.

Project Element 1 – JLU (SQ) Wallangarra, QLD

30. The proposed works include:
- a. Shelter for critical bridging assets;
 - b. Hardstand for non-critical bridging equipment to be stored, loaded / unloaded from LAND 121 Integrated Load Handling System (ILHS) vehicles and basic equipment maintenance including for non-technical inspections;
 - c. Security fencing to this new compound; and
 - d. Pavement upgrade to allow for vehicle access to compound off existing road network.

Project Element 2 – JLU (NQ) Lavarack Barracks, QLD

31. The proposed works include:
- a. Shelter for critical bridging assets;
 - b. Hardstand for non-critical bridging equipment to be stored, loaded / unloaded from LAND 121 Integrated Load Handling System (ILHS) vehicles and basic equipment maintenance including for non-technical inspections; and
 - c. Security fencing to this new compound.

Project Element 3 – JLU(N) Robertson Barracks, NT

32. The proposed works include:
- a. Refit/ reuse of buildings 306 and 308 for storage of critical bridging equipment and vehicles as well as IRB modules;
 - b. Refit/ reuse of existing hardstand for other non-critical bridge equipment; and

- c. Security fencing to this new compound.

Project Element 4 – LMA SME and Camp Sapper, NSW

33. The proposed works include:

- a. Shelters for critical bridging assets at SME;
- b. Hardstand for non-critical IRB modules to be stored at Camp Sapper; and
- c. Security fencing to this new hardstand at Camp Sapper.

Public Transport, Local Road and Traffic Concerns

34. There is no increase to base populations as a result of this project. However, during construction there will be an increase to the number of large vehicles that enter the bases to deliver materials to site for construction. Contractual arrangements within each construction contract will mitigate the effects of this on the local road network through the development of Traffic Management Plans (if applicable) within each Site Management Plan.

Zoning and Local Approvals

35. All proposed works will occur on Commonwealth land and there will be no change to existing land use conditions. The intended function and use of all project elements are consistent with Defence Zone Plans for the areas the works are proposed.

Childcare Provisions

36. There is no requirement for additional childcare facilities as this project does not increase base populations.

Impact on Local Community

37. The proposal will generate short-term employment opportunities, predominantly in the building, construction and labour markets in areas in close proximity to each Project Element. The proposal will also generate some off-site job opportunities through the manufacture and

distribution of materials over the construction period. This will provide a positive economic stimulus for small and medium enterprises in areas where work is proposed.

38. The additional construction vehicles required to enter each site will be managed closely to ensure that impact on any local community will be minimised. Community consultation is an important component of the project and will be conducted in accordance with the community consultation plan. Defence will hold community information sessions as required to articulate the potential impact of the project construction activities and traffic management procedures. This will allow the community to provide feedback on any issues regarding perceived impact by the construction.

Planning and Design Concepts

39. The general design philosophy for 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 estate;
 - c. maximum use of existing infrastructure and facilities to minimise capital costs;
 - d. use of readily available and durable materials that combine long life while minimising maintenance;
 - e. infrastructure services planning and structure design taking into account future flexibility, projected demand and Defence policies for reliability and redundancy;
 - f. recognition of site constraints, security requirements, the established Zone Plan, functional relationships to existing facilities; and
 - g. planning services and structural design to accommodate flexibility.

Structural Design

40. The proposed new shelters will be steel framed structures with concrete slabs and metal deck roofs. There are no internal walls for these new facilities.

Materials

41. External walls for the majority of new and extended buildings will primarily consist of metal cladding. All new buildings will have mono-pitched roofs with overhangs appropriate to their purpose and location. Roofs will be constructed of steel with zincalume or colorbond finished metal roofing (or equivalent).

Hydraulic Services

42. The scope of proposed hydraulic services includes, but is not limited to, the provision of:
- a. rainwater collection, storage and supply suitable for non potable purposes at Project Element 1, and
 - b. stormwater drainage service.
43. Hydraulic services will comply with AS3500: National Plumbing and Drainage Code of Australia, National Construction Code, Building Code of Australia 2013 and relevant regulatory authorities' standards as prescribed by the relevant water authorities for Wallangarra, Townsville, Darwin, and Sydney.

Electrical Services

44. The electrical supply to the proposed facilities will be from the existing electrical network for each base. Investigations have confirmed that there is adequate capacity within each network for the proposed facilities. The scope of the proposed electrical services comprises site infrastructure and in-building services. The electrical (power and lighting) systems shall conform to the requirements of all applicable legislation, codes of practice and guidance publications relevant to Queensland, Northern Territory and New South Wales as well as Defence Standards and Guidelines, specifically the Manual of Infrastructure Engineering – Electrical.

Fire Protection

45. All construction and fire protection requirements will, as a minimum, be in accordance with the provisions of the National Construction Code – Building Code of Australia 2013, the Defence Manual of Fire Protection Engineering, and all other applicable Codes and Standards.

Acoustics

46. The new facilities will comply with the National Construction Code - Building Code of Australia and Australian Standards for noise and acoustics noting that they are open shelters.

Security

47. Advice from Defence Security and Vetting Service has been incorporated in the design solutions for the proposed facilities where appropriate. Security Risk Assessments have also informed the proposed designs. As such, the facilities meet appropriate security classifications as stipulated by Defence requirements.

Environmental Sustainability of the Project

48. The Commonwealth is committed to Ecologically Sustainable Development (ESD) and the reduction in greenhouse gas emissions. Defence reports annually to Parliament on the energy efficiency targets, established by 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 to the reduction of energy consumption, potable water consumption and waste diversion to landfill.
49. The ESD targets and requirements shall comply with the Defence Building Performance Manual. The targets and measures for this project have been balanced with other requirements for Defence buildings, such as functional and security requirements, heritage considerations and Work Health and Safety. Defence ESD policies have been addressed through a mature understanding of cost effectiveness. ESD is considered as one of the key objectives in the design development and delivery of new facilities.

50. ESD objectives and solutions are considered in the design to reduce the impact on the wider environment. This occurs through the use of sustainable design and construction techniques, and management systems that will reduce energy consumption and natural resources by:
- a. **Energy and greenhouse gas emissions minimisation:** Strategies to address this include use of energy efficient lighting systems and selection of materials for construction.
 - b. **Renewable energy:** Photovoltaic systems have been considered but are not cost effective to be installed to supplement mains power supply for some facilities to allow trickle charging of the DSB vehicles.
 - c. **Rainwater tanks:** Tanks will collect rainwater from new shelters at Wallangara, Project Element 1, and will be designed to allow this water to be used for wash down of equipment.

Landscaping

51. Areas adjacent to the facilities provided by the project are predominately hard stand surfaces designed for vehicle traffic with considerations for surface stormwater flow. Landscaping will be limited to some soil stabilisation or swales adjacent to the new facilities.

Energy Targets

52. There are no applicable energy targets for this proposal.

Workplace Health and Safety Measures

53. The proposed facilities to be provided under this project will comply with Department of Defence's WHS Policy, the Work Health and Safety Act (WHS) 2011 (Cth), Work Health and Safety (Commonwealth Employment – National Standards) Regulations and the Defence WHS Manual.
54. In accordance with Section 35(4) of the Building and Construction Industry Improvement Act 2005 (Cth), contractors will also 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.

55. Safety aspects of this proposal have been addressed during the design process and have been documented in a Safety in Design Report completed by the Design Consultant. No special or unusual public safety risks have been identified in this process. The successful construction contractor will also be required to submit a Safety Plan for the construction phase prior to the start of any construction activities.

Provision for People with Disabilities

56. Universal access will be provided to all facilities in accordance with the access and mobility provisions of the National Construction Code – Building Code of Australia 2016, Australian Standard AS1428.1 (Parts 1 to 4) and the Defence Policies.

Cost Effectiveness and Public Value

Outline of Project Costs

57. The estimated out-turned cost of this project is \$23.4 million, excluding Goods and Services Tax. The cost estimate includes the construction costs, management and design fees, contingencies and an escalation allowance.
58. The Operating Costs will increase as a result of the proposed project due to the ongoing operation and support services required by the new facilities.

Details of the Project Delivery System

59. A Project Manager/Contract Administrator has been appointed by the Commonwealth to manage the project works and the associated administration of the contracts in the planning phase. A Design Services Consultant has been appointed using the Department of Defence – Design Services Consultant form of contract, to manage design development to meet the needs of Defence user groups in the planning phase.
60. Subject to Parliamentary approval of the project, the intention is for the works to progress using Department of Defence Head Contractor (HC) form of contract. This form of contract is

well understood by industry and should result in greater efficiencies with the delivery of the project.

Construction Program

61. Subject to Parliamentary approval of the project, construction is expected to commence in September 2017 with completion anticipated by April 2018.

Public Value

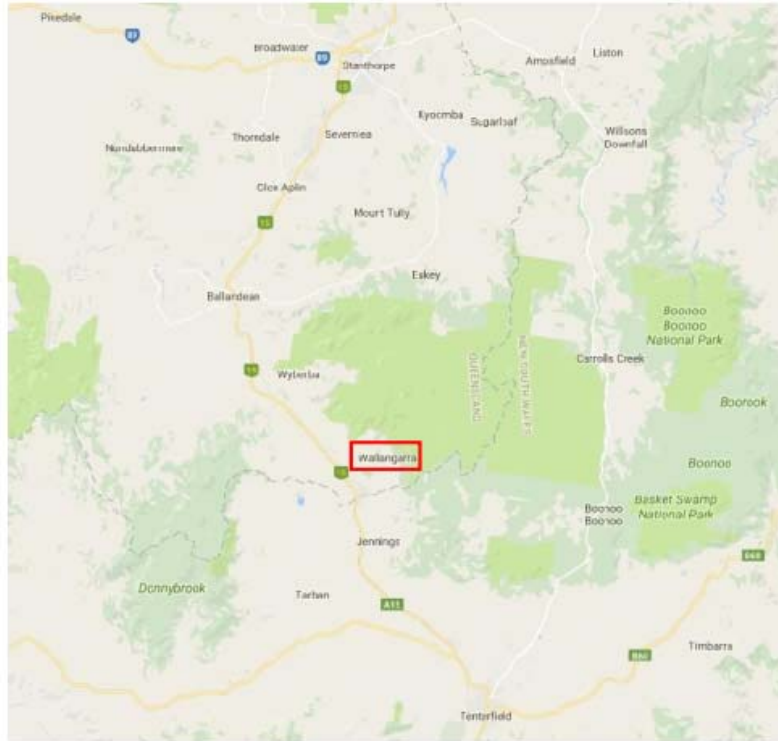
62. The proposed works will support an important Defence capability need for the ADF. This will allow for more efficient and effective training to prepare the ADF for employment on operations to enhance Australia's security.
63. The project will also employ a diverse range of skilled consultants, contractors and construction workers that could also include opportunities for up-skilling and job training to improve individual skills and employability on future projects.

Revenue

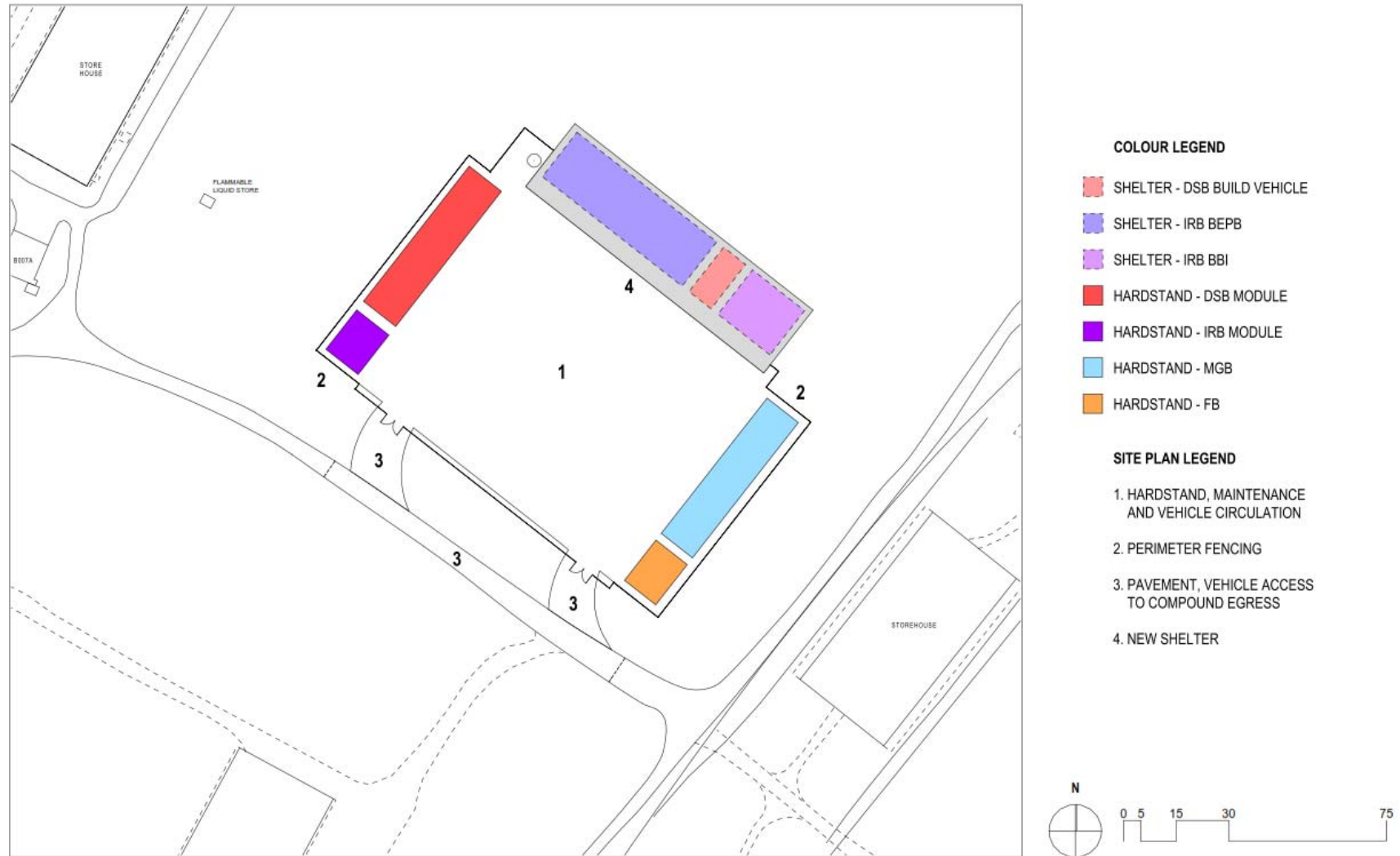
64. No revenue is expected to be delivered from this project.



LAND 155



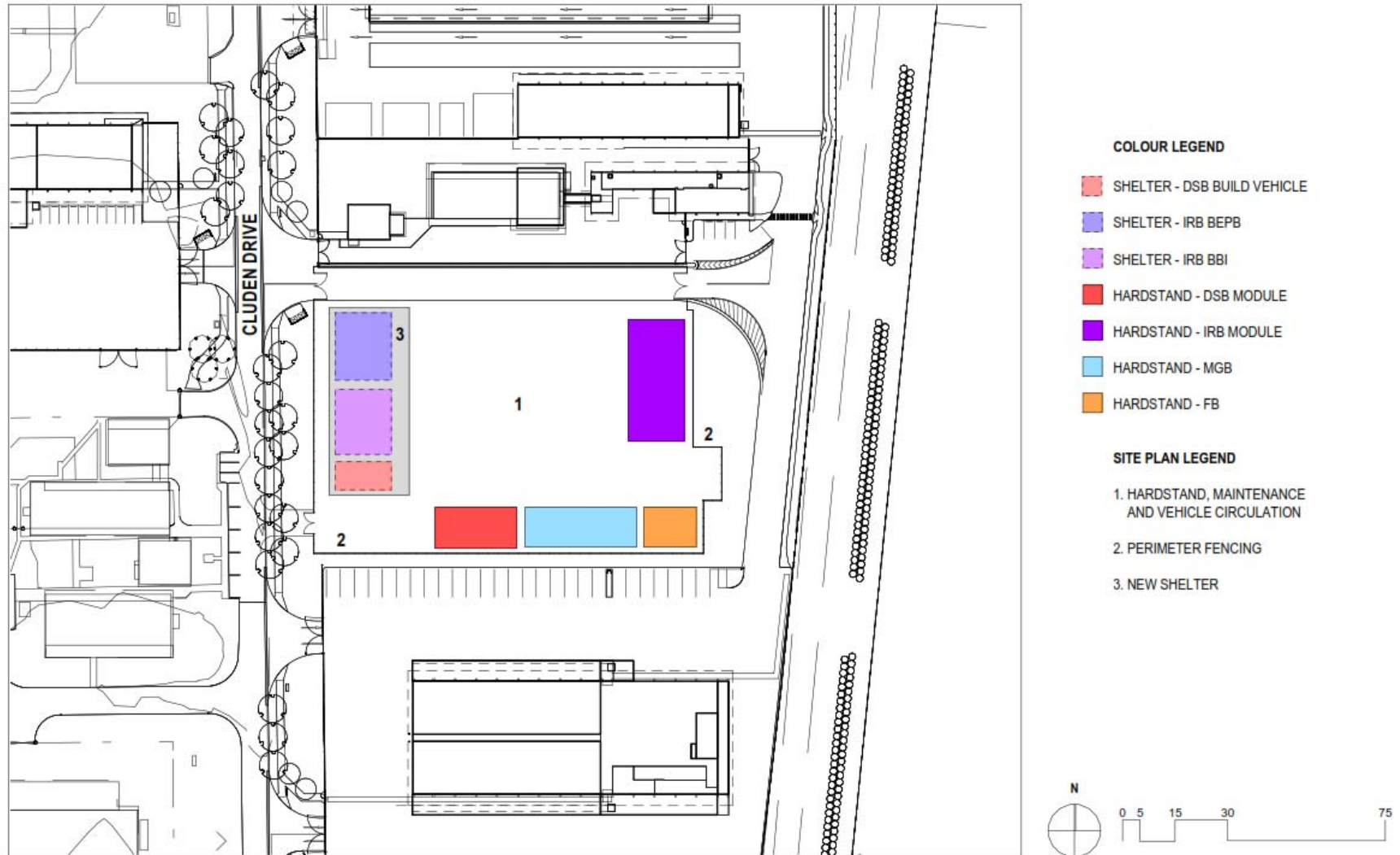
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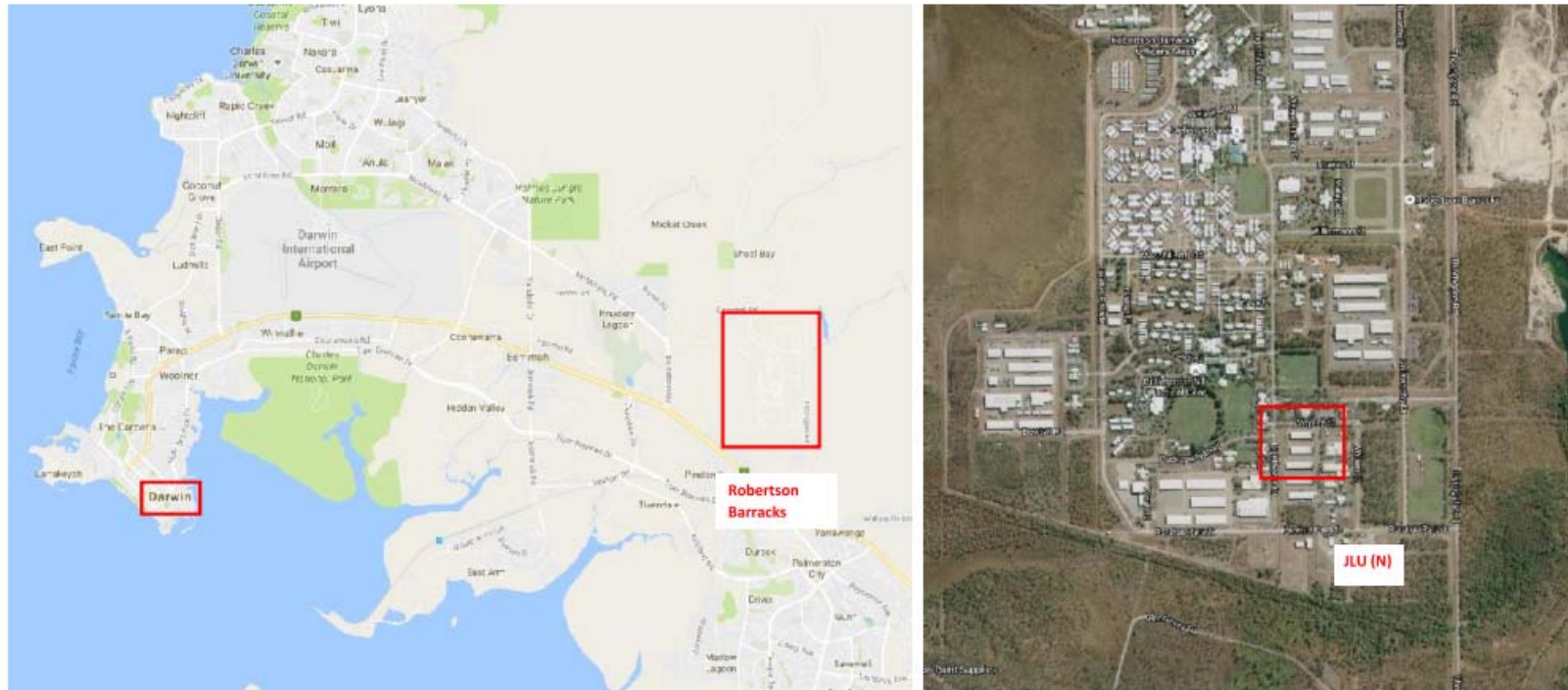
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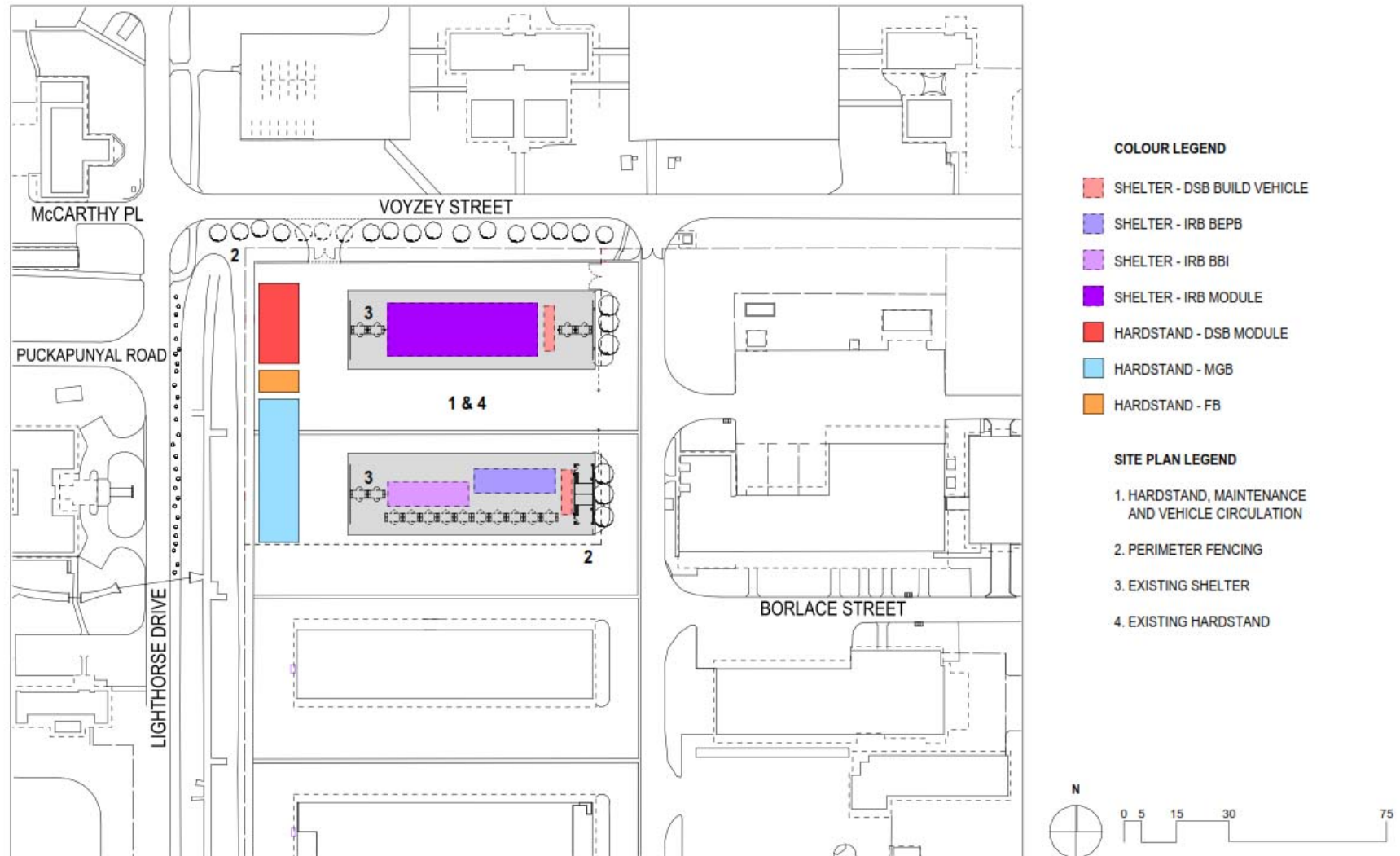
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