



**Australian Government**  

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**Department of Defence**



# **RAAF Base Darwin**

Statement of evidence to the Parliamentary  
Standing Committee on Public Works

*Proposed development of housing for Defence at  
RAAF Base Darwin, Northern Territory*

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## **Proposed Development and Construction of Housing for Defence at RAAF Base Darwin, Northern Territory**

### **Need for works**

#### **Identified need**

1. RAAF Base Darwin is located on 1,278ha within Darwin City Council limits and is approximately 4.5km north east of the Darwin Central Business District. The Base is surrounded by a range of land uses including residential, industrial, commercial and rural. RAAF Base Darwin is utilised for both RAAF operations and the Darwin International Airport (DIA).
2. There are approximately 4,500 Defence members residing within the Darwin Defence Housing Forecast (DHF) area, and of this approximately 1,800 are members with dependants. These members are posted to Defence establishments and include RAAF Base Darwin, Larrakeyah Barracks, HMAS *Coonawarra*, Robertson Barracks and Defence Establishment Berrimah (DEB).
3. The standard and availability of housing for Australian Defence Force (ADF) members and families in Darwin has been a longstanding concern for Defence. Currently, there is a heavy reliance on the private rental market which suffers from significantly low vacancy rates and sub standard on-base housing.
4. To meet the housing needs of these families, Defence Housing Australia (DHA) manages approximately 2,200 dwellings in the Darwin area, of which 108 Defence owned-dwellings are located on RAAF Base Darwin and the remainder are Defence and DHA properties in other areas of Darwin. At 1 March 2014, there was an additional 185 families or 10.74 percent of the total in private rental accommodation and receiving a housing subsidy in the form of Rent Allowance (RA).
5. The medium term requirement for Defence housing forecasts the delivery of 115 new dwellings in Darwin in each of FY 2015/16 and FY 2016/17. The development on RAAF Base Darwin will deliver 40 dwellings in each of these two years. The balance of 75



dwellings per year will be provisioned through DHA's Business As Usual (BAU) construction and acquisition program in Darwin during this period.

6. The provision of Rent Band 1 (RB1) houses in Darwin, which match the entitlements of junior Defence members, remains a difficult issue as a result of challenging housing market conditions in the region. Defence and DHA have determined that a major project to build 80 new on-base dwellings is a cost-effective means of supplying bulk housing that meets the minimum standard for families of junior Defence members posted to Darwin.
7. On 3 June 2011 the then Minister for Defence, Science and Personnel announced that 8.7ha at RAAF Base Darwin would be retained within the existing housing precinct and designated for redevelopment for future housing of Defence families.
8. The rationalisation for this was in response to the Defence Estate Strategic Planning Review – Darwin, which established a plan for the future of RAAF Base Darwin that reaffirmed the base as an enduring and critical Defence capability for staging, mounting and deploying forces for large scale military operations. The base enables the concentration and mounting of operations from Australia's North and plays a vital role in maintaining our alliance arrangements and regional engagement. The review also confirmed the need for Defence to retain land at the base, including a small portion for Defence housing.
9. A map of the RAAF Base Darwin Housing Estate is at (Supplementary Item 1). Defence Infrastructure Division has made preliminary decisions on the future use of the area immediately adjoining to the north to cater for ADF capability support activities.

#### **Options considered for meeting the need**

10. A review of Defence's housing requirements conducted in 2008 and again in 2010 indicates that the availability of housing in Darwin was insufficient to meet Defence's housing needs and a limited number of houses needed to be retained on bases in the Darwin area. Under The Service Agreement the Department of Defence contracts to DHA the development and construction of Defence-owned housing related projects.
11. The acquisition of 'broad acre' land within local communities followed by development and construction is DHA's preferred delivery method. This is due to the economies of

scale associated with bulk procurement of house constructions, surety of supply and higher margins associated with wholesale land development.

12. DHA is currently undertaking 'broad acre' development and construction at Muirhead, a new northern Darwin suburb approximately 16km north by road from RAAF Base Darwin and 16km north east from the Darwin CBD. DHA is also in the final stages of negotiation for the transfer of the RAAF 2CRU site that is located adjacent to the Muirhead Development, which will provide another opportunity for DHA to develop houses that will provision the Darwin Region. Due to market forces the housing product delivered at these developments is mostly above the RB1 level, minimum entitlements of junior Defence members.
13. Other options include the construction of on-base housing, the purchase of developed land (serviced allotments) followed by construction, the purchase of established houses, the upgrade of current houses and direct leasing of suitable housing where possible. Defence's review indicated that all of these options were required to meet Defence's housing needs.
14. The standard of existing on-base housing at RAAF Base Darwin is significantly below that provided to ADF members in other areas and does not comply with the minimum standard of the Defence Housing Classification Policy (HCP) introduced in 2007 and must be compliant with by 2017.
15. The alternative of upgrading the existing houses to Defence's minimum standard and NT Building regulations was investigated, however this option was not considered to be cost effective. The upgrade option, while initially marginally cheaper, is more complex to deliver. Additionally this option lacked the long term viability and longevity of building new houses on RAAF Base Darwin.

#### **Historical background**

16. RAAF Base Darwin is a military training base situated 4.5km north-east of Darwin in Australia. The base was opened in June 1940 and shares its runway with the Darwin International Airport. The RAAF Base is home to the following Defence Units:
  - No 96 Expeditionary Combat Support Wing
  - No 92 Wing Detachment Darwin - Surveillance and Response

- No 452 Squadron Headquarters
  - No 452 Squadron Darwin Flight- Air Traffic Control
  - No 13 (City of Darwin) Squadron
  - No 1 Airfield Operations Support Squadron Detachment Darwin - Air Movements
  - Darwin Area Health Centre
  - No 2 Expeditionary Health Squadron Detachment Darwin
  - No 114 Mobile Control and Reporting Unit - Radar Operations
17. Construction of the airfield began in 1938 and RAAF Station Darwin was established on 1 June 1940 from elements of No. 12 Squadron (SQN) RAAF. No.13 SQN was also created at the same time and was located at the base.
  18. No.12 SQN relocated from Parap Airfield, Northern Territory in April 1941 to RAAF Station Darwin. The base hosted a large number of RAAF and United States Army Air Force units during World War II. The base was bombed by the Japanese forces several times, beginning with two major raids on 19 February 1942. Subsequently, RAAF Base Darwin grew rapidly and its satellite fields housed a multitude of Australian and US units.
  19. Following the end of World War II, Darwin became an important transit stop for military movements throughout Asia, including use as a transport hub to support operations in Vietnam.
  20. A major expansion of the base was carried out in the 1950's. The expansion included construction of the main runway, taxiway and military apron system. In the 1970's explosives storage, fuel storage and operational, technical and domestic amenities were constructed. The administrative buildings of the base were badly damaged in 1974 as a result of Cyclone Tracy.
  21. Renovation of the married quarters, new explosives ordnance, security facilities, and new air traffic control facilities was completed in early 1990's.
  22. The base features two runways surfaced with asphalt. It can accommodate F-35 Joint Strike Fighters, C-130 Hercules, V Fighter, V Bomber, and B-24 Liberator long range bomber aircraft.

23. No.44 Wing detachment Darwin a sub element of Surveillance and Response Group provides Air Traffic Control (ATC) technical ground electronic services (GES) to the base. It also provides radar control services to the (ADF). The ATC station tracks and alerts the base operators when foreign aircraft fly in the skies of Australia.
24. Defence is an important part of the Darwin community, with a large Defence presence of just over 5,300 employees. When spouses and dependant children are included, the Defence community extends to approximately 11,900 people or 9.8% of Darwin's residents. The Defence workforce is a transient workforce, given that five years ago around 85% of all Defence personnel did not live in the city in which they currently live. Defence is worth about 11% of Darwin's gross regional product.
25. The majority of houses within the existing residential precinct were constructed between 1969 and 1970, augmented with small programs in 1981 and 1993.
26. The proposed site is on Commonwealth land comprising previously developed urban land and infrastructure, satisfying a greater Defence master planning and land utilisation rationale for future base facilities. (Supplementary Item 2) The area the subject of this submission (the Project Area) is a redevelopment site currently being cleared of redundant housing as part of the greater rationalisation of the existing housing area. The Public Works Committee (PWC) previously has granted Medium Works approval to remove houses at RAAF Base Darwin. DHA is in the process of relocating and demolishing the existing 395 Defence-owned houses on base.
27. Defence is also addressing flooding issues that are historically experienced at RAAF Base Darwin and that affect neighbouring areas as part of a separate flood mitigation project. This project incorporates infrastructure that traverses the married quarter precinct.

### **Heritage Impact**

28. The RAAF Darwin Heritage Management Plan (ERM, 2005) does not ascribe any particular heritage values to the existing structures within the Project Area. Searches also confirm no listings under Commonwealth Heritage or NT Heritage Act for the subject site.

29. The Project Area is located approximately 200m from the closest margins of the RAAF Darwin Heritage Precinct which includes buildings that are listed on the Commonwealth Heritage List.
30. There are no recorded sites of indigenous significance, registered Indigenous Land Use Agreement (ILUA) or registered Native Title determinations or registered claims within the Project Area.
31. Like all of Darwin, the Project Area forms part of the traditional land of the Larrakia people. Despite the currently highly modified and developed nature of the Project Area, there remains the potential to encounter buried indigenous artefacts during the project. In the event of this occurring procedures would be managed through specific provisions in the Construction Environmental Management Plan.

#### **Environmental matters**

32. All work on Defence Establishments requires submission and approval of an Environmental Clearance Certificate (ECC). The ECC must be submitted by the principal contractor and will be reviewed and approved by the Environmental Officer at RAAF Base Darwin and no works can commence until this approval is received. The ECC addresses all potential environmental issues and covers the scope of works, site plan, construction program, Environmental Management Plan (EMP), Defence Green Building Requirements and the Safety Management Plan (SMP).
33. The proposed development site was subject to an Initial Environmental Review in 2013 (AECOM). This report concluded that potential environmental impacts associated with the proposed development are likely to be mitigated sufficiently to be assigned a low risk rating in accordance with the Defence Estate Risk Assessment Tool (ERAT). This recommendation was subject to compliance with existing Defence procedures, implementation of the recommendations contained in the report and continuation of existing environmental monitoring programs already in place at RAAF Base Darwin.
34. The Project Area is located within a previously developed urban area, with vegetation comprising garden, street plantings and landscaping typical of a metropolitan Darwin suburb established of the time (1960's).

35. A flora and fauna study was undertaken in 2012 and has been referenced in the Initial Environmental Review and Construction Environment Management Plan (CEMP). The study reviewed the presence of flora and fauna on site, or with potential to occur on site, against the listed threatened ecological communities and species identified in both the *Environment Protection and Biodiversity Conservation Act* (EPBC Act) and *Territory Parks and Wildlife Conservation Act* (TPWC Act). With regards to flora, the study concluded that no EPBC Act or TPWC Act listed threatened ecological communities or flora species had been recorded, nor would they likely occur within the Project Area. With regards to fauna, the study concluded that the development is unlikely to have any impact on any listed threatened fauna populations, particularly with the retention of trees that will maximise habitat value.
36. A tree assessment (2012) identified and recorded all trees located in the Project Area noting species, health, structure and retention value in the landscape. Given the relatively young nature of the majority the trees, which is a result of the age of urban development in the aftermath of Cyclone Tracy, there are no large, remnant species within the extent of the Project Area. A large percentage of trees, over 50%, are indigenous to the greater Darwin area and 19% of trees were assessed as 'not worth retaining' due to their unsustainability as long term features of the landscape, resultant from poor health, significant defects in structure or location suitability.

### **Contamination**

37. The Project Area has been used as a housing precinct since the late 1960's, however land uses prior to that time are not fully known. RAAF Base Darwin maintains a database of contaminated sites including existing fuel farms, ex-ordinance storage and landfill. There are no identified contaminated sites within the Project Area.
38. The incidence of Asbestos Containing Material (ACM) in the soil is probable within the Project Area due to the age of the existing development. A Phase 1 contamination investigation and resultant remediation action and clearances will be obtained prior to the construction of new housing.

### **Key Legislation**

39. The following key legislation is relevant to this project:

- a. *Environmental Protection and Biodiversity Conservation Act 2012*
- b. *National Environment Protection Council Act 1994*
- c. *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*
- d. *Defence Housing Australia Act 1987*
- e. *Building and Construction Industry Improvement Act 2005*
- f. *NT Environmental Assessment Act 1994*
- g. *NT Heritage Act 2011*
- h. *Northern Territory Aboriginal Sacred Sites Act 2012*
- i. *Territory Parks and Wildlife Conservation Act 2011*
- j. *NT Soil Contamination and Land Utilisation Act 2009*
- k. *NT Water Act 2011*
- l. *NT Waste Management and Pollution Control Act 2011, and*
- m. *NT Weeds Management Act 2001.*

#### **Impacts on local communities**

40. Elton Consulting were engaged to undertake a review of existing on-base and Darwin social infrastructure, including facilities and services. The Social and Cultural Planning Report – Services and Facilities Needs Analysis (March 2014) summates that the needs of the new residents at RAAF Base Darwin will be met through a range of existing facilities and services on base, as well as through the extensive social and community facilities associated with life in a capital city. The report states:

*“The proposal for 80 new dwellings, specifically designed to a high standard, to meet the needs of family households and for tropical conditions, is considered an important benefit of this project. Further benefits of the design include:*

- *A landscaped setting, enhanced by retaining existing trees and established vegetation*
- *Creating a high quality central park acting as a site for active and passive recreation*

- *The existing walkability of the neighbourhood, and location in relation to public transport and shops*

*The proposal will address a shortage of housing at the lower entitlements, as well as the identified need to improve the quality and condition of housing on the base.*

*It will contribute to the supply of well-designed housing for tropical climate and community life at the Base.”* (Social and Cultural Planning Report – Services and Facilities Needs Analysis

(Elton March 2014))

41. It was further recommended that Defence recognise the particular needs of Defence members and their families by:

- Providing a local liaison officer to facilitate access to sporting clubs, schools, childcare and other facilities, due to frequent posting arrivals/departures mid-season or mid-term
- Improving the ongoing repairs and maintenance regime to ensure a high visual quality of all facilities
- Improving the quality and condition of existing and new dwellings, including landscaping and shaded areas
- Consider acoustic design measures for proposed dwellings to mitigate noise intrusion as a result of the proximity to the airport and physical operations of RAAF Base Darwin.
- Support a survey of Base residents and other Defence members living in Darwin, to establish priorities for facility’s needs, including upgrades or new facilities
- Host formal welcome events / days for new residents, and develop more effective ways to introduce residents to existing Defence / community groups and activities

42. During construction, community impacts will include movement of vehicles related to the construction of new dwellings, noise and dust resulting from site clearance and construction, as well as interruption of services that will be extended and connected to new housing. Relevant construction plans such as a CEMP and Traffic Management Plan will be developed by the contractor to provide mitigation actions associated with



construction impacts. These plans will be approved by Defence through the ECC process.

43. A Communications Plan has also been developed by Defence for implementation following PWC approval to inform base personnel and residents of specific construction phase activities.
44. A community consultation session is planned with local residents from suburbs adjacent to the Project Area to advise of the development details and address any concerns that may be raised.

### **Consultation with stakeholders**

45. Defence has engaged with internal stakeholders using a variety of approaches. The Site Selection Board is Defence's procedure for engaging all on-base stakeholders and approving the location of buildings, facilities and infrastructure across the Defence Estate. The key driver behind the Site Selection Board is the sustainability of the Defence Estate. New facilities or infrastructure should 'fit' appropriately within their surroundings and not adversely affect existing facilities and operations, or the safety and wellbeing of Defence and non-Defence personnel or neighbouring civilians. The process is designed to give consideration to a range of potential issues for all projects. Relevant base personnel were consulted as part of the Defence Site Selection Board process. A Site Selection Board was established for the housing project and its recommendations were approved and no additional restrictions were placed on the site.
46. The Defence Infrastructure Division has been consulted and supports the storm water mitigation initiatives for the Project Area.
47. To date, Defence has engaged with ADF members and their families living on-base in two open forums where tenants were provided with an overview of the proposed master plan, including removal or demolition of houses in the new construction area. Defence also addressed tenant issues and presented indicative plans of the future housing to be constructed and proposed project timelines.

48. Defence has briefed Senior ADF Officers and Commanding Officers (COs) of RAAF Base Darwin Squadrons. Senior Officers at Larrakeyah, NORCOM, and Robertson Barracks were also briefed on the project.
49. Defence continues to provide regular updates to ADF members and their families living at the RAAF Base.
50. Numerous meetings have been held with relevant statutory authorities including:
  - a. City of Darwin
  - b. NBN Co
  - c. NT Government
  - d. NT Power and Water Corporation
51. This construction program has been the subject of extensive consultation with local base officials. Supplementary Item 3, a letter from Wing Commander Wes Perrett, Senior ADF Officer, RAAF Base Darwin provides evidence of the strength of local support. The Commander, Headquarters Northern Command, Commodore Brenton Smyth, RAN has also expressed his support for the program at Supplementary Item 4.
52. The Deputy Chief of Air Force has expressed the support of Air Force at Supplementary Item 5. A letter indicating the support of Director Relocations and Housing, Defence Support and Reform Group, Mr Alan McClelland is at Supplementary Item 6.
53. The National Convenor of Defence Families of Australia, Robyn Ritchie has been briefed and has provided her support at Supplementary Item 7.
54. The Chief Minister for the Northern Territory, the Honourable Adam Giles MLA has demonstrated the support of the Northern Territory Government at Supplementary Item 8.
55. The redevelopment has been endorsed by the Federal Member for Solomon, Mrs Natasha Griggs in a letter at Supplementary Item 9.
56. Significant consultation was undertaken in the preparation of the masterplan for the development, this included:
  - Discussions between Defence, the DHA development team and key stakeholders

- Consultation with City of Darwin through the development planner
  - Engagement with key Northern Territory Government Departments
  - Community Liaison and broader community engagement, particularly the adjoining suburb of Eaton, in relation to the demolition and relocation of existing houses from the suburb.
57. As a component of Services and Facilities Needs Analysis, additional consultation was undertaken under agreement with Defence and DHA with:
- Providers of existing human services such as:
    - Northern Territory Government Department of Education
    - Northern Territory Government Department of Transport through the local bus operator
    - Information regarding the on-base activities and social facilities was obtained through the National delegate for NT and Kimberly, Defence Families Australia.

## **Purpose of works**

### **Project location**

58. RAAF Base Darwin is situated within the City of Darwin in the Northern Territory (NT) and is located approximately 4.5km north east of the Darwin Central Business District (CBD) (Supplementary Item 1). RAAF Base Darwin is bounded by the Stuart Highway to the south, Bagot Road to the west; McMillians Road to the north and Amy Johnson Drive to the east. RAAF Base Darwin comprises approximately 1,278 ha of land and is a joint user facility which shares a runway with the Darwin International Airport (DIA). The DIA leases approximately 310 ha at the northern part of the Base from Defence for airport operations.
59. The Project Area is wholly located within the RAAF Base Darwin lands (Lot 1354 on Plan A308). The Project Area is approximately 8.7ha in area at the southern extremity of the existing housing precinct. It is bound to the west by Bagot Road and to the east by Billeroy Road. The Eaton subdivision to the south shares its northern lot boundary

with the RAAF Base and the northern extent of the project bounds are defined by Derriwong Street, Caloola Park, Chipala Street and Boonoke Street.

### **Project objectives**

60. The project involves the creation of a new on-base housing precinct through the redevelopment of previously developed urban land. The project will provide 80 modern community standard tropical dwellings for the use of Defence personnel using the DHA BAU development and construction methodology, in part satisfaction of the forecast housing requirements of ADF members serving in the Darwin area, in particular at RAAF Base Darwin.
61. The project will increase housing densities by 33%, replacing the 60 existing predominantly three bedroom non-compliant dwellings in the Project Area, with contemporary sized allotments yielding 80 houses.
62. The project aims to enhance the amenity and sustainability of the housing precinct and address current substandard infrastructure.
63. This project will satisfy the broader Defence master planning and land utilisation rationale for future base facilities redevelopment projects.

### **Project description and scope of works**

64. The project will redevelop the Project Area into an 80 allotment residential precinct of detached dwellings. The 80 dwellings will comprise of 50 x three bedroom and 30 x four bedroom HCP compliant Service Residences exclusively for Defence use.
65. The proposed RAAF Base Darwin Married Quarters Precinct Housing Redevelopment Plan is included at Supplementary Item 10. The proposed siting of houses within the Project Area is located south of the area reserved for ADF capability support activities.
66. Redevelopment of the site involves the upgrading and construction of civil infrastructure to support the construction of the 80 contemporary single dwelling allotments, with an average area of 550m<sup>2</sup> (Supplementary Items 11-14 show indicative tropical housing designs).
67. The redevelopment proposal retains and upgrades the existing street grid, with new pavements and renewed drainage infrastructure.

- 68. The redevelopment proposal will retain over 75% of existing mature vegetation.
- 69. The redevelopment of the site will encompass a new central open space that is suitable for recreation and a number of community facilities.
- 70. Following the completion of all civil works, it is proposed that the 80 dwellings be constructed over a period of 24 months.

#### **Details and reason for site selection**

- 71. The project is in response to a ministerial decision that the 8.7ha site would be retained and designated for redevelopment for future housing of Defence families.
- 72. Housing that aligns with the entitlements, Rent Band 1 (RB1), of the targeted junior Defence members is in short supply in Darwin. The redevelopment of urban land at RAAF Base Darwin provides an opportunity to utilise Commonwealth land within an existing Defence housing area. This will allow the extension of services as well as providing immediate access to operational facilities on the base for Defence personnel. The construction of new housing will also ensure that Defence standards are met for housing of personnel at lower entitlement levels (RB1).
- 73. The Project Area is well located, allowing convenient access to local shops, services, schools and amenities. It will provide well-located housing for personnel posted to RAAF Base Darwin and other Defence Establishments.
- 74. Defence and DHA have concluded that, given the combination of business and social requirements, an on-base redevelopment yielding about 80 dwellings optimises the projects 'value for money' and maximises provisioning numbers at the required entitlement level (RB1) in a difficult housing market and in a highly desirable location in Darwin.

#### **Public transport**

- 75. Darwin is well serviced from a transport perspective. The Stuart Highway connects RAAF Base Darwin to Darwin CBD with onward connections along Bagot Road to Casuarina, and south-bound to Palmerston and beyond.

76. An extensive public bus and school bus network services the Darwin region, with bus stops conveniently located on the major transport corridors that traverse RAAF Base Darwin.
77. Darwin International Airport is located immediately to the North of RAAF Base Darwin, and it is approximately ten minutes drive to the terminal. The airport provides both domestic and international connections.
78. Darwin Train Station, on Berrimah Road at East Arm, is the terminus for the Ghan Passenger Railway and a 15 minute drive from RAAF Base Darwin. Services are relatively infrequent (once a week) and are targeted primarily at the tourist market.

#### **Local road and traffic concerns**

79. The redevelopment will rehabilitate the existing grid road network (constructed circa 1940/50's) to relevant standards, typically Austroad. Rehabilitation will facilitate improved drainage and maintain nominal road widths and reserves, which meet the functional requirements of the varied vehicular movements, thereby retaining the integrity, connectivity and operations of surrounding areas.
80. New kerb and gutters, side inlets, crossovers, footpaths, shared paths and pram ramps will be constructed to address the current inadequacies in storm water management and pedestrian / cyclist access and connectivity throughout the neighbourhood.
81. The entry avenue to the development, Bellara Street, has been designed to provide a 'sense of arrival' and will be lined with ornamental trees and terminate on an entry green to create a memorable entrance into the neighbourhood.
82. The Project will have minimal impact on traffic along existing roads.
83. As part of Defence Environmental Clearance Certificate, an approved Traffic Management Plan will be put in place. Shake-down grids, or similar will be installed at vehicle exit points to mitigate risk of transferring large amounts of dirt onto bitumen roads during construction, particularly as the construction access is common with the main entry to base and access to broader residential, heritage and community precincts.

### **Zoning and land approvals**

84. The proposed redevelopment will occur on land that is owned by the Commonwealth, consequently the Northern Territory Planning Scheme does not apply, however the redevelopment will comply with the principles of the planning scheme.
85. The Project Area aligns with Defences Housing Land Utilisation Concept Plan for Limited On-Base Housing (2009) and has obtained Site Selection approval (2012).

### **Planning and design concepts**

86. Tropical retrofitting is a legacy of Darwin City. Having undergone major city-wide renewal twice from historic events, Darwin is testament to the transformative power of retrofitting existing neighbourhoods.
87. RAAF Base Darwin can respond to Defence housing needs through utilisation and optimisation of this significant asset in the form of on-base land supply and previously developed urban land and infrastructure. The redevelopment of the site will enhance the amenity and sustainability of the area, whilst rectifying the supporting substandard infrastructure, particularly storm water management issues present on the site and adjacent areas.
88. Key aspects of the redevelopment are:
  - Creation of contemporary sized allotments with orientation (North/South) and frontages (20m average) that allow siting of detached houses that are responsive to Darwin's climatic conditions. The open space between allotments allows for ventilation from prevailing south east and north west breezes, a vital requirement for passive cooling in the tropics.
  - The inclusion in housing design of DHA's proven breezeways concept to provide comfortable and economical living all year round.
  - Retention of approximately 75% of existing mature trees within the redevelopment site will provide a mature, tropical and cooling landscape from the outset and will retain the amenity and character of the existing neighbourhood.

- Retention of the existing street pattern and upgrading of all services infrastructure.
- The design utilises the significant area within the project site not suited for residential use by providing a central recreational space. This space is planned to include the following facilities and elements for the community:
  - Active recreation with half sized basketball courts, open turf kick about areas and community playgrounds.
  - Passive areas that include shade structures, associated seating and BBQ areas suitable for large gatherings.
  - Small spaces for reflection created through retention of existing vegetation as a direct contrast to the active areas.
  - Community facilities to reinforce a healthy lifestyle and promote a strong community atmosphere such as community shed, gardens and orchard.
- The community areas aim to increase ownership over the space and create shady gathering and meeting points stimulating resident interaction.
- The design promotes sustainable practices in master planning, landscape design and storm water management.

### **Dwelling design, construction and civil works**

89. All design and construction works carried out as part of this project will comply with, or exceed, NT and Federal Government controls and requirements, and all housing works will meet the requirements of the Building Code of Australia. Defence and DHA will endeavour to build the most cost and time effective housing solution. The housing design will conform to the DHA Design and Construction Specification<sup>1</sup> document and Tropical Housing Design Guidelines.

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<sup>1</sup> Design and construction specification for DHA residences Version 4.0 December 2011 is available publically via the DHA Website.



90. Civil works will be approved by the relevant servicing authorities. All building construction requiring certification will be undertaken by approved private certifiers.
91. As part of civil works any required remediation activities will be undertaken to obtain clearance certification that the site is suitable to redevelop for residential use.

#### **Utilities, storm water, soils and flood control**

92. Underground electrical reticulation is proposed for the site, utilising the majority of existing underground High Voltage networks and the construction of new underground Low Voltage infrastructure. Supply will be distributed to each property via pillars within the road reserve at the property boundary. The existing substations within the project area have sufficient capacity to serve the redevelopment and will be retained within their current locations.
93. In consultation with the local electricity supplier, NT Power and Water Corporation, it has been confirmed that the envisaged, After Diversity Maximum Demand (ADMD) associated with the proposed dwellings would pose no problems to the external distribution network or bulk High Voltage supply to the base.
94. Street lighting columns, located within the road reserves, will be owned and maintained by the NT Power and Water Corporation in accordance with their specifications. Where lighting is provided within public open spaces; lighting infrastructure will be dedicated to Defence for operation and maintenance.
95. NT Gas Pty Ltd were approached in regards to the provision of reticulated supply to the project site and advised that it was not economically feasible to construct the lead in main and associated infrastructure required to serve the site.
96. Telecommunications for the new development will be provided by Telstra. Infrastructure (pit and pipe) will be to a standard capable of supporting the NBN fixed-line fibre rollout. Although it would be desirable for an NBN fibre connection, there are currently no plans for NBN rollout to the surrounding areas in the medium term.
97. Sewerage infrastructure is owned and operated by Defence on RAAF Base Darwin. The sewerage reticulation within the Project area will be entirely serviced by reconstructing a network of gravity mains and maintenance structures in accordance with the relevant Australian Standards, NT Power and Water Corporation

documentation and the Sewerage Code of Australia. The new system will continue to service the existing facilities to the north and will not burden the operation of the broader internal base network, nor will it increase the demand on the external NT Power and Water Corporation service.

98. The external point of connection for the sewer network will be at the existing NT Power and Water Corporation access chamber, outside of the base at the south west corner within the Bagot Rd verge. The NT Power and Water Corporation have advised that they are satisfied with this proposed connection point, provided a gas-trap maintenance hole is provided upstream of the point of discharge.
99. The NT Power and Water Corporation has confirmed no issue with the proposed redevelopment with relation to the demand on the external water supply network. The water reticulation network within the Project Area will be reconstructed and tie into the existing points of connection at the northern and eastern extent of the site boundaries. Existing stop valves in the vicinity of the site will be utilised to isolate the localised water supply network and facilitate seamless operation of the remaining base facilities served by the local network.
100. As part of the works the majority of the drainage infrastructure, located within the existing street grid, will be removed and upgraded. The new design takes into account the runoff resulting from the existing developed areas to the north, external of the project area, and addresses the current flooding occurrences during peak flow events downstream, both within and external to the Project Area.
101. The development area accepts external bypass flows from the existing developed catchment to the north. In storm events, greater than the initial storm (2 Year ARI) surface runoff is not collected by the network to the north and enters the proposed development site. Currently, the provision of storm water inlets throughout the site is inadequate (confirmed within several reports dating back to 1984).
102. As part of the site's storm water management strategy, these external flows are to be captured by a series of inlets at the north of the site, capturing surface runoff and adequately conveying flows in excess of the initial storm. The capture of surface runoff will alleviate flood hazard within the roadway and overland flow paths in addition to eliminating instances of flooding within the subdivision to the south.

103. At the downstream extent of the site, an oversized series of pipes/culverts will act in both a conveyance and detention function alleviating surcharge due to choke at this location. The oversized pipe network within this area will detain runoff prior to discharge via the bank of 5x1500 pipes, crossing Bagot road. The strategy alleviates the need for any augmentation of the downstream network and ensures the flow rates leaving the site are not increased.
104. The storm water design will implement storm water quality improvement devices throughout the network as part of the site's overall Water Sensitive Urban Design (WSUD) strategy. Modelling and provision of storm water treatment has been in accordance with the Darwin Harbour - Water Sensitive Urban Design Strategy published by the NT Government.
105. Key WSUD initiatives implemented in the engineering design include; encouragement of infiltration open space areas and combined end of line Gross Pollutant Trap (GPT) and Hydro-Dynamic Separator (HDS) incorporated at the end of the treatment train to separate and retain larger particles and attached nutrients.
106. On-site investigations within allotments typically yielded topsoil (0.2m) over a stratum of clayey gravel (0.3-0.9m depth) or sand over cemented gravelly sandy clay (0.3-1.7m depth). Ground water was typically encountered at a depth of approximately 2.4m.
107. In-situ permeability tests were undertaken as part of the geotechnical investigations across the site and values indicated the suitability to promote infiltration within the selected open space areas.

#### **Fire protection and home security**

108. The Project Area is urban, with the closest bush land approximately 250m away separated by Bagot Road, a main arterial road of six lanes.
109. The new water reticulation network will be designed for both fire fighting purposes and domestic supply. Hydrants will be provisioned in accordance with NT Power and Water Corporation standards to a maximum radius of 90m, encompassing all lots.
110. Dwelling construction will conform to Australian standards and the Building Code of Australia.

111. A fire management program is currently observed by RAAF Base Darwin. The program includes wet and early dry-season prescribed burning, infrastructure protection burning and fire-break maintenance/modification.
112. A Fire Management Plan has been prepared as part of the Construction Environmental Management Plan for the prevention and control of fires during construction.

### **Acoustics**

113. With the proximity of the Project Area to the operational runways of RAAF Base Darwin and Darwin International Airport, it has been established that the Australian Noise Exposure Forecast (ANEF) of the housing area is below the ANEF 20 contour. Under Australian Standards AS 2021 determines:
- a. Below ANEF 20 – There are no restrictions on residential development due to noise,
  - b. ANEF 20-25 – Residential development is conditionally acceptable with noise attenuation; and
  - c. ANEF 25-30 – No residential development is permitted.

### **Dwellings**

114. Dwellings will be constructed by DHA building contractors, including those pre-qualified on DHA's Northern Territory Builder Panel. The contractor will be chosen through an approach to market by a select request for tender via AusTender, the Australian Government's procurement information system. Contractors will submit house designs that satisfy the DHA Design and Construction Specification<sup>2</sup> document and Tropical Housing Design Guidelines. These documents ensure DHA dwellings are well designed and sustainable to a specific region through the incorporation of these design guidelines and performance requirements.

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<sup>2</sup> Design and construction specification for DHA residences Version 4.0 December 2011 is available publicly via the DHA Website.

### **Water and energy conservation measures**

- 115. All dwellings will achieve a minimum six star Energy Efficiency Rating (EER) as certified by an independent accredited assessor, using Nationwide House Energy Rating Scheme (NatHERS) or other equivalent method.
- 116. Household domestic water efficiency measures to be included in all houses include minimum four star Water Energy Labelling System (WELS) ratings for tapware and showers and dual flush toilets. Timers will also to be installed on all outdoor taps.

### **Parklands and streetscapes**

- 117. The proposed landscape master plan aims to create an enhanced tropical landscape and draws inspiration from the existing site and its lush tropical setting. The retention of existing vegetation as an asset provides future residents with instant green infrastructure and a lush outlook as well as the shading and cooling amenity of the urban forest canopy.
- 118. Within the streetscapes a hierarchy of trees has been incorporated to ensure shade, enhance visual amenity, and promote a sense of place through creation of themed areas to help locate and guide journeys through the avenues. The entry avenue will be tree lined with ornamental trees, specifically delonix regia (flame tree), which will provide an authentic 'sense of arrival'.
- 119. Parklands will be integrated throughout the development providing linkages and meeting spaces for residents. Primarily this will include a central open space at the heart of the community which will serve as the main community gathering place.
- 120. The spaces within open areas maximise chance encounters and supports the development of social relationships that cultivate a sense of community and neighbourhood.
- 121. Tree planting has been sensitively chosen to complement the retained vegetation and the suggested planting palette is also aligned with recommendations and guidelines outlined in the Defence ECC.

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

122. As requested in previous PWC reports, all dwellings will be built to the Silver Level of the Livable Housing Design Guidelines (2<sup>nd</sup> edition, 2012).

### **Community facilities, childcare and schooling**

123. Facilities that meet the day-to-day needs of Defence members are located on the RAAF Base itself. However, the proximity of the Base to Darwin's CBD allows residents on the Base to also easily access the substantial facilities available nearby, including schools, childcare, sporting, recreation and leisure facilities.
124. Darwin contains a multitude of Government primary schools and high schools as well as several private schools. Darwin operates on a school zoning system, whereby choice of Primary, Middle and High Schools are determined by residential address. Based on this system school aged children at RAAF Base Darwin are required to attend Ludmilla Primary, Darwin Middle School, and Darwin High School. It is however evident from the presence of Defence School Transition Aids (DSTA) and Defence Transition Mentors (DTM) at private schools in Darwin, including St John's College located a short distance from RAAF Base Darwin, that a high proportion of Defence members' children across the Darwin Region attend private schools.
125. There are a number of childcare facilities located across the Darwin region, including a dedicated facility on RAAF Base Darwin. Kids Force Child Care Centre is located on Billeroy Road in RAAF Base Darwin, and provides priority placement for Defence children. A review of the Australian Government's MyChild website indicates that there are only a very limited number of vacancies at the Kids Force Centre. It is also noted that this centre recently closed and has since re-opened. Other child care facilities located within proximity to the RAAF Base Darwin include:
- Goodstart Early Learning Stuart Park
  - Kentish Damilty Day Care in Woodroffe
  - Mission Australia Early Learning Services, Stuart Park
  - Darwin Family Day Care in Malak
  - Parents' Choice Family Day Care, Stuart Park

- Camp Australia at Parap Primary School providing after school care and a vacation centre
  - Larrakeyah Primary School – Vacation Care
  - Stuart Park Primary School, After school care
126. As a Capital City Darwin provides an extensive selection of community facilities that provide a diversity of spaces and services for use by the public. These include facilities owned and operated by Northern Territory Government, City of Darwin and private operators.
127. A number of sporting clubs and recreational facilities are located across Darwin, incorporating a range of sporting types. The clubs provide central venues where people in the local community can interact. Some of the main facilities include, but are not limited to:
- Marrara Sporting Precinct approximately 10 minutes' drive from RAAF Base Darwin, including Marrara Sporting Complex, an indoor air-conditioned venue and Marrara Stadium, a major multi-purpose outdoor stadium.
  - Darwin Football Stadium provides a facility for soccer clubs and matches
  - Micket Creek Shooting Complex, a facility for various disciplines of rifle and pistol shooting
  - Leanyer Recreation Park is a facility provided free of charge, and includes a water park, an all-abilities playground, a skate park, and other recreational facilities.
  - Hidden Valley Sports Complex is a multi-discipline, national-standard facility featuring a 2.87 kilometre motorcycle and motorcar race track.
128. General Practitioner Doctors and specialist medical facilities (imaging services, dentists etc.) are available throughout the Darwin Region. The closest medical clinics to RAAF Base Darwin are located in Darwin CBD, approximately five minutes drive.
129. The Royal Darwin Hospital and Darwin Private Hospital are co-located approximately 15 minutes to the North and provide comprehensive medical facilities.
130. The nearest fire station to RAAF Base Darwin is located in Woolner, approximately 1km from the entrance to the Base. The nearest police station is located in the suburb of

Parap, approximately 2.5km from the Base. Ambulances are operated by St John's Ambulances from Royal Darwin Hospital and from depot also in the suburb of Parap.

131. Residents of RAAF Base Darwin are centrally located to several major shopping areas, including:
- Woolner shops, located at the entrance to RAAF Base Darwin
  - Darwin CBD
  - Casuarina regional shopping centre
  - Specialty and bulky goods are provided at a range of locations throughout the Region.
132. Darwin offers a range of leisure and entertainment options to entertain local residents and visitors to the area. These include entertainment within the Darwin region, as well as a range of activities that are nature based and accessible within a few hours' drive of Darwin, such as Litchfield National Park, and the World Heritage listed Kakadu National Park.
133. As the centre for many Northern Territory and Commonwealth Government services to the whole of Northern Territory and the Darwin Region, a large number of Government Services are located in Darwin CBD, Parap and Palmerston CBD.

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

134. Contractors delivering works for DHA valued at more than \$3 million are required to be accredited by the Federal Safety Commissioner. Work contractors must also adhere to relevant legislative requirements, including the *Work Health and Safety (National Uniform Legislation) Act 2011* and *Workers Rehabilitation and Compensation Act*.

### **Cost-effectiveness and public value**

#### **Outline of project costs**

135. The estimated overall project cost is approximately \$53.36 million including GST, escalation and contingency. The cost will be met by DHA and reimbursed by Defence under an annuity arrangement.



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

136. Design and Construct contract packages will be contracted on a fixed price lump sum basis through a request for tender process via AusTender. The successful tenderers will be required to comply with the DHA Design and Construction Specifications and Tropical Housing Design Guidelines.

### **Construction schedule**

137. Subject to Parliamentary approval by June 2014, the significant milestones to achieve delivery of dwellings by November 2016 are:

<b>Date</b>	<b>Milestone</b>
May 2014	PWC referral
August 2014	PWC approval process complete
October 2014	Civil construction contract commences
July 2015	Dwelling construction contract commences
November 2016	80 house redevelopment delivered

### **Public value**

138. This proposal will contribute 'public value' by adding to the stock of housing used to meet Defence obligations to members of the ADF and their families posted to NT, thus enhancing the key objective of retention of Defence personnel. Key beneficiaries are likely to include families of Defence personnel as well as local Darwin business and service providers.
139. More broadly, while alleviating pressure on the Darwin NT rental market, the RAAF Base Darwin project will create jobs in the development and construction industry. Based on a study by the Urban Development Institute of Australia (UDIA) entitled, "The property Development Industry -Economic Impact Study" of March 2010, 4.6 direct jobs and 7.8 indirect jobs are created in the Northern Territory for each \$1 million spent. Based on a total escalated project value of \$53.36 million it is estimated that 245 direct jobs would be created and 416 indirect jobs would be created as a result of this redevelopment.

## **Revenue**

140. Details of the financial aspects of the project are included in a separate commercial in confidence briefing to the Committee.

## **Supplementary Items:**

1. Location Map - Darwin and RAAF Base Darwin
2. Location Map - Project Area within RAAF Base Darwin
3. Letter of Support - Senior ADF Officer RAAF Base Darwin
4. Letter of Support - Commander, Headquarters Northern Command
5. Letter of Support – Deputy Chief of Air Force
6. Letter of Support - Director Relocations and Housing
7. Letter of Support - National Convenor, Defence Families of Australia
8. Letter of Support - Chief Minister for the Northern Territory
9. Letter of Support - Federal Member for Solomon
10. Proposed RAAF Base Darwin Redevelopment Plan
11. Indicative Tropical Housing Design (Frontage)
12. Indicative Tropical Housing Design (Frontage)
13. Indicative Tropical Housing Design (Plan)
14. Indicative Tropical Housing Design (Plan)



# RAAF Base Darwin

## Supplementary information

1. Location Map - Darwin and RAAF Base Darwin
2. Location Map - Project Area within RAAF Base Darwin
3. Letter of Support - Senior ADF Officer RAAF Base Darwin
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13. Indicative Tropical Housing Design (Plan)
14. Indicative Tropical Housing Design (Plan)

## Supplementary item 1

### Location Map - Darwin and RAAF Base Darwin







## Supplementary item 3

Letter of Support - Senior ADF Officer RAAF Base Darwin



**ROYAL AUSTRALIAN AIR FORCE**  
NO. 13 (CITY OF DARWIN) SQUADRON

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RAAF Base, DARWIN NT 0820

M2989621

**Mr Peter Howman**  
Managing Director  
Defence Housing Australia  
26 Brisbane Avenue  
Barton ACT 2600

### **DHA - RAAF BASE DARWIN CONSTRUCTION PROGRAM**

Dear Mr Howman

I am writing to you in support of the DHA project to construct 80 new Defence houses at RAAF Base Darwin. Not only is RAAF Base Darwin a critical strategic airbase, with one of the highest operational tempos, but ADF activities and numbers in general in the Darwin region are increasing. The provision of quality housing for ADF personnel and their families is an important factor to entice members to the Northern Territory.

Accordingly, the provision of new housing at RAAF Base Darwin is an important activity and is in line with projected requirements and family preferences. The construction of new Defence housing at RAAF Base Darwin, in line with current Defence standards, is required to replace old housing that is not economically viable to upgrade. Defence personnel who relocate to Darwin require quality housing to lessen the stress on their families. Furthermore, the low vacancy rate for housing in Darwin, due to high industry demands, means there is a lack of suitable, alternative housing for Defence members.

Approval of this project will assist Defence and DHA to provide appropriate accommodation in line with current Defence policies. Not proceeding with this project could adversely affect the retention of members serving in Darwin, and therefore potentially impact Defence operations at the airbase and other Defence establishments in the region. I therefore believe the provision of additional Defence housing will be of great benefit to Defence.

**W. Perrett**  
Wing Commander  
Senior ADF Officer  
RAAF Base Darwin

(08) 8923 5001

28 March 2014



## Supplementary item 4

Letter of Support - Commander, Headquarters Northern Command



**JOINT OPERATIONS COMMAND**  
Headquarters Northern Command



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Larrakeyah Barracks, LARRAKEYAH, NT 0820

HQNORCOM/N1762954

**Mr P. Howman**

Managing Director  
Defence Housing Australia  
26 Brisbane Avenue  
BARTON ACT 2600

### **PROPOSED CONSTRUCTION OF 80 DEFENCE RESIDENCES AT RAAF BASE DARWIN**

1. Existing Defence residences located on various bases around Australia demonstrate the benefits of Defence community living. Members and their families are given the opportunity to live in a community that offers support through the times their loved ones are deployed, whilst also promoting a strong relationship amongst Australian Defence Force personnel across the three services.
2. The proposed dwellings at RAAF Base Darwin located in proximity to the local community, specifically to the Winnellie Shops and Ludmilla School, facilitates mutual support to Defence and the community. Regenerating 80 Defence occupied houses should reduce pressure on the local housing market and reduce the competition to civilian tenancies within the rental market.
3. Headquarters Northern Command fully endorses the construction of 80 Defence residences at RAAF Base Darwin.

**B. Smyth**  
Commodore, RAN  
Commander, Headquarters Northern Command

*LB* March 2014

## Supplementary item 5

### Letter of Support - Deputy Chief of Air Force



#### ROYAL AUSTRALIAN AIR FORCE AIR FORCE HEADQUARTERS

Department of Defence, R1-6-C002, PO Box 7902, CANBERRA BC ACT 2610, AUSTRALIA

OCAF/OUT/2014/AB17804421

**Mr Vern Gallagher**  
General Manager  
External Relations PPG  
Defence Housing Association  
26 Brisbane Avenue  
Barton ACT 2600

Dear Mr Gallagher *Vern,*

I am writing to you in support of the DHA project to construct 80 new Defence houses at RAAF Base Darwin. RAAF Base Darwin is a critical strategic airbase in the Top End and the proposed new housing will support Navy, Army and Air Force personnel and their families posted to the Darwin area. The provision of quality housing for Defence personnel and their families is an important factor necessary to entice members to Darwin.

Accordingly, the provision of new housing at RAAF Base Darwin is an important activity and will meet projected Defence requirements and family preferences. The construction of new Defence housing at RAAF Base Darwin, in line with current Defence standards, is required to replace old housing that is not economically viable to upgrade. Defence personnel who relocate to Darwin require quality housing to lessen the stress on their families and associated impact on their morale. Furthermore, there is a lack of sufficient non-Defence housing in Darwin as an alternative for Defence members.

Approval of this project will assist Defence and the DHA to provide appropriate accommodation in line with current Defence policies. Not proceeding with this project could adversely affect the retention of Defence members serving in Darwin, and therefore potentially impact Defence operations at the region. I therefore believe the provision of contemporary housing will be of great benefit to Defence.

Yours sincerely

**G.N. DAVIES, AO, CSC**  
Air Vice-Marshal  
Deputy Chief of Air Force

R1-6-C002  
Tel: (02) 626 55472

*5* May 2014



## Supplementary item 6

### Letter of Support - Director Relocations and Housing



**Australian Government**  
**Department of Defence**  
Defence Support and Reform Group

**Alan McClelland**  
Director Relocation and Housing  
Defence Support and Reform  
Group  
CP1-5-094

alan.mcclelland@defence.gov.au  
Tel: 02 6266 3114

**R18068696**

**Peter Howman**  
Managing Director  
Defence Housing Australia  
26 Brisbane Avenue  
BARTON ACT 2600

Dear Mr Howman,

#### **PROPOSED NEW SERVICE RESIDENCES DEVELOPMENT AT RAAF BASE DARWIN**

I recently briefed Mark Jenkins, Head, Defence Support Operations on the proposed new housing development at RAAF Base Darwin including details relating to the costs of the project.

Both Mark and I are supportive of the project and request that DHA lodge the formal submission to the PWC Secretariat. Mark and I will support the proposal at the Parliamentary Standing Committee on Public Works to be scheduled in July 2014 and confirmed by the PWC Secretariat.

I understand planning is underway between Defence and DHA to address the stormwater runoff from the RAAF Base affecting The Narrows residences. This is being addressed as a separate project. Defence will be conducting a forum for The Narrows residents to brief them on the mitigation strategy and timelines for the works to be completed and DHA support at this presentation is requested.

It is my intention to brief the Commanding Officers and residents at the base on our plans for RAAF Base Darwin following the PWC hearing.

My point of contact for this matter is Guy Taylor (telephone: 6266 4183) or email:  
[guy.taylor@defence.gov.au](mailto:guy.taylor@defence.gov.au)

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Alan McClelland'.

**Alan McClelland**  
Director Relocation and Housing  
Defence Support and Reform Group

2 May 2014

## Supplementary item 7

### Letter of Support - National Convenor, Defence Families Australia



Defence Families of Australia  
R8-1-007  
Russell Offices  
Canberra ACT 2600

Mr Peter Howman  
Chief Operating Officer  
Defence Housing Australia  
26 Brisbane Avenue  
BARTON ACT 2600

April 2014

*Defence Housing Project: RAAF Base Darwin, NT*

Dear Mr Howman,

Thank you for the recent updates on the proposed Defence housing development for RAAF Base Darwin, NT. It is important for Defence families to be located in service housing that is in keeping with Defence requirements and also provides some degree of outdoor living and proximity to work location. Access to schooling, amenities, and work opportunities for the family members is also important.

As you know, many of the service residences in Darwin are older houses located on the RAAF Base and further troubled by the local flight paths. The replacement of this housing with homes at new locations will improve the lifestyle of Darwin families with the provision of modern houses.

The proposed development suburb of Eden is a great location, central to essential amenities, a hospital and markets. The location could also supplement housing for the other nearby bases if required, expanding the Defence community and providing a great advantage to the local Defence community centre.

I am particularly pleased to see that, by way of example, the new homes DHA provided in Muir Heads indicate forethought has been given to specifically design for Darwin's tropical climate and support the Darwin lifestyle with open plan and outdoor alfresco living.

I would also encourage DHA to take note of the successful and welcome playgrounds built at Larakeyah and Muir Heads, which can serve as a template for providing similar facilities for the new housing area.

Defence Families Australia (DFA) supports the RAAF Base Darwin housing project as presented at this time, and welcomes updates on its progress, as well as being kept informed on other projects being planned by DHA.

Yours Sincerely,

**Robyn Ritchie**

*Signed by Email*

Robyn Ritchie  
DFA National Convenor  
Ph: 0410 626 103  
Email: [convenor@dfa.org.au](mailto:convenor@dfa.org.au)



## Supplementary item 8

### Letter of Support - Chief Minister for the Northern Territory



CHIEF MINISTER  
MINISTER FOR STRATEGIC DEFENCE LIAISON

Parliament House  
State Square  
Darwin NT 0800  
chief.minister@nt.gov.au

GPO Box 3146  
Darwin NT 0801  
Telephone: 08 8928 6500  
Facsimile: 08 8928 6577

Mr Peter Howman  
Managing Director  
Defence Housing Australia  
26 Brisbane Avenue  
BARTON ACT 2600

Dear Mr Howman

The Northern Territory Government welcomes the Defence Housing Australia proposal to construct 80 new dwellings at the RAAF Base Darwin.

This project follows the successful Lyons and Muirhead developments which have provided work for the construction industry over a number of years, as well as helping to ease housing pressures in Darwin. The construction of these 80 homes will add to housing availability in the general community and their occupancy by Defence families will support local businesses.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'AG'.

ADAM GILES

11 APR 2014

## Supplementary item 9

### Letter of Support - Federal Member for Solomon



The Secretary  
Public Works Committee  
Parliament House  
Canberra ACT 2600

As the Federal Member for the Seat of Solomon, I am writing to give my support to the construction of 80 new homes at RAAF Base Darwin, otherwise known as Eaton.

The construction of additional homes to add to housing availability in the general community is welcome. That these are being built in an inner-suburb of Darwin is very pleasing and their occupancy by Defence families will support local businesses. This project follows the successful DHA developments at Lyons and Muirhead which have provided work for the construction industry over a number of years, as well assisting in easing housing pressures in Darwin.

I would like to take this opportunity to thank Defence Housing Australia for the role it is playing in residential housing construction in Darwin and urge the Public Works Committee to consider favourably this development proposal.

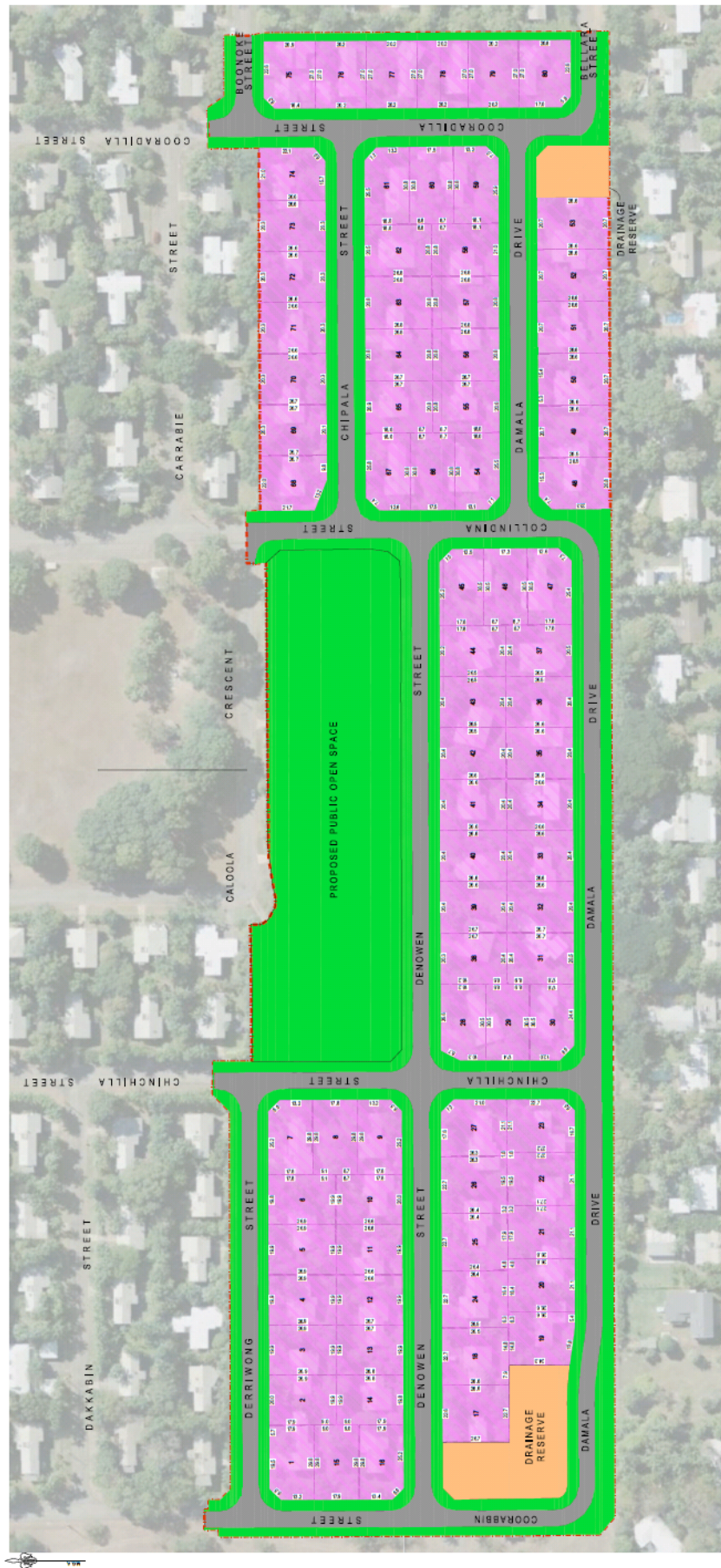
Yours sincerely,

Natasha Griggs  
**Federal Member for Solomon**



## Supplementary item 10

### Proposed RAAF Base Darwin Redevelopment Plan



## Supplementary item 11

### Indicative Tropical Housing Design (Frontage)





## Supplementary item 12

### Indicative Tropical Housing Design (Frontage)



## Supplementary item 13

### Indicative Tropical Housing Design (Plan)





## Supplementary item 14

### Indicative Tropical Housing Design (Plan)

