



**MUIRHEAD SUBDIVISION
(EPBC 2010/5525)**

EPBC Act Annual Compliance Report 2020-2023

FINAL

September 2023



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Prepared by
Umwelt (Australia) Pty Limited
on behalf of
Defence Housing Australia

Project Director: Karina Carwardine
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QMS Certification Services

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Acknowledgement of Country

Umwelt would like to acknowledge the traditional custodians of the country on which we work and pay respect to their cultural heritage, beliefs, and continuing relationship with the land. We pay our respect to the Elders – past, present, and future.

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Document Status

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
V1	Karina Carwardine	1/9/23	Karina Carwardine	15/9/23

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1.0 Background

Defence Housing Australia (DHA) (the approval holder) submitted a referral under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) in May 2010, for the development of a 1,211 dwelling residential subdivision, on a 167.6 hectare land parcel in the northern suburbs of Darwin, Northern Territory.

On 2 July 2010, the Commonwealth department responsible for administering the EPBC Act (the Department), determined that the proposed action had the potential to have a significant impact on matters of national environmental significance (MNES), and was therefore determined to be a controlled action. The relevant matters protected under the EPBC Act were listed threatened species and communities (sections 18 and 18A), and the whole of the environment (section 28), as DHA is a Commonwealth agency.

The action was assessed by Preliminary Documentation and was approved subject to conditions on 30 March 2011.

Conditions attached to the approval included requirements for the implementation of management plans and studies, as well as compliance with Northern Territory legislation, contingency measures and reporting requirements.

Construction commenced in 2011 and was completed in 2018. The defects liability period for construction finished on 7 June 2020, and the action is now complete.

2.0 Description of activities

2.1 EPBC number and project name

EPBC 2010/5525 Muirhead Subdivision.

2.2 Approval holder and ABN

Defence Housing Australia (DHA) (ABN: 72 968 504 934).

2.3 The approved action

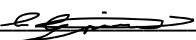
The subdivision of Lot 9737, Muirhead in the northern suburbs of Darwin, Northern Territory for residential development (see EPBC Act referral 2010/5525).

2.4 Location of the project

Lot 9373, Town of Nightcliff, approximately 18 km northeast of the Darwin central business district.

2.5 Person accepting responsibility of the report (signed declaration)

In making this declaration, I am aware that sections 490 and 491 of the EPBC Act make it an offence in certain circumstances to knowingly provide false or misleading information or documents. The offence is punishable on conviction by imprisonment or a fine, or both. I declare that all the information and documentation supporting this compliance report is true and correct in every particular. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

Signed  _____

Full name (please print) Christopher Grimm

Position (please print) Senior Development Manager

Organisation (please print including ABN/ACN if applicable) Defence Housing Australia ABN: 72 968 504 934

Date 14 / 11 / 2023

2.6 Reporting period

The most recent compliance report for the Muirhead Subdivision was published October 2020. This report is for the period from October 2020 – September 2023.

2.7 Date of report preparation

Report finalised 4 September 2023.

3.0 Compliance table

Table 3.1 Key to compliance table

Designation	Definition
Compliant	'Compliance' is achieved when all the requirements of a condition have been met, including the implementation of management plans or other measures required by those conditions.
Non-compliant	A designation of 'non-compliance' should be given where the requirements of a condition or elements of a condition, including the implementation of management plans and other measures, have not been met.
Not applicable	A designation of 'not applicable' should be given where the requirements of a condition or elements of a condition fall outside the scope of the current reporting period.

Table 3.2 Compliance table

Condition	Designation	Comments
<p>1. The person taking the action must undertake the Muirhead Subdivision in a staged manner.</p> <p>Prior to commencing works for any stages beyond Muirhead Stage 2 (408 allotments), the person taking the action must develop a Buffalo Creek Water Quality Improvement Plan, for approval by the Minister. The plan must address the following requirements:</p> <ul style="list-style-type: none"> a. planned stages and timeline of the Muirhead Subdivision; b. milestones of upgrades to be undertaken by Power and Water Corporation at the Leanyer Sanderson waste stabilisation ponds; c. demonstrate that upgrades at the Leanyer-Sanderson waste stabilisation ponds are sufficient to ensure that the Muirhead Subdivision does not contribute to the decline of water quality at Buffalo Creek; and d. details of water quality monitoring to be undertaken at Buffalo Creek. Monitoring must be undertaken prior to and post treatment upgrades at Leanyer-Sanderson waste stabilisation ponds, to demonstrate water quality improvements at Buffalo Creek as compared to the water quality results stated in the <i>Shoal Bay and Buffalo Creek Report Card 2010</i>. The results of this monitoring must be provided to the Department in a report. <p>The Buffalo Creek Water Quality Improvement Plan must be approved by the Minister before the person taking the action commences any works beyond Muirhead Stage 2.</p> <p>The approved plan must be implemented.</p>	<p>Compliant</p>	<p>The Muirhead Subdivision was undertaken in a staged manner.</p> <p>Prior to the commencement of Stage 3 of the project, the Buffalo Creek Water Quality Improvement Plan (Aurecon, 2013) was prepared, which included:</p> <ul style="list-style-type: none"> • Stages and timeline for the Muirhead Subdivision (Section 1.1.2) • Identification of sources of pollution entering Buffalo Creek (Section 4) • Timetable for upgrades to the Leanyer-Sanderson Waste Stabilisation Ponds (Section 5.4.1) • Details of water quality monitoring to be undertaken (Sections 5.2- 5.4) • Details of an expert workshop which was used to confirm data, model parameters and assumptions during development of the plan (Section 4.5). <p>The draft plan was provided to the Department on 24 January 2013 and, following revisions to address comments, was approved on 19 March 2013. Stage 3 then commenced on 22 March 2013.</p> <p>Upgrades to the Leanyer Sanderson Waste Stabilisation Ponds were completed in December 2018 (Leanyer Sanderson Waste Stabilisation Ponds Power and Water Corporation (powerwater.com.au)).</p> <p>The sections of the plan under the control of DHA have been implemented, and it has been confirmed that the Muirhead Subdivision had minimal influence on overall water quality.</p> <p>The Water Quality Improvement Plan includes actions for other catchment users that are outside the authority of DHA.</p>

Condition	Designation	Comments
<p>2. The person taking the action must undertake a nutrient fate modelling study (as described in a letter to the Department from Aurecon, dated 2 February 2011), to provide information on the dispersion and likely end fates of nutrients entering the creek from the Leanyer Sanderson waste stabilisation ponds, to offset water quality impacts at Buffalo Creek.</p> <p>Results of this modelling must be provided to the Department in a report, detailing:</p> <ol style="list-style-type: none"> the outcomes of an expert workshop held to confirm data, model parameter and assumptions to be used in the nutrient fate model; the objectives and outcomes of the nutrient fate modelling study; the model parameters used and estimates of uncertainty around the model prediction; and the modelling results in relation to the proposed options for upgrading to the Leanyer Sanderson waste stabilisation ponds. <p>This report must be provided to the Department within twelve months of this approval. At this time, copies of the report must also be provided to the Northern Territory Environmental Protection Agency (EPA), the Northern Territory Department of Natural Resources, Environment, and the Arts (NRETAS), the Northern Territory Power and Water Corporation and the Australian Institute of Marine Science (AIMS).</p>	<p>Compliant</p>	<p>A detailed conceptual model of nutrient flows was developed that identified major sources of nutrients, and how those nutrients move through the creek system (Aurecon, 2012).</p> <p>The Nutrient Fate Modelling Report was prepared, which included:</p> <ul style="list-style-type: none"> The objectives and outcomes of the study (Section 2) The outcomes of an expert workshop (Section 3) The model parameters used (Section 4) The modelling results, including potential impacts on water quality resulting from upgrades to the Leanyer-Sanderson waste stabilisation ponds (Section 5). <p>The draft report was provided to the Department on 27 March 2012 and, following revisions to address comments, was approved on 10 September 2012. The report was then provided to Northern Territory Government agencies, and other expert stakeholders including:</p> <ul style="list-style-type: none"> The Northern Territory Environment Protection Agency The Northern Territory Department of Natural Resources Environment and the Arts The Northern Territory Power and Water Corporation The Australian Institute of Marine Science, and Charles Darwin University. <p>The final report has been published and is available at: Nutrient Fate Model Close Out Report (dha.gov.au).</p>

Condition	Designation	Comments
<p>3. The person taking the action must develop a Stormwater Management Plan, to avoid adverse offsite water quality impacts, for the Minister's approval. The plan must address the following requirements:</p> <ul style="list-style-type: none"> a. finalised stormwater attenuation device plans for the Muirhead development; b. modelling to demonstrate that the stormwater attenuation devices will achieve the stormwater quality objectives stated on page 7 of the Northern Territory government's Water Sensitive Urban Design Planning Guide - Final, May 2009; and c. details of a stormwater runoff monitoring program to demonstrate compliance with the stormwater quality objectives and to validate the stormwater model. <p>The Stormwater Management Plan must be approved by the Minister before the person taking the action commences any works beyond Muirhead Stage 1.</p> <p>The approved plan must be implemented.</p>	<p>Compliant</p>	<p>A Stormwater Management Plan was developed (SMEC, 2009), which included:</p> <ul style="list-style-type: none"> • An overview of the development and climate (p.9-15) • Site data collection and inspections (p.17) • Water conservation measures, including Water Sensitive Urban Design principles (p.24-43) • Management of stormwater during construction (p.44-47), and • Operation and maintenance for the completed development (p.49). <p>The plan was provided to the Department on 12 February 2012, and was approved on 18 April 2012, prior to the commencement of Stage 2 works.</p> <p>The plan was implemented at all stages of development.</p> <p>During the west season preceding 2016, it was noted that parts of the Stage 6 detention basin and outfall drain were collecting water. Both the Stormwater Management Plan and the Biting Insect Management Plan (Aurecon, 2012) state that standing water should not occur within the stormwater management system, to prevent mosquito breeding. In response, minor changes were made to detention basins, including:</p> <ul style="list-style-type: none"> • Installation of a debris gate at outlet culverts to prevent material collecting against the outlets, and • Installation of a subsoil drainage system. <p>These works did not change the overall design of the stormwater system, or change the discharge point from the site. The Northern Territory Government approved the civil works required to implement the changes in 2017, and they were constructed in 2017-19. The changes have successfully prevented water from ponding in retention basins during rainfall events.</p>

Condition	Designation	Comments
<p>4. The person taking the action must develop a Biting Insect Management Plan, to avoid adverse impacts on human health, for the Minister's approval.</p> <p>The plan must address the following requirements:</p> <ul style="list-style-type: none"> a. details of implementation of the recommendations from the Muirhead Biting Insect Assessment, February 2008 for which Defence Housing Australia is the responsible party (as described in Table 7 in Section 10 .3.1 of the preliminary documentation, dated 29 November 2010); b. a plan to rectify the biting insect breeding sites identified in Figure 6 in Section 10.3.3 of the preliminary documentation, dated 29 November 2010, that occur within 1 km of the project boundary; c. demonstrate that all reasonable efforts have been made to gain agreement with the relevant authority/s to proceed with 4. b); d. adequate funding must be offered to the relevant authority/s to achieve 4. b); and e. a plan to assess and manage the environmental impacts associated with 4. b). <p>The Biting Insect Management Plan must be approved by the Minister before the person taking the action commences any works beyond Muirhead Stage 1.</p> <p>The approved plan must be implemented.</p>		<p>A detailed survey of potential habitat for biting insects was undertaken in 2010-11. A Biting Insect Management Plan (Aurecon, 2012) was prepared, which included:</p> <ul style="list-style-type: none"> • Details of biting insect species (section 2.1) • Potential habitat within, and adjacent to, the site (Sections 2.2.1-2.2.2) • Control requirements (Sections 3.1-3.2) • Options for habitat modification (Section 3.3), and • Ongoing monitoring to address approval conditions (Section 3.4). <p>The plan was provided to the Department on 21 February 2012, and was approved on 18 April 2012, prior to Stage 2 works commencing.</p> <p>The plan was implemented at all stages of development, and components were incorporated into the Stormwater Management Plan to prevent water ponding in retention basins.</p> <p>Note that funding for the relevant authorities required by condition 4d was not applicable.</p>

Condition	Designation	Comments
5. The person taking the action must comply with paragraph 3 (c) in the table under paragraph 3 (b) of the amendment to the Northern Territory Planning Scheme dated 28 October 2009 (Amendment No. 70), pertaining to the sewage treatment plant buffer zone on Lot 9737.	Compliant	The buffer zone required by the Northern Territory Planning Scheme was incorporated into the development's layout designs. No changes to layout designs have taken place and the development has not encroached into the sewage treatment plant buffer zone.
6. In the event of a discovery of a heritage place or item (including an object) within the project area, the person taking the action must: <ol style="list-style-type: none"> a. cease work within the vicinity of the discovery and barricade the area from further disturbance; b. consult the Heritage Branch of the NT Department of Natural Resources, Environment, the Arts and Sport (NRETAS) and the Defence Heritage and Biodiversity Conservation (DHBC) section in the Defence Support Group; and c. document, salvage and store the discovery, and otherwise act in accordance with the advice of NRETAS and DHBC, prior to any recommencement of work within 20m of the discovery. 	Compliant	No heritage places or items were discovered within the project area. Construction is now complete, and no further disturbance is expected.

Condition	Designation	Comments
<p>7. The person taking the action must undertake a Habitat Assessment Survey for the Water Mouse (<i>Xeromys myoides</i>) at the Casuarina Coastal Reserve and Buffalo Creek Management Area to determine the status of the species in the region. This survey must meet the following requirements:</p> <ol style="list-style-type: none"> identify potential areas of habitat within the Casuarina Coastal Reserve and the Buffalo Creek Management Area, and conduct surveys for the Water Mouse within both of these areas; provide details of the quality of the habitat in these areas, including details on the quality of the vegetation, weeds, available food sources and potential predators, and any impact of recreation on habitat quality; ensure that surveys are undertaken in accordance with the required minimum survey effort guidelines as stated in the Significant impact guidelines for the vulnerable water mouse (<i>Xeromys myoides</i>) - Background Paper to EPBC Act policy statement 3.20; and ensure that surveys are undertaken by a suitably qualified expert in fauna surveying. <p>The person taking the action must provide the Department with a report detailing the findings of the surveys within twelve months of the date of this approval.</p>	<p>Compliant</p>	<p>A survey of potential habitat for water mouse was undertaken in 2011 by suitably qualified ecologists, in accordance with Commonwealth survey guidelines (Aurecon, 2012). A report was prepared which included:</p> <ul style="list-style-type: none"> Personnel undertaking the study, including National Parks and Wildlife Service Scientific Licences, confirming that they were suitably qualified ecologists (p. ii) Habitat assessment to target the surveys (Section 2.1) Trapping methodologies and program (Section 2.2.2) Survey results (Section 3). <p>No water mouse were detected during surveys, and survey results indicated that the species did not occur within, or adjacent to, the project area. The report concludes that the results from within the project area may be indicative of low population density in the Buffalo Creek Management Area, but presence of the species in that area cannot be ruled out. The report also concludes that the presence of water mouse in the Casuarina Coastal Reserve is unlikely.</p> <p>The report was provided to the Department on 21 February 2012 (within twelve months of the date of the approval) and was approved on 11 April 2012.</p>
<p>8. Within 10 business days from the commencement of the action, the person taking the action must advise the Department in writing of the actual date of commencement.</p>	<p>Compliant</p>	<p>The Department was notified immediately prior to commencement of the action in April 2011. The Department was notified of the commencement of Stages 2 and 3 of the action in April 2012 and March 2013 respectively.</p>

Condition	Designation	Comments
<p>9. By 31 March of each year after the commencement of the action, the person taking the action must publish a report on their website addressing compliance with the conditions of this approval over the previous 12 months, including implementation of any management plans as specified in the conditions. Non-compliance with any of the conditions of this approval must be reported to the Department at the same time as the compliance report is published. Annual reports must be provided until the Minister is satisfied that all conditions of this approval have been complied with.</p>	<p>Non-compliant</p>	<p>Annual reporting was completed for the years 2011-2015, and was published on the DHA website.</p> <p>Reporting was not completed in 2016 and 2017 due to an administrative error following changes in project management. On 28 November 2018, the Department wrote to DHA noting that they were unable to located annual compliance reports for the project. On 11 December 2018, DHA responded to the Department committing to provide a consolidated compliance report by the end of January 2019.</p> <p>A consolidated compliance report for the years 2016-2018 was published in 2019 to address the non-compliance.</p> <p>A compliance report for 2019 was not published in 2020 due to the COVID-19 pandemic. A consolidated compliance report for the years 2019-2020 was published in October 2020.</p> <p>Reporting was not completed in 2021 and 2022 due to business process changes within DHA.</p> <p>This report is a consolidated compliance report for the years 2021-2023 to address the non-compliance.</p> <p>Compliance reports are publicly available at: Breezes Muirhead, NT Residential developments Defence Housing Australia (dha.gov.au).</p>
<p>10. If the person taking the action wishes to carry out any activity otherwise than in accordance with the management plans or strategies referred to in Conditions 1, 3 and 4 the person taking the action must submit for the Minister's written approval a revised version of any such plan, report or strategy. The varied activity shall not commence until the Minister has approved the varied plan modify in writing. If the Minister approves such a revised plan, that plan must be implemented in place of the plan originally approved. Unless the Minister has approved the revised plan then the person taking the action must continue to implement the plan, report or strategy originally approved, referred to in Conditions 1, 3 and 4.</p>	<p>Compliant</p>	<p>No activities were undertaken otherwise than in accordance with the management plans or strategies listed in conditions 1, 3 and 4, and therefore no revised plans or strategies have been prepared.</p> <p>Supplementary works to prevent water ponding in retention basins were consistent with the approved Stormwater Management Plan and therefore no revisions to the plan required approval.</p>

Condition	Designation	Comments
<p>11. If the Minister believes that it is necessary or convenient for the better protection of threatened species or the environment from a Commonwealth action to do so, the Minister may request that the person taking the action make specified revisions to the plans, reports or strategies approved pursuant to Conditions 1, 3 and 4, and submit the revised plan, report or strategy for the Minister's written approval. The person taking the action must comply with any such request. The revised approved plan, report or strategy must be implemented. Unless the Minister has approved the revised plan, report or strategy, then the person taking the action must continue to implement the plan, report or strategy originally approved, referred to in Conditions 1, 3 and 4.</p>	<p>Not applicable</p>	<p>DHA has not received any requests from the Minister or the Department to revise approved plans, reports or strategies.</p>
<p>12. If, at any time after five years from the date of this approval, the person taking the action has not substantially commenced the action, then the person taking the action must not substantially commence the action without the written agreement of the Minister.</p>	<p>Not applicable</p>	<p>The action commenced in April 2011, within five years of the date of this approval. Construction is now complete.</p>
<p>13. The person taking the action must maintain accurate records substantiating all activities associated with or relevant to the above conditions of approval, including measures taken to implement the management plans or reports required by this approval, and make them available upon request to the Department. Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Department's website. The results of audits may also be publicised through the general media.</p>	<p>Compliant</p>	<p>DHA has maintained consistent and thorough records, substantiating all activities associated with the above conditions of approval.</p>

Condition	Designation	Comments
14. Unless otherwise agreed to in writing by the Minister, the person taking the action must publish all management plans and reports referred to in these conditions of approval on their website for the duration of the works. Each plan, report, system and program must be published on the website within 1 month of being finalised.	Compliant	All plans and reports referred to in the above conditions of approval are publicly available at: Breezes Muirhead, NT Residential developments Defence Housing Australia (dha.gov.au) .
Current project status	Compliant	Construction was completed in 2020, the action is now complete.

