

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

Annual Report 2016 - 2018

FINAL

February 2019

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Annual Report 2016 - 2018

FINAL

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

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Document Status

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	Name	Date	Name	Date
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1.0 Description of Activities

In May 2010, Defence Housing Australia (DHA) (the Proponent) submitted a referral under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) for the development of a 1,211 dwelling residential subdivision (the Development) on a 167.6 ha land parcel in the northern suburbs of Darwin, NT (the Project Area) referred to as the **'Muirhead Subdivision' (EPBC 2010/5525)**.

On 2 July 2010, the Department of the Environment and Energy (the Department) advised that it had determined that the Proposed Development was a Controlled Action and the Development was subsequently assessed through Preliminary Documentation.

The Proposed Development was determined to have the potential to have a significant impact on the environment through a Commonwealth action under Section 28 of the EPBC Act and was therefore defined as a Controlled action. Following environmental assessment and the preparation of Preliminary Documentation, the action was approved subject to conditions in March 2011.

Several of these conditions required some degree of on-going work and included studies and the implementation of site environmental management plans.

This compliance report covers project actions from 2016 through to the end of 2018.

2.0 EPBC Approval Conditions and Compliance

The approval for the Muirhead Subdivision was issued on 30 March 2011 and included 14 conditions of approval. These conditions range from prohibitions to development in specific areas, to the management of construction and the provision of specific management plans. The latter are tied to specific stages of the Development. A summary of the conditions of approval and current compliance status is provided in **Table 1** below:

Table 1 Compliance Table

Condition	Approval Condition	Compliant/Non-Compliant/Not Applicable	Status
1	<p>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> <p>a) planned stages and timeline of the Muirhead Subdivision;</p> <p>b) milestones of upgrades to be undertaken by Power and Water Corporation at the Leanyer Sanderson waste stabilisation ponds;</p> <p>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</p> <p>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>	Compliant	<p>Development was undertaken in a staged manner. Prior to Stage 3 commencing, the Buffalo Creek Water Quality Improvement Plan was prepared, which included:</p> <ul style="list-style-type: none"> - Stages and timeline for the Muirhead Development (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 accepted as final on 19 March 2013 (prior to Stage 3 commencing – 22 March 2013).</p> <p>The sections of the plan under the control of DHA have been implemented.</p>

Condition	Approval Condition	Compliant/Non-Compliant/Not Applicable	Status
	<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>		
2	<p>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> <ul style="list-style-type: none"> a) the outcomes of an expert workshop held to confirm data, model parameter and assumptions to be used in the nutrient fate model; b) the objectives and outcomes of the nutrient fate modelling study; c) the model parameters used and estimates of uncertainty around the model prediction; and d) 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>	Compliant	<p>A detailed conceptual model of nutrient flows was developed that identified the major sources of nutrients, and how these move through the creek system.</p> <p>The draft report was prepared and submitted to the Department on 27 March 2012, containing details on:</p> <ul style="list-style-type: none"> - The objectives and outcomes of the study (Section 2) - The outcomes of the expert workshop (Section 3) - The model parameters used (Section 4) and - The modelling results (Section 5). <p>Following review and revisions in response to comments the final plan was accepted by the Department on 10 September 2012.</p> <p>The Nutrient Fate Model was then provided to the NT Government agencies, including the Northern Territory Environmental Protection Agency (EPA), and the Northern Territory Department of Natural Resources, Environment, and the Arts (NRETAS).</p> <p>Copies were also provided to the participants in the expert workshop held during the development of the nutrient fate model. These included the Northern Territory Power and Water Corporation and the Australian Institute of Marine Science (AIMS) as well as, researchers at Charles Darwin University and the Department of the Environment and Energy.</p>

Condition	Approval Condition	Compliant/Non-Compliant/Not Applicable	Status
3	<p>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>	Compliant	<p>A comprehensive stormwater management plan was developed covering the following parts of the design:</p> <ul style="list-style-type: none"> - Overview of the Development and climate - Site data collection and inspections - Water Conservation Measures, including Water Sensitive Urban Design principles - Management of stormwater during construction - Operation and maintenance for the completed development. <p>The Plan was submitted to the Department on 21 February 2012, prior to Stage 2 works commencing (April 2012). It was accepted by the Minister for the Environment 18 April 2012.</p> <p>The plan has been implemented at all stages of the development.</p> <p>During the wet season preceding 2016 it was noted that parts of the Stage 6 detention basin and outfall drain were collecting water. Under the terms of both the Biting Insect Management Plan and the Stormwater Management Plan (SMEC 2009, p.43) standing water should not occur within the stormwater management system to prevent mosquito breeding.</p> <p>Minor changes were made to the detention basins, including:</p> <ul style="list-style-type: none"> - Installation of a debris grate at the outlet culverts to prevent material collecting against the outlets - Installation of a subsoil drainage system <p>These works did not change the overall design of the stormwater system, nor did they change the discharge point from the site. Civil works to implement these changes were approved by the NT Government in 2017 and constructed during 2017/18. Construction of the stormwater upgrades is now complete and has prevented water from ponding in these detention basins during rainfall events.</p>

Condition	Approval Condition	Compliant/Non-Compliant/Not Applicable	Status
4	<p>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> <p>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);</p> <p>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;</p> <p>c) demonstrate that all reasonable efforts have been made to gain agreement with the relevant authority/s to proceed with 4. b);</p> <p>d) adequate funding must be offered to the relevant authority/s to achieve 4. b); and</p> <p>e) a plan to assess and manage the environmental impacts associated with 4. b).</p> <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>	Compliant	<p>A detailed survey of potential habitat was carried out in 2010/2011, and this was used to develop a specific Biting Insect Management Plan for the site. The Plan contained details on:</p> <ul style="list-style-type: none"> - Biting insect species (Section 2.1) - Potential habitat within and adjacent to the site (Sections 2.2.1 and 2.2.2) - Control requirements (Sections 3.1 & 3.2) - Options or habitat modification (Section 3.3) and ongoing monitoring (section 3.4). <p>The draft plan was submitted to the Department 21 February 2012 (prior to Stage 2 commencement – April 2012).</p> <p>The final plan was approved by the Department on 18 April 2012.</p> <p>The plan has been implemented, and components were incorporated into the Stormwater Management Plan to prevent standing water from being created within the site.</p>
5	<p>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.</p>	Compliant	<p>The buffer zone was incorporated into layout designs.</p> <p>No changes to layout designs have taken place, and the development has not encroached into the sewage treatment plant buffer zone, nor has this zone changed.</p>

Condition	Approval Condition	Compliant/Non-Compliant/Not Applicable	Status
6	<p>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:</p> <p>a) cease work within the vicinity of the discovery and barricade the area from further disturbance;</p> <p>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</p> <p>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.</p>	Compliant	<p>No heritage items have been detected within construction areas to date.</p> <p>Construction is now complete and no further ground disturbance is expected or likely.</p>
7	<p>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> <p>a) 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;</p> <p>b) 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;</p> <p>c) 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</p> <p>d) ensure that surveys are undertaken by a suitably qualified</p>	Compliant	<p>Surveys of potential habitat areas for Water Mouse were undertaken during 2011 using the recognised method to establish presence/absence of the species.</p> <p>A report detailing the study was submitted to the Department 21 February 2012 (which was within 12 months of the date of approval).</p> <p>The report included details of:</p> <ul style="list-style-type: none"> - Habitat assessment to target the surveys (Section 2.1) - Trapping Methodology & intensity (Section 2.2) - Results of the survey (Section 3) <p>No Water Mouse were detected during the trapping program, and sufficient survey intensity was conducted to establish that the species does not occupy the site or adjacent areas.</p> <p>The report was accepted and approved by the Department on 11 April 2012.</p>

Condition	Approval Condition	Compliant/Non-Compliant/Not Applicable	Status
	<p>expert in fauna surveying.</p> <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>		
8	<p>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>	Compliant	<p>The action commenced in April 2011</p> <p>The Construction start date was noted in correspondence to the Department immediately before construction commenced.</p> <p>Notification of Stage 2 commencement was sent to the Department in April 2012.</p> <p>Notification of construction commencement for Stage 3 was provided to the Department on 22 March 2013.</p>
9	<p>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>	Non-Compliant	<p>Annual reporting was completed 2011 through to 2015 and published on the project website.</p> <p>Reporting was not completed in 2016 and 2017 due to an administrative error following changes in project management.</p> <p>On 28 November 2018 the Department wrote to DHA noting that they had been unable to locate annual compliance reports on the project.</p> <p>DHA responded to the Department on 11 December 2018 committing to provide a consolidated compliance report by the end of January 2019.</p> <p>This consolidated compliance report covers activities undertaken during 2016, 2017 and 2018 to rectify the non-compliance.</p>
10	<p>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</p>	Compliant	<p>No changes to either the form or implementation of current plans are expected or likely.</p> <p>As noted above, supplementary works were undertaken to prevent standing water from ponding into stormwater control structures during 2017/18; however these works were in line with the approved Stormwater Management Plan and did not</p>

Condition	Approval Condition	Compliant/Non-Compliant/Not Applicable	Status
	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.		require any revisions to the plan, hence did not trigger approval by the Department.
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.	Not Applicable	No request for changes to either the form or implementation of current plans has been received. As noted above, supplementary works were undertaken to prevent standing water from ponding into stormwater control structures during 2017/18 which were in line with the approved Stormwater Management Plan.
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	Not Applicable	This condition is not applicable as construction commenced in April 2011 and is now nearing completion.
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	Compliant	Records of site activities have been maintained by DHA. Ongoing reporting procedures through Construction Environmental Management Plans are in place, with reporting mechanisms developed to control environmental impacts.

Condition	Approval Condition	Compliant/Non-Compliant/Not Applicable	Status
	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		
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	Plans have been published on the project website.
-	Current Project Status	-	Construction to be completed in 2019, at which time all ongoing conditions will be closed out.

3.0 Correcting Non-Compliance

On 28 November 2018 the Department wrote to DHA noting that they had been unable to locate annual compliance reports on the project.

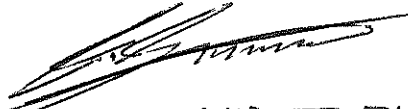
DHA responded to the Department on 11 December 2018 explaining that the failure to prepare annual reports occurred due to an administrative error during a change in project management teams. DHA committed to provide a consolidated compliance report covering the outstanding years by the end of January 2019.

This consolidated compliance report covers activities undertaken during 2016, 2017 and 2018 and is intended to rectify this non-compliance. In future the requirement to provide annual reports of compliance will be included in project control systems to prevent future lapses in reporting.

4.0 Declaration of Accuracy

In making this declaration, I am aware that sections 490 and 491 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (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): DHA 161 662 255.

Date: 15/02/2019.



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