

19 June 2024

Keylan Consulting

Attn: Dan Keary

Dear Dan,

Bushfire Review – Sydney Quarantine Station North Head

Peterson Bushfire was engaged by North Head Sydney Pty Ltd to undertake an independent review of the operational aspects of bushfire management at the Sydney Quarantine Station (Q Station) to inform the preparation of a Review of Environmental Factors (REF) for the proposed continuation of the existing approval for the use of the site (Q Station).

This report outlines the objectives, review process and findings, and lists recommendations that can be included in the REF as conditions of approval.

1. Background and purpose

Q Station has planning approval issued in 2003 for the “adaptative re-use of the North Head Quarantine Site for cultural purposes”, which includes “Key Site Activities” comprising: restaurant,

tourist accommodation, visitor centre & museum, guided tours, environmental and cultural study centre and functions and events.

The current approval is due to expire in December this year and a new approval for continuation of use beyond December is sought under Part 5 of the *Environmental Planning & Assessment Act 1979* via the REF process. As part of the REF, there will be no change to the Key Site Activities or any physical works.

The purpose of the bushfire review was to determine whether the operational bushfire management at the site is adequate for the use whilst considering that the use is an existing one that has a current approval and bushfire management needs to be achieved within an environment constrained by heritage and ecology. The review was to consider the existing bushfire management strategies and emergency planning.

2. Site location and proposal

The Q Station site is located within the Sydney Harbour National Park on North Head, Manly (Figure 1). The land leased by Q Station from NPWS is Lot 100 DP 1075571 (Figure 2) and incorporates all the buildings on the western side of North Head and including the access road up to the Q Station reception building and car park.

The proposal subject to the REF is the continuation of existing uses at Q Station, being the “Key Site Activities” comprising of restaurant, tourist accommodation, visitor centre & museum, guided tours, environmental and cultural study centre and functions and events. There are no changes proposed to the Key Site Activities and physical works are also not proposed.

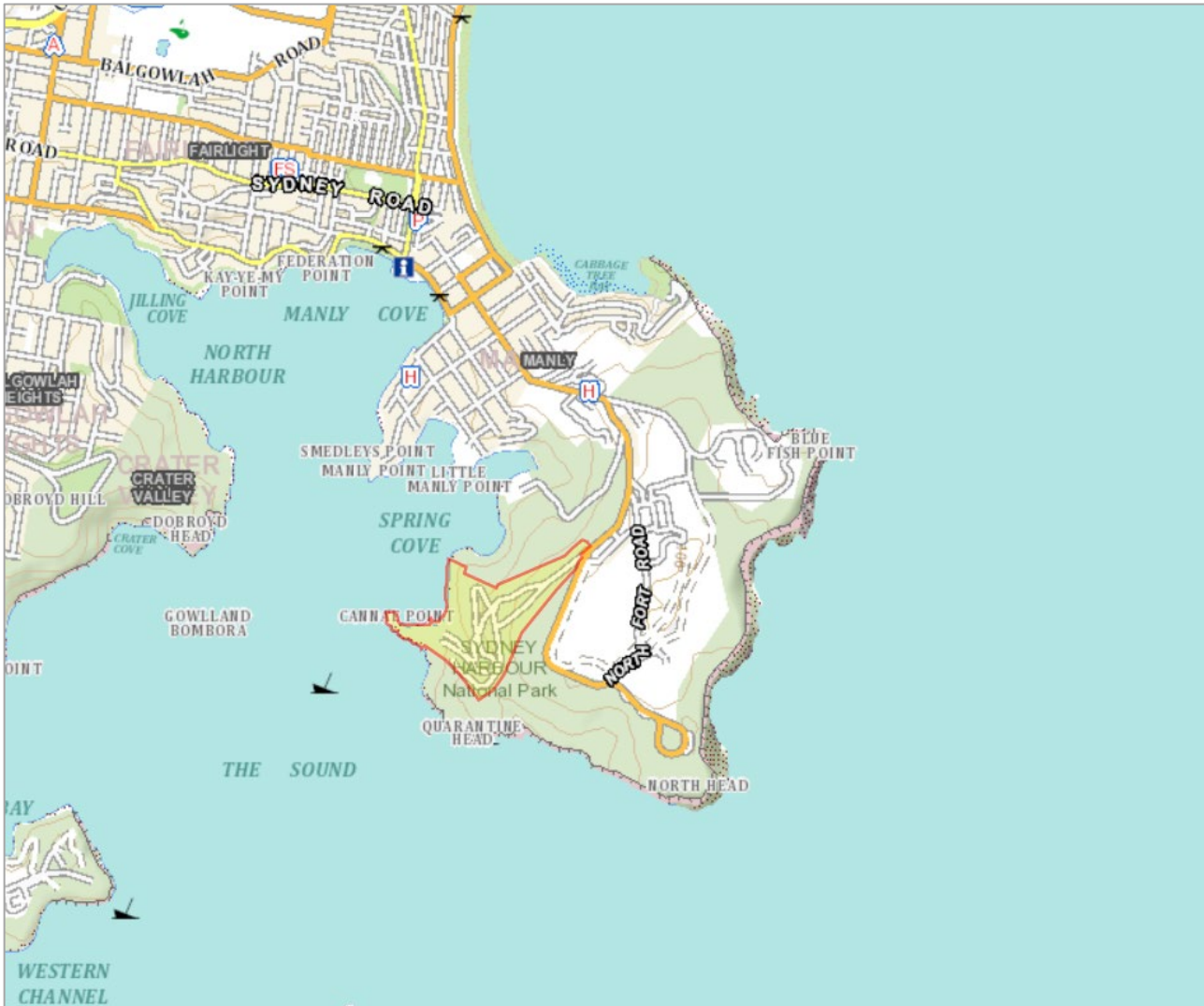


Figure 1: Location of Q Station within Sydney Harbour National Park, North Head, Manly (SIX Maps)



Figure 2: Q Station site boundary (SIX Maps)

3. Assessment methodology

The review into bushfire management consisted of examination of relevant plans and procedures, assessment of mapping layers, site inspection, and consultation with stakeholders as outlined below.

- The following plans and procedures were reviewed:
 - 'North Head Precinct Fire Management Strategy 2009-2014' (DEC 2009)
 - 'North Head Quarantine Station Environmental & Heritage Site Wide Management Plan 2023: Appendix 17 Draft Emergency and Evacuation Plan' (NPWS 2023)
 - 'Manly, Mosman, North Sydney Bush Fire Risk Management Plan' (Manly, Mosman, North Sydney Bush Fire Risk Management Committee 2010)
 - 'Statement of Fire Management Intent Sydney Harbour – Kamay Botany Bay Fire Planning Landscape' (NPWS 2023)
- The following mapping layers were assessed:
 - Property information on *SIX Maps*
 - Aerial imagery (25 February 2024) on *Nearmap*
 - Vegetation mapping (SVTM) on *SEED (Sharing and Enabling Environmental Data)*
 - Topography (2 m contours) on *Spatial Map Viewer*
 - Bushfire prone land mapping on *NSW Planning Portal Spatial Viewer*
 - Land zoning on *NSW Planning Portal Spatial Viewer*
- The following stakeholder consultation occurred:
 - NPWS – Victor Harnadi - Acting Environmental Manager, North Head Quarantine Station (via email)
 - Q Station – Paul Corry – Head of Operations, Meridian Australia (via on site meeting and email)
- An inspection of the site and current state of bushfire management measures occurred on 10th April 2024.

4. Bushfire assessment requirements

Assessing and managing bushfire risk for existing buildings differs greatly to the process required for new development. New development is to comply with the NSW Rural Fire Service (RFS) document 'Planning for Bush Fire Protection 2019' (PBP) whereby APZ dimensions are specified based on building compliance with a Bushfire Attack Level (BAL), and access roads and water supply can satisfy requirements that can be achieved by the installation of new infrastructure at a development site.

Existing buildings often pre-date contemporary bushfire protection requirements and, in most cases, are unable to comply with PBP. Compliance with PBP is therefore not required.

Bushfire management planning for existing buildings and facilities is a risk-based exercise as adopted by agencies such as RFS for the state-wide bushfire risk management planning process and NPWS for reserve fire management planning. The bushfire risk is evaluated in the context of the landscape, the vulnerability of the asset/use, and constraining factors (e.g. environment and heritage), and a suite of risk mitigating measures is proposed and prioritised.

The 'North Head Precinct Fire Management Strategy 2009-2014' (DEC 2009) and 'Manly, Mosman, North Sydney Bush Fire Risk Management Plan' (Manly, Mosman, North Sydney Bush Fire Risk Management Committee 2010) were both prepared using a risk approach based on accepted methodologies designed to address bushfire risk to existing uses.

5. Review findings

5.1 Bushfire management framework

There are two site-specific bushfire management planning documents that apply to Q Station. These are:

- 'The North Head Precinct Fire Management Strategy 2009-2014' (DEC 2009), referred to as the Fire Management Strategy.
- 'North Head Quarantine Station Environmental & Heritage Site Wide Management Plan 2023: Appendix 17 Draft Emergency and Evacuation Plan' (NPWS 2023), referred to as the Emergency and Evacuation Plan.

These documents sit under the strategic bushfire risk management plan which, at the time of writing, is 'Manly, Mosman, North Sydney Bush Fire Risk Management Plan' (Manly, Mosman, North Sydney Bush Fire Risk Management Committee 2010). The risk plan identifies Q Station as an asset at risk and specifies and prioritises risk treatment strategies. The NPWS Fire Management Strategy has been prepared to deliver the risk treatment strategies and facilitates achieving the fire management objectives of the 'Statement of Fire Management Intent Sydney Harbour – Kamay Botany Bay Fire Planning Landscape' (NPWS 2023) and the policy and procedures of the Fire Management Manual (NPWS 2023).

This fire management planning structure has been created and adopted to address bushfire risk for existing buildings and delivers an appropriate bushfire management framework for Q Station.

5.2 Fire Management Strategy

'The North Head Precinct Fire Management Strategy 2009-2014' (Fire Management Strategy) is the primary bushfire management planning document for Q Station. It guides the bushfire management strategies and operational direction for fire suppression at Q Station and all assets in the North Head precinct of Sydney Harbour National Park. The Fire Management Strategy has been reviewed in detail and is considered adequate for the appropriate and acceptable risk mitigation for Q Station.

The land is divided into Fire Management Zones with corresponding strategies. It is noted that the APZs to buildings are minimal, however provide the strategy of defensible space. It is apparent that the APZ dimensions are a function of the ecology and heritage constraints on site.

The heritage aspects of the site may prevent the implementation of further protection measures such as increased APZs or increased construction standards. This approach is acceptable within the bushfire management planning framework for the site. The residual risk that remains is to be addressed by operational strategies specified by the Fire Management Strategy and the emergency management and evacuation planning (refer to Section 5.3 below).

Recommendations

The following recommendations are made for the bushfire management strategies at Q Station:

1. The pillar hydrants located around Q Station should be noted on the Fire Management Strategy as 'WV' (water point vehicle) as shown on Figure 5 of the Emergency and Evacuation Plan.
2. The fuel tank on the northern side of Building A18 should have an APZ/defensible space.
3. A large proportion of APZs as mapped have not been maintained. It is recommended that an initial maintenance round occur prior to the commencement of the Bush Fire Danger Period (2024), and preferably prior to spring, with an implementation and maintenance regime for all APZs to occur regularly thereafter. It is further recommended that discussions with NPWS continue in relation to an implementation and maintenance regime for all APZs.
4. Action within the SFAZs as mapped does not appear current/maintained. It is recommended that the approval 'REF Quarantine Station Clearing, Trimming and Management of Vegetation' (NPWS 2009) (as referred in Fire Management Zone table of the Fire Management Strategy) be reviewed, updated as necessary and actioned.
5. Due to the age of Fire Management Strategy, it is not known whether the vegetation communities are within the desired fire threshold or approaching 'underburnt' (particularly for the areas not affected by the 2020 fire). It is recommended that a prescribed burning plan be prepared for the maintenance of biodiversity within the LMZ which will complement the APZ and SFAZ objectives.

5.3 Emergency and Evacuation Plan

Appendix 17 of the 'North Head Quarantine Station Environmental & Heritage Site Wide Management Plan 2023' contains the draft Emergency and Evacuation Plan for Q Station. Last review of the draft was in November 2023, and it assumed that the plan will be finalised prior to REF approval.

The Emergency and Evacuation Plan is a critical planning and procedures document as it addresses the residual risk that may remain after application of the Fire Management Strategy. The protection of life at Q Station relies significantly on emergency planning. This is due to the fact that APZs and buildings are not designed to prevent building ignition and failure.

The Emergency and Evacuation Plan has been reviewed and the framework and principles are considered adequate for the appropriate and acceptable response to bushfire emergency and evacuation at Q Station. It is noted that the plan is in draft stage and is soon to be finalised, including the preparation of an A3 site layout map for bushfire evacuation (refer to page 27 of the draft plan).

6.0 Conclusion and recommendations

The review concluded that the operational bushfire management arrangements at Q Station are adequate and acceptable within the set bushfire management framework. The strategies have been developed based on bushfire risk, vulnerability, and significant site constraints.

An effective level of protection at any site is achieved by the application of a suite of measures. At Q Station, the measures are detailed within the Fire Management Strategy and Emergency and Evacuation Plan. The emergency planning for a bushfire event is for whole of site evacuation. This strategy is in response to constraints at the site limiting APZ dimension and retrofitting buildings for bushfire protection.

Recommendations made within this review are listed in full below. With the adoption of the recommendations, the bushfire management at Q Station is considered adequate for the continuation of the proposed use. Actioning the recommendations is to be a condition of consent.

Recommendations

1. The pillar hydrants located around Q Station should be noted on the Fire Management Strategy as 'WV' (water point vehicle) as shown on Figure 5 of the Emergency and Evacuation Plan.
2. The fuel tank on the northern side of Building A18 should have an APZ/defendable space. A minimum 10 m defendable space is recommended around all sides. The 10 m should be a fuel-free zone with only mown/slashed groundcovers and/or mulch.
3. A large proportion of APZs as mapped have not been maintained. It is recommended that an initial maintenance round occur prior to the commencement of the Bush Fire Danger Period (2024), and preferably prior to spring, with regular maintenance to occur thereafter. The development of an implementation and maintenance regime is only to occur after discussions with NPWS.
4. Action within the SFAZs as mapped does not appear current/maintained. It is recommended that the approved 'REF Quarantine Station Clearing, Trimming and Management of Vegetation' (NPWS 2009) (as referred in Fire Management Zone table of the Fire Management Strategy) be reviewed, updated as necessary and actioned.
5. Due to the age of Fire Management Strategy, it is not known whether the vegetation communities are within the desired fire threshold or approaching 'underburnt' (particularly for the areas not affected by the 2020 fire). It is recommended that a prescribed burning plan be prepared for the maintenance of biodiversity within the LMZ which will complement the APZ and SFAZ objectives.

Please don't hesitate to call on the number below to discuss the review findings.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'David Peterson', written in a cursive style.

David Peterson
Director

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