

Ms Alice O'Hara
Salamander Properties Pty Ltd ATF
147 Soldiers Point Road,
PORT STEPHENS NSW 2317

18th March 2022

Dear Alice,

PROPOSED REDEVELOPMENT OF BANNISTERS RESORT, SOLDIERS POINT RESPONSE TO DEPARTMENT OF PLANNING (WATER) SUBMISSION ON MOD MP06_0183

I refer to the Modification to the existing Part 3A Concept Approval for the proposed redevelopment of Salamander Shores Hotel at Soldiers Point in Port Stephens (MOD MP06_0183). The Modification was submitted with supporting documentation in November 2021 and publicly exhibited for a period of 6 weeks up to 21st January 2022.

The supporting documentation included a report prepared by Advisian titled, '*Bannisters Resort Redevelopment, Soldiers Point – Water Management, Flooding and Coastal Processes Addendum Report*' (November 2021). This report serves as a supplementary statement to the Water Management, Flooding and Coastal Process Report that was published in 2010 in support of the original Concept Plan for the redevelopment of the hotel that was proposed at that time¹. The Addendum Report considers the changes to the development proposal outlined in the MOD and addresses relevant changes to statutory legislation and guideline criteria that have been adopted since the original Concept Plan was approved.

During exhibition of the MOD, the Advisian Addendum Report was reviewed by a number of agencies including the Department of Planning, Industry & Environment (Water) (DPIE Water) and the Natural Resources Access Regulator (NRAR), which request that additional information be provided to quantify the potential water take due to aquifer interference associated with construction of the basement carpark that is proposed as part of the modified proposal. The DPIE Water submission contends that the modification report does not reference the NSW Aquifer Interference Policy (AIP) or identify the licensing implications for the potential groundwater take.

The following outlines Advisian's formal response to the issues raised by DPIE Water.

1. Background

The NSW AIP aims to explain the role and requirements of the Minister responsible for administering the *Water Management Act 2000* in the water licensing and assessment processes for aquifer interference activities. It also provides guidance to proponents on the information and studies required by the Minister in the assessment of project proposals that have some level of aquifer interference.

The *Water Management Act 2000* defines an aquifer interference activity as that which involves any of the following:

- the penetration of an aquifer,
- the interference with water in an aquifer,
- the obstruction of the flow of water in an aquifer,

¹ Salamander Shores Hotel Pty Ltd (2010), '*Water Management, Flooding and Coastal Processes Report*', prepared by WorleyParsons

- the taking of water from an aquifer in the course of carrying out mining or any other activity prescribed by the regulations, and
- the disposal of water taken from an aquifer in the course of carrying out mining or any other activity prescribed by the regulations².

2. Assessment of Potential for Water Take and Licensing Requirements

The Water Management, Flooding and Coastal Process Report that was published in 2010³ established that the original proposal that formed part of the Concept Approval that was secured in 2011 did not present any groundwater issues. It based this conclusion on the following reasons.

- (i) No additional bores or groundwater extraction were proposed as part of the redevelopment; and,
- (ii) Although some interception of local groundwater into the basement carpark may occur from time to time, this would be collected and drained/pumped to the sewer network.

The above is still the case for the Modified proposal. Accordingly, the proposed redevelopment of the Salamander Shores Hotel will not involve any additional water take that could be construed to equate to additional groundwater extraction from the site.

The hotel currently has a licence to extract groundwater for the irrigation of gardens via an existing bore. The bore will continue to be used as part of the redeveloped site with no changes to the current extraction rates or licensing. With no changes to the current groundwater use, the proposed redevelopment is not expected to affect groundwater levels in the area. Hence, many of the provisions and requirements of the NSW AIP are not relevant to the works proposed under the MOD.

Notwithstanding, it is acknowledged that even though no additional groundwater take is proposed, there is potential for the works associated with construction of the basement car park to “interfere” with the aquifer that sits below the site.

3. Assessment of Potential for Groundwater Interception

The 2010 WorleyParsons Report considered the potential for groundwater interception. The following is an extract from Section 10.2 of that report which describes the local groundwater system at the site.

The site is sitting on a large rock mass of high strength rhyodacite which is a form of volcanic rock. According to a report prepared by Coffey Geotechnics in 2009, the groundwater behaviour in the rock mass is controlled by the defects in the rock mass which allow rainfall recharge from the overlying aeolian sandy soils to infiltrate to the water table which was found to be between 1 and 2.6 m below ground level. The surface of the site is covered with aeolian soils to a maximum depth of 0.5 m followed by a layer of extremely weathered rhyodacite rock up to a maximum depth of 0.8 m above fresh rhyodacite. The Coffey Geotechnics Report cited the probability of perched groundwater located at the contact between the relatively permeable aeolian sands and low permeability weathered rhyodacite after periods of heavy or prolonged rainfall.

Currently, the majority of the site surface is impervious, being dominated by the roofs of the existing buildings and the sealed at surface carparking areas. This limits the amount of infiltration that can occur into the groundwater system. The proposed redevelopment of the site will result in a 5 to 10% increase

² NSW Aquifer Interference Policy (2012) NSW Department of Primary Industries ISBN 978 1 74256 338 1

³ . Salamander Shores Hotel Pty Ltd (2010), ‘Water Management, Flooding and Coastal Processes Report’, prepared by WorleyParsons

in pervious area which would marginally increase the amount of infiltration that could occur into the local groundwater system.

However, as was the case with the original proposal, this is not considered to be sufficient to manifest as a significant change to the existing situation. Therefore, the proposed redevelopment will have no adverse impact on groundwater levels or quality.

As noted, there is potential for the perched groundwater located above the weathered rhyodacite (*refer above*) to be intercepted by the basement car park. In the context of the *Minimal Impact Considerations for Aquifer Interference Activities* outlined in the NSW AIP, this aquifer would be classified as a "less productive" groundwater source originating from porous and/or fractured rock. This triggers a requirement for consideration of whether the activity that may lead to interference with this groundwater source has the potential to impact on the water table level, the water pressure in the aquifer and the quality of the groundwater.

However, due to the minor size of the car park footprint relative to the size of the groundwater catchment, it is unlikely that any works associated with its construction would have an adverse impact on groundwater levels external to the site.

In addition, Coffey Geotechnics (2009) determined the bulk hydraulic conductivity of the rhyodacite fractured rock that the carpark is to be constructed in, to be in the order of 0.001 m/day. In comparison, silt and clay have a typical hydraulic conductivity of 0.2 m/day. Hence, the fractured rhyodacite is 200 times less permeable than clay.

Accordingly, groundwater inflow into any excavation on site either during its development or in the long term after completion is likely to be minimal. The maximum annual volume of water take due to aquifer interference activities that might occur during works associated with construction of the project is considered to be negligible and most certainly no greater than that which may have arisen as part of the approved concept. Therefore, there will be no impact on the water table and no impact on the water pressure in the aquifer. Any risk to the quality of the water in the aquifer and indeed, in the wider Tomaree Groundwater source, would be managed by the implementation of standard dewatering procedures during construction.

Furthermore, the DPIE submission requests that the basement carpark be watertight (fully tanked), in which case there would be no potential for any local groundwater to drain to the carpark. Therefore, as the basement carpark is to be constructed within the rhyodacite rock and is fully contained within the site, there will be no "loss" of any groundwater from the perched aquifer that sits above it. The maximum annual volume of water take due to aquifer interference activities, post construction, will be no greater than is currently the case via the existing bore that is used on-site to supply water for irrigation purposes.

I trust that the response outlined above suitably addresses the issues raised by DPIE (Water) and NRAR. Please feel free to contact me on 0407 063711 should you require anything further.

Yours faithfully

ADVISIAN



Chris Thomas

*Principal Consultant
NSW Practice Lead – Water Resources*