09405
10 September 2009

Daniel Keary
Director - Government Land and Social Projects Assessments
Department of Planning
GPO Box 39
SYDNEY NSW 2001

Dear Dan

PART 3A PROJECT - REVISION TO COOLING TANK LOCATION
NEW MACQUARIE UNIVERSITY LIBRARY

Introduction

We refer to the above development of the new Macquarie University Library presently underway. As you may be aware the project was approved by the then Minister for Planning on 29 April 2008. A subsequent modification was also recently approved under delegation on 13 March 2009. The recent modification was for minor changes to the building's façade, rooftop, layout in relation to services, and included a reduction of height.

We are writing on behalf of Macquarie University's Office of Major Projects, the proponent for the development.

The purpose of this letter is to seek a further minor revision to the approved development to facilitate the relocation and re-dimensioning of the development's approved thermal energy storage (TES) tank. The details of this revision are included below and in plans appended to this letter. We understand that the Department is able to approve minor modifications to Part 3A projects under delegation, and by response letter, in lieu of the formal section 75W process.

Consistent with our recent conversation, we understand that under this process the Department can advise that the proposed amendment is minor and has no significant environmental impact and results in substantially the same development as approved. This letter would assist the Principal Certifying Authority (PCA) in signing off the plans and allowing work to continue on the library. As you would appreciate timeliness is a major concern of the University to ensure the existing construction program is able to continue efficiently.

Proposal

The proposal concerns only the TES tank and revision of its current location and dimensions. A TES tank acts as a key part of an energy-efficient air conditioning system by chilling water at night to provide for cooling during daytime. Thermal energy technology is both extremely efficient and effective in the delivery of reduced energy consumption. The application of the TES tank as part of the library development is a major part of Macquarie University's sustainability charter to reduce waste and energy consumption.

The tank was approved to be placed independently towards the north-western extremity of the development site. Its approved location was initially determined by the project's architects to be appropriate from a design perspective. The original design intent was to not integrate the tank into the building's form and to allow the tank to sit as a discrete element on its own.

It has since become apparent through engineering advice obtained from the project's contractors that the TES tank would be better integrated into the building's form and footprint with revised dimensions in order to allow it to function to its intended capacity and purpose.

Accordingly the tank is proposed to be relocated further south and sit within the project site and adjacent the building's general envelope. The relocation frees-up space to allow further improved access to the rear of the library and beyond and also allow for an improved landscape treatment to this part of the site. The new location also allows the tank to operate at an optimum level in relation to the mechanical services plant within the new building and in particular the chillers located on Level 5. The relocation also prevents the need for any new road realignment works to the rear of the library and enables the tank to be better integrated within the site's landscaped area. Whilst the relocation requires the removal of a single existing tree, this will be replaced as part of the plantings planned in the previously approved location adjacent to Mars Creek.

The tank was originally approved at a base level of RL 67.00. The new location will require a base level of RL 70.80, 3.8m higher than the approved location.

The tank's approved height and dimensions are also proposed to be modified. The tank was originally designed to be at a height-to-diameter ratio of 1.04:1, providing a tank of 12.1m in height and a diameter of 11.602m. Again, from an operational and engineering perspective (and to ensure compliance with the upper limit of the (relevant) American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Design Guide Recommendations) a ratio of 1.2:1 is proposed. This will result in new tank dimensions of 13.75m height and a proportionally reduced diameter. This is some 1.65m higher than approved.

Impacts of the proposal

The impacts of the proposal are minor from an environmental (and principally visual impact) perspective. The relocation ensures the TES tank can operate at its intended capacity and promote energy efficient cooling / air conditioning of the building. Indeed, to not relocate the tank would result in a deficient system and inability to meet energy savings objectives.

The overall increase in height of the tank relative to the building's revised height is also minor. As an integrated design element (that in itself promotes the TES technology) the tank is at a maximum RL of 85.55 (which includes a 1.0m upstand to the perimeter to allow servicing). The building's approved parapet height ranges between RL 82.82 and RL 86.32 with the rooftop plant between RL85 and RL88.45. As can be seen, the revised tank location and dimensions results in a form that is still within the overall height of the building and in context and proportion to the relevant parapet height. Arguably, the energy savings to be made are of a greater significance relative to any urban design issues that may be raised in terms of the building's silhouette and any stepping or gradation of heights.

Conclusion

We are of the view that the proposed amendments to the library building are minor and have no adverse environmental impacts. Indeed, the library building will benefit from the proposed amendment in that the building's environmental performance and the University's sustainability goals will be significantly enhanced. We are also advised that this project's PCA is able and willing to sign off on these minor changes pending written confirmation from the Department of Planning.

We trust that the above and enclosed plans and elevations is sufficient to enable the Department to form the view that the revision is minor and is substantially the same development as approved.

Should you have any queries about this matter, please do not hesitate to contact me on 9956 6962 or oklein@jbaplanning.com.au.

Yours faithfully

Oliver Klein
Principal Planner