Advance Building Approvals Pty Ltd
Suite 1004, 370 Pitt Street, Sydney NSW 2000
PO Box A1123, Sydney South NSW 1235
Email: aba@advanceba.com.au
T: (02) 9283 6299 F: (02) 9283 6252

BUILDING CODE OF AUSTRALIA

Preliminary Assessment Report

For

ASRS Project

At

Northern Side of Building 2
University of Technology
15 Broadway
Sydney

Client: University of Technology, Sydney
Report: CF10601RP03
Date: 07 March 2011

1.0 INTRODUCTION

1.1 Background

Advance Building Approvals Pty Ltd was commissioned by University of Technology, Sydney to prepare a Building Code of Australia (BCA) compliance assessment in respect of a new underground automated storage and retrieval system (ASRS) building at UTS, located to the north face of Building 2 (CB02) and below Alumni Green.

1.2 Proposed work

2 The proposed development will comprise a single storey below ground automated storage and retrieval system storage facility (ASRS) which adjoins three below ground store rooms and a loading area. Overall the basement will contain four storeys. All new structural work will be constructed in masonry and concrete. Internal partitions may be lightweight construction/glazing where not requiring a fire resistance level.

3 For the purpose of this report, the automated storage and retrieval system storage facility is denoted as ASRS and the adjoining store rooms and loading area denoted as Stores. The ASRS and the Stores (entire development) is denoted as proposed development.

1.3 Regulatory Framework

The applicable BCA for this proposed development is BCA 2010.

1.4 Purpose of the Report

This report is to examine the proposed design against the Deemed-To-Satisfy (DTS) requirements of BCA 2010. Where non-compliances are noted, alternative proposal to achieve compliance shall be sought by the client.

1.5 Referenced Documents

Drawing No.	Drawing Title	Prepared by
AX002858-A210B	UTS Book Vault & Storage – Site Location Plan	Hassell Ltd
AX002858-A220G	UTS Book Vault & Storage - Plan Level 00 ASRS Working Level (RL-5.00)	Hassell Ltd
AX002858-A221C	UTS Book Vault & Storage – Plan Level 00.5 (RL -2.100)	Hassell Ltd
AX002858-A222G	UTS Book Vault & Storage – Plan Level 01 (RL 2.700)	Hassell Ltd
AX002858-A224G	UTS Book Vault & Storage Plan Level 02 (RL 8.500)	Hassell Ltd
AX002858-A225G	UTS Book Vault & Storage Plan Level 03 (RL 14.100)	Hassell Ltd
AX002858-A260G	UTS Book Vault & Storage Section 01 – North South	Hassell Ltd
AX002858-A261G	UTS Book Vault & Storage Section 02 – East West	Hassell Ltd

2.0 BCA BUILDING DESCRIPTION

2.1 General

2.1.1 Description of proposed building work

The proposed development will comprise a single storey below ground automated storage and retrieval system storage facility (denoted as ASRS) which adjoins three levels of below ground store rooms and an associated loading area (denoted as Stores).

The development is served by fire stairs which will discharge onto the roof level which connects directly with Jones Street.

2.1.2 Classification

The proposed uses are shown in the table below:

Location	Use	BCA Classification
Level 00 (RL -5.00)	ASRS	Class 7b (storage)
Level 00.5 (RL -2.10)	ASRS and Stores	Class 7b (storage)
Level 01 (RL 2.70)	ASRS and Stores	Class 7b (storage)
Level 02 (RL 8.50)	ASRS and Stores and Loading Area	Class 7b (storage)

2.1.3 Effective Height

For the purposes of determining the required services and equipment and type of construction, the effective height is 0m given that the proposed development is below finished ground level.

2.1.4 Type of Construction

In accordance with the provisions of C1.1 the building is required to be of Type C construction. However, due to the fire compartment size of the overall development, it is proposed to construct the development in Type A construction.

4.0 BCA COMMENTS

4.1 BCA Assessment Philosophy

(a) Although the egress of adjacent CB02 discharges into the proposed development, for the purpose of Parts C, D and E of BCA, the proposed development is considered as a separate building. As such, it must be fire separated from the adjoining buildings.

(b) The fire stairs discharge onto the roof which is considered as complying “open space” directly connected to Jones Street.

(c) On Level 00.5 and above, the ASRS will be fire separated from the adjoining Stores to form separate fire compartments.

(d) The service plenum on Level 00 is considered as part of the ASRS fire compartment. Therefore fire services need to be extended into that area.

(e) The proposed development is considered to contain four below ground storeys calculated in accordance with C1.2 of BCA. These are Level 00 (RL -5.00), Level 00.5 (RL -2.10), Level 01 (RL 2.70) and Level 02 (RL 8.50).

4.2 Assumptions

(a) A fire isolated stair is provided in the south-west corner from Level 00.5 and above, and discharges onto the roof. Access to the stair is provided at intermediate levels adjacent grid D, E – 1,5 on Levels 00.5 and Level 01.

(b) On Level 00.5, a fire-isolated passageway is provided for travel in an east-west direction next to the fire compartment fire wall

(c) A doorway will be provided in a fire wall at Grid 4 to comply with the travel distance requirements.

(d) A path of travel between Alternate Exits is not provided within store 01 RL8.500

(e) Steps will be provided in the south-west corner of the ASRS services plenum at RL- 5.00 to facilitate egress for occupants on Level 00.

4.3 Egress From Existing Building 2

Exits serving the existing Building 2 (CB02) presently discharge adjacent the proposed development. At this stage, further detail will need to be assessed regarding the exits from below ground and the impact on the proposed development and vice versa. It is noted that details for any works required to the existing building must be developed prior to the issue of Construction Certificate.

5. CONCLUSION

The assessment revealed that the proposed scheme is capable of meeting the performance requirements of the BCA, without modification to the extent that an amendment to the DA would be triggered. Any requirement of the DTS BCA which cannot be accommodated in the design should be addressed by an Alternate Solution.