

21 November 2016

University of Sydney
Campus Infrastructure & Services
Services Building G12
22 Codrington Street
DARLINGTON NSW 2009

Attention: Trent Scrivener
Email: trent.scrivener@sydney.edu.au

Dear Trent,

RE: UNIVERSITY OF SYDNEY - DARLINGTON ROAD TERRACES MIXED USE BUILDING ADDITIONS AND ALTERATIONS TO THE DARLINGTON ROAD TERRACES AND PUBLIC DOMAIN IMPROVEMENTS

BCA COMPLIANCE STATEMENT FOR SSDA SUBMISSION

This statement has been prepared to verify that Blackett Maguire + Goldsmith Pty Ltd have undertaken a review of the architectural documentation that will accompany the Application to the Department of Planning for the proposed Darlington Terraces mix use development against the Building Code of Australia 2016 (BCA).

PROPOSED DEVELOPMENT

The proposed development otherwise known as the Darlington Terraces mix use development comprises of the adaptive re-use of the existing Darlington Road terraces and the construction of four (4) new buildings. In summary the proposed development will consist of the following;

- + Darlington Terraces – adaptive re-use of the 38 existing Terraces
- + Building A & B - 2 x four (4) storey buildings fronting Darlington Lane comprising three (3) levels above ground and a partial basement level.
- + Building C – Two (2) storey lecture theatre and common/movie room
- + Building D – Three (3) storey buildings fronting Darlington Lane
- + 132 Darlington Road - Student Bicycle storage area



Figure 1: Northern/Southern elevation of proposed Darlington terraces.



Figure 2: Northern/Southern elevation of Darlington Accommodation buildings

It is understood that the proposal will also consist of civil works including stormwater drainage, and landscaping works associated with the development.

COMPLIANCE STATEMENT OBJECTIVES

The objectives of this statement are to:

- a) confirm that the DA architectural documentation has been reviewed by an appropriately qualified Building Surveyor and Accredited Certifier.
- b) confirm that the proposed new building works can readily achieve compliance with the BCA pursuant to clause 145 of the *Environmental Planning & Assessment Regulation 2000*.
- c) accompany the Development Application submission to enable the Consent Authority to be satisfied that subsequent compliance with the fire & life safety and health & amenity requirements of the BCA, will not necessarily give rise to design changes to the building which may necessitate the submission of an application under Section 96 of the *Environmental Planning and Assessment Act 1979*.

It should be noted that it is not the intent of this statement to identify all BCA provisions that apply to the subject development. The development will be subject further assessment following receipt of more detailed documentation at Crown Certificate stage.

This statement has been prepared pursuant to clause 18 of the *Building Professionals Regulation 2007*.

ASSESSMENT METHODOLOGY

Compliance with the BCA can be achieved by complying with the following:

- a) Complying with the Deemed-to-satisfy (DTS) Provisions; or
- b) Formulating an Alternative Solution which –
 - i) Complies with the performance requirements; or
 - ii) Is shown to be at least equivalent to the DTS provisions; or
- c) A combination of the above.

In accordance with the above, we note that the proposed building design will achieve compliance with the BCA by way of a combination of compliance with the DTS provisions and Performance Requirements of the BCA, by the development and justification of Performance Based Alternative Solutions prepared by a C10 Accredited Fire Safety Engineer, an Accredited Accessibility Consultant and a suitably qualified ESD Consultant at the Crown Certificate stage where required.

RELEVANT VERSION OF THE BCA

Pursuant to Section 109R of the Environmental Planning & Assessment Act 1979 (Development by the Crown) the proposed development is subject to compliance with the relevant requirements of the BCA as in force at the time of the invitation for the tender for the project was made. The current version of the BCA is the BCA 2016, with the BCA 2019 coming into effect on the 1 May 2019. For the purpose of this compliance statement, it is assumed that the invitations for tender



will be lodged prior to the 1 May 2019, and as such the proposed development will be subject to compliance with the BCA 2016.

REFERENCED DOCUMENTATION

This report has been prepared based on a review of the following documentation

- + Landscape Plans
- + Area and Accommodation Schedules
- + preliminary SSDA architectural plans prepared by Allen Jack + Cottier;

Drawing No.	Drawing No.	Drawing No.	Drawing No.
DA0001	DA1000	DA1101	DA1102
DA1103	DA1104	DA1105	DA1106
DA1107	DA1108	DA1109	DA2101
DA2102	DA2103	DA2104	DA2105
DA2111	DA2112	DA2113	DA2114
DA2115	DA2121	DA2122	DA2123
DA2124	DA3100	DA3201	DA3202
DA3901	DA3902	DA3903	DA4101
DA4102	DA4103	DA5100	

The new building works have been classified as follows:

DARLINGTON ROAD TERRACES

+ BCA CLASSIFICATION:	Class 3 (Student Accommodation)*, Class 5 (Administration) and Class 9b (Common area)
+ STOREYS CONTAINED:	Two (2) (Typical) Note: Terraces 86 and 87 will have in total three (3) storeys contained.
+ RISE IN STOREYS:	Two (2) (Typical) Note: Terraces 86 and 87 will have a Rise In Storeys of three (3)
+ TYPE OF CONSTRUCTION:	Type B*
+ EFFECTIVE HEIGHT:	Less than 12 m (approx. 3.4m)
+ CLIMATE ZONE:	5

Note 1: We note that the Class 3 student accommodation buildings will be likened under a Fire Engineered Alternative Solution to a class 1b building for the purpose of bounding construction and egress arrangements, In this regard, refer also BCA Compliance strategy later in this report for further information.

Note 2: Generally the Darlington Road terraces will be of TYPE B construction with the exception of 86 and 87 which due to the building having a Rise In Storeys of three (3) TYPE A construction will apply



Fire Source Features

The distances from the proposed development from the nearest Fire Source Features are:

LOCATION	FIRE SOURCE FEATURE	DISTANCE TO FIRE SOURCE FEATURE
North	<i>Far side of Darlington Road</i>	<i>Less than 18m (TBC)</i>
East	<i>Allotment Boundary</i>	<i>Less than 1.5m⁽¹⁾</i>
South	<i>Darlington Lane Student Accommodation.</i>	<i>Less than 9m⁽²⁾</i>
West	<i>Allotment Boundary</i>	<i>Less than 3m⁽¹⁾</i>

Note 1: Separation between the existing terraces will be addressed under a performance solution. The external walls bounding public terraces not forming part of the proposed development will be upgraded so as to comply with Spec C1.1.

Note 2: It is understood that the existing allotments will be consolidated as part of the proposed works. **This is to be confirmed.**

Proposed Essential Fire & Other Safety Measures:

Based on the information provided to date, the following fire safety measures are required to be incorporated into the design to satisfy the requirements of the BCA and the proposed FER strategy.

Statutory Fire Safety Measure	Design / Installation Standard
Alarm Signalling Equipment	AS 1670.3 – 2015
Automatic Fire Detection & Alarm System	BCA Spec. E2.2a & AS 1670.1 – 2015
Automatic Fire Suppression Systems	BCA Spec. E1.5 & AS 2118.1 – 1999
Emergency Lighting	BCA Clause E4.4 & AS 2293.1 – 2005
Emergency Evacuation Plan	AS 3745
Exit Signs	BCA Clauses E4.5, E4.6 & E4.8; and AS 2293.1 – 2005
Fire Blankets	AS 3504 – 1995 & AS2444 – 2001
Fire Dampers	BCA Clause C3.15, AS 1668.1 – 2015 & AS 1682.1 & 2 – 1990 and manufacturer's specification
Fire Doors	BCA Clause C2.12, C2.13, C3.2, C3.4, C3.5,; and AS 1905.1 – 2015 and manufacturer's specification
Fire Hose Reels (Assembly/admin areas only)	BCA Clause E1.4 & AS 2441 – 2005
Fire Hydrant Systems	Clause E1.3 & AS 2419.1 – 2005
Fire Seals	BCA Clause C3.15, AS 1530.4 & AS 4072.1 – 2005 and manufacturer's specification
Lightweight Construction	BCA Clause C1.8 & AS 1530.3 – 1999 and manufacturer's specification
Mechanical Air Handling Systems	BCA Clause E2.2, AS/NZS 1668.1 – 2015 & AS 1668.2 – 2012
Paths of Travel	EP&A Regulation Clause 186
Portable Fire Extinguishers	BCA Clause E1.6 & AS 2444 – 2001
Sound System & Intercom Systems for Emergency Purposes (SSISEP)	BCA E4.9, Clause 5 of BCA and AS1670.4-2015



Statutory Fire Safety Measure	Design / Installation Standard
Smoke Dampers	AS/NZS 1668.1 – 2015
Smoke Doors	BCA Spec C3.4 & C2.5
Fire Engineered Alternative Solution	+ TBC

Note: The above measures may be subject to change pending the outcomes of any proposed performance based alternative solutions from a Fire Safety Engineering at the Crown Certificate stages.

BUILDING A

+ BCA CLASSIFICATION:	Class 3 (Student Accommodation), Class 9b (Common areas)
+ STOREYS CONTAINED:	Four (4) Note: Comprising three (3) levels above ground and a partial basement level.
+ RISE IN STOREYS:	Four (4) Note: Comprising three (3) levels above ground and a partial basement level.
+ TYPE OF CONSTRUCTION:	Type A
+ EFFECTIVE HEIGHT:	Less than 12 m (approx. 8.9m)
+ CLIMATE ZONE:	5

Fire Source Features

The distances from the proposed development from the nearest Fire Source Features are:

LOCATION	FIRE SOURCE FEATURE	DISTANCE TO FIRE SOURCE FEATURE
North	Darlington Road terraces	Less than 6m⁽¹⁾
East	Allotment Boundary	Less than 3m
South	Far side of Darlington Lane	Less than 6m
West	Allotment Boundary	Less than 3m

Note : The fire separation between the existing terraces and proposed accommodation buildings will be addressed as part of the Fire Safety Engineering Strategy.

Proposed Essential Fire & Other Safety Measures:

Based on the information provided to date, the following fire safety measures are required to be incorporated into the design to satisfy the requirements of the BCA.

Statutory Fire Safety Measure	Design / Installation Standard
Access Panels, Doors & Hoppers	BCA Clause C3.13 & AS 1530.4 – 2005 and Manufacturer's specifications
Alarm Signalling Equipment	AS 1670.3 – 2015
Automatic Fire Detection & Alarm System	BCA Spec. E2.2a & AS 1670.1 – 2015
Automatic Fire Suppression Systems	BCA Spec. E1.5 & AS 2118.1 – 1999



Statutory Fire Safety Measure	Design / Installation Standard
Emergency Lighting	BCA Clause E4.4 & AS 2293.1 – 2005
Emergency Evacuation Plan	AS 3745
Exit Signs	BCA Clauses E4.5, E4.6 & E4.8; and AS 2293.1 – 2005
Fire Blankets	AS 3504 – 1995 & AS2444 – 2001
Fire Dampers	BCA Clause C3.15, AS 1668.1 – 2015 & AS 1682.1 & 2 – 1990 and manufacturer's specification
Fire Doors	BCA Clause C2.13, C3.2, C3.4, C3.8 & C3.11; and AS 1905.1 – 2015 and manufacturer's specification
Fire Hose Reels (Assembly areas only)	BCA Clause E1.4 & AS 2441 – 2005
Fire Hydrant Systems	Clause E1.3 & AS 2419.1 – 2005
Fire Seals	BCA Clause C3.15, AS 1530.4 & AS 4072.1 – 2005 and man.ufacturer's specification
Fire Shutters	BCA Spec C3.4 & AS 1905.2 – 2005 (TBC)
Fire Windows	BCA Spec C3.4 (TBC)
Lightweight Construction	BCA Clause C1.8 & AS 1530.3 – 1999 and manufacturer's specification
Mechanical Air Handling Systems	BCA Clause E2.2, AS/NZS 1668.1 – 2015 & AS 1668.2 – 2012
Paths of Travel	EP&A Regulation Clause 186
Portable Fire Extinguishers	BCA Clause E1.6 & AS 2444 – 2001
Required Exit Doors (power operated)	BCA Clause D2.19(b)
Smoke Dampers	AS/NZS 1668.1 – 2015
Smoke Doors	BCA Spec C3.4 & C2.5
Sound System & Intercom Systems for Emergency Purposes (SSISEP)	BCA E4.9 and AS1670.4-2015
Wall-Wetting Sprinklers	BCA Clause C3.4 & AS 2118.2 – 1995 (TBC)
Warning & Operational Signs	Section 183 of the EP&A Regulation 2000, AS 1905.1 – 2005, BCA Clause C3.6, D2.23, D3.6, E3.3
Fire Engineered Alternative Solution	+ TBC

Note: The above measures may be subject to change pending the outcomes of any proposed performance based alternative solutions from a Fire Safety Engineering at the Crown Certificate stages.

BUILDING B

+ BCA CLASSIFICATION:	Class 3 (Student Accommodation), Class 9b (common areas)
+ STOREYS CONTAINED:	Four (4) Note: Comprising three (3) levels above ground and a partial basement level.
+ RISE IN STOREYS:	Four (4) Note: Comprising three (3) levels above ground and a partial basement level.
+ TYPE OF CONSTRUCTION:	Type A
+ EFFECTIVE HEIGHT:	Less than 12 m (approx. 8.9m)



+ CLIMATE ZONE:

5

Fire Source Features

The distances from the proposed development from the nearest Fire Source Features are:

LOCATION	FIRE SOURCE FEATURE	DISTANCE TO FIRE SOURCE FEATURE
North	Darlington Road terraces	Less than 6m⁽¹⁾
East	<i>Building C</i>	<i>Greater than 3m</i>
South	Far side of Darlington Lane	Less than 6m
West	Allotment Boundary	Less than 3m

Note : The fire separation between the existing terraces and proposed accommodation buildings will be addressed as part of the Fire Safety Engineering Strategy.

Proposed Essential Fire & Other Safety Measures:

Based on the information provided to date, the following fire safety measures are required to be incorporated into the design to satisfy the requirements of the BCA.

Statutory Fire Safety Measure	Design / Installation Standard
Access Panels, Doors & Hoppers	BCA Clause C3.13 & AS 1530.4 – 2005 and Manufacturer's specifications
Alarm Signalling Equipment	AS 1670.3 – 2004
Automatic Fire Detection & Alarm System	BCA Spec. E2.2a & AS 1670.1 – 2015
Automatic Fire Suppression Systems	BCA Spec. E1.5 & AS 2118.1 – 1999
Emergency Lighting	BCA Clause E4.4 & AS 2293.1 – 2005
Emergency Evacuation Plan	AS 3745
Exit Signs	BCA Clauses E4.5, E4.6 & E4.8; and AS 2293.1 – 2005
Fire Blankets	AS 3504 – 1995 & AS2444 – 2001
Fire Dampers	BCA Clause C3.15, AS 1668.1 – 2015 & AS 1682.1 & 2 – 1990 and manufacturer's specification
Fire Doors	BCA Clause C2.13, C3.2, C3.4, C3.8 & C3.11; and AS 1905.1 – 2005 and manufacturer's specification
Fire Hose Reels (Assembly areas only)	BCA Clause E1.4 & AS 2441 – 2005
Fire Hydrant Systems	Clause E1.3 & AS 2419.1 – 2005
Fire Seals	BCA Clause C3.15, AS 1530.4 & AS 4072.1 – 2005 and manufacturer's specification
Fire Shutters	BCA Spec C3.4 & AS 1905.2 – 2005 (TBC)
Fire Windows	BCA Spec C3.4 (TBC)
Lightweight Construction	BCA Clause C1.8 & AS 1530.3 – 1999 and manufacturer's specification
Mechanical Air Handling Systems	BCA Clause E2.2, AS/NZS 1668.1 – 2015 & AS 1668.2 – 2012
Paths of Travel	EP&A Regulation Clause 186
Portable Fire Extinguishers	BCA Clause E1.6 & AS 2444 – 2001
Required Exit Doors (power operated)	BCA Clause D2.19(b)



Statutory Fire Safety Measure	Design / Installation Standard
Smoke Dampers	AS/NZS 1668.1 – 2015
Smoke Doors	BCA Spec C3.4 & C2.5
Sound System & Intercom Systems for Emergency Purposes (SSISEP)	BCA E4.9 and AS1670.4-2015
Wall-Wetting Sprinklers	BCA Clause C3.4 & AS 2118.2 – 1995 (TBC)
Warning & Operational Signs	Section 183 of the EP&A Regulation 2000, AS 1905.1 – 2005, BCA Clause C3.6, D2.23, D3.6, E3.3
Fire Engineered Alternative Solution	+ TBC

Note: The above measures may be subject to change pending the outcomes of any proposed performance based alternative solutions from a Fire Safety Engineering at the Crown Certificate stages.

BUILDING C

+ BCA CLASSIFICATION:	Class 9b (Lecture theatre/Common area)
+ STOREYS CONTAINED:	Two (2)
+ RISE IN STOREYS:	Two (2)
+ TYPE OF CONSTRUCTION:	Type B
+ EFFECTIVE HEIGHT:	Less than 12 m (approx. 3.1m)
+ CLIMATE ZONE:	5

Fire Source Features

The distances from the proposed development from the nearest Fire Source Features are:

LOCATION	FIRE SOURCE FEATURE	DISTANCE TO FIRE SOURCE FEATURE
North	<i>Darlington Road terraces</i>	<i>Less than 9m</i>
East	<i>Allotment Boundary</i>	<i>Less than 3m</i>
South	<i>Far side of Darlington Lane</i>	<i>Less than 9m</i>
West	<i>Building B</i>	<i>Less than 9m</i>

Proposed Essential Fire & Other Safety Measures:

Based on the information provided to date, the following fire safety measures are required to be incorporated into the design to satisfy the requirements of the BCA.

Statutory Fire Safety Measure	Design / Installation Standard
Access Panels, Doors & Hoppers	BCA Clause C3.13 & AS 1530.4 – 2005 and Manufacturer's specifications
Alarm Signalling Equipment	AS 1670.3 – 2015
Automatic Fire Detection & Alarm System	BCA Spec. E2.2a & AS 1670.1 – 2015
Automatic Fire Suppression Systems	BCA Spec. E1.5 & AS 2118.1 – 1999
Emergency Lighting	BCA Clause E4.4 & AS 2293.1 – 2005
Emergency Evacuation Plan	AS 3745



Statutory Fire Safety Measure	Design / Installation Standard
Exit Signs	BCA Clauses E4.5, E4.6 & E4.8; and AS 2293.1 – 2005
Fire Blankets	AS 3504 – 1995 & AS2444 – 2001
Fire Dampers	BCA Clause C3.15, AS 1668.1 – 2015 & AS 1682.1 & 2 – 1990 and manufacturer's specification
Fire Hydrant Systems	Clause E1.3 & AS 2419.1 – 2005
Fire Seals	BCA Clause C3.15, AS 1530.4 & AS 4072.1 – 2005 and manufacturer's specification
Fire Shutters	BCA Spec C3.4 & AS 1905.2 – 2005 (TBC)
Fire Windows	BCA Spec C3.4 (TBC)
Lightweight Construction	BCA Clause C1.8 & AS 1530.3 – 1999 and manufacturer's specification
Mechanical Air Handling Systems	BCA Clause E2.2, AS/NZS 1668.1 – 2015 & AS 1668.2 – 2012
Paths of Travel	EP&A Regulation Clause 186
Portable Fire Extinguishers	BCA Clause E1.6 & AS 2444 – 2001
Required Exit Doors (power operated)	BCA Clause D2.19(b)
Smoke Dampers	AS/NZS 1668.1 – 2015
Sound System & Intercom Systems for Emergency Purposes (SSISEP)	BCA E4.9, Clause 5 of BCA Spec G3.8 and AS1670.4-2015
Wall-Wetting Sprinklers	BCA Clause C3.4 & AS 2118.2 – 1995 (TBC)
Warning & Operational Signs	Section 183 of the EP&A Regulation 2000, AS 1905.1 – 2005, BCA Clause C3.6, D2.23, D3.6, E3.3 & H101.8
Fire Engineered Alternative Solution	+ TBC

Note: The above measures may be subject to change pending the outcomes of any proposed performance based alternative solutions from a Fire Safety Engineering at the Crown Certificate stages.

BUILDING D

+ BCA CLASSIFICATION:	Class 3 (Student Accommodation)
+ STOREYS CONTAINED:	Three (3)
+ RISE IN STOREYS:	Three (3)
+ TYPE OF CONSTRUCTION:	Type A
+ EFFECTIVE HEIGHT:	Less than 12 m (approx. 6m)
+ CLIMATE ZONE:	5

Fire Source Features

The distances from the proposed development from the nearest Fire Source Features are:

LOCATION	FIRE SOURCE FEATURE	DISTANCE TO FIRE SOURCE FEATURE
North	<i>Darlington Road terraces</i>	<i>Greater than 6m</i>
East	Allotment Boundary	Less than 3m



South	<i>Far side of Darlington Lane</i>	<i>Less than 6m (TBC)</i>
West	<i>Allotment Boundary</i>	<i>Less than 3m</i>

Proposed Essential Fire & Other Safety Measures:

Based on the information provided to date, the following fire safety measures are required to be incorporated into the design to satisfy the requirements of the BCA.

Statutory Fire Safety Measure	Design / Installation Standard
Access Panels, Doors & Hoppers	BCA Clause C3.13 & AS 1530.4 – 2005 and Manufacturer's specifications
Alarm Signalling Equipment	AS 1670.3 – 2004
Automatic Fire Detection & Alarm System	BCA Spec. E2.2a & AS 1670.1 – 2015
Automatic Fire Suppression Systems	BCA Spec. E1.5 & AS 2118.1 – 1999
Emergency Lighting	BCA Clause E4.4 & AS 2293.1 – 2005
Emergency Evacuation Plan	AS 3745
Exit Signs	BCA Clauses E4.5, E4.6 & E4.8; and AS 2293.1 – 2005
Fire Blankets	AS 3504 – 1995 & AS2444 – 2001
Fire Dampers	BCA Clause C3.15, AS 1668.1 – 2015 & AS 1682.1 & 2 – 1990 and manufacturer's specification
Fire Doors	BCA Clause C2.13, C3.2, C3.4, C3.8 & C3.11; and AS 1905.1 – 2005 and manufacturer's specification
Fire Hydrant Systems	Clause E1.3 & AS 2419.1 – 2005
Fire Seals	BCA Clause C3.15, AS 1530.4 & AS 4072.1 – 2005 and manufacturer's specification
Fire Shutters	BCA Spec C3.4 & AS 1905.2 – 2005 (TBC)
Fire Windows	BCA Spec C3.4 (TBC)
Lightweight Construction	BCA Clause C1.8 & AS 1530.3 – 1999 and manufacturer's specification
Mechanical Air Handling Systems	BCA Clause E2.2, AS/NZS 1668.1 – 2015 & AS 1668.2 – 2012
Paths of Travel	EP&A Regulation Clause 186
Portable Fire Extinguishers	BCA Clause E1.6 & AS 2444 – 2001
Required Exit Doors (power operated)	BCA Clause D2.19(b)
Smoke Dampers	AS/NZS 1668.1 – 2015
Smoke Doors	BCA Spec C3.4 & C2.5
Sound System & Intercom Systems for Emergency Purposes (SSISEP)	BCA E4.9 and AS1670.4-2004
Wall-Wetting Sprinklers	BCA Clause C3.4 & AS 2118.2 – 1995 (TBC)
Warning & Operational Signs	Section 183 of the EP&A Regulation 2000, AS 1905.1 – 2005, BCA Clause C3.6, D2.23, D3.6, E3.3
Fire Engineered Alternative Solution	+ TBC

Note: The above measures may be subject to change pending the outcomes of any proposed performance based alternative solutions from a Fire Safety Engineering at the Crown Certificate stages.



BCA COMPLIANCE STRATEGY

The BCA compliance strategy for the subject project consists of a combination of complying with the Deemed-to-satisfy (DTS) provisions of the BCA and the development of Fire Engineered Alternative Solutions, which will comply with the Performance Requirements or be at least equivalent to the DTS provisions of the BCA, where deemed acceptable by the project stakeholders.

Most notably the Fire Safety Strategy for the subject development relates primarily to the Darlington Road terraces also the consolidation of a number of the proposed fire services across the project as outlined below;

1. The existing Class 3 Student accommodation Terraces fronting Darlington Road, will be assessed equivalent to a Class 1b building for the purpose of rationalising bounding construction and egress arrangements that would otherwise be required for a Class 3 building on the basis that these buildings comply with the following, as will be outlined in the FER strategy;
 - + *Each terrace will contain up to a maximum of < 12persons and being less than 300m² in floor area,*
 - + *Existing internal stairs and internal/external balustrades be upgraded to the degree necessary in order to achieve compliance with the BCA in consultation with the projects heritage consultant and in line with the recommendations of the heritage report.*
 - + *Each separating wall between the existing paired Darlington terraces including the concealed ceiling void between each are to be upgraded to provide adequate smoke separated in accordance with the requirements under Specification C2.5 of the BCA,*
 - + *All Class 9b/5 common terraces are to be fire separated from all residential parts with fire rated construction achieving an equivalent rating as required under Spec C1.1 for bounding construction within a Class 3 building of TYPE B construction (60/60/60). This separation is to extend the walls bounding any void to the class 3 above,*
 - + *The common kitchen areas within the Darlington terraces will need to be further smoke separated from the remainder of the building with particular attention being paid to the kitchen space within Terrace No. 128 and 129.*
 - + *All of the Darlington Road external walls adjoining the private allotments are to comply with the requirements of Specification C1.1 of the BCA including the provision of fire separation within the concealed ceiling space as required,*

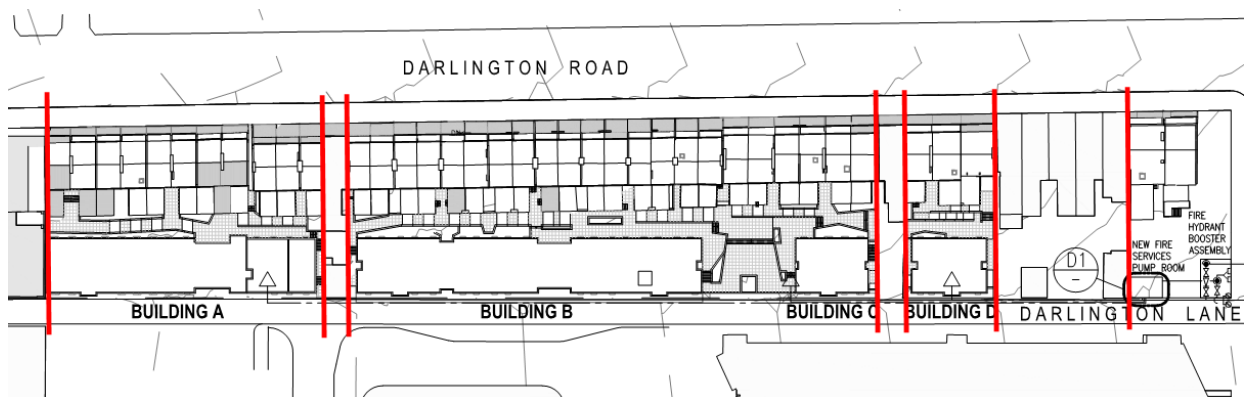


Figure 3: External walls requiring upgrade works



- + *A sprinkler system complying with AS 2118 is to be fitted throughout all of the existing Darlington Road terraces also the new student accommodation buildings fronting Darlington Lane.*
 - + *An interconnected fire detection and alarm system is to be installed throughout all terraces with each block of terraces being interconnected and serviced by mimic panels connected to a main FIP, which location is to be determined during the development of the FER strategy*
2. Given the existing constraints to Darlington Lane most notably the lack of suitable access this lane affords for Fire + Rescue NSW (FRNSW) appliances and personnel in the event of an emergency, it is proposed to provide consolidated Fire Services infrastructure including Hydrant, Sprinkler also Fire Indication and warning equipment to the corner of Darlington Lane and Codrington Street to serve the entire development.

Under this arrangement FRNSW will be provided with a safe environment to undertake and coordinate emergency operations at the subject site, which would not otherwise be achieved where separate boosters are provided within this laneway, which has an associated risk of being unusable in the event of an emergency given the exposure to buildings served, width of laneway and likeliness of privately owned vehicles obstructing access to this key infrastructure.

The above provides a summary of the requirements under the proposed Fire Safety Strategy. Notwithstanding, the above may be subject to change and will be further developed as the design progresses in consultation with the project stakeholders including Fire and Rescue NSW.

SUMMARY OF KEY BCA COMPLIANCE ISSUES

Arising from our review, the following comprises a summary of the key BCA compliance issues that will need to be addressed prior to issue of the Crown Certificate:

+ **MATTERS REQUIRING PLAN AMENDMENTS AND/OR SUBMISSION OF FURTHER INFORMATION**

- 1. BCA Spec C1.1** Fire ratings for each respective building will need to be specified in accordance with the requirements for the type of construction noted above. Compliance readily achievable, details demonstrating compliance to be submitted along with the application for Crown Certificate.
- 2. BCA cl. C2.14** The public corridors are to be broken up into lengths of not more than 40m by smoke proof construction complying with Clause 2 of Spec 2.5. Locations to be noted on architectural plans to be submitted along with the Crown Certificate.
- 3. BCA cl. C3.11** Bounding construction between SOU's and public corridors is to be provided throughout the student accommodation buildings located along Darlington Lane. Details demonstrating compliance are to be submitted along with the application for a Crown Certificate accordingly.
- 4. BCA cl. D2.16** Details to be submitted at Construction Certificate stage with respect of the proposed balustrades provided throughout the proposed terraces and residential student accommodation buildings
We note that the existing balustrades within the Darlington Road terraces will undergo upgrade works in consultation with the projects heritage consultant.
Note: For barriers above 4m from the surface below they must not have any horizontal elements between 150mm to 760mm that facilitate climbing. In this regard, compliance is readily achievable
- 5. BCA cl. D2.17** Handrails are required to be provided to at least one side of each stairway provided within the Darlington terraces SOU's. Details to be



included in final architectural documentation accordingly;

Note: Refer also Access report prepared by others regarding any further implications under AS1428.1-2009 with respect of accessible features throughout the remainder of the project.

6. BCA cl. D2.20

All required final egress doors serving the Darlington Lane residential buildings are to swing in the direction of egress. Final architectural plans to be submitted along with the Crown Certificate application will need to be updated accordingly.

7. BCA cl. F2.1 & F2.4

Whilst the number of sanitary facilities is readily capable of catering for the number of occupants, we note that an Alternative Solution will be prepared by the projects Access Consultant with respect of the accessible features and location of accessible sanitary facilities.

8. BCA cl. Part F3

Ceiling heights of the internal rooms will need to comply with the requirements under F3 of the BCA. Details demonstrating compliance to be submitted along with the application for Crown Certificate.

9. BCA cl. Part F5

Details are to be provided prior to the issuing of a Construction Certificate demonstrating that the Class 3 residential parts have been provided with suitable sound insulation ratings as per Part F of the BCA.

10. BCA Section J:

The new building works will be subject to Section J compliance and as such the following energy efficiency provisions will apply:

- J1: Building Fabric
- J2: External Glazing
- J3: Building Sealing
- J5: Air-conditioning and ventilation systems
- J6: Artificial lighting and power
- J7: Hot water supply
- J8: Access for maintenance

The Crown Certificate documentation from the design consultants are to incorporate details demonstrating compliance with the above provisions (as applicable to their respective disciplines).

+ FIRE SAFETY ENGINEERED ALTERNATIVE SOLUTIONS

Following our review, and in addition to the items covered under the Fire Safety Strategy above, the following comprises a summary of the issues to be addressed by the projects Fire Safety Engineer.

1. BCA cl. C1.1, C2.8, C2.9

We note that the following is to be addressed by the Projects Fire Safety Engineer as part of the proposed Fire Safety Strategy;

- + Building A** - Reduction in FRL's to the ground floor/first floor common area parts consistent with that required for a Class 3 use on the basis that the classifications are separated in accordance with the requirements of C3.11 namely 90/90/90 in lieu of 120/120/120.
- + 132 Darlington Road** - Reduction in FRL's to the ground floor bike storage area from 240/240/240 to 120/120/120 consistent with the 7a car park use.
- + Darlington Terraces** - Refer proposed Compliance Strategy with respect of likening to a class 1b for the purpose of fire ratings required.
- + Building C** - Reduction in FRL's to the external walls equivalent to that of a TYPE C building

2. BCA cl. C2.11 D1.3

Internal non-fire isolated stairway connecting four (4) storeys in a sprinkler protected building in lieu of the maximum prescribed three (3) in a class 3 building, also the lift being contained within the same fire resistant shaft.



- 3. BCA cl. C3.2 & C3.4** We note that it is proposed to rationalise protection of openings in the following locations ;
- + Openings within the student accommodation building, which are located less than 6m from the far side of Darlington Lane,
 - + Openings within the proposed student accommodation building which are located less than 6m from the Darlington terraces
 - + Openings within the proposed Darlington Road terraces, which are located less than 6m from the student accommodation and 132 Darlington Road building
 - + New openings proposed within the Darlington Road terraces which are located less than 3m from the allotment boundary
- 4. BCA cl. C3.11** Bounding construction to the Darlington Terraces to be rationalised to that equivalent to a class 1b building. Refer also compliance strategy above.
- Bounding construction to small common/study rooms to be rationalised to permit glazed smoke separation to the public corridors in lieu of fire rated construction.
- 5. BCA cl. D1.4:** Extended exit travel distance comprising of the following
- Darlington Terraces -**
- + Up to 12m to and exit worst case from the ground floor SOU's, noting that there are multiple exits from this storey
 - + Up to 8m to a single exit worst case being the internal non-fire isolated stairway when measured from the SOU door.
- Building A -**
- + Ground Floor – Up to 22m to a point of choice between two when measured from the store room behind the lecture/theatre room.
 - + Lv. 3 – Up to 12m to a point of choice from SOU doorways in lieu of 6m.
 - + Lv. 4 – Up to 28m to a point of choice from the green roof in lieu of 20m.
- Note:** Access to this area will need to be confirmed.
- Building D -**
- + Lv. 2 - 3 – Up to 8m to a single exit being the internal non-fire isolated stairway from SOU doorways in lieu of 6m
- Note:** Egress from the proposed bike storage area is to be confirmed, particularly with respect of any existing conditions within 132 Darlington Road and any fire isolated passageways and/or stairways.
- 6. BCA cl. D1.6** Reduced width to the Darlington Terraces particularly within existing corridors and internal stairways worst case 760mm in lieu of 1m.
- 7. BCA cl. D1.10** Discharge of final egress door from 132 Darlington Road across a separate allotment.
- Note:** We understand that the remainder of the allotments will be consolidated as part of the project. This will need to be confirmed.
- 8. BCA cl. D2.15** We note that there are various doorways within the Darlington Terraces project which incorporate a step in a case which it is not otherwise permitted. Particularly to the doorways within the smoke walls between terraces.
- 9. BCA cl. E1.3** Further to the fire safety strategy above, Fire Hydrant coverage to the Darlington Road terraces to be provided by street hydrants in a case where the new buildings will be provided with Internal Hydrant coverage.



10 BCA cl. E1.4 It is proposed to rationalise Fire Hose Reel coverage to the class 9b areas within Building A on the basis that additional Portable Fire Extinguishers are installed throughout.

11. BCA cl. E1.5 The location of the sprinkler control valve room for Building A/B not being directly connected to open space. Note also the proposed consolidated sprinkler system under the Fire Safety Strategy above.

Note 1: Refer also compliance strategy, regarding rationalising the bounding construction and egress arrangement within the existing terraces fronting Darlington Road and the proposed consolidation of fire services across the allotment.

Note 2: Please note that the above matters have been identified arising from a review of the DA architectural plans. A further detailed assessment of the Crown Certificate architectural plans will be undertaken prior to issue of the Crown Certificate.

DISABILITY (ACCESS TO PREMISES-BUILDINGS) STANDARDS 2010

The Disability (Access to Premises-Buildings) Standards 2010 (the Access to Premises Standards) requires the building to comply with the Access Code (BCA Part D3 & AS 1428.1-2009).

With respect to the proposed new building, compliance with the Access Code is achieved if the building complies with:

- + BCA clauses D3.1 to D3.12;
- + BCA clause E3.6;
- + BCA clauses F2.2 and F2.4.

Detailed documentation demonstrating compliance with the above BCA provisions and AS 1428.1-2009 will be required for assessment at Crown Certificate stage. However, our review of the DA documentation indicates that compliance with the abovementioned provisions will be readily achievable. In the event that DTS compliance is not achieved, an Alternative Solution will need to be documented by an appropriately qualified Access Consultant.

CONCLUSION

This report confirms that BM+G have undertaken a review of the DA architectural plans for the proposed Darlington Terraces mix use development against the deemed-to-satisfy provisions of the Building Code of Australia 2016 and the Disability (Access to Premises – Buildings) Standards 2010.

It is our experience that such compliance matters raised in this report are not uncommon for a development of this nature and that they can be readily addressed at Crown Certificate stage. In this instance, we are of the opinion that any amendments required to the design documentation in order to comply with the BCA can be addressed in the preparation of the detailed documentation for Crown Certificate without giving rise to significant changes to the proposal as submitted for Development Application.

Arising from our review, it is considered that the proposed development can readily achieve compliance with the relevant provisions of the BCA.

Yours sincerely,

Jake Hofner
Building Surveyor
Blackett Maguire + Goldsmith Pty Ltd