




# Marrickville Metro Extension and Refurbishment (Stage 1B)

## BCA Assessment Report for S75W Application

REPORT 2016/1339 R1.2  
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## **EXECUTIVE SUMMARY**

Marrickville Metro Shopping Centre is located at 34 Victoria Road, Marrickville. The existing shopping centre fronts Victoria Road to the north, Murray Street to the east and Smidmore Street to the south and is adjoined by single storey residential dwellings to the west. The shopping centre is predominantly a single level retail building and comprises major tenants being Kmart, Woolworths and Aldi as well as a range of speciality stores. Car parking is located at roof top level with existing vehicle ramp access via Smidmore Street and Murray Street.

AMP Capital Investors proposes to upgrade and expand Marrickville Metro Shopping Centre to accommodate additional retail floor space, improved facilities and services, as well as enhance convenience and accessibility for the community.

**Stage 1B** will involve the redevelopment of the industrial site at 13-55 Edinburgh Road to accommodate the new two level retail centre including car parking above. The works will form a standalone structure connected to the existing centre via a pedestrian footbridge. It has been assessed as a separate building in terms of BCA compliance.

Any ancillary works undertaken within the existing building will not trigger a BCA upgrade. Compliance issues associated with the existing centre may remain however, no reduction in the current level of fire safety afforded to the existing centre will be permitted. All new works must comply with their respective BCA requirements.

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## 1. INTRODUCTION

This report has been prepared on behalf of AMP Capital Investors (AMP) in support of a Section 75W Modification Application of the Major Project Approval MP09\_0191, for the expansion of the Marrickville Metro Shopping Centre (the Site).

The Major Project was granted Approval by the Minister of Planning on 19th March 2012 for the carrying out of the following development:

- Demolition of existing warehouse buildings and associated structures on the Edinburgh Road site;
- Refurbishments and construction of a first-floor addition to the existing retail building on the Victoria Road site and the construction of a new building with two levels of retail on Edinburgh Road site comprising:
- A discount department store (5,000sqm), supermarket (4,500sqm), mini-major (1,791sqm) and speciality retail (4,464sqm) [as amended];
- An additional 21,780sqm GFA (16,767sqm GLFA) to provide a total of 50,705sqm GFA (39,700sqm GLFA)
- Authorise the use of 1606 car parking spaces comprising 1100 existing spaces and 506 additional car parking spaces [as amended].

The content of this report responds to the Secretary's Environmental Assessment Requirements (SEARs), and is intended to assist with the assessment of the modification proposal against the relevant considerations under of the *Environmental Planning and Assessment Act 1979 (EP&A Act)*.

It presents the findings of an assessment of the design of against the Deemed-to-Satisfy (DTS) provisions of the relevant sections of the Building Code of Australia (BCA).

## 2. PURPOSE

The purpose of this report is to provide an assessment of the design documentation for the proposed project against the current requirements of the BCA.

## 3. SCOPE AND LIMITATIONS

### 3.1. SCOPE

The scope of this assessment is limited to the design documentation referenced in Appendix C of this report.

### 3.2. LIMITATIONS

The following limitations apply to the assessment:

- The plans are assessed to the extent necessary to issue a construction certificate under Part 4a of The Act. This means that the design has been assessed as able to comply with the BCA ie – the submitted plans are consistent with the BCA but certain design details may be not specified at this stage.
- Details in regard to access for people with disabilities have been assessed to the extent of the deemed-to-satisfy provisions of the BCA only. The assessment does not consider the

requirements for people with disabilities under the provisions of the Disabilities Discrimination Act 1992.

- The assessment does not consider the requirements of legislation other than the nominated sections of the EP&A Act which might address building works such as OH&S, Construction Safety or the like.

#### **4. STATUTORY FRAMEWORK**

The following table summarises the key statutory issues relating to fire safety and the BCA in relation to the certification of new building works.

##### **4.1. NEW WORK**

Clause 145 of the Environmental Planning and Assessment Regulation 2000 (EPAR) requires that all new work comply with the current requirements of the BCA.

This means that all works proposed in the plans are required to comply but that existing features of an existing building need not comply with the BCA unless required to under other clauses of the legislation.

#### **5. THE PROPOSED MODIFICATION**

The proposed modifications are illustrated on the Architectural Plans and will comprise the following:

- A revised retail layout within the new shopping centre building proposed under Stage 1B (Edinburgh Road site), including amended traveller locations, new food and beverage uses at ground level, reconfigured shop units and alterations to the upper floor parking layout.
- Alterations to the building façade on Smidmore Street, amendments to materials used in elevations and minor increase in height of the new shopping centre building to facilitate upper floor parking, along with rooftop plant and equipment;
- Extending operating hours for a limited number of shops on the ground floor to encourage night time activation for the food and beverage shops;
- Erection of a new pedestrian bridge linking Level one of the new shopping centre building to the existing shopping centre;
- An amended road alignment and modification to the vehicular route on Smidmore Street to implement a new one-way access off Murray Street;
- Introduction of a right-hand entry into the new building from Edinburgh Road;
- Redistribution of car space provisions across the development without increasing the overall permitted car parking numbers;
- Introduction of paid parking across the site.
- Redistribution of the GFA across the site without increasing the overall permitted GFA.
- Introduction of signage / signage zones on the development along with a potential zone for mural(s) on the frontage.

## 6. STAGING

The MOD2 application which was approved in April 2015 contained an updated construction staging programme. As a result of this, the following stages of development are consented:

### Stage 1A

The proposed early stage of works or Stage 1A of the development would focus on the Victoria Road entrance and comprise:

- an upgrade to the portion of the existing building façade facing Victoria Road, which will include a minor increase in floor area which occurs with the new alignment of the external walls of the building,
- an upgrade to the main entry in the shopping centre;
- new paving and landscape treatment to 'Civic Place';
- archival recording of the Mill House [as required by Condition C7 of the original approval];
- preservation of the existing brick footpath [required by Condition E7 of the original approval]; and
- traffic management works and with some associated stormwater management works [required by Conditions B15(f), B15(g) and B17].

The above works which formed Stage 1A were completed in March 2017.

### Stage 1B

Stage 1B will comprise the new building on the Edinburgh Road site, which will become an extension of the existing Marrickville Metro Shopping Centre, and alterations to the portion of the existing building on or near Smidmore Street, as this area has a physical relationship with and provides the pedestrian connection to the new shopping centre extension.

### Stage 2

Stage 2 will continue to be the balance of the work proposed for the redevelopment of the existing shopping centre building, including an additional retail floor at first floor level and additional rooftop car parking.

This Modification application principally concerns Stage 1B of the proposed development.

## 7. ASSESSMENT DATA SUMMARY

The following basic assessment data has been drawn from the provisions of the BCA 2016.

### 7.1. ASSUMPTIONS

Assumptions made in the preparation of this report are listed below:

1. The building will have an effective height that is less than 25m.

### 7.2. INTERPRETATIONS

A number of issues within the BCA are recognised to be interpretive in nature. Where these issues are encountered, interpretations are made that are consistent with Standard Industry Practise and/or Steve Watson & Partners policy formulated in regard of each issue.

1. Population numbers and egress widths for the **retail portions (excluding loading docks)** of the buildings have been calculated based on the figures recommended in Project 6 "Fire Safety in Shopping Centres" prepared by the Fire Code Reform Centre.
2. Population numbers and egress width for the **carpark and loading dock portions** of the

buildings have been calculated based upon table D1.13 of the BCA.

### 7.3. BUILDING CHARACTERISTICS

The following assessment data has been drawn from the provisions of the BCA.

#### 7.3.1. Classification

The significant spaces in the proposed design have been classified in accordance with the requirements of Clause A3.2 of the BCA and are summarised in the table below:

<b>Floor</b>	<b>Space</b>	<b>Classification</b>
Ground Level	Retail & Dock	Class 6
Level 1	Retail	Class 6
Level 2	Retail, Carpark and storage	Class 6 and 7a
Level 2a	Retail, Carpark and storage	Class 6 and 7a
Level 2b	Roof top Carpark	Class 7a

#### 7.3.2. Summary of construction determination

The type of construction required for the proposed design is summarised in the table below.

Classification	Class 6 & 7a
Number of storeys contained	5
Rise in storeys	5
Type of construction required	Type A (Large Isolated)
Effective height	<25m

### 7.4. FLOOR AREAS AND VOLUMES

#### Stage 1b

<b>Floor</b>	<b>Approx Area (m<sup>2</sup>)</b>	<b>Approx Volume (m<sup>3</sup>)</b>	<b>Comment</b>
Ground	7,023m <sup>2</sup>	Not determined	The existing centre has not been included in this assessment.
Level 1	7,719m <sup>2</sup>	Not determined	
Level 2	6,683m <sup>2</sup>	Not determined	
Level 2a	6,683m <sup>2</sup>	Not determined	
Level 2b	3,632m <sup>2</sup>	Not determined	

## 7.5. NOMINATED FIRE COMPARTMENTS

Compartment	Approx Area (m <sup>2</sup> )	Approx Volume (m <sup>3</sup> )	Comment
Ground, Level 1 & 2	4,767m <sup>2</sup> + 7,793m <sup>2</sup> + 832m <sup>2</sup> + 878 Total 14,270	Not applicable	Large isolated building - The existing centre has not been included in this assessment.

## 8. BCA ASSESSMENT

### 8.1. SECTION B: STRUCTURE

All new works to comply with the current requirements of the BCA and applicable Australian Standards.

### 8.2. SECTION C: FIRE RESISTANCE

#### Stage 1b

The building is to be erected in Type A fire resisting construction in accordance with Specification C1.1 of the BCA. It is proposed to rationalise the FRLs from 180/180/180 to 120/120/120. It has been treated as a Large Isolated. With the exception of the pedestrian footbridge perimeter access appears to comply with the DtS requirements of C2.4.

***Compliance is proposed to be achieved on a performance basis via a Fire Engineered Alternative solution.***

### 8.3. SECTION D: ACCESS AND EGRESS

The building has a rise in storeys of 5 and will be served by a sprinkler system.

The following travel distances are proposed in the new building:

- 26m from the ground floor amenities
- 30m from retail speciality tenancies
- 62m to an exit within the retail portion (Level 1)
- 128m between alternative exits within the retail portion;
- 120m between alternative exits in the open carpark; and

***Compliance is proposed to be achieved on a performance basis via a Fire Engineered Alternative solution.***

Access complying with AS1428.1 is to be provided to the following areas of the new building:

- From the allotment boundary at the major points of entry.
- To and within all areas normally used by the public
- From any accessible carparking space on the allotment.
- Through the principle public entrance

### 8.4. SECTION E: SERVICES AND EQUIPMENT

The building is proposed to be served by its own dedicated hydrant system complying with AS2419.2005. We note that the building has been assessed as "Large Isolated" and as such must be served by a ring main. It is also proposed to be served by hose reels installed accordance with



AS2441 – 2005.

The building is proposed to be provided with a sprinkler system in accordance AS 2118 – 199 and Specification E1.5. The existing centre is currently served by an AS2118-1982 sprinkler system which is proposed to remain in service throughout Stage 1b.

The building is proposed to be served by its own dedicated fire control centre.

The building is proposed to be served by an automatic smoke exhaust system complying with Specification E2.2.

The new building is proposed to be served by emergency lighting complying with Clause E4.2 and exit signs complying with Clause E4.5.

## 8.5. SECTION F: HEALTH AND AMENITY

The status of sanitary facilities required by Part F2 of the BCA are set out below:

### Stage 1b New building only

The status of sanitary facilities required by Part F2 of the BCA are set out below:

Location	Use	Class	Population total	Staff	Patrons	Separate staff facilities	Staff requiring facilities
Ground	Restaurants	6	1835	61	1744	N	61
	Speciality Retail	6	296	30	266	N	30
	Mall	6	116	NA	116	NA	NA
Level 1	Supermarket	6	712	36	676	Y	0
	Speciality Retail	6	374	37	337	N	37
	Mall	6	102	NA	102	N	0
Level 2	Speciality Retail	6	139	14	125	N	14
<b>TOTAL</b>				<b>163</b>	<b>1744 Restaurant 1622 Shoppers</b>		<b>142</b>

Staff to patron ratio – Speciality Retail and Mini Major: 10%

Staff to patron ratio – Major: 5%

### Speciality Retail mini majors and mall only (The supermarket will be served by their own dedicated facilities)

Area	Occupant Numbers			WC Required	Urinal Required	Basin Required
	Total					
Levels G, 1 and 2 Speciality Retail	<b>1622</b> Patrons	Male	811	1	2	2
		Female	811	3	N/A	2
		Accessible		1	N/A	1
	<b>157</b> Staff	Male	79	4	3	3
		Female	79	6	N/A	3

Area	Occupant Numbers			WC Required	Urinal Required	Basin Required
	Total					
Level G Restaurants	1744 Patrons	Male	872	5	8	6
		Female	872	13	N/A	6
		Accessible	-	1	N/A	1
* The required accessible facility's on Level G and 1 have been counted once for each sex.						

All new work to comply with the current requirements of Section F of the BCA. We note that the existing building has a surplus of public amenities. This surplus may be relied upon to make up the required number of amenities for shoppers and staff, noting that restaurant patrons will be exclusively serviced by amenities within the stage 1b development.

### 8.1. SECTION J: HEALTH AND AMENITY

All new work to comply with the current requirements of Section J of the BCA.

## 9. CONCLUSION

We note that the Stage 1b works associated with the industrial site will form a standalone structure and as such will be treated as a separate building in terms of BCA compliance. Works associated with the refurbishment of the existing shopping centre building fronting the northern side of Smidmore Street will not trigger a BCA upgrade of the existing building. Compliance issues associated with the existing centre will remain however no reduction in the current level of fire safety afforded to the existing centre will be permitted

The proposed alterations and additions associated with the Marrickville Metro redevelopment are capable of complying with the relevant requirements of the BCA & EPAR.

It is proposed to satisfy the following by alternative solutions:

Item	Non-Compliance	DTS Clause	Description	Performance Requirement	Comments
1.	Type of construction required	C1.1	The building is proposed to be constructed using 120/120/120 construction in lieu of 180/180/180	CP1 & CP2	
2.	Requirements for open spaces and vehicular access	C2.4	Complying vehicular access is not provided around the whole building.	CP9	
3.	Separation by fire walls	C2.7	The Level 2 and 2A carpark carparks are proposed to be a separated by a firewalls. The walls will incorporate glazed mall entry doors and shopfront,	CP4	
4.	Doorways in fire walls	C3.5	The fire wall separating the the retail and carpark will incorporate glass doors.	CP4	

Item	Non-Compliance	DTS Clause	Description	Performance Requirement	Comments
5.	Exit travel distances	D1.4	Travel distance to a point of choice exceeds 20m in a number of tenancies. <ul style="list-style-type: none"> <li>26m from the ground floor amenities</li> <li>30m from retail speciality tenancies</li> </ul>	DP4 & EP2.2	
6.	Exit travel distances	D1.4	Travel distance to an exit exceeds the permissible 40m. <ul style="list-style-type: none"> <li>62m to an exit within the retail portion</li> <li>80m to an exit within the open deck carpark</li> </ul>	DP4 & EP2.2	
7.	Distance between alternative exits	D1.5	Travel distance between alternative exits exceeds the permissible 60m <ul style="list-style-type: none"> <li>100m between alternative exits within the retail portion; and</li> <li>120m between alternative exits in the open deck carpark.</li> </ul>	DP4	
8.	Travel via fire-isolated exits	D1.7	The supermarket tenancy opens directly into fire-isolated stairways or passageways. The subject spaces do not occupy the entire storey.	DP5 & EP2.2	
9.	Non-required stairs, ramps or escalators	D1.12	Escalators are proposed to connect more than three (3) consecutive stories. Five (4) storeys connected in total.	DP4 EP2.2	
10.	Operation of latch	D2.21	Tenancies with floor areas >200m <sup>2</sup> are proposed to be fitted with snib locks.	DP4	
11.	Operation of latch	D2.21	Supermarket - The supermarket entry is fitted with a roller shutter and is proposed to serve as a path of travel to an exit,	DP4	
12.	Hydrant	E1.3	The hydrant booster is not located within sight of the main building entry.	EP1.3	

Item	Non-Compliance	DTS Clause	Description	Performance Requirement	Comments
13.	Smoke Hazard Management	E2.2	<p>The building has been assessed as large isolated. It also has a Class 6 &amp; 7a portion with a combined floor area that exceeds 18,000m<sup>2</sup>.</p> <p>As such the entire building including the carpark and loading dock is required to be served by a smoke exhaust system.</p> <p>We note that smoke exhaust will be omitted in the following areas,</p> <ul style="list-style-type: none"> <li>• Loading dock</li> <li>• Storerooms</li> <li>• Plant rooms</li> </ul>	EP2.2	
14.	Fire Control Centre	E1.8	Access to the fire control centre involves a change in level of 780mm from the street instead of 300mm.	EP1.6	
15.	Exit Signs	E4.5	Exit signs in the malls and tenancies are proposed to be located at a height greater than 2.7m	EP4.2	

**10. APPENDIX A – REFERENCED DOCUMENTATION**

The following documentation was used in the preparation of this report:

<b><i>Drawing No.</i></b>	<b><i>Title</i></b>	<b><i>Issue</i></b>	<b><i>Date</i></b>	<b><i>Drawn By</i></b>
EA106	General Arrangements Ground Floor	A	25.09.2017	Hames Sharley
EA107	General Arrangements Level 1 Floor Plan	A	25.09.2017	Hames Sharley
EA108	General Arrangements Level 2 Floor Plan	A	25.09.2017	Hames Sharley
EA109	General Arrangements Level 2A Floor Plan	A	25.09.2017	Hames Sharley
EA110	General Arrangements Roof Plan	A	25.09.2017	Hames Sharley

## 11. APPENDIX B – STATUTORY FIRE SAFETY MEASURES

### Schedule of Statutory Fire Safety Measures

#### Stage 1b New portion

Measure	Standard of Performance
Automatic fail safe devices	Scheduled devices release upon trip of sprinkler activation in accordance with BCA2016 Clause D2.21.
Automatic Fire Detection and Alarm System (smoke detection system to activate smoke exhaust system)	BCA2016 Clause 5 of Specification E2.2a
Automatic fire suppression systems (Sprinklers)	BCA2016 Specification E1.5 and AS 2118.1 – 1999
Emergency lighting	BCA2016 Clause E4.2, E4.4 and AS 2293.1 – 2005
Exit signs	BCA2016 Clause E4.5, NSW E4.6, E4.8 and AS 2293.1 – 2005
Fire control centre	BCA2016 Specification E1.8
Fire dampers	BCA2016 Clause C3.15 and AS/NZS 1668.1 – 1998 (AS 1682.1-1990 and AS 1682.2-1990)
Fire seals protecting opening in fire resisting components of the building	BCA2016 Clause C3.15, Specification C3.15 and AS 1530.4 – 2005 and AS 4072.1 – 2005 and installed in accordance with the tested prototype.
Fire Doors	BCA2016 Specification C3.4 and AS/NZS 1905.1 – 2005
Fire hydrants systems	BCA2016 Clause E1.3 and AS 2419.1 – 2005
Hose reel system	BCA2016 Clause E1.4 and AS 2441 – 2005
Lightweight Construction	BCA2016 Specifications C1.8, Clause A2.3 and AS 1530.4-2005
Mechanical air handling system ( <i>automatic smoke exhaust system</i> )	BCA2016 Specification E2.2b, AS1670.1 and AS1670.3
Perimeter vehicle access for emergency vehicles	BCA2016 Clause C2.4
Portable Fire Extinguishers	BCA2016 Clause E1.6 and AS 2444 – 2001
Portable fire extinguishers	BCA2016 Clause E1.6 and AS 2444 – 2001
Warning and operational signs	BCA2016 Clauses C3.6, D1.17, NSW D2.19 and E3.3,

Note that the fire safety schedule may need to be amended subject to the inclusion of a fire engineered alternative solution.