



FIRE ENGINEERING STATEMENT

FOR

**AMENITIES BLOCK – WARRINGAH MALL
DEVELOPMENT APPLICATION**

Report 2023 / 1906 – R2.0
29 May 2023

DISTRIBUTION

Scentre Design & Construction – Project Managers
 Steve Watson and Partners – BCA Consultant
 Northern Beaches Council – Consent Authority

REPORT HISTORY

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Revision 0.0	Draft	28/05/2023	For internal review
Revision 1.0	Draft	29/05/2023	For Client and Project Manager review

REPORT AUTHORISATION FOR THE CURRENT REVISION

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Date: 28/05/2023	Date: 29/05/2023	Date: 29/05/2023

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1. EXECUTIVE SUMMARY

This report documents the findings of a high-level fire safety engineering review carried out for the proposed design of works associated with a Development Application incorporating the construction of an amenities block within an existing naturally ventilated carpark (Green Carpark) and accessible from the existing mall on Level 1 at the Warringah Mall shopping centre. Fire Engineering Professionals Pty Ltd (FEP) undertook this review at the request of Scentre Group, who are the Development Managers.

The Warringah Mall shopping centre building is understood to have building characteristics as detailed in **Table 1-1**.

Table 1-1: BCA Descriptive Building Characteristics – Warringah Mall shopping centre

Characteristic	Description
Building Use	Shopping Mall, Car Park, Cinema
Classification	Class 6 – Retail) Class 7a – Carpark Class 9b – Cinemas
Type of Extension Required	Type A
Effective height	Less than 25m.

Fire Engineering Professionals Pty Ltd have been requested to review the proposed works associated with the construction of an amenities block on Level 1 of Warringah Mall with a view to providing Northern Beaches Council with a statement on whether the likely non-compliances with BCA DTS provisions associated with the proposed works, as identified Steve Watson & Partners [Report Ref. 2023/1054 dated 25 May 2023], are likely to be able to be addressed by a “Performance Solution”. The report is also proposed to serve as a confirmation to the Northern Beaches Council of the intention of Fire Engineering Professionals Pty Ltd to provide a “Fire Engineering Assessment” to address the proposed modifications in order that the building to remain consistent with the existing smoke management strategy for the Warringah Mall building.

It must be noted that this is a general fire engineering overview of the development and not a detailed fire engineering assessment, which will be developed in consultation with relevant stakeholders.

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2. INTRODUCTION

This report documents the findings of a high-level fire safety engineering review carried out for the proposed design of works associated with a Development Application incorporating the construction of an amenities block within an existing naturally ventilated carpark (Green Carpark) and accessible from the existing mall on Level 1 at the Warringah Mall shopping centre. Fire Engineering Professionals Pty Ltd (FEP) undertook this review at the request of Scentre Group, who are the Development Managers.

Fire Engineering Professionals Pty Ltd have been requested to review the proposed works associated with the construction of an amenities block on Level 1 of Warringah Mall with a view to providing Northern Beaches Council with a statement on whether the likely non-compliances with BCA DTS provisions associated with the proposed works, as identified by Steve Watson & Partners [Report Ref. 2023/1054 dated 25 May 2023], are likely to be able to be addressed by a “Performance Solution”.

The report is also proposed to serve as a confirmation to the Northern Beaches Council of the intention of Fire Engineering Professionals Pty Ltd to provide a “Fire Engineering Assessment” to address the proposed modifications in order that the building to remain consistent with the existing smoke management strategy for the Warringah Mall building. This assessment will be supported by qualitative and quantitative assessments including Computational Fluid Dynamics (CFD) modelling of worst credible fire scenarios affecting the smoke ventilation in the affected areas of the shopping centre.

FEP have been supplied with project drawings (see Appendix A) showing the design of the proposed construction of the amenities block and its relationship to the existing retail mall on Level 1 and the adjoining Green Carpark.

FEP have also been supplied with a BCA statement prepared by Steve Watson & Partners [Report Ref. 2023/1054 dated 25 May 2023] outlining the issues of non-compliance with the BCA DTS provisions which may require a detailed fire engineering assessment. This fire engineering review is based on the drawings showing the architectural design of the proposed works as referenced in **Section** Error! Reference source not found. and review of the associated BCA statement provided by Steve Watson & Partners.

3. PURPOSE

The purpose of this review is to provide a statement to Northern Beaches Council on the ability of the proposed design of works associated with a Development Application incorporating the construction of an amenities block and accessible from the existing mall on Level 1 at the Warringah Mall shopping centre, which are subject of a modified DA, to be addressed as a “Performance Solution”.

This report is also likely to form the basis of a Performance Based Design Brief (PBDB) for further discussions with relevant stakeholders for the project.

4. FIRE SAFETY OBJECTIVES

The core fire safety objectives of this review are:

- To review the non-compliances identified (by Steve Watson & Partners) with the DTS provisions of BCA associated with the proposed design of the amenities block that may require a “Performance Solution”; and
- To clarify the fire safety objectives of the preliminary assessment. The preliminary assessment will take into consideration the ability of the proposed building design and the fire safety measures in meeting the following fire safety objectives in the affected areas:
 - a. Prevention of fire spread within the building and to adjoining allotments; and
 - b. Facilitating safe evacuation of building occupants in the event of an accidental fire in the areas of the building which are affected by the proposed works; and
 - c. Facilitating Fire Brigade access to the building and intervention in the event of fire in the areas of the building which are affected by the proposed works.

Objectives such as protection of property; protection of furnishings; protection of reputation and ensuring business continuity; safety other than fire safety; have not been identified as design objectives of this assessment. However, by satisfying the core fire safety objectives some of the above objectives may also be satisfied..

5. ASSUMPTIONS AND LIMITATIONS OF THIS REVIEW

The following assumptions and limitations apply to this review:

- This document presents a fire engineering DA statement only and is not based on detailed site inspections or a review of detailed fire system design drawings or condition reports; and
- This statement is limited to a review of the proposed works without a list of BCA DTS non-compliances being provided to FEP. The scope of works is subject to all non-compliances with BCA DTS provisions being identified by a suitably qualified Building Regulations Consultant or an Accredited Certifying Authority; and
- FEP takes no responsibility in respect to costing of the works and the accuracy of any budgets developed by Scentre Group; and
- This statement is based on information provided to FEP without any specific smoke and evacuation modelling or detailed assessments being carried out.

6. PRINCIPAL BUILDING CHARACTERISTICS

Warringah Mall is an existing major urban shopping centre development located in Brookvale, NSW 2100. The building is located within an industrial business precinct and is bounded by Cross Street, Pittwater Road, Condamine Street and Old Pittwater Road.

The existing building is spread over three (3) interconnected retail levels and currently accommodates a number of major tenancies (Myer, David Jones, Coles, Woolworths, Target and Big W). The shopping centre also contains a number of mini-major and specialty tenancies. There are a number of multi-level undercover and open deck carparks and a cinema complex, library and a community centre forming part of the building.

The original building is understood to have been constructed in the mid-1960s with two major developments occurring from 1997 through to 2002 known as Stage 1 and 2. A recent extension to the building was completed in 2016.

In accordance with the DTS provisions of the BCA, the building is understood to have the following characteristics:

Table 6-1: BCA descriptive characteristics for Warringah Mall

Characteristic	Description
Building Use	Shopping Mall, Car Park, Cinema
Classification	Class 6 – Retail) Class 7a – Carpark Class 9b – Cinemas
Type of Extension Required	Type A
Effective height	Less than 25m.

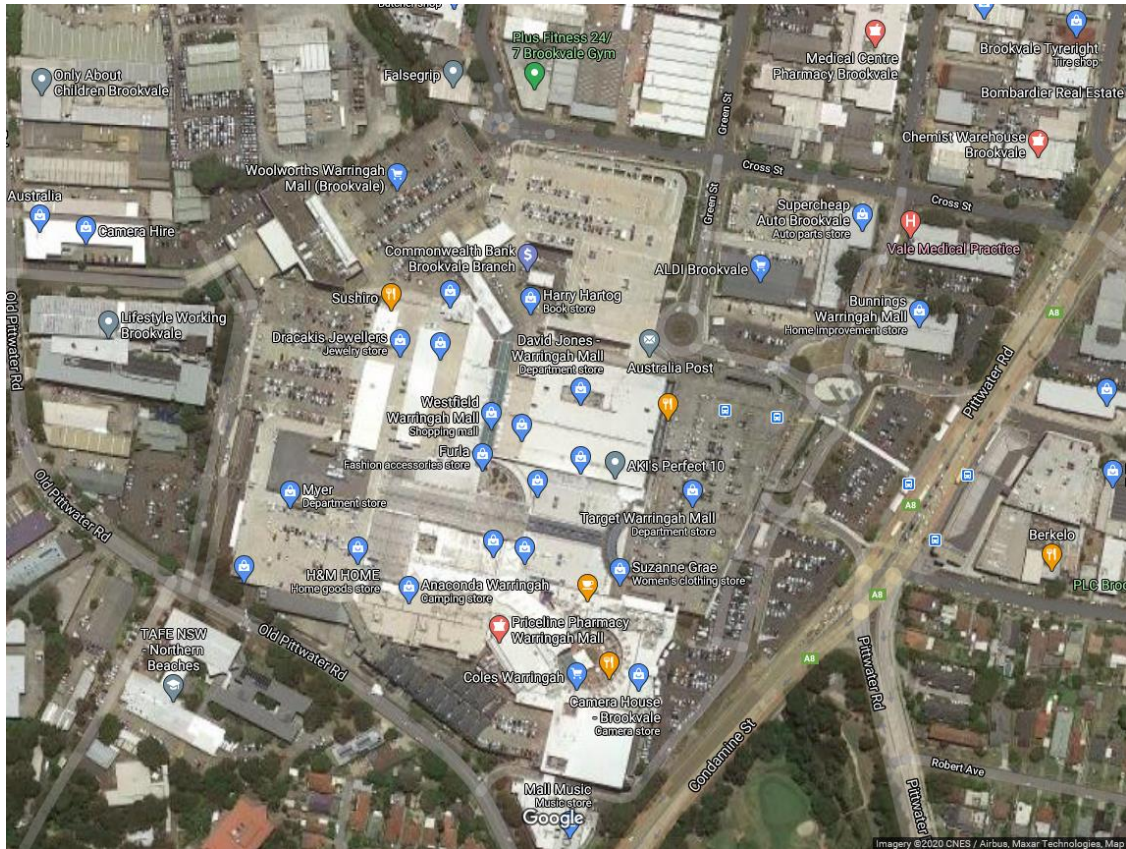


Figure 6-1: Aerial snapshot of the Warringah Mall shopping centre and surrounding streets (Courtesy Google).

7. BRIEF DESCRIPTION OF THE PROPOSED WORKS

The proposed works incorporate the construction of an amenities block which is to be located on the Level 1 within the north-eastern portion of Warringah Mall shopping centre. The amenities block is to occupy floor space which is currently occupied by a naturally ventilated ‘Green Carpark’. The amenities are to be provided access from pedestrian mall on Level 1 and is to be fire separated from the carpark. The location for the construction of the proposed amenities block is shown in **Figure 7-1** below.

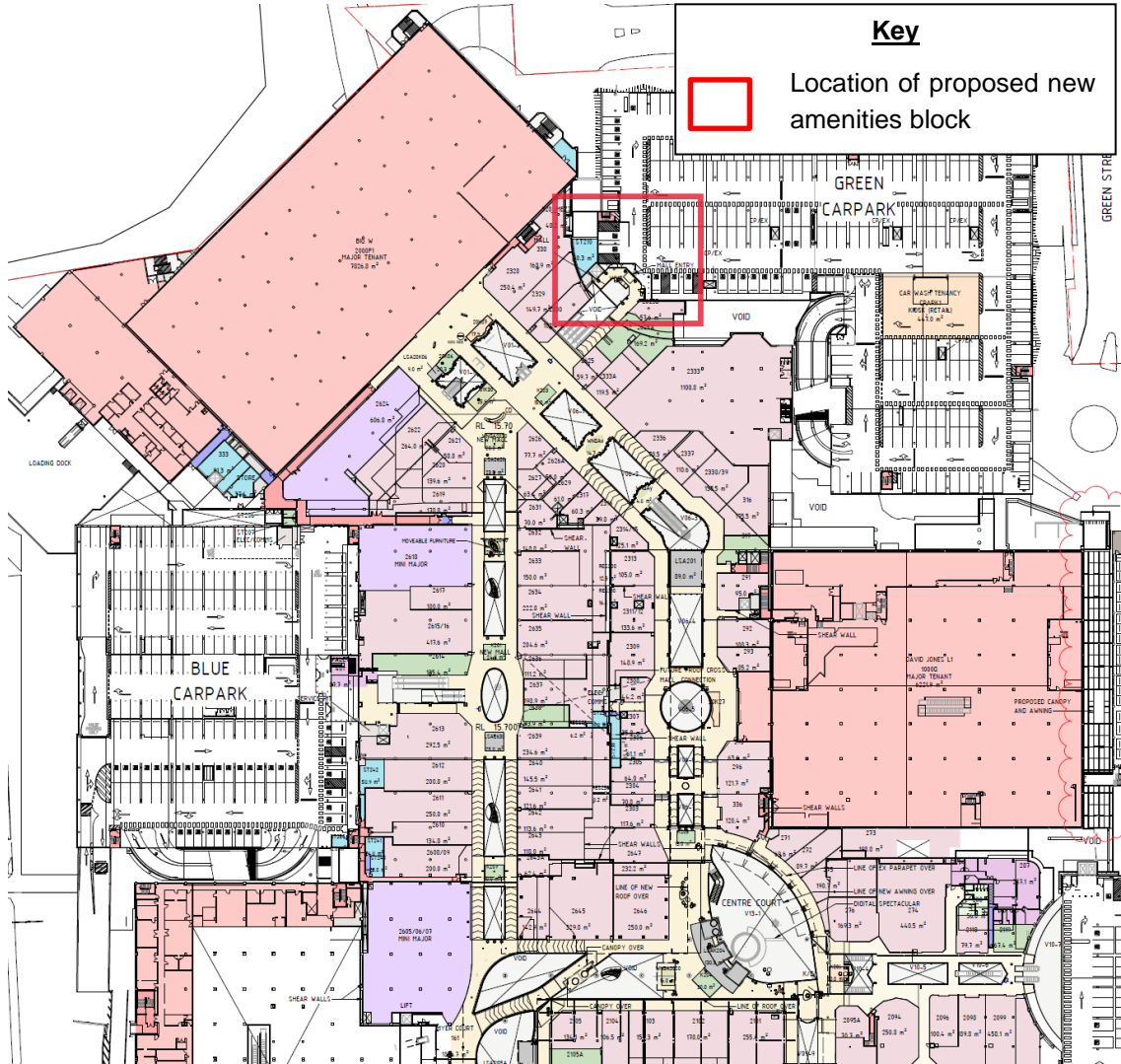


Figure 7-1: Location of the proposed amenities block (highlighted in ‘Red’ box) – Level 1, Warringah Mall

The proposed construction is to involve the following.

- The demolition of the existing carparking spaces and associated elements on Level 1 as identified in **Figure 7-2**; and
- Construction of a new amenities block containing male and female amenities and a parents room and associated facilities as identified in **Figure 7-3**.

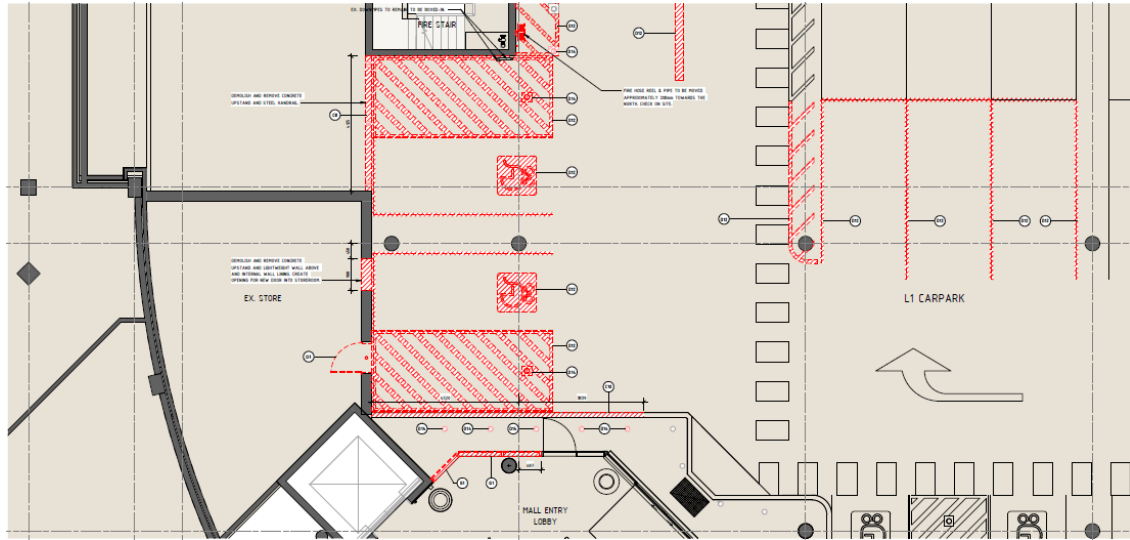


Figure 7-2: Demolition Plan for the proposed amenities block – Level 1, Warringah Mall

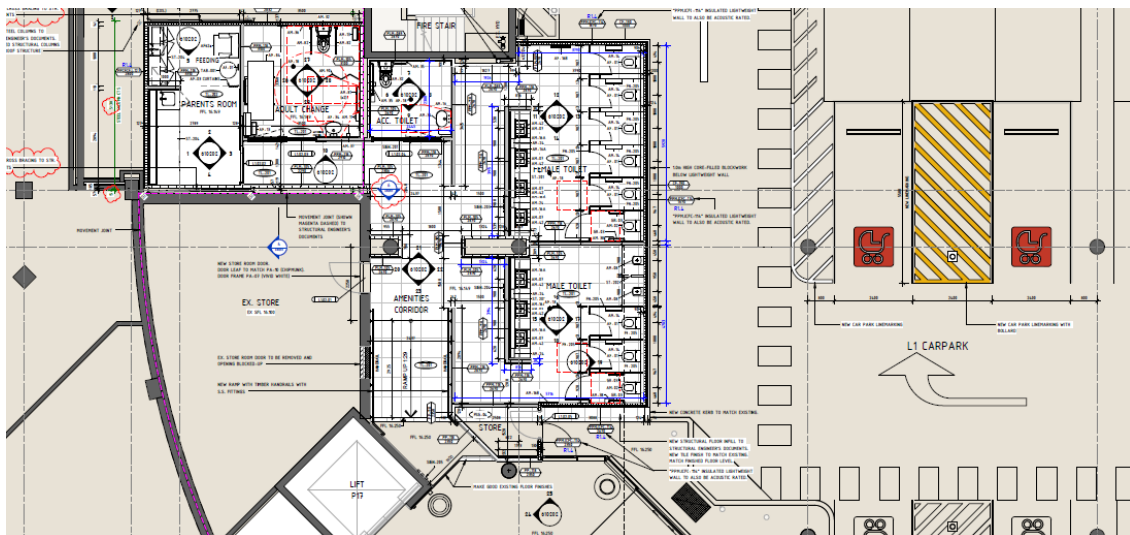


Figure 7-3: Proposed amenities block – Level 1, Warringah Mall

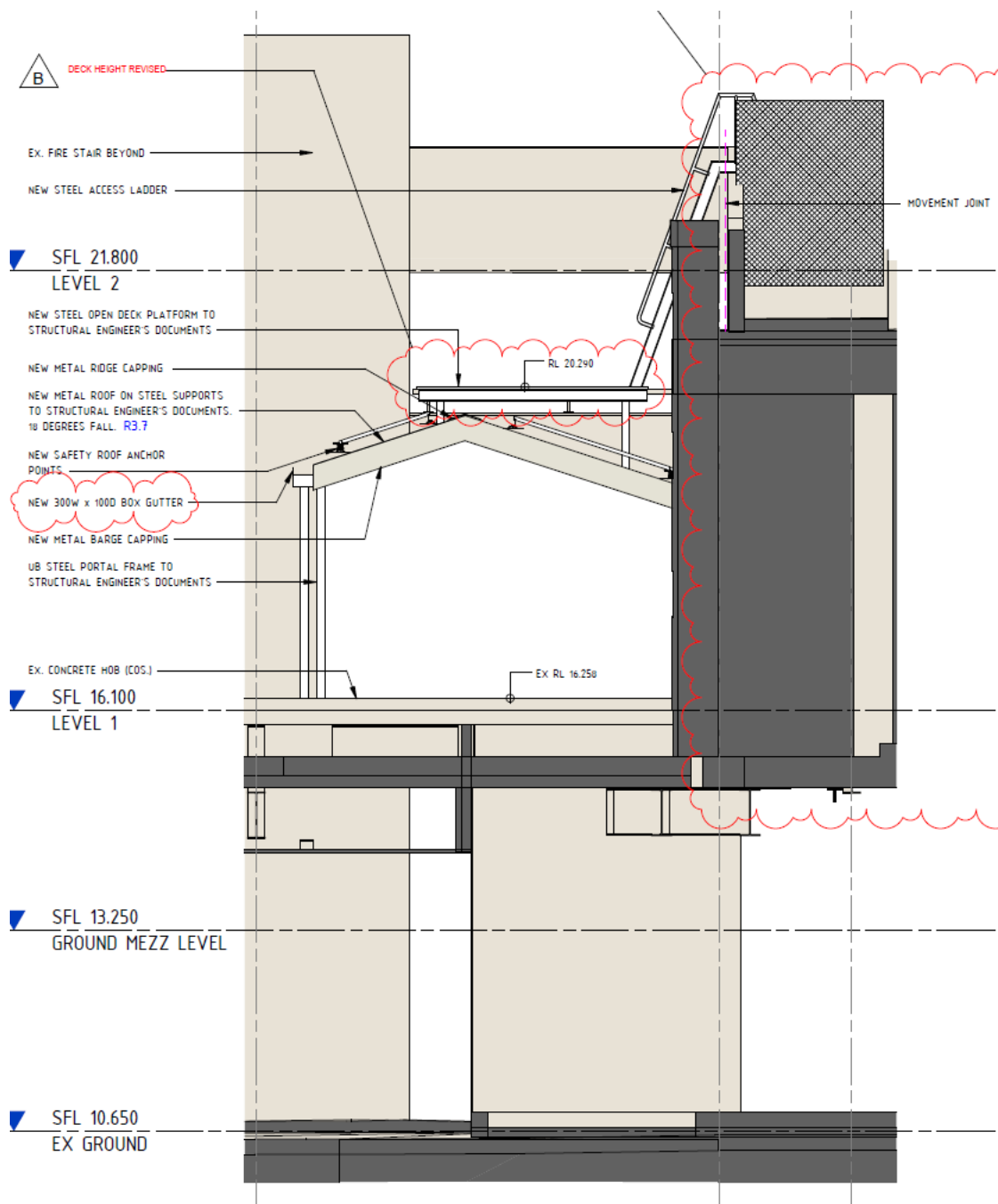


Figure 7-4: Proposed amenities block – west elevation

8. SUMMARY OF ITEMS REQUIRING A PERFORMANCE SOLUTION

The non-compliances with the BCA DTS provisions associated with the Performance Solution Report, as nominated in BCA statement prepared by Steve Watson & Partners [Report Ref. 2023/1054 dated 25 May 2023] to accompany the DA for the works associated with the proposed design of an amenities block to be located on Level 1 of Warringah Mall shopping centre are provided below:

- Clause C2D2 of BCA 2022 – The structural elements forming part of the proposed amenities construction are to achieve an FRL of 120/120/120 in lieu of 180/180/180 required by BCA DTS provisions. It should be noted that an FRL of 120/120/120 is consistent with the FRL of structural elements within the adjoining retail portions of the building in accordance with the base building fire engineering strategy for Warringah Mall. The Performance Requirements associated with the identified non-compliance have been nominated as C1P1 and C1P2; and
- Clause C4D4 – ‘Green Carpark’ forms a separate fire compartment to the retail portions of the building. The proposed amenities block is not proposed to be provided with a fire rated roof and the roof is to be located at a distance of less than 6m from the Level 2 carpark openings which does not comply with BDA DTS provisions. The Performance Requirement associated with the identified non-compliance has been nominated as C1P2.
- Clause E2D15 – The proposed amenities construction is considered to extend the existing smoke reservoir formed by the retail portions of the building. An analysis is to be carried out to assess whether the proposed amenities construction meets the intent of the smoke management strategy of the affected smoke zone within the retail portions of the building. The Performance Requirement associated with the identified non-compliance has been nominated as E2P2.

9. CONCLUSION

FEP have reviewed the architectural design for the works associated with the Development Application for the proposed construction of an amenities block to be located on Level 1 within the north-eastern portions of Warringah Mall shopping centre. FEP have also reviewed the BCA Assessment prepared by Steve Watson & Partners [Report Ref. 2023/1054 dated 25 May 2023] that forms part of this DA submission and consider that the non-compliances with BCA DTS provisions identified with the proposed building design are able to be addressed by way of a “Performance Solution”. The preparation of the 'Performance Solution Report' will require a discussion and an agreement between relevant stakeholders (Performance Based Design Brief process).

The Performance Based Design Brief (PBDB) Report will outline the fire engineering strategy that is to be adopted; the methodology for the fire engineering assessments; and the acceptance criteria nominated for each “Performance Solution” to be undertaken. A Trial Concept Design will also be nominated which outlines the building requirements which are required to be met in order for the building design to be shown, via supporting evidence in the form of fire engineering assessments, to be capable of meeting the Performance Requirements of the BCA with respect to the identified non-compliances.

10. APPENDIX A – DOCUMENTATION

The drawings identified in **Table 10-1** were examined during the production of this report.

Table 10-1: Assessment Documentation

Drawing Description	Drawing No.	Revision	Drawn	Date
Master Lease Plan Stage 2B Level 1	SDC-087005	D	Scentre Design & Construction Pty Ltd	12/09/2022
GA Plan – Stage 2B Zone 2 Level L1 New Amenities Block – Location Plan	SDC-100225	A	Scentre Design & Construction Pty Ltd	22/03/2023
Amenities Zone 02 – Level 1 Floor Plans	SDC-610200	B	Scentre Design & Construction Pty Ltd	18/04/2023
Amenities Zone 02 – Level 1 RCP & Demolition	SDC-610201	B	Scentre Design & Construction Pty Ltd	18/04/2023
Amenities Zone 02 – Level 1 External Elevations	SDC-610204	B	Scentre Design & Construction Pty Ltd	18/04/2023