BCA Capability Statement

43 – 61 Turner Road, Gregory Hills, NSW, 2557

Prepared for: Greenbox Architecture
Our Ref: 24000188 | Issue date: 30 September 2024

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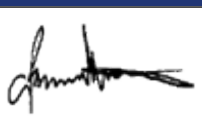
Authorisation

Revision	Comment / Reason for Issue	Issue Date	Prepared by	Reviewed by
01	SSDA Submission	30 September 2024		
			George Panagiotlaris	Heath McHab

Revision History

Revision	Comment / Reason for Issue	Issue Date	Prepared by
01	SSDA Submission	30 September 2024	George Panagiotlaris

Commercial in Confidence

1 Executive Summary

MBC Group have assessed architectural design documents prepared by Greenbox Architecture (refer appendix A) for compliance with the National Construction Code - Building Code of Australia Volume One 2022 (referred to as BCA).

The purpose of the assessment is to provide surety to the Consent Authority, Camden Council, that the proposed development has been assessed and is capable of complying with the BCA and that subsequent compliance with the provisions of Parts C, D and E of the BCA will not give rise to significant design amendments.

This statement does not consider Section 62 of the Environmental Planning and Assessment Regulation 2021, this clause is a consent authority consideration.

The application for Construction Certificate shall be assessed under the relevant provisions of the Environmental Planning & Assessment Act 1979 (As Amended) and the Environmental Planning & Assessment (Development Certification and Fire Safety) Regulation 2021.

2 Introduction

2.1 Purpose

The purpose of this statement is to assess the current design proposal against the Deemed-to-Satisfy (DtS) provisions of Sections C, D and E of the National Construction Code Series 2022 (Volume 1) – Building Code of Australia (referred to as BCA), and provide surety to the Consent Authority that the design is capable of compliance without significant design amendments.

The following MBC Group Team Members have contributed to this assessment:
- George Panagiotlaris
- Curtis Schumann

This Capability Statement is not intended to identify all issues of compliance or non-compliance with the BCA with such other issues to be appropriately addressed prior to issue of the Construction Certificate.

2.2 Methodology

The methodology applied in undertaking this assessment has included: -
- A desktop review of architectural plans, as listed in Appendix A
- Assessment of the architectural plans against the following relevant codes:-
    - Sections C, D & E (as applicable / relevant) of the National Construction Code Series (Volume 1) Building Code of Australia 2022 (BCA)
    - Environmental Planning and Assessment Act 1979 (EPAA)
    - Environmental Planning & Assessment (Development Certification and Fire Safety) Regulation 2021 (EPAR)
- Discussions with the design development team to gain an understanding of the development proposed.

2.3 Limitations

This statement **does not include** or imply any detailed assessment for design, compliance or upgrading for:
- the structural adequacy or design of the building;
- the inherent derived fire-resistance ratings of any proposed structural elements of the building (unless specifically referred to); and
- the design basis and/or operating capabilities (including pressure & flows) of any proposed
    - electrical
    - mechanical
    - hydraulic
    - fire protection services.
- Section 62 of the Environmental Planning and Assessment Regulation 2021

This statement does not include, or imply compliance with:
- the National Construction Code – Plumbing Code of Australia Volume 3

- the Disability Discrimination Act 1992 including the Disability ((Access to Premises – Buildings) Standards 2010 – unless specifically referred to)
- The deemed to satisfy provisions of Part D4 and F4D5 of BCA 2022
- The deemed to satisfy provisions of Sections B, F, G, H & J of BCA 2022
- Demolition Standards not referred to by the BCA;
- Work Health and Safety Act 2011;
- An out of cycle change to the Building Code of Australia.
- Requirements of other Regulatory Authorities including, but not limited to, Telstra, Telecommunications Supply Authority, Water Supply Authority, Electricity Supply Authority, Work Cover, Roads and Maritime Services (RMS), Roads and Transport Authority, Local Council, ARTC, Department of Planning and the like; and
- Conditions of Development Consent issued by the Local Consent Authority.

2.4 Conflict of Interest

This statement prepared by MBC Group was provided as part of MBC Group's contracted scope for this project, which is "Certification Work", as defined in the Building and Development Certifiers Regulation 2020.

Due to the strict requirements and limits in terms of conflicts of interest imposed under that regulation, MBC Group has not and cannot undertake any services other than Certification Work services on this project. Hence, the contents of this statement, and any associated correspondence, were provided in the context of a certification assessment, and should not be construed to constitute involvement in building design, the preparation of plans and specifications, the provision of advice on how to amend a plan or specification to ensure that the aspect will comply with legislative or code requirements, or to breach any other restriction or limitation imposed under the conflict of interest provisions of that or any other legislation.

3 Development Description

3.1 Proposed Development

The Proposal involves the construction of a data centre comprising of data halls, mechanical and electrical equipment rooms, offices, substation, security gatehouse, other ancillary support spaces, and external/rooftop, mechanical and electrical equipment.

Historically, the Site has been used for rural residential development. Based on historic mapping the Site has been progressively developed since the 1940s. However, the Site is currently unoccupied following its acquisition by the applicant in 2023. Currently, the Site is vacant, with farm dams and a former residential building remaining present within the extent of the Site. The area surrounding the Site is predominantly commercial/industrial land. Immediately to the east is comprised of a riparian corridor, and farther east comprises of vacant land and residential properties. The Site is zoned IN1 General Industrial under State Environmental Planning Policy (Precincts – Western Parkland City) 2021 (WPC SEPP).

The Site generally slopes downward from the northwest corner to the southeast corner. Ground elevations vary with the Site at its highest in the northwest corner at about 104 metres Australian Height Datum (mAHD). The Site is at its lowest in the southwest corner at about 91 mAHD.
A summary of the proposal's key features includes:

- Construction of a two storey data centre comprising:
    - 2 data halls including fitout of IT Racks and equipment, associated cabling and supporting services
    - 27 backup generators
    - With an IT capacity of about 53 megawatts (MW).
- Construction of a guard house
- Infrastructure comprising civil, stormwater and drainage works and utilities servicing and connections.
- Diesel storage capacity of about 900 kilo litres (kL)
- High voltage substation incorporating 132/22 kilovolt (kV) transformers and associated switching and control buildings.
- 68 standard car parking spaces (of which five would have EV charging), 2 car parking spaces compliant with the *Disability Discrimination Act 1992*, 10 shared bicycle parking spaces.
- Hours of operation being on a 24 hours per day, 7 days per week basis.

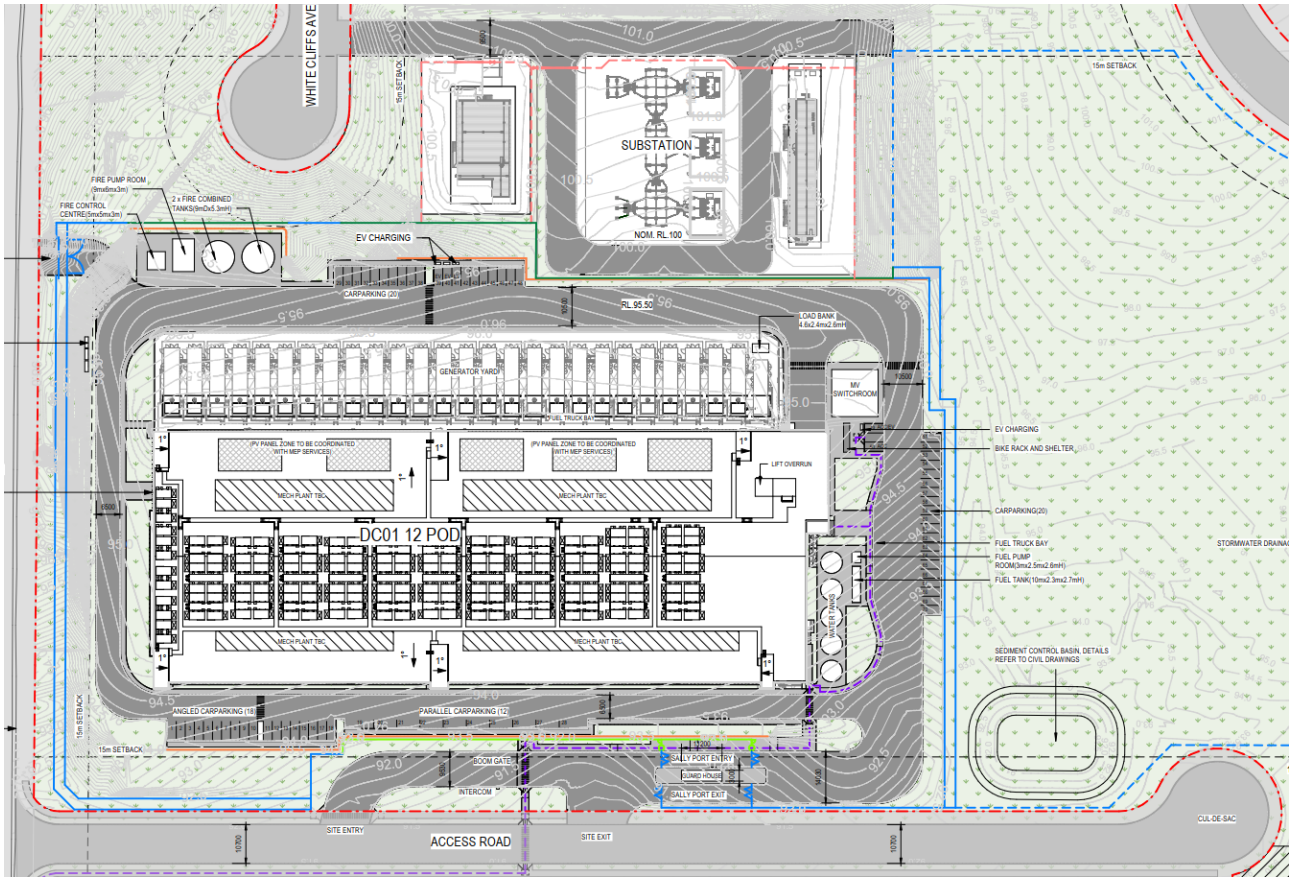
A separate development application will be lodged with Camden Council for the site preparation and early works including construction of a new eastern access road, turning head at White Cliffs Avenue and connection of Central Hills Drive through the northwestern portion of the site (refer to Figure 2).

It is expected to take approximately 18 months to build the data centre with construction of the building commencing in Q1 2026 and be completed in Q2 2027 (subject to planning approval and weather conditions). It would take an additional twelve months post-construction to fully fit out the data centre. The Proposal is expected to be fully operational in Q2 2028.

3.2 Location

The site is located on Turner Road in the suburb of Gregory Hills at numbers 43-61. The legal addresses are Lots 14 through to 17 of DP 28024. The site area for Stage 1 is appropriately 62,700m2.

The site is presently bounded by adjoining allotments to its southeast boundary and to its northwest boundary. The designated building entry is from Turner Road.



3.3 BCA Classification (Part A6)

The proposed development being a data centre has been classified as:

- Class 5: being an office building or part
- Class 7b: being a warehouse building or part

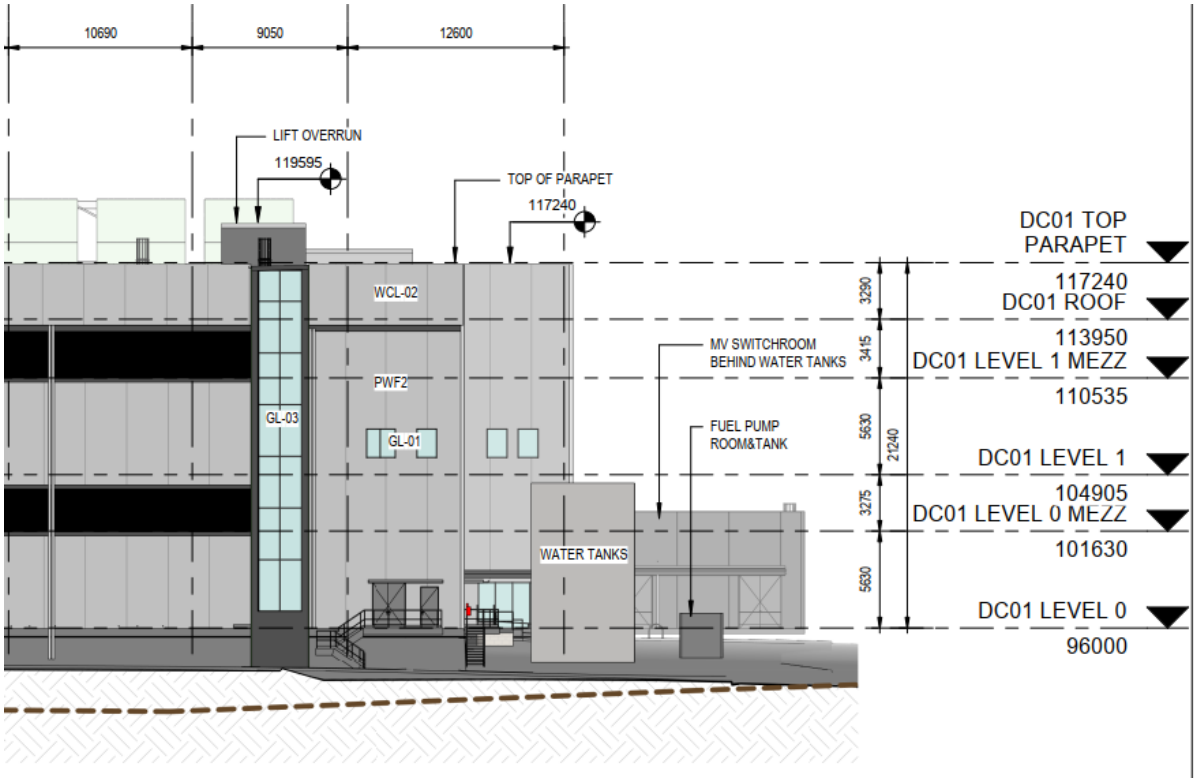
3.4 Rise in Storeys (Clause C2D3)

The proposed development is within a building that has been assessed to have a rise in storeys of four (4).

The rise of storeys contained (4) is different to the storeys contained of two (2). In a class 7b building; where the internal height is more than 6m; the storey is classified as 2 (two) storeys instead of 1 (one); hence the difference between rise of storeys and number of storeys contained.

3.5 Effective Heights (Part A1)

The proposed development has been assessed to have an effective height of 21.24m, this is measured from floor level 96000 to floor level 117240.



The BCA now defines effective height as: -

"Effective height means the vertical distance between the floor of the lowest storey included in a determination of rise in storeys and the floor of the topmost storey (excluding the topmost storey if it contains only heating, ventilating, lift or other equipment, water tanks or similar service units)."

3.6 Type of Construction Required (Clause C2D2 / Table C2D2)

The proposed development is required to be Type A Construction. Specification 5 outlines the fire resistance required by certain building elements.

3.7 Building Data Summary

Part of Development	Use	Class	Floor Area (approx.) m^2	Population (using D2D18)
Ground Level (Level 0)	Office/Storage/Plant	Class 7b/5	TBC by Architect	TBC
Ground Level - Mezzanine (Level 0)	Storage	Class 7b	TBC by Architect	TBC
Level 1	Office/Storage/Plant	Class 7b/5	TBC by Architect	TBC
Level 1 – Mezzanine	Storage	Class 7b	TBC by Architect	TBC
Roof Level	Plant	Ancillary	TBC by Architect	TBC
		TOTAL	-	-

Summary of Construction and Building	
Use(s)	Storage / Office (Ancillary)
Classifications(s)	7b / 5
Number of Storeys contained	2
Rise in Storeys	4
Type of Construction	Type A – Large Isolated
Effective Height	21.24m
Climate Zone	6
Importance Level	Structural Engineer is to determine importance level in accordance with BCA and AS1170 Part 0-2002, this must be specified in their design certificate

4 Proposed Fire Safety Schedule

The following is a draft Fire Safety Schedule for the proposed building, listing the likely measures and standards of performance required, this schedule shall be subject of further development and review as part of the Performance Solutions assessment:

DRAFT Fire Safety Schedule
Section 78 of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021

Premises:
Address: 43-61 Turner Road, Smeaton Grange, NSW, 2557

The following essential fire safety measures shall be implemented in the whole of the building premises and each of the fire safety measures must satisfy the standard of performance listed in the schedule which, for the purposes of Section 78 of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021, is deemed to be the current fire safety schedule for the building.

SCHEDULE – Base Building BCA 2022
Type of Construction A
Effective height = 21.24m

	Measure	**Status***	**Performance Standard**
1.	Access panels, doors and hoppers to fire-resisting shafts	New	BCA 2022 Section C4D14, AS 1905.1-2015, AS1905.2-2005 & Manufacturer's specifications
2.	Self-closing, automatic closing and latching mechanisms	New	BCA 2022 Section C4D5, C4D6, C4D7, C4D8, C34D9, C4D12, Spec 12
3.	Automatic fail safe devices	New	BCA 2022 Section C4D7, D3D24, D3D26, D3D27, Spec 12, AS 2118.1-2017, AS 1670.1-2018

	Measure	Status*	Performance Standard
4.	Automatic fire detection and alarm system	New	BCA 2022 Section E2D3, E2D4, E2D5, E2D6, E2D7, E2D8, E2D9, E2D10, E2D11, E2D12, E2D13, E2D14, E2D15, E2D16, E2D17, E2D18, E2D19, E2D20, E2D21 Spec 20 Section S20C2, S20C3, S20C4, S20C5, S20C6, S20C7 Spec 31, AS 3786-2014, AS 1670.1-2018, AS 1603 suite
5.	Automatic fire suppression system	New	BCA 2022 Section E1D4, Spec 17, Spec 18 FPAA101D, FPAA101H AS 2118.1-2017, AS 2118.4-2012, AS 2118.6-2012 (Combined System)
6.	Emergency lighting	New	BCA 2022 Section E4D2, E4D3 E4D4, AS 2293.1-2018
7.	Exit and directional signage	New	BCA 2022 Section E4D5, NSW E4D6 & E4D8, Spec E4.8 AS 2293.1-2018
8.	Fire control centres and rooms	New	BCA 2022 Section E1D15, Spec 19
9.	Fire & Smoke dampers	New	BCA 2022 Section E2D3, C3D6, C4D13, C4D15, Spec 11, Spec 19 AS/NZS 1668.1-2015, AS 1682.1-2015, AS 1682.2-2015, Manufacturer's specifications
10.	Fire doors	New	BCA 2022 Section C3D13, C3D14, C4D5, C4D7, C4D9, C4D12, Spec 12, AS 1905.1-2015
11.	Fire hose reel systems	New	BCA 2022 Section E1D3, AS 2441-2005
12.	Fire hydrant systems	New	BCA 2022 Section E1D3, AS 2419.1-2021, AS 2118.6-2012 (Combined System)

	Measure	Status*	Performance Standard
13.	Fire seals (protecting openings and service penetrations in fire resisting components of the building)	New	BCA 2022 Section C4D15, Spec 13, AS 4072.1-2005, AS 1530.4-2014, Manufacturer's specifications
14.	Fire shutters	New	BCA 2022 Section C4D5, Spec 12, AS 1530.4-2014, AS 1905.2-2005 tested prototype
15.	Fire windows (including frame)	New	BCA 2022 Section C4D5, BCA Spec 12, AS 1288-2021
16.	Lightweight construction	New	BCA 2022 Section C2D9, Spec6, Manufacturer's specifications
17.	Mechanical air handling systems	New	BCA 2022 Section C4D3, E2.2, Spec. E1.8, Spec E2.2a, Spec G3.8, AS/NZS 1668.1-2015, AS 1668.2-2012
18.	Openings in fire-isolated lift shafts	New	BCA 2022 Section C3.10, AS 1735.11-1986
19.	Occupant warning system	New	BCA 2022 Section E2D3, Spec 20 Section S20C7 AS 1670.1-2018
20.	Path of travel for stairways, passageway and ramps	New	Part 15 (107-109) of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021
21.	Perimeter vehicle access for emergency vehicles	New	BCA 2022 Section C3D5
22.	Portable fire extinguishers	New	BCA 2022 Section E1D14, AS 2444-2001
23.	Pressurising systems	New	BCA 2022 Section E2D4, AS 1668.1-2015
24.	Required automatic exit doors	New	BCA 2022 Section D3D24, D3D26
25.	Sliding Fire Doors	New	BCA 2022 Section C4D7, AS1905.1-2015

	Measure	Status*	Performance Standard
26.	Smoke and heat vents	New	BCA 2022 Section E2D3, NSW Section 14D59, Spec 31C13, AS 2665-2001
27.	Smoke exhaust system	New	BCA 2022 Section E2D3, Spec 21, AS/NZS 1668.1-2015
28.	Smoke doors	New	BCA 2022 Section C3D6, C3D15, Spec 11
29.	Smoke-proof walls	New	BCA 2022 NSW Section C3D6, Spec 11
30.	Solid core doors	New	BCA 2022 Section C4D12, NSW C4D12(10)
31.	Standby power systems	New	BCA 2022 Spec 31
32.	Warning and operational signs	New	BCA 2022 Section C4D7, D3D28, E3D4, Spec 31, Part 15 (Section 108) of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021
33.	Performance Solution Report XXXXX, prepared by XXXX dated XXXX	New	Performance Solution Report XXXXX, prepared by XXXX dated XXXX

Notes
* Indicate whether the measure is new (N), existing (E) or Modified (M)

5 Assessment

5.1 Relevant BCA Edition

The proposed development will be subject to compliance with the relevant requirements of the BCA as in force at the time that the application for the Construction Certificate is made.

Should an out of cycle change occur to the BCA, then this statement is required to be updated to reflect any applicable changes made and now required by the BCA.

In this regard it is assumed the Construction Certificate application is proposed to be made after the 1st May 2023. As such this statement is based upon the Deemed-to-Satisfy provisions of BCA 2022.

5.2 Compliance with the BCA

A desktop assessment was carried out against the technical provisions of the BCA and compliance matters will be addressed in the Construction Certificate documentation. It is noted that the proposed development must comply with the relevant requirements, and this can be achieved by complying with the Performance Requirements of the BCA:

5.2.1 A2GA Compliance with the Performance Requirements

Performance requirements are satisfied by one of the following:

1. A Performance Solution
2. A Deemed-to-Satisfy Solution
3. A combination of (1) and (2)

Upon assessment of architectural plans, MBC Group can verify that the proposed design can readily achieve compliance with the DtS provisions of the BCA and as such meet the performance requirements.

DTS Clause	Description of Non-Compliance	Performance Requirement
C3D5	**Requirements for open spaces and vehicular access** It has been assessed that the vehicular perimeter access around the building is not within 18m on the North East Corner (27m in lieu of 18m) & not within 18m on the North West Corner (35m in lieu of 18m). To be addressed through a fire engineering performance solution by an suitably accredited fire practitioner and in consultation with FRNSW.	

DTS Clause	Description of Non-Compliance	Performance Requirement
C4D3	**Protection of openings in external walls** It has been assessed that there are openings which are within 6m of the data centre and substation. Th To be addressed through a fire engineering performance solution by an suitably accredited fire practitioner and in consultation with FRNSW.	
D2D5	**Exit Travel Distances** The following areas exceed the maximum allowable travel distances within the date centre: *Ground Floor* - Up to 88m to an exit in lieu of 40m - Up to 26m to a POC in lieu of 20m. *Ground Floor Mezzanine* - Up to 72m to an exit in lieu of 40m - Up to 28m to a POC in lieu of 20m. *Level 1* - Up to 75m to an exit in lieu of 40m - Up to 29m to a POC in lieu of 20m. *Level 1 Mezzanine* - Up to 64m to an exit in lieu of 40m - Up to 30m to a POC in lieu of 20m. *Roof Level* - Up to 85m to an exit in lieu of 40m - Up to 26m to a POC in lieu of 20m. Please note that proposed data rack locations within the data hall may impede and increase travel distances. To be addressed through a fire engineering performance solution by an suitably accredited fire practitioner and in consultation with FRNSW.	D1P4 E2P2

DTS Clause	Description of Non-Compliance	Performance Requirement
D2D6	**Distance between alternative exits** The following areas exceed the maximum allowable distance between exits within the date centre: *Ground Floor* - Up to 120m between alternative exits in lieu of 60m. *Ground Floor Mezzanine* - Up to 112m between alternative exits in lieu of 60m. *Level 1* - Up to 120m between alternative exits in lieu of 60m. *Level 1 Mezzanine* - Up to 94m between alternative exits in lieu of 60m. *Roof Level* - Up to 121m between alternative exits in lieu of 60m. Please note that proposed data rack locations within the data hall may impede and increase travel distances. To be addressed through a fire engineering performance solution by an suitably accredited fire practitioner and in consultation with FRNSW.	D1P4 E2P2
D2D8 & NSW D2D9	**Width of exits and paths of travel to exits** Unobstructed width of a pathway to an exit is as low as 584mm between equipment in the data halls in lieu of 1m. Please note that proposed data rack locations within the data hall may impact this assessment. To be addressed through a fire engineering performance solution by an suitably accredited fire practitioner and in consultation with FRNSW.	D1P6

DTS Clause	Description of Non-Compliance	Performance Requirement
D2D12 & D2D15	**Travel via fire-isolated exits & discharge of exits** It has been assessed that the Stair 02 discharges internally within the ground floor Red Zone Workroom. A fire stair is not permitted to discharge internally within the building. To be addressed through a fire engineering performance solution by an suitably accredited fire practitioner and in consultation with FRNSW.	D1P4 E2P2
D3D25	**Swinging Doors** It has been assessed that roller shutter doors have been proposed in lieu of swinging door within multiple rooms on the path of travel to an exit. Roller Shutters can only be provided where the building part that the door is serving is less than 200m2 and is the only exit from that area of the building. To be addressed through a fire engineering performance solution by an suitably accredited fire practitioner and in consultation with FRNSW.	D1P4 D1P6
E1D2	**Fire Hydrants** It has been noted that the fire hydrant booster is not within main sight of the main entry. To be addressed through a fire engineering performance solution by an suitably accredited fire practitioner and in consultation with FRNSW.	E1P3
E1D	**Fire Hose Reels** It has been noted that the fire hose reels within all data halls and plant spaces will be omitted from the premises. To be addressed through a fire engineering performance solution by an suitably accredited fire practitioner and in consultation with FRNSW.	E1P1

DTS Clause	Description of Non-Compliance	Performance Requirement
	Provisions for Special Hazards	
E1D13/ E1D17/ E2D21	Due to the proposed EV Charging on site, it has been determined that provisions for special hazards must be adopted. EV charging stations are subject to fire engineering given their location and proximity to any fire fighting provisions within the subject building. EV Charging locations to be indicated to ensure compliance with FRNSW guidelines and BCA2022	E1P1/E1P2 /E1P3/E1P4 /E2P2

Any Performance Solution will be subject to consultation and approval by Fire and Rescue NSW as part of the Construction Certificate process.

6 Conclusion

This statement outlines the findings of an assessment of the referenced architectural documentation for the proposed development against the Deemed-to-Satisfy provisions of the National Construction Code Series (Volume 1) Building Code of Australia 2022.

As outlined in section 2.3 of this report excludes the design basis and/or operating capabilities proposed hydraulic and fire protection services. Mains water pressure and flows must be obtained and assessed by hydraulic engineer fire services engineers immediately to ascertain if mains are adequate or onsite water storage is required which can often be substantial in size and require modification of the development consent.

In view of this assessment we can confirm that compliance with the National Construction Code Series (Volume 1) Building Code of Australia 2022 is readily achievable.

We trust that the above submission is of assistance to Council and should you wish to discuss any aspect of this advice, please do not hesitate to contact the undersigned.

Best regards,

Heath McNab
Managing Director
MBC Group

7 Appendix A – Design Documentation

The following documentation was used in the assessment and preparation of this statement:

Drawing No.	Title	Date	Drawn By	Rev.
SSDA-A-054	SITE PLAN	27/09/2024	Greenbox	K
SSDA-A-100	GROUND FLOOR PLAN	27/09/2024	Greenbox	F
SSDA-A-101	GROUND FLOOR MEZZ PLAN	27/09/2024	Greenbox	E
SSDA-A-102	LEVEL 1 PLAN	27/09/2024	Greenbox	F
SSDA-A-103	LEVEL 1 MEZZ PLAN	27/09/2024	Greenbox	E
SSDA-A-104	ROOF PLAN	27/09/2024	Greenbox	F
SSDA-A-150	ELEVATIONS -SHEET 1	27/09/2024	Greenbox	F
SSDA-A-151	ELEVATIONS -SHEET 2	27/09/2024	Greenbox	F
SSDA-A-200	LONG SECTIONS	27/09/2024	Greenbox	D
SSDA-A-201	SHORT SECTIONS	27/09/2024	Greenbox	D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