



**BUILDING CODE OF AUSTRALIA
REPORT**

**Administration/Support Building
28A McPherson Street, Banksmeadow,
NSW**

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Date	Revision Number	No. of pages	Issue or Description of Amendment	Checked By	Approved By	Date Approved
31.05.16	01	11	Preliminary for DA submission	Matt Marks	Geoff Pearce	31.05.16

Executive Summary

As Accredited Certifiers, we have reviewed architectural design documents prepared by QanStruct (refer appendix A) for compliance with the Building Code of Australia 2016.

The assessment of the design documentation has revealed the building is able to meet the performance provisions of the BCA.

The documentation will need further detailing such as door hardware, specifications, service design, as outlined in BCA 2016.

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 Regulation 2000.

Assessed By

Matt Marks
Assistant Building Surveyor

1.0 Introduction

The proposed development comprises the construction of a single storey administration and support building containing offices, and storage facilities.

The site is located at 28A McPherson Street, Banksmeadow NSW.

1.1 Current Legislation

The applicable legislation governing the design of buildings is the Environmental Planning and Assessment Act 1979. This Act requires that all new building works must be designed to comply with the BCA.

The version of the BCA applicable to the development, is version that in place at the time of the application to the Certifying authority for the Construction Certificate.

2.0 Building Assessment Data

Summary of Construction Determination: -

Building 1	
Classification	5, 7b
Number of Storeys Contained	1
Rise In Storeys	1
Type of Construction	C
Effective Height (m)	<12m

Summary of the floor areas and relevant populations where applicable: -

Part of Project	BCA Classification	Approx. Floor Area (m²)	Assumed Population
Ground Floor	5, 7b	1221	109
Total		1221m²	109

Notes:

1. The above populations have been base on the floor areas and calculations in accordance with Table D1.1.3 of the BCA.
2. The floor areas have been adjusted without ancillary areas such as sanitary facilities, corridors, shelving and or racking layouts in storage areas.

3.0 Structural Provisions

Any new structural works are to comply with the applicable requirements of AS/NZS 1170.1.

Glazing is to comply with AS1288, and AS2047.

Prior to the issue of the Construction Certificate structural certification is required to be provided.

4.0 Fire Resistance

The buildings should be constructed generally in accordance with Table 5 of Specification C1.1 of the Building Code of Australia 2016. The building is required to be Type C Construction.

Maximum floor area and volume limitations for Type C construction is:

Class 7 - 2000m² and 12,000m³

Class 5 - 3000m² and 18,000m³

The building has been assessed in accordance with Specification C1.1 of the BCA and as detailed on the plans provided, the location of the external walls and/or columns are greater than 3m or more from any fire source feature. Therefore the external walls are not required to achieve an FRL.

4.1 Passive Fire Protection

Other passive fire protection issues that will need to be addressed in detailed documentation phase include:

- Hydrant Pump rooms,

To be separated from the remainder of the building by construction achieving a minimum fire resistance level of 120 minutes.

4.2 Fire Hazard Properties

The fire hazard properties of fixed surface linings and mechanical ductwork will also need to be addressed within the detailed documentation phase pursuant to specification C1.10 Building Code of Australia.

5.0 Egress

The egress provisions from the proposed building are provided by:

- External perimeter doorways

Other detailing issues that will need to be addressed include:

- Door Hardware
- Exit door operation

5.1 Exit Travel Distances

The locations of the proposed exits would appear to indicate that the deemed to satisfy requirements in terms of travel distances, distances between alternative exits and egress widths would be satisfied for the buildings.

The travel distances comply with the following performance provisions;

Class 5-9

- 20m to a single exit or point of choice and where two exits are provided, a maximum of 40m to one of those exits; and
- exits shall be located to not be more than 60m apart and not closer than 9m

5.2 Dimensions of Exits

Minimum dimensions of 1000mm and 2000mm height to be provided within exits, with the paths of travel should provide a minimum width of 1000mm (note that all maintenance access, cat walks, etc may comply with AS1657 in which case a 600mm clear width is required).

The following table summarises the exit widths required, and therefore shall be adequate for the populations determined in accordance with BCA clause D1.13;

Floor Level	Exit Width Provided	Number of people (as provided)	Exit Width required
Ground	5m	109	1.25m

Doorways are permitted to contain a clear opening width of 750mm with a height of 1980mm as part of egress requirements. Access for persons with disabilities however requires a clear doorway opening width of 850mm (i.e minimum 870 mm doors).

5.3 Balustrading and Handrail

Balustrading to a height of 1000mm with a maximum opening of 125mm in any direction should be provided adjacent to balconies, landings, corridors etc where located adjacent to a change in level exceeding 1000mm.

Handrails should generally be provided at a minimum height of 865mm alongside of all ramps and stairs.

The main public ramps should be designed in accordance with the requirements of AS1428.1 for persons with disabilities. This requires a handrail on each side of the stair and ramp and for the handrail to extend approximately 550mm – 600mm past the last tread / end of ramp.

5.4 Access for Persons with a Disability

Access for people with disabilities shall be provided to and within the building in accordance with the requirements of Clause D3.2, D3.3 and D3.4 of the BCA 2016. The building shall comply with the requirements of AS1428.1-2009.

The design would generally comply with the prescriptive provisions of the BCA with additional ongoing review being undertaken as to door widths, circulation, etc. Further details are to be provided or access to these areas is to be assessed by an access consultant.

Where the main public entrance is via a ramp, tactile indicators shall be provided in accordance with AS 1428.4 at the top and bottom. Parking shall be provided for people with disabilities in accordance with in accordance with Clause D3.5 of the BCA. Facilities services and features of the building accessible to people with disabilities shall be identified by signage complying with Clause D3.6 of the BCA.

General

Access to be provided to and within the building pursuant to AS1428.1-2009 as follows:

- Via the principle public entry and at least 50% of all other entrances
- From designated car parking spaces for the use of occupants with a disability.
- From another accessible building connected by a pedestrian link.
- All areas used by the public.

Note that entrances that are not accessible are to be located within 50m of an entrance that is accessible.

6.0 Fire Services & Equipment

The following fire services will need to be provided throughout the building:

- Fire hydrants in accordance with clause E1.3 of the BCA and AS 2419.1-2005,
- Fire hose reels in accordance with clause E1.4 of the BCA and AS 2441-2005,
- Portable Fire Extinguishers in accordance with Clause E1.6 of the BCA and AS 2444-2001,
- Emergency lighting, exit signage and directional exit signage is required throughout the building in accordance with Part E of the BCA and AS/NZS 2293.1-2005

6.1 Fire Hydrants

A system of Fire Hydrants is required to be provided to BCA Clause E1.3 and AS 2419.1-2005. We will rely upon design certificate from a Hydraulic Consultant.

A booster assembly as part of the fire hydrant requirements. The booster if is required to be located attached to the building at the main entry. If remote from the building at the main vehicle entry or with sight of the main entry of the building within 20m of a hardstand area.

6.2 Fire Hose Reels

A Fire Hose Reel System is required to BCA Clause E1.4 and AS2441.

To be located within 4m of exits and provide coverage within the building based on a 36m hose length.

7.0 Ventilation and Smoke Hazard Management

Throughout the development the provision of natural or mechanical ventilation is required to all habitable rooms in accordance with F4.5 Building Code of Australia and AS 1668 and AS/NZS 3666.1.

8.0 Sanitary Facilities

The sanitary & other facilities within the development would generally consist of: -

F2.4 - Sanitary Facility Calculations

Description of building or part	Basins	WC		Required			Provided		
				WC	Urinals	Basins	WC	Urinals	Basins
Ground Level	109	Male	55	3	3	WC	3*	3	3*
		Female	55	4	N/A	3	4*	N/A	3*
		Accessible		1	N/A	1	1	N/A	1

*Please note the Unisex facilities provided for people with disabilities may be counted once for each sex. These facilities are to be provided in accordance with AS1428.1-2001.

Based on the design documentation provided, the number of sanitary facilities complies with the provisions of the BCA.

9.0 Energy Efficiency

The proposed development shall comply with Part J of the BCA. To achieve compliance, there are two options available:

- The building can comply with the deemed-to-satisfy provisions of the BCA, relating to the following areas:
 - Building Fabric
 - Glazing
 - Building Sealing
 - Air Conditioning & Ventilation Systems
 - Artificial Lighting & Power
 - Hot Water Supply
- The building can be verified against a reference building as per Verification Method JV3. This requires that the proposed building and its services be shown to have an annual energy consumption of equal or less than the reference building which has been modelled as per the requirements of Part J of the BCA.

Certification from an appropriately qualified engineer should be provided for either option with a report / computations outlining how compliance is achieved.

Access for maintenance is to be provided to the building in accordance with the requirements of BCA Part J8.

The proposed site will be located in a climate zone 5.

10. Access for Maintenance

Access is to be provided to all plant, equipment and components associated with the provision of the above energy requirements i.e.

- Adjustable or monitored shading devices
- Time switches and motion detectors
- Room temperature thermostats
- Plant thermostats such as boilers or refrigeration units
- Motorised air dampers and central valves
- Reflectors, Lenses and Diffusers of light fittings
- Heat transfer equipment

Appendix A - Design Documentation

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

Drawing No.	Title	Date	Drawn By	Revision
DA. 3438-01	Locality Plan	30.03.16	Qanstruct	01
DA. 3438-02	Site Plan	30.03.16	Qanstruct	01
DA. 3438-03	Administration Support Building	30.03.16	Qanstruct	01
DA. 3438-04	Section and Elevations	30.03.16	Qanstruct	01
DA. 3438-04	Section and Elevations/2	30.03.16	Qanstruct	01

Appendix B- Fire Resistance Levels

The table below represents the Fire resistance levels required in accordance with BCA 2016:

Table 5 TYPE C CONSTRUCTION: FRL OF BUILDING ELEMENTS

Building element	Class of building—FRL: (in minutes)			
	<i>Structural adequacy/Integrity/Insulation</i>			
	2, 3 or 4 part	5, 7a or 9	6	7b or 8
EXTERNAL WALL (including any column and other building element incorporated therein) or other external building element, where the distance from any <i>fire-source feature</i> to which it is exposed is—				
Less than 1.5 m	90/ 90/ 90	90/ 90/ 90	90/ 90/ 90	90/ 90/ 90
1.5 to less than 3 m	—/—/—	60/ 60/ 60	60/ 60/ 60	60/ 60/ 60
3 m or more	—/—/—	—/—/—	—/—/—	—/—/—
EXTERNAL COLUMN not incorporated in an <i>external wall</i> , where the distance from any <i>fire-source feature</i> to which it is exposed is—				
Less than 1.5 m	90/—/—	90/—/—	90/—/—	90/—/—
1.5 to less than 3 m	—/—/—	60/—/—	60/—/—	60/—/—
3 m or more	—/—/—	—/—/—	—/—/—	—/—/—
COMMON WALLS and FIRE WALLS—	90/ 90/ 90	90/ 90/ 90	90/ 90/ 90	90/ 90/ 90
INTERNAL WALLS-				
Bounding <i>public corridors</i> , public lobbies and the like—	60 / 60/ 60	—/—/—	—/—/—	—/—/—
Between or bounding <i>sole-occupancy units</i> —	60/ 60/ 60	—/—/—	—/—/—	—/—/—
Bounding a stair if <i>required</i> to be rated—	60/ 60/ 60	60/ 60/ 60	60/ 60/ 60	60/ 60/ 60
ROOFS	—/—/—	—/—/—	—/—/—	—/—/—