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Our Ref: 18281-L01

Builders Recycling Operations Pty Ltd

c/- Coeur De Lion Planning Pty Ltd

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Attn: Mr Chris Spence

PROPOSED WASTE MANAGEMENT FACILITY – 191 MILLER ROAD, CHESTER HILL PRELIMINARY FIRE HAZARD ANALYSIS

We refer to the proposed construction of a new Waste Management Facility to be located at 191 Miller Road, Chester Hill.

This document presents a preliminary Fire Hazard Analysis of the proposed facility that identifies the likely fire safety systems and measures that will be required to address the hazards and risks associated with its use for the storage of large quantities of combustable materials. The objective is to ensure that the proposed fire prevention, detection, protection and fire-fighting measures are appropriate for the specific fire hazard and adequate to meet the extent of potential fire risk for the proposed development.

It is noted that this preliminary Hazard Analysis will be presented to the Department of Planning and Environment as part of a Section 75W application. Once approval is given a more detailed Fire Safety Study will be required during the detailed design stage that will include an updated Hazard Analysis, and will involve consultation with Fire & Rescue NSW (FRNSW).

PROJECT DESCRIPTION

The proposed works comprise the construction of a new Waste Management Facility to be located at 191 Miller Road, Chester Hill.

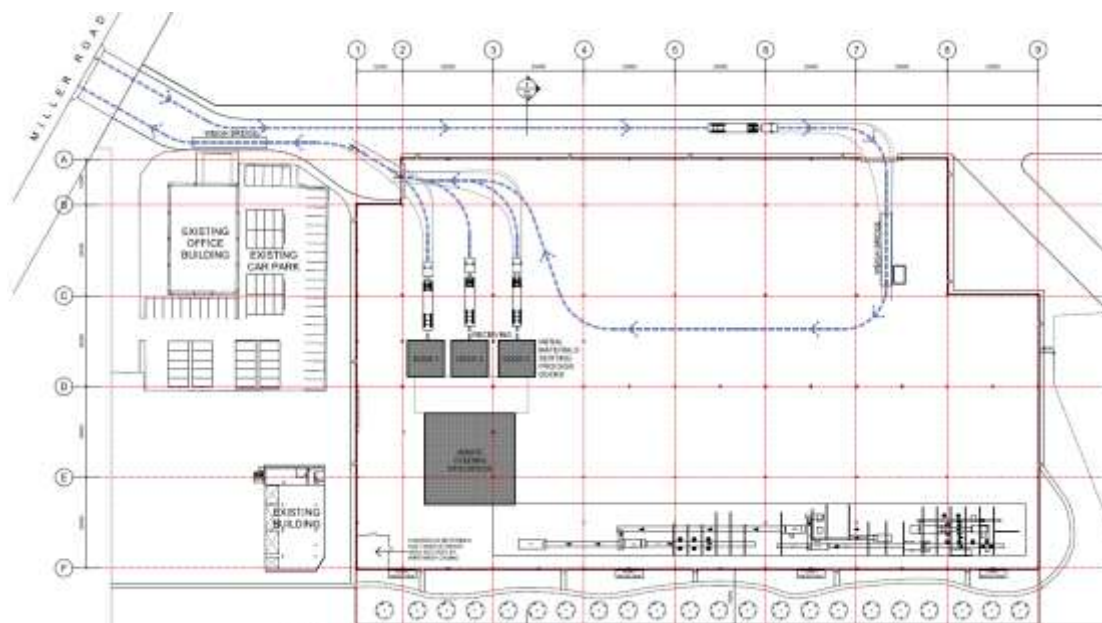


Figure 1 – Proposed Ground Floor Plan

The site will comprise a large single storey building that will exceed the maximum permissible fire compartment size permitted within the Building Code of Australia (BCA), and will therefore be assessed as a Large Isolated Building pursuant to Clause C2.3 of the BCA.

Trucks will enter the building and deposit their waste into an 'operational stockpile' that will not exceed approximately 500 tones of waste at any given time. Once the material is taken from the operational stockpile and processed, it is separated into individual bays that will contain different waste product including:

- Concrete
- Bricks and tiles
- Timber
- Sand
- Soils
- Plastics
- Paper and cardboard
- Glass
- Metals

Vehicle access to the site is at a single point from Miller Road to the north east corner of the allotment. The site is bounded by existing allotments to all sides.

BCA ASSESSMENT DATA

The relevant BCA Assessment Data for the proposed development is summarised in Table 1 below.

Table 1: Relevant BCA Assessment Data

BCA Reference	BCA Assessment
Building Classification and Use	Class 7 or 8 (storage / process)
Rise in Storeys	1
Number of Levels Contained	1
Minimum Type of Construction Required	Type C
Effective Height	Less than 12m
Maximum Size of Fire Compartments	Large Isolated Building: <ul style="list-style-type: none"> ▪ Area ~ 20,100m² ▪ Volume ~ 302,000m³

REFERENCED DRAWINGS

Table 2: List of Referenced Architectural Drawings

Drawing No.	Issue	Title	Drawing Date
arsk1200	03	Ground Floor Plan	14-08-2018
arsk1201	02	Roof Plan	08-08-2018
arsk2200	03	Section	14-08-2018
arsk2600	03	Elevations	-

SUMMARY OF REQUIRED FIRE SAFETY SYSTEMS AND MEASURES

General Requirements

With reference to the Deemed to Satisfy (DTS) provisions of the Building Code of Australia 2016, Amendment 1 (BCA), the following fire safety systems and measures are applicable for the proposed development:

- Perimeter vehicle access for emergency vehicles
- Fire hydrants
- Fire hose reels
- Fire sprinklers, including occupant warning
- Portable fire extinguishers
- Fire control centre
- Automatic smoke exhaust
- Emergency lighting and exit signs

Perimeter Vehicle Access

The building shall be provided with perimeter access around the building for emergency vehicles. The requirements for vehicle access are summarised as follows:

- must be capable of providing continuous access for emergency vehicles to enable travel in a forward direction from a public road around the entire building; and
- must have a minimum unobstructed width of 6m with no part of its furthest boundary more than 18m from the building and in no part of the 6m width be built upon or used for any purpose other than vehicular or pedestrian movement; and
- must provide reasonable pedestrian access from the vehicular access to the building; and
- must have a load bearing capacity and unobstructed height to permit the operation and passage of fire brigade vehicles; and
- must be wholly within the allotment except that a public road may serve as the vehicular access or part thereof.

Where the provisions for vehicle access vary from the above, consultation will be required with Fire & Rescue NSW (FRNSW) to ensure suitable provisions are provided to facilitate fire brigade intervention activities.

Fire Hydrants

A fire hydrant system shall be provided to serve the building in accordance with the relevant provisions of BCA Clause E1.3 and AS 2419.1-2005.

It is noted that preliminary discussions with FRNSW have revealed that they will require the hydrant system to be designed to provide 50 L/s of flow at the required operating pressures. Where the existing street mains are not capable of delivering the required water supply, dedicated onsite fire water tanks and associated pumps will be required.

All fire hydrants are to be located external to the building in accordance with the relevant provisions of AS 2419.1.

Fire Hose Reels

A fire hose reel system shall be provided to serve the building in accordance with the relevant provisions of BCA Clause E1.4 and AS 2441-2005.

Fire Sprinklers

A fire sprinkler system shall be provided throughout the building in accordance with the relevant provisions of BCA Specification E1.5 and AS 2118.1-1999. The hazard classification for the building is considered to be High Hazard – for process / storage risks. Where the existing street mains are not capable of delivering the required water supply, dedicated onsite fire water tanks and associated pumps will be required.

The fire sprinkler system is also required to automatically activate a building occupant warning system to ensure occupants are provided with an automatic warning in the event of sprinkler activation. The building occupant warning system is to comply with the relevant provisions of AS 1670.1-2005.

Portable Fire Extinguishers

Portable fire extinguishers shall be provided to serve the building in accordance with the relevant provisions of BCA Clause E1.6 and AS 2444-2006.

Fire Control Centre

A fire control centre shall be provided for the building in accordance with the relevant provisions of BCA Specification E1.8 to coordinate fire-fighting operations.

Automatic Smoke Exhaust

An automatic smoke exhaust system shall be provided to serve the building in accordance with the relevant provisions of BCA Specification E2.2b and AS/NZS 1668.1-2015. Further, smoke reservoirs may be required at roof level to contain smoke at designated internals, including above the operational stockpile.

The design of the smoke exhaust system, including the size and capacity of smoke exhaust fans and the requirements for smoke reservoirs, is subject to a more detailed Fire Safety Study that is to be completed during the design stage.

Emergency Lighting and Exits

A system of emergency lighting and exit signs shall be throughout the building in accordance with the relevant provisions of BCA Part E4 and AS 2293.1-2005.

Operational Stockpile and Storage Bays

The operational stockpile is considered to present the major risk within the subject building as it can potentially contain large quantities of combustible materials. A minimum 3m exclusion zone shall be provided around the perimeter of the stockpile.

The individual storage bays that contain the different waste product (as identified above) shall be separated by concrete construction. Those storage bays containing combustible materials (i.e. timber, plastics, and paper / cardboard) shall not be located next to each other.

Containment of Contaminated Water

Suitable provisions shall be provided for the retention of contaminated water run-off.

As a Guide, the minimum containment capacity should be calculated on the basis of two (2) hydrants operating simultaneously at 10 L/s each (a total of 20 L/s), plus the calculated maximum sprinkler design output, operating for a period of 90 minutes.

Other

The external areas of the site should be level, clear of all rubbish and combustible materials, and enclosed by fences or walls constructed of non-combustible construction.

The fences or walls should be of sufficient height to prohibit unauthorised persons from entering.

CONCLUSION

The fire safety systems and measures identified above are considered appropriate for the specific fire hazard and are expected to adequately address the extent of potential fire risk associated with the proposed development for use as a Waste Management Facility.

It is noted that a more detailed Fire Safety Study will be required during the detailed design stage of the project to ensure all fire safety objectives are identified and addressed to the satisfaction of all stakeholders. This will include an updated Fire Hazard Analysis that will involve consultation with Fire & Rescue NSW (FRNSW).

Yours Faithfully

Innova Services Pty Ltd



Jason Powell

Director

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