BUILDING CODE OF AUSTRALIA 2019 FINAL REPORT FOR SSDA SUBMISSION

PROPOSED INDUSTRIAL DEVELOPMENT AT 57 TATTERSALL ROAD, KINGS PARK NSW 2148 'PICK N PAY LESS CAR YARD – STATE SIGNIFICANT DEVELOPMENT APPLICATION (SSDA)'

Report prepared for:	Autorecyclers C/- Barker Ryan Stewart Studio 5, 78 York Street East Gosford NSW 2250 Attention: Kim Stamper
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Report Ref:	18-210813_AutoRecyclers_57Tattersall_SSDA_FinalBCA2019-Rprt_R04_07082019
Job Number:	18-210813
Date:	07 August 2019

DOCUMENT ACCEPTANCE

	Name	Signed	Date
Verified by	Frank De Pasquale		07/08/2019

REVISION HISTORY

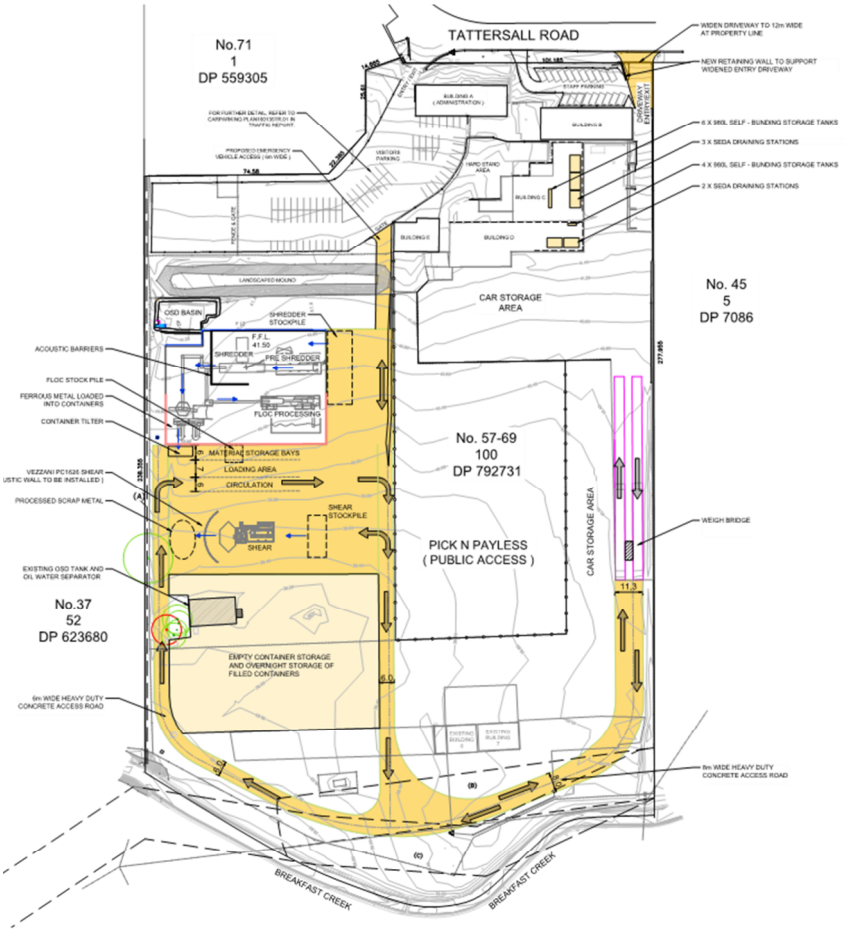
Revision No.	Prepared by	Description	Date
R01	Rhoebee Clemente	Draft BCA Capability Report for review and comment.	05/09/2018
R02	Rhoebee Clemente	Draft BCA Capability Report for SSDA submission.	21/01/2019
R03	Rhoebee Clemente	Final BCA Capability Report for SSDA submission.	12/03/2019
R04	Rhoebee Clemente	Final BCA Capability Report for SSDA submission.	07/08/2019

Introduction and Documentation

At the request of Barker Ryan Stewart, we offer comments and recommendations in respect to Building Code of Australia 2019 (BCA 2019) compliance for the proposed Metal Recovery Processing and Recycling Facility.

This application will involve the following:

- Permission to process 130,000 tons of scrap metal per year,
- Operation of shear,
- Consolidation of all existing approvals and current applications, and
- Internal site layout and circulation amendments.



SITE MASTER PLAN
SCALE 1:750

We have made every attempt to cover the main issues under Parts B, C, D, E, F and J of the Building Code of Australia. Areas of the design are still being refined so that resolution will be possible prior to the issue of a Construction Certificate for the works.

This report does not assess the impact of the Disability Discrimination Act (DDA) which is outside the scope of the BCA but does include compliance with Part D3 of the BCA.

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Documentation available and assessed:
The drawings assessed are those issued by Barker Ryan Stewart.

Drawing No. / Revision	Titled	Dated
160136SSD.01 / G	Proposed Metal Recovery Processing & Recycling Facility	03/06/19
H01/P3	Fire Hydrant & Hose Reel Systems – Site Plan	09/07/19
H02/P2	Fire Hydrant & Hose Reel Systems – Part Site Plan	09/07/19
H03/P2	Fire Hydrant & Hose Reel Systems – Detail Sheet 1	09/07/19

Building Code of Australia 2019 Comments

1. Building Assessment

Building Classification(s)	Car storage, container storage and metal shredder areas	Class 8 (open areas)
	Building A and E	Class 5
	Buildings B, C, and D	Class 8
Rise in Storeys	2 – Building A (existing building) 1 – Buildings B, C, D and E (existing buildings)	
Type of Construction	Building A & E – Type C Construction Buildings B, C & D – Type C Construction ***(For the purposes of this report Building B, C, & D are deemed one United Building)***	

Section B – Structure

2. **Structural Provisions –** Where applicable any new works are to comply with BCA 2019. The building needs to comply with the requirements BCA B1.2 & Specification B1.2. Structural Engineer to provide Certification of design and all relevant details prior to issue of a Construction Certificate. This includes structural civil works, slab on ground, etc.

Section C – Fire Resistance / Compartmentation / Separation

3. **Type of Construction** – The buildings on site are assumed to comply with BCA Clause C1.1 and Specification C1.1. Structural engineer will need to validate the existing FRL's of the columns, slabs, load bearing walls, and fire walls prior to issue of a Construction Certificate.

   The existing buildings A and E have a rise in storeys of 2 and are therefore required to be of Type C construction. Any new works to these buildings will need to comply with BCA Table 5 for Type C Construction (See appendix A). Structural engineer to note.

   Buildings C and D are interconnected with each other and building B is less than 3m from building C hence, we have assessed the buildings as 'United Buildings' on the basis that building B will have a new roof over/awning to unite building C. The United Buildings (B, C and D) have a rise in storey of 1 and a fire compartmentation of approximately 2,157m^2. Assuming the current structure complies with Type C requirements, therefore on that basis the buildings will be Type C Construction incorporating large-isolated building requirements. Any new works to these buildings will need to comply with BCA Table 5 for Type C Construction (See Appendix A). Structural engineer will need to confirm at CC stage the FRL's of the existing columns, slabs, load bearing walls, and fire walls to ensure compliance with Table 5 of Spec C1.1 i.e. - **Class 8 – 90 mins.**

4. **Proximity to Fire Source Features** - **Loadbearing** external walls (including any column and other building element incorporated therein) or other external building elements and external columns, where the distance from any fire-source feature to which it is exposed is <3m for Type C Construction, those elements are required to be fire rated in accordance with Table 4 & 5 of BCA Spec C1.1**.**

   The buildings are existing, however all new works will need to comply with either Table 5 of BCA Spec C1.1. Any departures to the Deemed-to-Satisfy provisions of the BCA will require a Performance Solution from an accredited fire safety engineer.

5. **Fire Compartmentation**
In a Type C, Class 5 building, the maximum fire compartment size must meet the following provisions;
Maximum Floor Area – 3,000m²
Maximum volume - 18,000m^3

In a Type C, Class 8 building, the maximum fire compartment size must meet the following provisions;
Maximum Floor Area – 2,000m²
Maximum volume - 12,000m^3

Buildings C and D are interconnected with each other and building B is less than 3m from building C hence, we have assessed the buildings as 'United Buildings' on the basis that building B will have a new roof over/awning to unite building C. The United Buildings (B, C and D) have a rise in storey of 1 and a fire compartmentation of approximately 2,157m^2. Assuming the current structure complies with Type C requirements, therefore on that basis the buildings will be Type C Construction incorporating large-isolated building requirements.

6. ***Red Fire to address the lack of perimeter vehicular access contrary to Clause C2.3 and C2.4 of the BCA. The notable departure is that FRNSW would not have full access around buildings B, C & D as access is restricted around the western side of Building D and between Building A & B as noted on the proposed site plan. Red Fire to address in meeting Performance Requirement CP9.***

7. **Lightweight construction** (C1.8) –
(a) Lightweight construction must comply with Specification C1.8 if it is used in a wall system—
(i) that is required to have an FRL; or
(ii) for a lift shaft, stair shaft or service shaft or an external wall bounding a public corridor including a non fire-isolated passageway or non fire-isolated ramp, in a spectator stand, sports stadium, cinema or theatre, railway station, bus station or airport terminal.
(b) If lightweight construction is used for the fire-resisting covering of a steel column or the like, and if—
(i) the covering is not in continuous contact with the column, then the void must be filled solid, to a height of not less than 1.2 m above the floor to prevent indenting; and
(ii) the column is liable to be damaged from the movement of vehicles, materials or equipment, then the covering must be protected by steel or other suitable material.

8. **Non-Combustible materials** (C1.9) –
a) In a building required to be of Type A or B construction, the following building elements and their components must be non-combustible:
i. External walls and common walls, including all components incorporated in them including the facade covering, framing and insulation.
ii. The flooring and floor framing of lift pits.
iii. Non-loadbearing internal walls where they are required to be fire-resisting.
b) A shaft, being a lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, that is nor\-loadbearing, must be of non-combustible construction in—
i. a building required to be of Type A construction; and
ii. a building required to be of Type B construction, subject to C2.10, in—
(A) a Class 2, 3 or 9 building; and
(B) a Class 5, 6, 7 or 8 building if the shaft connects more than 2 storeys.
c) A loadbearing internal wall and a loadbearing fire wall, including those that are part of a loadbearing shaft, must comply with Specification C1.1.
d) The requirements of (a) and (b) do not apply to gaskets, caulking, sealants and damp-proof courses.
e) The following materials may be used wherever a non-combustible material is required:
i. Plasterboard.
ii. Perforated gypsum lath with a normal paper finish.
iii. Fibrous-plaster sheet.
iv. Fibre-reinforced cement sheeting.

v. Pre-finished metal sheeting having a combustible surface finish not exceeding 1mm thickness and where the Spread-of-Flame Index of the product is not greater than 0.

vi. Bonded laminated materials where—

(A) each lamina, including any core, is non-combustible\ and

(B) each adhesive layer does not exceed 1 mm in thickness and the total thickness of the adhesive layers does not exceed 2 mm; and

(C) the Spread-of-Flame Index and the Smoke-Developed Index of the bonded laminated material as a whole do not exceed 0 and 3 respectively.

Architect and structural engineer to note.

9. **Fire Hazard Properties** (C1.10) – All new surface finishes, assemblies and linings are to comply with BCA Clause C1.10 (Specification C1.10) with regard to Fire Hazard Properties. - ***Compliance achievable.***

10. **Non-Combustible materials** (C1.12) - The following materials, though combustible or containing combustible fibres, may be used wherever a non-combustible material is required:
    - Plasterboard.
    - Perforated gypsum lath with a normal paper finish.
    - Fibrous-plaster sheet.
    - Fibre-reinforced cement sheeting.
    - Pre-finished metal sheeting having a combustible surface finish not exceeding 1 mm thickness and where the Spread-of-Flame Index of the product is not greater than 0.
    - Bonded laminated materials in accordance with this clause.

    Architect and structural engineer to note.

11. **Ancillary Elements (C1.14) –** An ancillary element must not be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible unless it is one of the following;
    - An ancillary element that is non-combustible.
    - A gutter, downpipe or other plumbing fixture or fitting.
    - A flashing.
    - A grate or grille not more than 2m2 in area associated with building service.
    - An electrical switch, socket-outlet, cover plate or the like.
    - A light fitting.
    - A required sign etc.

    Architect and structural engineer to note.

12. **Separation of equipment** (C2.12) **–** Equipment comprising of lift motors, lift control panels, emergency generators, central smoke control plant, boilers or any battery or batteries installed in the building that have a voltage exceeding 24 volts and a capacity exceeding 10 ampere hours must be constructed with an FRL in accordance with Table 3 and Specification C1.1 BCA. ***Services engineer to provide further details prior to the issue of a CC.***

13. **Electricity supply system** (C2.13) **–** Where emergency equipment is required in a building, all switchboards in the electrical distribution system, which sustain the electricity supply to the emergency equipment, must provide full segregation by way of enclosed metal partitions designed to prevent the spread of any fault from non-emergency equipment switchgear to the emergency equipment switchgear. ***Services engineer to provide further details prior to the issue of a CC.***

14. **Protection of openings in external walls** (C3.2) – Any openings less than 3m from a fire source feature (boundary), or 6 metres from another building on the same allotment in an external wall required to have an FRL must be protected in accordance with BCA C3.4 and if used, wall-wetting sprinklers are to be externally fitted. ***Current plan complies.***

Section D – Access and Egress

15. **Access and Egress**

- The maximum distance of travel to an exit is 40m where two exits are available with a point of choice at 20m from the point of origin (D1.4) – ***Architect to note, compliance achievable.***

- The distance between alternative exits is not to exceed 60m (D1.5) – ***Architect to note, compliance achievable.***

- Paths of travel must not converge closer than 6m (D1.5) – ***Architect to note, compliance achievable.***

- Widths of exits and corridors must be sufficient to provide safe passage for occupant egress (D1.6) – ***Architect to note, compliance achievable.***

- An exit must not be blocked at the point of discharge and where necessary, suitable barriers must be provided to prevent vehicles from blocking the exit, or access to it (D1.10) – ***Architect to note, compliance readily achievable.***

- Any proposed EDBs must be enclosed with non-combustible construction and smoke sealed (D2.7) - ***Service consultant to note.***

- Doors to the required exits must open in the direction of egress (D2.20) – ***Architect to note, compliance achievable.***

- All doors need to be provided with a free lever latch located at 900-1100mm high or be fitted with fail-safe device which automatically unlocks the door upon fire trip (D2.21) - ***Compliance achievable.***

- The construction and discharge of stairs, landings, thresholds, balustrades and handrails must meet the requirements of the BCA; ***Compliance readily achievable. The metal shear area may require barriers where there is more than 1m drop above finish floor level – further details to be provided for assessment prior to issue of any construction certificate.***

16. **Access for people with disabilities** – Having regard to BCA Clause 3.4 (extract below) disabled access is not required within the Metal Recovery Processing & Recycling Facility processing area as it would be considered inappropriate based on health or safety risk. ***An exemption for the need to provide disabled access throughout the proposed Metal Recovery Processing & Recycling Facility for people with disability under Clause D3.4 could be sought. A dispensation letter from Autorecyclers stating the processes and hazards involved would be required.***

    D3.4 Exemptions
    The following areas are not required to be accessible:
    (a) An area where access would be inappropriate because of the particular purpose for which the area is used.
    (b) An area that would pose a health or safety risk for people with a disability.
    (c) Any path of travel providing access only to an area exempted by (a) or (b).

Section E – Services and Equipment

17. **Fire Hydrants** (E1.3) **–** Buildings B, C and D must be served with fire hydrants complying with the requirements of BCA Clause E1.3 and AS 2419.1-2005 **– *Compliance achievable. .***

    Open Yard Protection (AS2419.1-2005, Clause 3.3) – Fire hydrants shall be provided and located so that every part of all storage, production equipment and plant in the protected area is within reach of a 10 m hose stream issuing from a nozzle at the end of a 60 m length of hose connected to a fire hydrant outlet.

    Where any part of the fire hydrant pipework is situated above ground and within 150 m of any structure in the protected area, fire hydrants shall be placed not more than 60 m apart along the pipework.

    The number of fire hydrant outlets required to discharge simultaneously for protected open yards shall be determined in accordance with Table 3.3 at a flow rate and pressure in accordance with Table 2.2 and Table 2.3.

    Suitable additional provisions shall be made where special problems of firefighting could arise because of the nature or quantity of materials stored, displayed or used in a yard.

    It is noted that fire hydrants will be provided throughout the open yard, refer to drawing H01/P3. Note FRNSW may necessitate additional requirements to satisfy BCA E1.10 – refer to item no.21 of this report and the letter issued by FRNSW file reference no. BFS17/1422(8000000854) dated 19/7/17 (see Appendix B).

18. **Booster & Pumps –** required and must comply with AS 2419.1-2005 i.e. Booster to be located 10 metres from any building or to be protected by a 90 minute fire rated wall extending 2 metres either side of the booster and 3 metres above the hydrant outlet. Alternatively, booster protection is to comply with E1.3 (b)(i)(C) of the BCA **– *Fire hydrant and sprinkler booster will be located within 10m from building A and booster protection will not comply with the minimum requirements referenced above, refer to hydraulic plans issued by Liquid Hydraulics. Red Fire to address in meeting Performance Requirement EP1.3.***

19. **Fire Hose-reels** (E1.4) **–** Buildings B, C and D must be provided with hose-reel coverage complying with the requirements of BCA Clause E1.4 and AS 2441-2005. Hose-reels are to be located within 4m of an exit or an internal fire hydrant **– *Hydraulic consultant to provide details at CC stage for Assessment.***

20. **Sprinklers (E1.5) –** Buildings B, C and D are United hence the building is deemed a large-isolated building requiring sprinkler protection as per Clause C2.3, C2.4 and E1.5 of the BCA. In addition, the building is considered 'occupancies of excessive hazard' with a fire compartment of more than 2,000m^2 and therefore required to be provided with sprinkler system complying with Specification E1.5. ***It is understood that a sprinkler system will be provided to building B, C and D – Wet Fire consultant to provide details at CC stage for Assessment. It also understood provision for sprinkler booster is also required.***

21. **Extinguishers (E1.6) –** Fire extinguishers must be provided to all locations which are deemed a potential risk to the occupants of the building, i.e. areas such as main switchboards, locations where flammable liquids in excess of 50 litres are stored or used (not including that held in fuel tanks of vehicles) **– *Fire services consultant to provide details at CC stage for assessment.***

22. **Provision for special hazards (E1.10)** – Suitable additional provisions must be made if special problems of fighting fire could arise because of: (a) the nature or quantity of materials stored, displayed or used in a building or on the allotment or (b) the location of the building in relation to a water supply for fire-fighting purposed. ***FRNSW requires the Metal Recovery Processing & Recycling Facility to comply with BCA E1.10 due to stockpiling of recyclable materials (refer drawing no. 160136SSD.01/G and Appendix B) – Philip Chun has reviewed the comments issued by FRNSW and can confirm that open yard hydrant coverage will be provided. Furthermore, Buildings B, C***

and D are considered occupancy of excessive hazard exceeding 2,000m^2 in floor area. It is understood that a sprinkler system will be installed to the United Building. Red Fire to address Clause E1.10 and the recommendations of the FRNSW (see Appendix B).

23. **Provision for special hazards (E2.3)** – Additional smoke hazard management measures may be necessary due to the special type or quantity of materials stored, displayed or used in a building. ***Buildings B, C and D are considered occupancy of excessive hazard exceeding 2,000m^2 in floor area. It is understood that a sprinkler system will be installed to the United Building. Red Fire to address Clause E2.3 and the recommendations of the FRNSW (see Appendix B).***

24. **Exit and emergency lighting –** Emergency lighting and exit signs must be installed in accordance with Part E4 of the BCA & AS2293.1-2005. ***Services consultant to provide details prior to issue of CC.***

Section F – Health and Amenity

25. **Stormwater drainage** (F1.1) - Stormwater drainage must comply with AS/NZS 3500.3. ***Hydraulic services consultant to provide details prior to issue of CC. Additional provisions in accordance with FRNSW recommendations specifically item (vi) shall be provided (see Appendix B)***

26. **Waterproofing of wet areas in buildings** (F1.7) - (a) In a Class 8 building, building elements in wet areas must— (i) be water resistant or waterproof in accordance with Table F1.7; and (ii) comply with AS 3740. ***Architect to note and provide details prior to issue of CC***.

27. **Sanitary Facilities** (F2.3) **–** Sanitary facilities are to be provided to cater for the staff. Note if not more than 10 people are employed then a unisex accessible sanitary facility may be used in lieu of facilities for each sex. ***Architect to note – show on plans and client to confirm number of staff. This would not need to be accessible under Clause D3.4 (refer to item no.15 of this report).***

28. **Construction for sanitary facilities (F2.5) -** Doors to fully enclosed sanitary compartments are to open outwards, or slide or have 1.2 metres clear space between door and closet plan or be readily removable from the outside of the sanitary compartment**. *Architect to note and provide details prior to issue of CC.***

29. **Room Sizes** (F3.1)
In a Class 7b and 8 building—
(i) except as allowed in (ii) and (f) — 2.4 m; and
(ii) a corridor, passageway, or the like — 2.1 m; and
(f) In any building—
(i) a bathroom, shower room, sanitary compartment, airlock, tea preparation room, pantry, storeroom, garage, car parking area, or the like — 2.1 m; and
(ii) a commercial kitchen — 2.4 m; and
(iii) above a stairway, ramp, landing or the like — 2 m measured vertically above the nosing line of stairway treads or the floor surface of the ramp, landing or the like – ***Compliance achievable***.

30. **Light and ventilation** (F4.4, F4.5 & F4.6) - In all classes of buildings natural ventilation in accordance with F4.6.

    The buildings are required to be provided with mechanical ventilation under AS1668.2-2012 if sufficient natural ventilation is not provided (openings for natural ventilation need to be 5% of the floor area they serve). ***– Mechanical services consultant to provide details at CC stage for assessment.***

    Artificial lighting must comply with Clause F4.4 of the BCA and AS/NZS 1680.0-2009 where applicable. ***– Electrical services consultant to provide details at CC stage for assessment.***

Section J – Energy Efficiency

If conditioned spaces exist, the proposed works will be required to be compliant with the requirements of the energy efficiency calculations under Part J of the BCA 2016 Amdt 1 or BCA 2019, ***i.e if an enclosed office is proposed.***

Building B, C and D are non-conditioned spaces; however, Part J6 energy efficient lights will need to be considered.

Note, this section is mandatory for Class 5 to 9 projects. BCA 2019 allows a transitional period up to 1 May 2020 whereby compliance with Part J may be in accordance with BCA 2016 (Amdt 1) in lieu of BCA 2019.

Conclusion

We have assessed the drawing with respect to the Building Code of Australia 2019. We are confident that the design is generally capable of meeting a combination of the Deemed-to-Satisfy and Performance Requirements of the Building Code of Australia 2019. Areas of the design are still being developed but are unlikely to impact on the SSDA submission, these areas of the design will be addressed prior to issue of a construction certificate.

Appendix A

Table 5 TYPE C CONSTRUCTION: FRL OF BUILDING ELEMENTS

Building element	Class of building—FRL: (in minutes)			
	Structural adequacy/*Integrity*/*Insulation*			
	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 *fire-source feature* 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 *external wall*, where the distance from any *fire-source feature* 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 *public corridors*, public lobbies and the like—	60/ 60/ 60	–/–/–	–/–/–	–/–/–
Between or bounding *sole-occupancy units*—	60/ 60/ 60	–/–/–	–/–/–	–/–/–
Bounding a stair if *required* to be rated—	60/ 60/ 60	60/ 60/ 60	60/ 60/ 60	60/ 60/ 60
ROOFS	–/–/–	–/–/–	–/–/–	–/–/–

Appendix B

Unclassified

Fire & Rescue NSW

File Ref. No: BFS17/1422 (8000000854)
TRIM Doc. No: D17/50452
Contact: Arthur Brown

19 July 2017

The Department of Planning & Environment
C/- Sheelagh Laguna
Industry Assessments
GPO Box 39
SYDNEY NSW 2001

E: sheelagh.laguna@planning.nsw.gov.au

Dear Ms Laguna

SEARs - SSD8375
Metal Recovery and Recycling Facility
57-69 Tattersall Road Kings Park
Lot 100 DP 792731
(SSD17_8375)

I refer to the above development proposal's Secretary's Environmental Assessment Requirements (SEAR's) which is currently on exhibition. Fire & Rescue NSW (FRNSW) have reviewed the SEAR's and the following comments and recommendations are submitted to the NSW Department of Planning & Environment (the Department) for consideration.

Overview

Due to the processes undertaken at resource recovery facilities, it is FRNSW experience that the frequency of recycling facility fires is greater in comparison to other industries. In addition, the fire hazards associated with stockpiled recyclable material directly correlate to the:

- The volume of the stockpile and potential fire magnitude,
- The life safety risk to firefighters and employees,
- The environmental risks to the local and surrounding areas, and
- The potential structural damage to buildings, other structures and plant.

Fire & Rescue NSW | ABN 12 593 473 110 | www.fire.nsw.gov.au
Community Safety Directorate | Locked Bag 12, | T (02) 9742 7550
Fire Safety Compliance Unit | Greenacre NSW 2190 | F (02) 9742 7486
firesafety@fire.nsw.gov.au

The potential fire size is the primary factor that FRNSW considers when determining the level of resources required to be deployed to safely and efficiently control and extinguish fires at these facilities and to mitigate any environmental risk resulting from the fire.

Recent recycling industry fire incidents have resulted in several large fires that required the deployment of large numbers of FRNSW resources. To ensure safe resolution of these incidents FRNSW personnel and equipment have been required to remain in attendance at the fire ground for more than 12 hours. The long duration of recent fire incidents is primarily attributable to *'special problems of firefighting'* that either existed prior to the fire or have arisen during the incident.

> *Note: The term 'special problems of firefighting' is used in Clause E1.10 of the National Construction Code (NCC).*

In relation to the recycling industry, it is FRNSW experience that 'special problems of firefighting' are primarily related to the following aspects:

1. Inappropriate stockpile sizes (i.e. pile area, height and total volume).
2. Insufficient separation of stockpiles (which hinders first responder vehicle access and increases the likelihood of fire expansion).
3. The capacity of the fire hydrant system and its water supply is insufficient for the fire load kept on site.
4. Buildings are often not served by a sprinkler system.
5. Buildings not usually provided with smoke hazard management systems that facilitate safe firefighting operations.
6. On-site provisions to contain contaminated fire water runoff are not usually in place.

Application of Clause E1.10 of the NCC

It is FRNSW experience that the above matters are not usually adequately addressed by typical application of the NCC by certifying authorities. It is FRNSW expectation that due to the special problems of firefighting associated with such facilities (N.B. due to the nature, type and quantity of the materials stored on the allotment and/or the building) that Clauses E1.10 and E2.3 of the NCC should be satisfied.

The NCC Deemed-to-Satisfy Provisions (DtS) do not specify what 'suitable additional provisions' can be applied to prescriptively satisfy Clause E1.10 and E2.3. Consequently, it is FRNSW opinion that the lack of prescriptive guidance is intended to ensure that in each instance where Clauses E1.10 and E2.3 are deemed applicable, the development should be assessed on its merits. We highlight that FRNSW opinion is consistent with the guidance and clarification detailed in the 'Guide to Volume One of the NCC'.

It is also FRNSW opinion that where Clauses E1.10 and E2.3 of the NCC are applicable, that the suitable additional provisions should be developed in consultation with the relevant fire agency having statutory responsibility for extinguishing fires which, in this instance, is FRNSW (i.e. pursuant to Section 6 of the Fire Brigades Act 1989). This is because the effectiveness of any suitable additional provisions must be adequate to mitigate any special problems of firefighting that are identified.

Special problems of firefighting should, due to their specific nature, be identified by the relevant fire service. The relevant fire service will be familiar with their agencies operational capabilities and limitations and have substantial experience in relation to problems that are unique to and associated with resource recovery developments. Further, it is FRNSW experience that the imposition of Clauses E1.10 and E2.3 of the NCC upon developments by certifying authorities is infrequent. FRNSW suspects that this is because many certifiers lack familiarity or expertise in this specialist area of fire compliance.

Recommendation/s

Should development consent be granted, that the following condition form part of the instrument of consent:

a) That Clauses E1.10 and E2.3 of Volume One of the National Construction Code (NCC) be complied with to the satisfaction of FRNSW. In particular, that the following aspects of the development be assessed and appropriately addressed:

   i) That stockpile storage within any building and/or open yard storage on the allotment be limited in size and volume and arranged to minimise the likelihood of fire spread.

   ii) That the arrangement of stockpiles of combustible material, stored externally, on the allotment be sufficiently separated to permit Fire & Rescue NSW (FRNSW) vehicle access between stockpiles.

   iii) That the site is served by a fire hydrant system that has a minimum water supply capability appropriate to the site's largest stockpile's fire load.

   iv) That significant buildings used to process recyclable material are provided with a smoke hazard management system that facilitates Fire & Rescue NSW (FRNSW) firefighting operations.

   v) If deemed necessary, by virtue of applying Clauses E1.10 and E2.3 to the development, that any significant building used to process recyclable material is provided with an appropriate automatic fire suppression system.

   vi) That the site be provided with an effective means to contain an appropriate volume of contaminated fire water runoff. The capacity of containment to be commensurate with the concurrent discharge rate of the facility's hydraulic fire systems.

Should the recommended condition be imposed, please be assured that FRNSW will engage constructively with the proponent (and their consultants) to expeditiously address the matters raised above.

For further information please contact Arthur Brown of the Fire Safety Assessment Unit, referencing FRNSW file number BFS17/1422. Please ensure that all correspondence in relation to this matter is submitted electronically to firesafety@fire.nsw.gov.au.

Yours Sincerely

Inspector Michael Gibson
Team Leader
Fire Safety Assessment Unit

Appendix C

Mark-Ups drawings issued by Philip Chun dated 07/08/19