Meeting attachments

Part 1 - WAPC163666

Planning Committee

Wednesday 4 October 2023 6pm

fremantle.wa.gov.au

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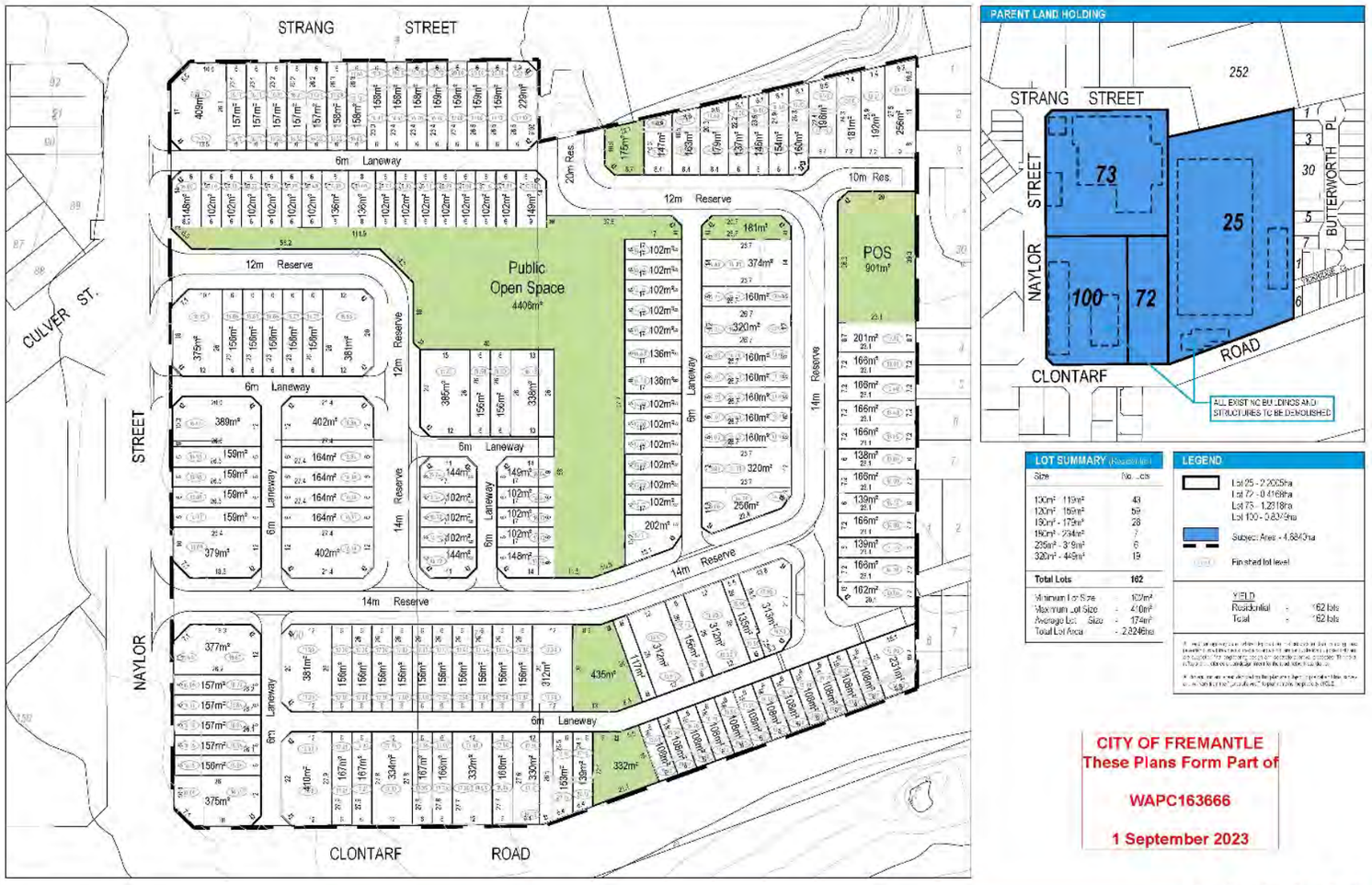
PC2310-1 CLONTARF ROAD, NO. 2 (LOT 72) AND 4 (LOT 25) AND NAYLOR STREET NO.1 (LOT 73), SOUTH FREMANTLE – 162 LOT FREEHOLD SUBDIVISION – (JL WAPC163666)

Attachment 1 - Subdivision Plan



CLE Town Planning + Design

MODIFIED FREEHOLD SUBDIVISION (WAPC 163666)
L25 (4), L72 & L100 (2) Clontarf Road & L73 (1) Naylor Street, Beaconsfield

plan no: **3707-21C-02**
date: 24 August 2023
scale: 1:1,000 @A3, 1:500 @A1

Attachment 2 - Site Photos

Photo 1 – Looking north west - South east corner of site (Clontarf Road)

Photo 2 – Looking north - Middle of site from Clontarf Road

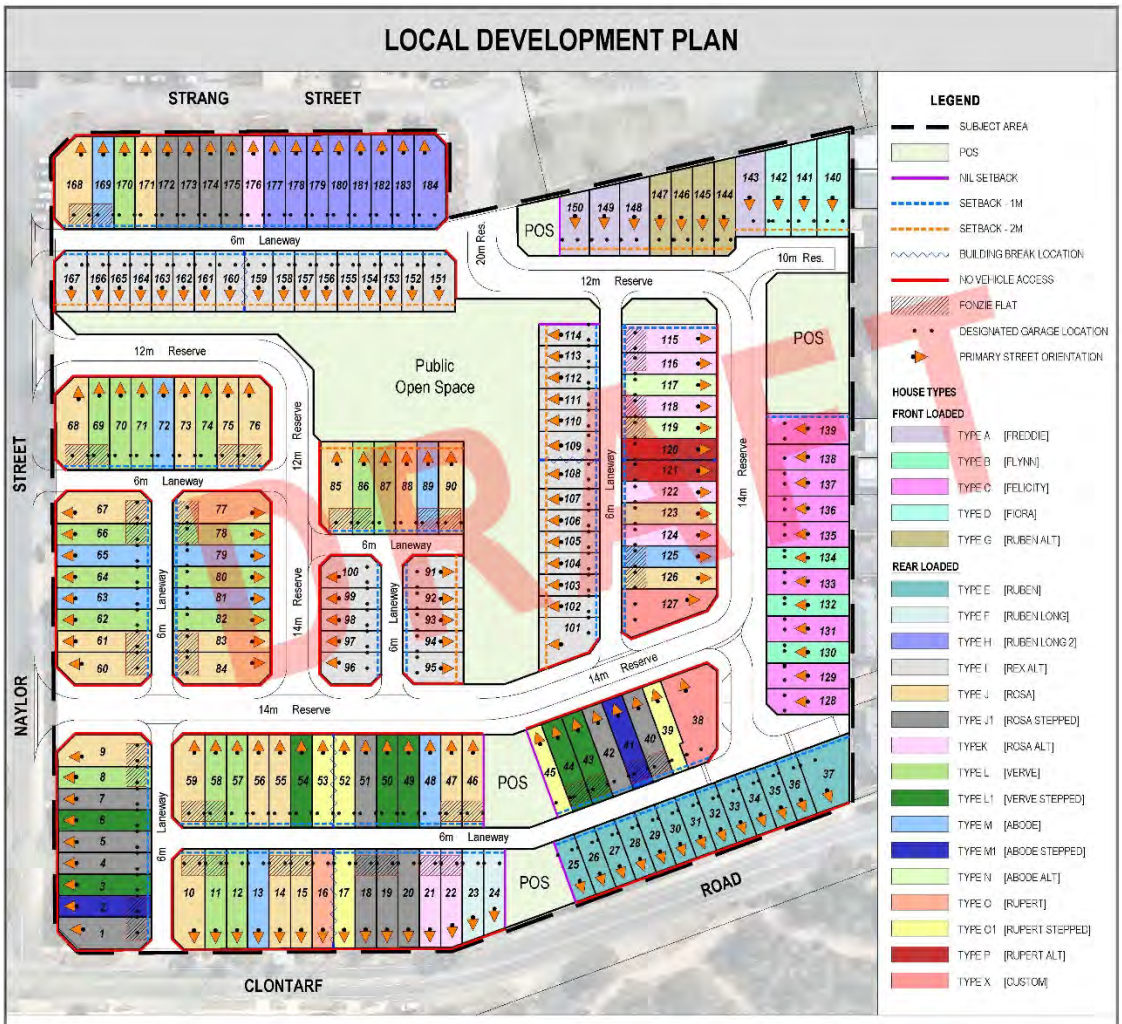
Photo 3 – Looking north east - Corner of Naylor Street and Clontarf Road

Photo 4 – Looking east from Culver Street of subject site

Photo 5 – Looking south east – corner of Naylor Street and Strang Street

Photo 6 – Looking south – Strang Street

Attachment 3 - Draft Local Development Plan



PRELIMINARY

Unless provided for below, the provisions of the City of Fremantle Local Planning Scheme No 4 and the Residential Design Codes Volume 1 (R-Codes) apply.

This LDP operates in conjunction with the requirements to the R-Codes by applying additional controls or by varying 'deemed-to-comply' requirements. Where this LDP varies any requirements of the R-Codes, compliance shall be deemed to constitute 'Deemed-to-comply' and planning approval / neighbour consultation with respect to those items is not required.

LDP PROVISIONS

Residential Density Coding

An R160 density coding applies to all lots within the LDP area.

Public Open Space (POS) interface.

1. Visually permeable fencing as defined by the R-Codes shall be provided to each primary street boundary abutting POS.
2. Fencing to side boundaries abutting POS is permitted to be solid to a maximum height of 1.8m behind the primary street setback line.
3. Minimum primary street setback to a POS boundary - 2m.
4. Minimum setback for side boundaries abutting POS nil-1m, as identified on this LDP.
5. All dwellings shall have a minimum of one major opening with direct view of the POS, to each boundary abutting the POS.

Primary Street Orientation

6. Primary street orientation shall be provided as identified on the LDP.

Vehicular Access

7. Vehicular access to garages shall be provided where identified as 'designated garage location' on this LDP.
8. Vehicle access is not permitted from locations identified as 'no vehicle access' on this LDP.

Streetscape

9. Building breaks via the provision of a 1.5m side lot boundary setback shall be provided where identified on this LDP.

Fonzie

Fonzie dwellings shall be located wholly over the garage structure of lots identified on this LDP and be assessed as multiple dwelling in accordance with the R-Codes Volume 2 Apartments. Other dwellings shall be assessed in accordance with the corresponding Medium Density Code requirements of the LDP. The following design parameters shall apply to the assessment of Fonzie Dwellings:

10. Building envelope shall be contained to the extent of garage with a maximum plot ratio area of 65m².
11. Front doors shall be directly accessible from the laneway.
12. Minimum porch dimension 1m.
13. No landscaping or trees required.
14. Minimum 8m² balcony.
15. Major openings are only permitted to face the street or laneway.
16. Balconies must be oriented to face the street or laneway.
17. Minimum 1 car bay required.
18. Minimum storage area of 3m² permitted underneath the stairs, with no minimum height dimension.
19. Orientation requirements do not apply but windows should be located to provide sunlight access from western to eastern orientations wherever possible.

Built Form R-Code Variations

Refer appendix 1 and 2 for built form variations for front and rear loaded lots.

CLE Town Planning + Design

3707-22C-01 (30.08.2023). nts Page 1 of 3

THIS LDP HAS BEEN APPROVED BY THE CITY UNDER SCHEDULE 2, CLAUSE 52 (1)(a) OF THE PLANNING AND DEVELOPMENT (LOCAL PLANNING SCHEMES) REGULATIONS 2015.

MANAGER, STATUTORY PLANNING DATE

Attachment 4 - City's Heritage Assessment

City of Fremantle

Heritage Impact Assessment– DEMOLITION

Address:	2 & 4 Clontarf Road and 1 Naylor Street, Beaconsfield
Application number:	WAPC163666
Proposal:	Demolition of all buildings on site for sub-division
Requesting officer:	Justin Lawrence
Date:	13/09/2023

2 & 4 Clontarf Road and 1 Naylor Street, Beaconsfield, Landgate aerial photograph, CoF ESRI, 2023

INTRODUCTION

The purpose of this heritage comment is to assess the changes to these places that are proposed in WAPC163666 and the affect that they will have upon the heritage values of 2 Clontarf Road, 4 Clontarf Road and 1 Naylor Street and the South Fremantle Precinct Heritage Area. The proposed changes include:

- Demolition of all existing buildings and structures for sub-division

HERITAGE LISTINGS

2 Clontarf Road, Beaconsfield

Heritage Place Name	Transperth Bus Depot (Fmr)
State Register of Heritage Places	No
City of Fremantle Heritage List	Yes
City of Fremantle Heritage Area	South Fremantle Precinct Heritage Area
Local Heritage Survey	Yes
Management Category	Historic Record Only
Inherit database place record	22921
Further comment	Despite changes to management category this place has not been formally removed from the Heritage List.

4 Clontarf Road, Beaconsfield

Heritage Place Name	N/A
State Register of Heritage Places	No
City of Fremantle Heritage List	No
City of Fremantle Heritage Area	South Fremantle Precinct Heritage Area
Local Heritage Survey	No
Management Category	N/A
Inherit database place record	No
Further comment	-

1 Naylor Street, Beaconsfield

Heritage Place Name	N/A
State Register of Heritage Places	No
City of Fremantle Heritage List	No
City of Fremantle Heritage Area	South Fremantle Precinct Heritage Area
Local Heritage Survey	No
Management Category	N/A
Inherit database place record	No
Further comment	-

RELEVANT PREVIOUS DEALINGS

Recent meetings or discussions:

- N/A

Previous relevant DAs:

- N/A

Previous relevant legal dealings:

- N/A

BACKGROUND

Historical Information

Prior to European settlement, it was estimated that about 60 Whudjuk Nyoongar Aboriginal people lived in the 'Beeliar' region surrounding Fremantle. 'Bidi' tracks led from one food source and campsite to another, and it is likely that early white settlers used the same bidi tracks as transport routes. Hampton Road and its continuance into Rockingham and Cockburn roads, as well as South Terrace, are probably bidi tracks, as they follow the contours of the landscape, rather than any geometric pattern.

South Street (the northern boundary of South Fremantle) was initially the boundary of the Fremantle settlement. Marine Terrace developed as a beach track. Subdivision of the land beyond South Street began after 1850, with five acre allotments that extended to Douro Road. East of this subdivision, the allotments were at 'farm' proportions.

The main settlement of South Fremantle occurred with the dramatic population increases of the 1890s, due to the influx of immigrants attracted by the discovery of gold. Between 1890 and 1930 South Fremantle was largely developed as a residential area to accommodate the families of workers who laboured in local industries such as Arnott's Mills and Wares Factory, Robbs Jetty Meatworks, Cockburn Wool Scouring Sheds, fishing, shipbuilding, market gardens and on the waterfront. Minimal development occurred between 1930 and 1939 due the Depression and the Second World War.

From the late nineteenth century until the 1960s the area bounded by Hampton (west), Lefroy (north), Clontarf (south) and Healy (south) was used for quarrying and agriculture and remained largely undeveloped except for the north-west corner which was subdivided for residential use (Maxwell, Hale and Livingston Streets).

1 Naylor Street and 2 Clontarf Road were part of Cockburn Sound Location 128 which was granted to John William in 1864. In 1904 this land was transferred to Hugh Spicer Brockman & William Locke Brockman.

4 Clontarf Road is part of Cockburn Sound Location 124 which was first granted to Francis Woolamore in 1861. The land was transferred to John Healy in 1899 and became part of the 300 acre Winterfold Estate, a dairy farm that extended across Beaconsfield and Hamilton Hill. Clontarf, Healy, Phoenix and Winterfold Roads were all named by John Healy. 5 Strang Street (Portuguese Club 1976 – 2020s) was constructed in 1908 as the Healy family home and farmhouse and stood isolated within the Winterfold Estate.

In the Post War Era, the large rural blocks in southern Beaconsfield were subdivided. Naylor and Strang Street were gazetted in 1956 (named after pioneers in area). In the 1960s commercial and industrial development began to extend south along Hampton Road and the development of this area can be seen in historic Landgate aerial photographs. The 1965 aerial photo shows that 2 Clontarf Road and 1 Naylor Street have been cleared for development and building work has started at 1 Naylor Street. The 1974 aerial shows that all three properties have been developed. There are large saw tooth truss roof industrial sheds at 1 Naylor Street and 4 Clontarf Road and the MTT Bus Depot at 2 Clontarf Road. The MTT Bus Depot consists of a long, narrow building lining the Naylor Road frontage and a large bitumen parking area for approximately 125 buses on the remainder of the site.

Over the next 50 years 1 Naylor Street and 4 Clontarf Road remain relatively unchanged but in the 1990s a small upper floor is added to the MTT bus depot building and a large gable roofed industrial shed is constructed on the Clontarf Road side of the site.

2 Clontarf Road (highlighted), 4 Clontarf Road and 1 Naylor Street prior to subdivision and development, Landgate aerial photograph, 1954

Sub-division and development of area, Landgate aerial photograph, 1965

2 Clontarf Road, with MTT Bus Depot with parking for 5 x 26 buses. The adjacent sites of 1 Naylor Street and 4 Clontarf Road have been developed with industrial sheds. Landgate aerial photograph, 1974.

Redevelopment of the area in the 1990s. The bus depot at 2 Clontarf Road has been modified with an upper floor addition to the main building and a new shed constructed in the parking area. 1 Naylor Street and 4 Clontarf Road remain largely unaltered.

Other large industrial elements have also been removed for redevelopment including the WW2 era fuel storage tanks which have been replace with the South Fremantle Shopping Centre (west tanks) and a residential development (east tanks). Landgate aerial photograph, 1999

History of Public Transport in Fremantle

1881	The colonial government constructs the Eastern Railway from Fremantle to Guildford via Perth. The first railway station was at the intersection of Cliff and Phillimore Streets but in 1908 it was replaced with the existing railway station to provide greater capacity and larger marshalling yards to better service the expanding port in the Inner Harbour.
1890s	Fremantle was transformed in the 1890s by the Gold Boom and the subsequent huge increase in population and prosperity. As residential development expands to the east, north and south public demand grows for services and infrastructure including trams and electric lighting. As with the rest of Perth, these services were originally provided by local government.
1905	Establishment of the tram service - The Fremantle Municipal Tramways and Electric Lighting Board was established in 1903 as a co-operative venture between the Fremantle and East Fremantle town councils. By 1905 the Powerhouse had been constructed on the south mole and electrical cabling was run through the Arthur Head Whalers' Tunnel to the Tramways Carbarn in High Street. From there four tram routes extended outward, the Canning Highway line to Allen Street, the Marmion Street line to Duke Street, the Beaconsfield Line to Davies Street and the South Terrace line to Douro Road / South Beach. Over the next thirty years the tram service expanded. Beaconsfield was extended from Davies to Carrington Street, Marmion Street line from Duke to Carrington Street and later re-located to McKimmie Street. The Allen Street terminus of the East route was extended eventually to Stock Road within the Melville Roads Board district.
1908	The original convict built Fremantle traffic bridge was modified so that a tram line could be extended into North Fremantle. This line continued until 1938 when the traffic bridge was replaced.
1914	Tram service extended out to Point Walter
1916	Following the construction of the East Perth Power Station in 1913, Fremantle Municipal Tramways Board agrees to source their electricity from the state government and a new electrical sub-station is constructed in Queen Victoria Street.
1923	Due to overcrowding in the High Street carbarn a new tram carbarn is constructed in Queen Victoria Street adjacent to the new electrical sub-station.
1926	Tramways system continues to expand, and Tramways workshops are constructed on Beach Street.
1920s	Private bus and taxi companies begin to operate in Fremantle. De Luxe Sedan Taxis (Marion Bell), the Bluebird Bus Company, the Red Rio Bus Company, the Alpine Motor Service, the Alaska and Silver Lining Company and Beam Transport all operated small buses, parlour cars and charabancs out of Fremantle in the 1920s. In the 1930s and 1940s these are consolidated into the Beam Transport, Metro Bus Company and the Spearwood Bus Company.
1934	Fremantle Council constructs Electrical Street Sub-Station in Parry Street to cope with increased demand for electricity from expanding tramways service.
1940s	Increased competition from private cars and buses leads to a decline in tram use and Fremantle Municipal Tramways begins to operate buses.
1952	Tramways cease operation. The tram car barn in High Street becomes a wool store and the car barn in Parry Street becomes the municipal bus depot. The

	Fremantle Electrical Substation was then purchased by SECWA and decommissioned and used for storage.
1958	Metropolitan Transport Trust (MTT) formed by State Government.
1961-62	MTT gradually acquires existing private bus companies including the Fremantle Municipal Tramways bus system in 1960.
1965 – 74	MTT Bus Depot in South Fremantle is constructed.
1986	MTT is rebranded as Transperth
1990s	South Fremantle Bus Depot closed to improve operational efficiency and buses are stabled at Fremantle Train Station
1993	The former Transperth Bus Depot was identified in the 1993 South Fremantle Heritage Study under the historic theme Marine and Land Based Industry and was recorded as having social significance for 'maintaining diversity in a primarily residential area'. The place was added to the Fremantle Municipal Heritage Inventory in 2000 and the Heritage List in 2009.

Physical Description – 1 Naylor Street

1 Naylor Street contains several industrial buildings with saw tooth truss roof structures with south facing clerestory windows. A smaller concrete block building adjoins Naylor Street and a larger building clad with corrugated steel sheeting adjoins Strang Street.

1 Naylor Street, 1960s sheds, 2023

Physical Description – 2 Clontarf Road
2 Clontarf Road, Beaconsfield is the site of the former MTT Bus Depot which was constructed in the late 1960s and operated until the 1990s. The original depot building, a long, narrow rectangular structure runs for the full length of the west boundary on Naylor Street. The remainder of the site is bitumen hardstand, originally for bus storage. A large industrial shed c. 1990s stands roughly in the centre of the site.

The former Depot building is constructed from salmon colour bricks and aluminium framed windows with a low pitch roof concealed behind a deep fascia. The fascia is clad with patterned metal sheeting and eaves soffit is lined with clear finished closely spaced timber battens. The east side of the building has a glazed aluminium framed curtain wall with asbestos fibrous cement sheet spandrel panels. The windows are sheltered by a shallow verandah. There is an intrusive upper floor addition from the 1980s.

The design of the former depot building shows some elements of the International Style including the expression of the building function in the façade treatment, the curtain walling, and the highlight window at the top of the walls which makes the roof appear to float over the structure.


MTT bus depot building viewed from the intersection of Naylor Street and Clontarf Road, 2023.


Former MTT Bus Depot Building viewed from Clontarf Road, 2023.

Former MTT Bus Depot Building viewed from Clontarf Road, 2023

Detail of former MTT Bus Depot Building, Naylor Road west elevation, 2023

Detail of former MTT Bus Depot Building, curtain wall glazing and verandah to south-east corner, 2023

Physical Description – 4 Clontarf Road
4 Clontarf Road contains one large saw tooth truss roof industrial building which covers most of the site and several smaller structures. The large industrial building has south facing clerestory windows and corrugated steel sheeting walls

4 Clontarf – 1960s sheds, 2023

ASSESSMENT OF SIGNIFICANCE
1 Naylor Street and 4 Clontarf Road have no cultural heritage significance.

Based upon an analysis of the documentary and physical evidence collected as part of this assessment, Transperth Bus Depot (Former), 2 Clontarf Road has limited cultural heritage value:

- The place has limited aesthetic value as an example of the Internal Style of Architecture, it is not a local landmark and it does not contribute to a significant heritage streetscape
- The place has historic and social value as a minor part in the story of development of public transport in Fremantle but these values are not dependant on the physical fabric and can be recorded and stored in the Fremantle Local History Centre.
- The place does not have scientific or spiritual values
- The place does not have archaeological potential for deposits of material associated with another earlier building

HERITAGE IMPACT ASSESSMENT

Transperth Bus Depot (Former)
The demolition of any place requires careful consideration because it removes all its heritage significance except for intangible historical and social values that are not dependant on physical fabric.

2 Clontarf Road is included on the City of Fremantle Heritage List as Transperth Bus Depot (Fmr.), Clontarf Road. The place is also included on the Local Heritage Survey as the Transperth Bus Depot but the statement of significance in the Inherit place record states "Demolished - retained on MHI database for historical information purposes only" and the management category is "Historic / Archaeological site".

The statement of significance on Inherit is clearly incorrect as the original 1960s Transperth Bus Depot building is standing on the site. The Local Heritage Survey management category is also incorrect as there is no record of any demolition of significant structures on this site so it will not contain archaeological material.

The 1994 South Fremantle Heritage Study identified this building as having social significance but provides little discussion to back up this assertion apart from a vague reference to 'maintaining diversity in a residential area'. An assessment of the cultural heritage significance of this place carried out as part of this report has found that it has limited cultural heritage significance to Fremantle and does not meet the threshold for inclusion of the City of Fremantle Heritage List.

South Fremantle Heritage Area
South Fremantle is significant as an area located to the south of the City of Fremantle with a history of settlement dating back to the mid nineteenth century.

The proposed development of the place was assessed against the following values identified in the statement of significance for the South Fremantle Heritage Area:

The concentration of mainly modest workers accommodation dating from the Victorian and Federation periods	No discernible impact
The cultural diversity resulting from successive periods of migrant settlement in the area	No discernible impact
The industrial focus of industries relating to seafaring including fishing and boat-building along Marine Terrace	No discernible impact
The former industrial character resulting from industries such as the former Mills and Wares Factory and the Robbs Jetty meatworks; and	No discernible impact
The expansion into Beaconsfield and Chesterfield in the 1930s and the subsequent working class residential development of these areas.	No discernible impact

The impact of the proposed development of the place on the South Fremantle Heritage Area was assessed using the heritage values from the ICOMOS Burra Charter, 2013:

Aesthetic value	No discernible impact	Condition	No discernible impact
Historic value	No discernible impact	Integrity	No discernible impact
Scientific value	No discernible impact	Authenticity	No discernible impact
Social value	No discernible impact	Historical evolution	No discernible impact
Rarity	No discernible impact	Streetscape	No discernible impact
Representativeness	No discernible impact		

RECOMMENDATIONS:
The proposed demolition of the 1 Naylor Street, Transperth Bus Depot (Former), 2 Clontarf Road and 4 Clontarf Road is acceptable as

- the places have limited/ no heritage significance and do not meet the threshold for inclusion on the Fremantle Heritage List
- the places do not contribute to the cultural heritage significance of the South Fremantle Heritage Area.
- The places do not have archaeological potential for containing post 1829 artefacts.

As a condition of development approval an archival record of 2 Clontarf Road must be prepared in accordance with the requirements of City of Fremantle policy.

Attachment 5 - Landscaping Master Plan

BEACONSFIELD
OVERALL LANDSCAPE MASTERPLAN

DWG: BEA-01-2
REV: A
DATE: MAR 23
SCALE: 1:1000 @ A3
0 5 10 15 20 25 m

emerge ASSOCIATES

BEACONSFIELD
CANOPY COVER PLAN

DWG BEA-01-3
REV A
DATE MAR 23
SCALE 1:1000 @ A3
0 5 10 15 20 25 m

LEGEND

01 CUSTOM SHADE STRUCTURE FROM RECYCLED MATERIALS TO EXPOSED AGGREGATE HARDSTAND

02 NATURE PLAYSPACE
INC TUBE EMBANKMENT SLIDE, WATER PLAY, DRY CREEK BED, TEEPEE & LOG CLIMBING

03 TIMBER DECKING TO TERRACED SEATING AREA

04 CUT OUT TO DECKING WITH FICUS TRANSPLANT

05 CUT OUT TO DECKING WITH HAMMOCK FOR INFORMAL SEATING OPPORTUNITIES

06 PERMEABLE PAVING AREA

07 TIMBER DECKING TO AMPHITHEATRE STAGE. 2m HIGH RED BRICK WALL AS A BACKDROP & FOR MOVIE OPPORTUNITIES

08 UNIVERSALLY ACCESSIBLE RAMP & WALLS TO CATER FOR LEVEL CHANGE

09 FORMALISE FUTURE GREENLINK CONNECTION WITH PLAZA TREATMENT, INCLUDING EXPOSED AGGREGATE HARDSTAND, SEATING, FEATURE TREES & A CHANGE IN ROAD TREATMENT

10 COMMUNITY ORCHARD WITH FRUIT TREES & RAISED GARDEN BEDS

11 SMALL NATURE PLAY & TIMBER SWING

12 CRUSHED GRAVEL YARNING CIRCLE WITH BOULDER & TIMBER LOG SEATING ELEMENTS. FEATURE PLANTING TO CREATE SEATING ZONES

13 PEDESTRIAN FRIENDLY PAVED CROSSING

BEACONSFIELD
CENTRAL POS CONCEPT

TWIS BEA-01-4
REV A
DATE MAR 23
SCALE 1:250 @ A3

Play Area

BEACONSFIELD
CENTRAL POS CONCEPT

DWG BEA-01-S
REV A
DATE MAR 23
SCALE 1:200 @ A3

Green Street

LEGEND

01 CRUSHED GRAVEL PATHWAYS & YARNING CIRCLE WITH BOULDER & TIMBER LOG SEATING ELEMENTS. FEATURE PLANTING TO CREATE SEATING ZONES

02 INFORMAL TIMBER STAIRS TO GRAVEL PATHWAY

03 CONCRETE STAIRS & RED BRICK RETAINING WALL TO POS ENTRY

04 MATURE TRANSPLANTS TO YARNING CIRCLE AREA TO PROVIDE SHADE

BEACONSFIELD
CENTRAL POS CONCEPT

DWG BEA-01-6
REV A
DATE MAR 23
SCALE 1:200 @ A3

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BEACONSFIELD
ACCESS WAY POS CONCEPT

DWG BEA-01-7
REV A
DATE MAR 23
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BEACONSFIELD
BUTTERWORTH PARK CONCEPT

DWG BEA-01-E
REV A
DATE MAR 23

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SCULPTURE

'YARNING' CIRCLES

PLANTING

ARCHITECTURE

MURALS

BEACONSFIELD
CULTURAL CONSIDERATIONS

DWG BEA-01-9
REV A
DATE MAR 23

BEACONSFIELD
LANEWAY LANDSCAPING

DWG BEA-01-10
REV A
DATE MAR 23
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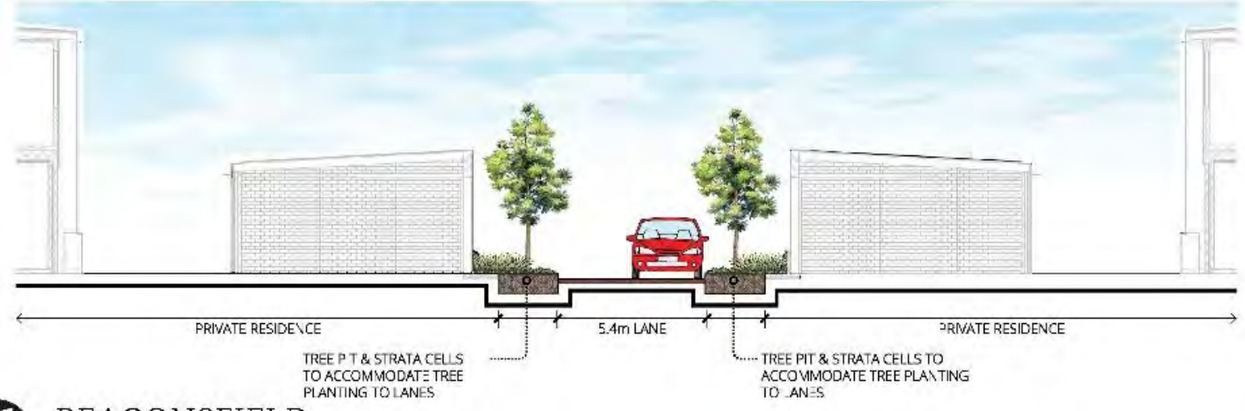
Laneway Ideas

CALLEYA ESTATE BY STOCKLAND - TREEBY, WA



BEACONSFIELD
LANEWAY LANDSCAPING

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REV A
DATE MAR 23
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SCALE 1:1000 @ A3

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Streetscapes

BEACONSFIELD
DESIGN THEMING

DWG BEA-01-12
REV A
DATE MAR 23

Large Shrubs (>1.5m)	
Acmena smithii	Lilly pilly 'Cherry Surprise'
Viburnum ordoratissimum	Sweet Viburnum
Melaleuca huegelii	Chenille Honeymyrtle
Laurus nobilis	Bay Leaf Tree
Eremaphila maculata	"Spotted Emu Bush"
Acacia cyclops	Coastal Wattle
Acacia saligna	Golden Wreath Wattle
Atriplex cinerea	Grey Saltbush
Medium Shrubs (1 - 1.5m)	
Darwinia citriodora	Seaspray Darwinia
Myoporum insulare	Boobialla
Banksia ashbyi dwarf	Ashby's Banksia
Olea europaea 'Piccolo'	Dwart Olive
Westringia fruticosa 'Blue Gem'	Coastal Rosemary
Small Shrubs (0.5 - 1.5m)	
Conostylis condicons	Grey Cottonhead
Leucophyta brownii	Cushion Bush
Olearia axillaris	Coastal Daisybush
Grevillea preissii	Spider Net Grevillea
Leptospermum	ForeShore (PBR)
Scaevola crassifolia	Cushion Fanflower
Hibbertita racemosa	Stalked Guinea Flower
Melaleuca systena	Chenille Honeymyrtle
Groundcovers (<0.5m)	Grevillea
Grevillea crithmifolia prostrate	Creeping Boobialla
Myoporum parvifolium	Kalbarri Carpet
Eremophila glabra	Prostrate Wreath Wattle
Acacia saligna prostrate	Silver Falls
Dichondra argentea	Coastal Pigface
Carpobrotus virescens	Round-leaved Pigface
Disphyma crassifolium	Desert flame
Chrysocephelum apiculatum	
Shade Tolerant	Lawn Leaf
Dichondra repens	Native Fuchsia
Correa reflexa	Spreading Flax Lily
Dianella longifolia	Blueberry Lily
Dianella revoluta	Swan River Pea
Gastrolobium celsianum	Angled Lobelia
Lobelia anceps	Dwarf Pittosporum
Pittosporum 'Miss Muffett'	Lomandra Lime Wave
Lomandra 'lime wave'	Lomandra Seascape
Lomandra 'seascape'	

BEACONSFIELD
PLANTING PALETTE

DWG BEA-01-13
REV A
DATE MAR 23

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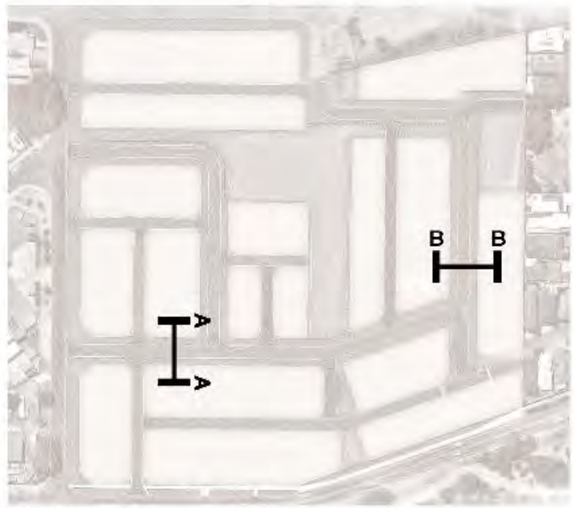
1.0 Street Tree Masterplan

BEACONSFIELD

DWG BEA-01-14
REV A
DATE MAR 23
SCALE 1:1000 @ A0

SECTION AA

SECTION BB



LOCATION PLAN

BEACONSFIELD
TYPICAL 14m ROAD RESERVE SECTIONS

DWG BEA-01-15
REV A
DATE MAR 23

2.0 Private Landscape Designs

1.1 'Rex' - Ground Level


LOCATION PLAN

Indicative Planting


Myoporum parvifolium
Creeping Boobialla


Conostylis candicans
Grey Cottonhead


Olea europaea 'Piccola'
Dwarf Olive


Laurus nobilis
Bay Leaf Tree


Eucalyptus cladocalyx nana
Dwarf Sugar Gum

BEACONSFIELD

DWG BEA-01-16
REV A
DATE MAR 23

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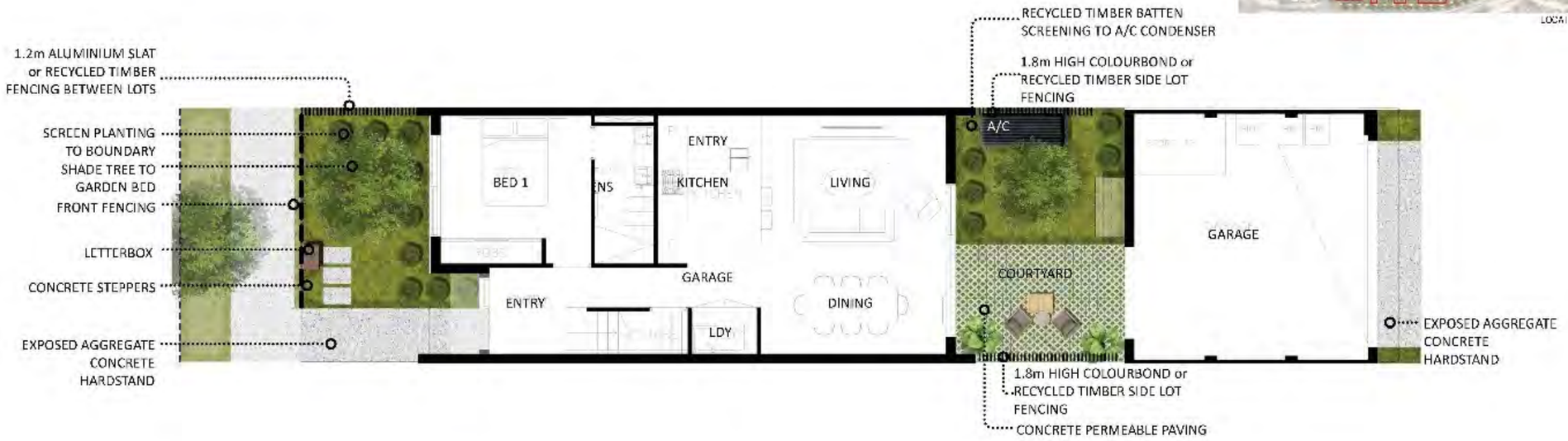
2.1 'Rosa' - Ground Level



Indicative Planting

Eremophila glabra
Kalbarri Carpet

Leptospermum ForeShore (PBR)
Tea Tree Excellant coastal

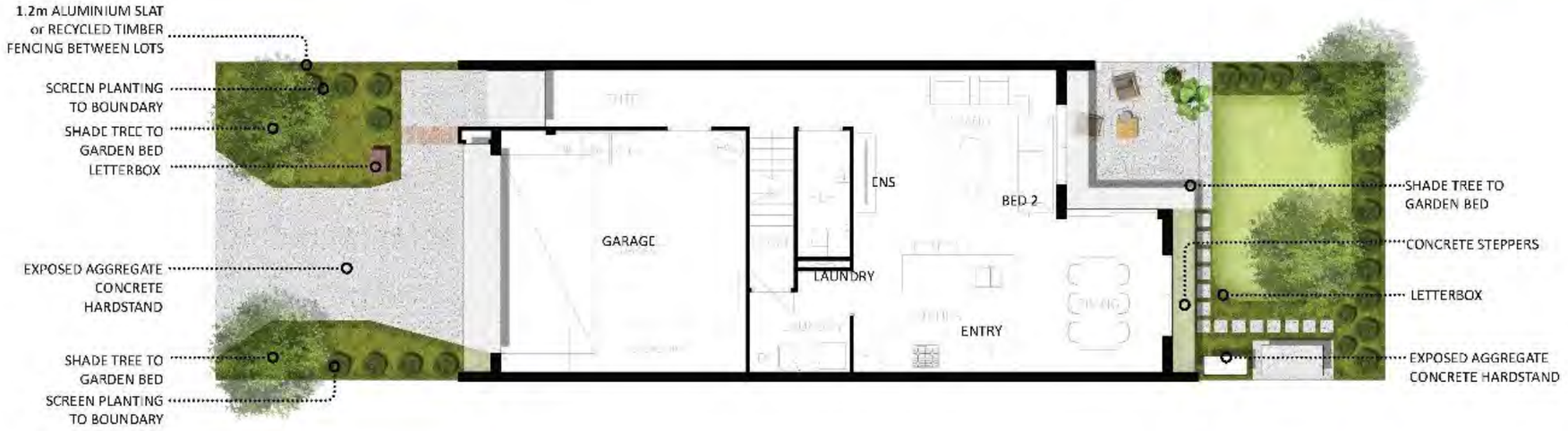
Olea europaea 'Piccolo'
Dwarf Olive

Laurus nobilis
Bay Leaf Tree

Prunus Elvins
Flowering Plum

BEACONSFIELD

2.2 'Felicity' - Ground Level



Indicative Planting

Eremophila glabra
Kalbarri Carpet

Leptospermum ForeShore (PBR)
Tea Tree Excellant coastal

Olea europaea 'Piccolo'
Dwarf Olive

Laurus nobilis
Bay Leaf Tree

Prunus Elvins
Flowering Plum

BEACONSFIELD

3.0 Private Landscape Indicative Materials Palette

PERMEABLE CONCRETE PAVING

BRUSHED CONCRETE &
PERMEABLE CONCRETE PAVING

RECYCLED RED BRICK PAVING

BRUSHED CONCRETE STEPPERS

CONCRETE PLANTER BOXES

TIMBER PANELLING TO WALLS & SCREENS

NATURAL TIMBER ARBORS & PERGOLAS

COMPOSITE TIMBER DECKING
Modwood. Colour: Black Bean

BEACONSFIELD

DWG BEA-01-19
REV A
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emerge

4.0 Private Landscape Indicative Planting Palette

Large Shrubs (>1.5m)	
Acmena smithii	Lilly pilly 'Cherry Surprise'
Viburnum ordoratissimum	Sweet Viburnum
Melaleuca huegelii	Chenille Honeymyrtle
Laurus nobilis	Bay Leaf Tree
Eremophila maculata	"Spotted Emu Bush
Acacia cyclops	Coastal Wattle
Acacia saligna	Golden Wreath Wattle
Atriplex cinerea	Grey Saltbush
Medium Shrubs (1 - 1.5m)	
Darwinia citriodora	Seaspray Darwinia
Myoporum insulare	Boobialla
Banksia ashbyi dwarf	Ashby's Banksia
Olea europaea 'Piccolo'	Dwarf Olive
Westringia fruticosa 'Blue Gem'	Coastal Rosemary
Small Shrubs (0.5 - 1.5m)	
Conostylis candicans	Grey Cottonhead
Leucophyta brownii	Cushion Bush
Olearia axillaris	Coastal Daisybush
Grevillea preissii	Spider Net Grevillea
Leptospermum	ForeShore (PBR)
Scaevola crassifolia	Cushion Fanflower
Hibbertia racemosa	Stalked Guinea Flower
Melaleuca systena	Chenille Honeymyrtle
Groundcovers (<0.5m)	Grevillea
Grevillea crithmifolia prostrate	Creeping Boobialla
Myoporum parvifolium	Kalbarri Carpet
Eremophila glabra	Prostrate Wreath Wattle
Acacia saligna prostrate	Silver Falls
Dichondra argentea	Coastal Pigface
Carpobrotus virescens	Round-leaved Pigface
Disphyma crassifolium	Desert flame
Chrysocephelum apiculatum	
Shade Tolerant	Lawn Leaf
Dichondra repens	Native Fuchsia
Correa reflexa	Spreading Flax Lily
Dianella longifolia	Blueberry Lily
Dianella revoluta	Swan River Pea
Gastrolobium celsianum	Angled Lobelia
Lobelia anceps	Dwarf Pittosporum
Pittosporum 'Miss Muffett'	Lomandra Lime Wave
Lomandra 'lime wave'	Lomandra Seascape
Lomandra 'seascape'	

Large Shrubs

Acmena smithii
Lilly Pilly Cherry Surprise

Viburnum ordoratissimum
Sweet Viburnum

Eremophila maculata
Spotted Emu Bush

Laurus nobilis
Bay Leaf Tree

Medium Shrubs

Darwinia citriodora
Seaspray Darwinia

Banksia ashbyi dwarf
Ashby's Banksia

Olea europaea 'Piccolo'
Dwarf Olive

Westringia fruticosa 'Blue Gem'
Coastal Rosemary

Small Shrubs

Conostylis candicans
Grey Cottonhead

Leucophyta brownii
Cushion Bush

Leptospermum ForeShore (PBR)
Tea Tree Excellant coastal

Lomandra longifolia 'Tanika'
Spiny-head Mat-rush

Groundcovers

Chrysocephelum apiculatum
Desert flame

Eremophila glabra
Kalbarri Carpet

Myoporum parvifolium
Creeping Boobialla

Carpobrotus virescens
Coastal Pigface

Shade Tolerant

Philodendron xanadu
Philodendron

Correa reflexa
Native Fuchsia

Pittosporum 'Miss Muffett'
Dwarf Pittosporum

Dichondra repens
Lawn-leaf

BEACONSFIELD

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5.0 Private Landscape Indicative Tree Palette

Trees

Agonis flexuosa	WA Peppermint
Allocasuarina fraseriana	Sheoak
Ficus macrocarpa var hillii	Hill's Flash Fig
Olea europaea	Olive Tree
Eucalyptus torquata	Torwood
Eucalyptus vixtrix	Snow Queen
Eucalyptus leucoxylon rosea	Pink Rosea
Melaleuca lanceolata	Saltwater Paperbark
Lagerstroemia Indica Natchez	Crepe Myrtle
Banksia integrifolia	Coast Banksia
Sapium sebiferum	Chinese Tallow
Malus Profusion	Crab Apple
Prunus Elvins	Flowering Plum
Eucalyptus-ficifolia	Flowering Gum
Eucalyptus cladocalyx nana	Dwarf Sugar Gum

Street Trees

Allocasuarina fraseriana
Common Sheoak

Eucalyptus leucoxylon rosea
Pink Rosea

Ficus macrocarpa var hillii
Hill's Flash Fig

Eucalyptus torquata
Torwood

Olea europaea
Olive Tree

Eucalyptus vixtrix
Snow Queen

Melaleuca lanceolata
Rottnest Tea Tree

Agonis flexuosa
WA Peppermint

Residential Lot Trees

Banksia integrifolia
Coast Banksia

Malus Profusion
Crab Apple

Pyrus calleryana Capital
Ornamental Pear

Eucalyptus cladocalyx nana
Dwarf Sugar Gum

Sapium sebiferum
Chinese Tallow

Lagerstroemia Indica Natchez
Crepe Myrtle

Prunus Elvins
Flowering Plum

Eucalyptus-ficifolia
Flowering Gum

BEACONSFIELD

DWG BEA-01-21
REV A
DATE MAR 23

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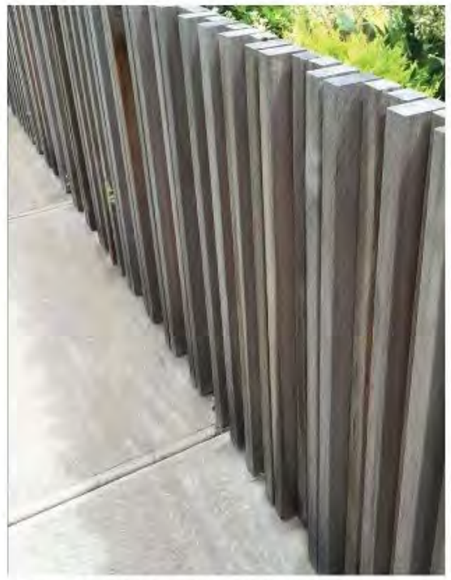
Adaptive Reuse

EXISTING TIMBERS

WAREHOUSE ROOF BEARERS

REUSE OPPORTUNITIES

SERVICE INFRASTRUCTURE SCREENS



1.8m HIGH COMMON BOUNDARY FENCING BETWEEN HOUSE & GARAGE

PRIVATE COURTYARD PERGOLAS

BENCH SEATS IN OPEN SPACE

FRONT FENCING

BEACONSFIELD
ADAPTIVE REUSE / DEMOLITION STRATEGY

DWG BEA-01-22
REV A
DATE MAR 23

EXISTING TRUSSES

REUSE OPPORTUNITIES

ARBOR STRUCTURES

ARBOR STRUCTURES

WAREHOUSE STEEL TRUSSES

COMMUNAL SHADE STRUCTURES

EXISTING BRICK

WAREHOUSE BRICK WALLS

REUSE OPPORTUNITIES

COURTYARD GARDEN WALLS (PAINTED)

LANDSCAPE WALLS IN OPEN SPACE

BENCH SEATS IN OPEN SPACE

LANDSCAPE WALLS IN OPEN SPACE

FEATURE PAVING AREAS IN OPEN SPACE

Sustainability

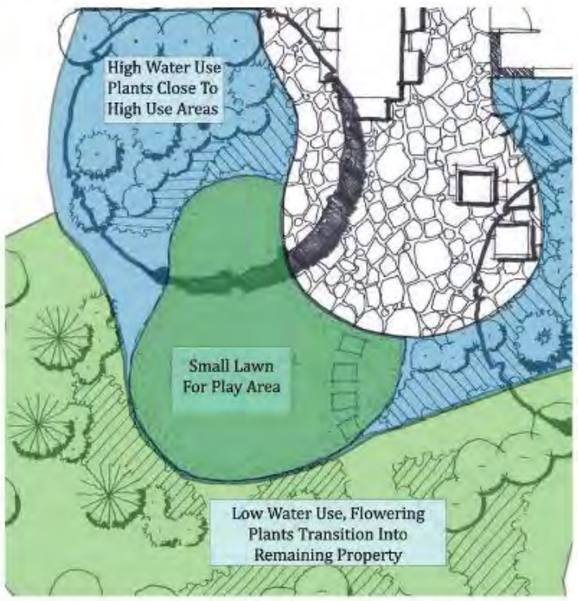
LANDSCAPE OPPORTUNITIES

GREEN CONCRETE FOR FOOTPATHS

EDIBLE VERGES

SMART POLES IN PUBLIC OPEN SPACE

SOLAR POWERED SMART FURNITURE



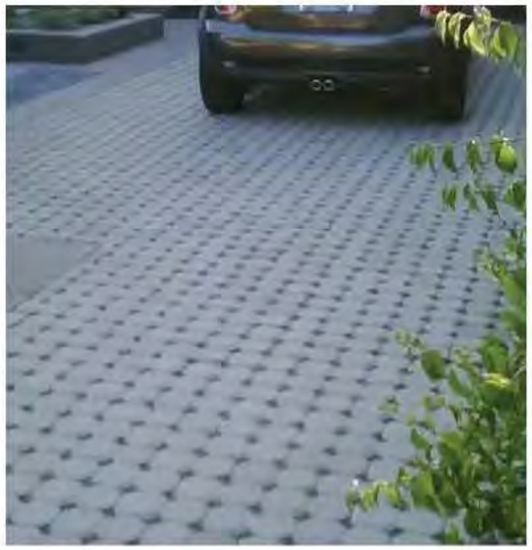
WATERWISE & HYDROZONED LANDSCAPES

SOIL ADDITIVES TO ASSIST IN WATER RETENTION AND FERTILISER REDUCTION

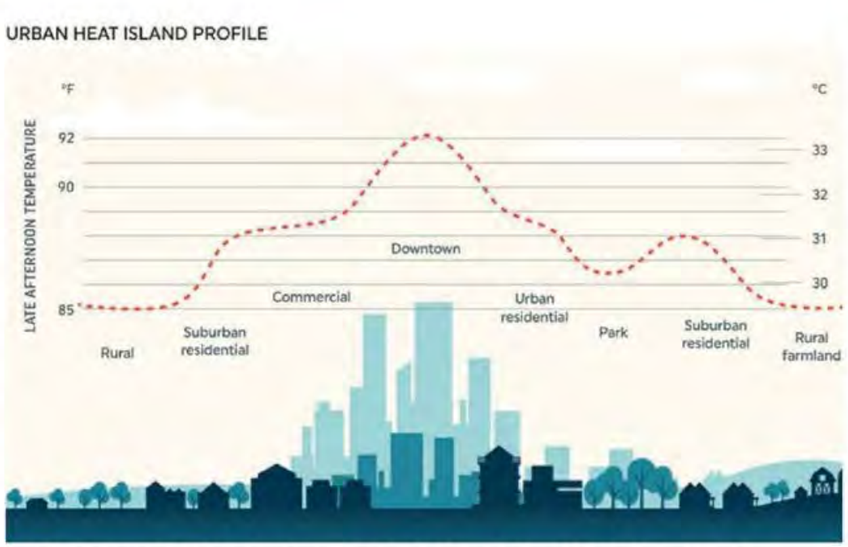
STRUCTURAL SOIL SYSTEMS FOR TREES

BEACONSFIELD
SUSTAINABILITY OPTIONS

DWG BEA-01-25
REV A
DATE MAR 23



PERMEABLE PAVERS IN STREETS



TARGETED 30% SITE CANOPY COVER TO REDUCE URBAN HEAT ISLAND EFFECT

100MM MULCH DEPTH FOR WATER RETENTION

SUBSURFACE DRAINAGE STORAGE IN PUBLIC OPEN SPACE TO MAXIMISE FUNCTIONALITY

PROMOTING A CONNECTION TO COUNTRY

PROMOTING A REDUCTION IN VEHICLE DEPENDNCY

BEACONSFIELD

DWG BEA-01-26
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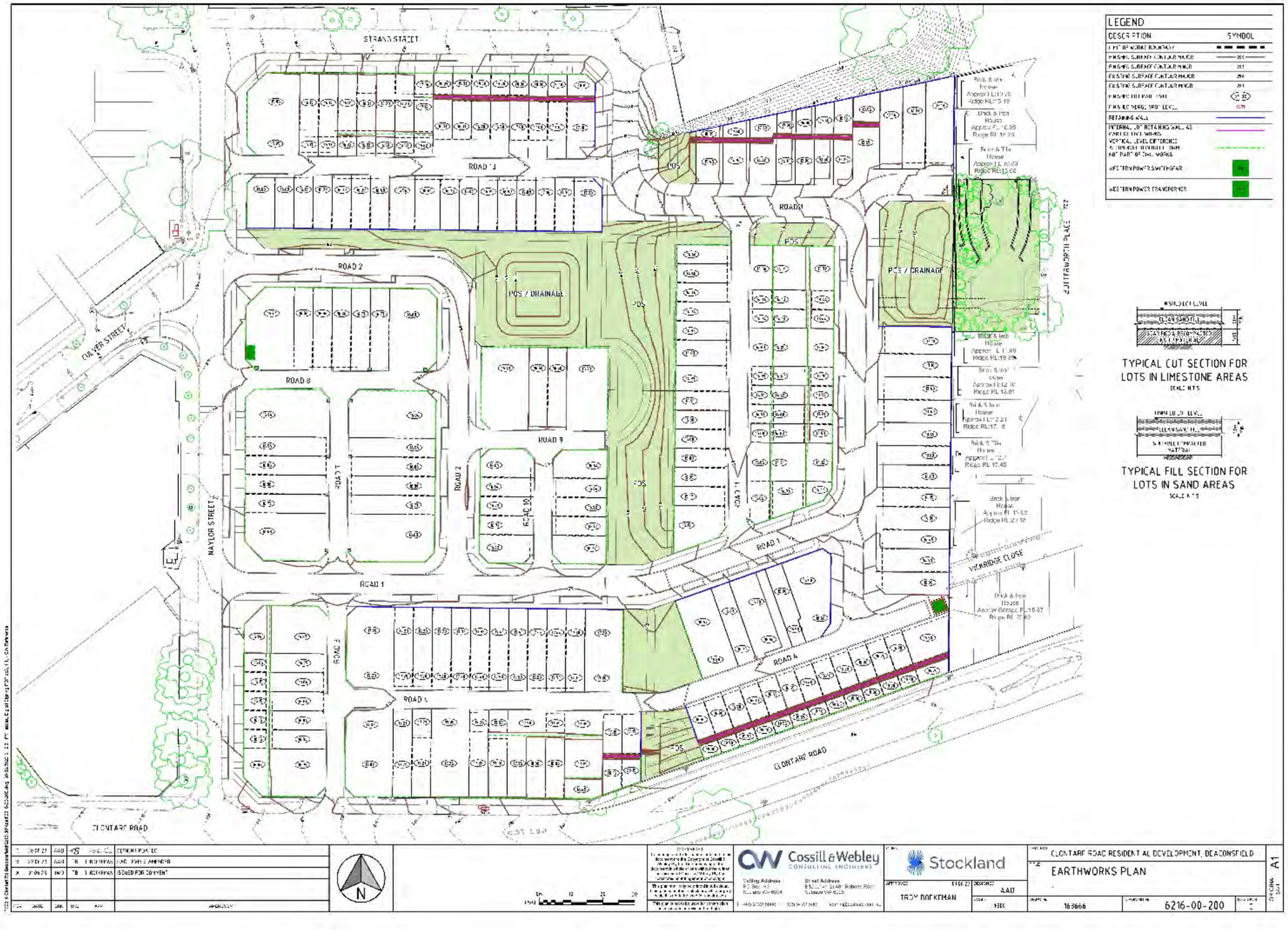
Attachment 6 - Earthworks Plan



Attachment 7 - Bushfire Management Plan

FPA AUSTRALIA | Fire Protection Association Australia | Life. Property. Environment.

BPAD Bushfire Planning & Design

Bushfire Management Plan Coversheet

This Coversheet and accompanying Bushfire Management Plan has been prepared and issued by a person accredited by Fire Protection Association Australia under the Bushfire Planning and Design (BPAD) Accreditation Scheme.

Bushfire Management Plan and Site Details

Site Address / Plan Reference: Various lots, Clontarf Road

Suburb: Beaconsfield **State:** WA **P/code:** 6162

Local government area: City of Fremantle

Description of the planning proposal: Subdivision application

BMP Plan / Reference Number: 150,356/64360 **Version:** R01 Rev 0 **Date of Issue:** 27/03/2023

Client / Business Name: Stockland Development Pty Ltd

Reason for referral to DFES	Yes	No
Has the BAL been calculated by a method other than method 1 as outlined in AS3959 (tick no if AS3959 method 1 has been used to calculate the BAL)?	☐	☑
Have any of the bushfire protection criteria elements been addressed through the use of a performance principle (tick no if only acceptable solutions have been used to address all of the BPC elements)?	☐	☑
Is the proposal any of the following special development types (see SPP 3.7 for definitions)?		
Unavoidable development (in BAL-40 or BAL-FZ)	☐	☑
Strategic planning proposal (including rezoning applications)	☐	☑
Minor development (in BAL-40 or BAL-FZ)	☐	☑
High risk land-use	☐	☑
Vulnerable land-use	☐	☑

If the development is a special development type as listed above, explain why the proposal is considered to be one of the above listed classifications (E.g. considered vulnerable land-use as the development is for accommodation of the elderly, etc.)?
N/A

Note: The decision maker (e.g. local government or the WAPC) should only refer the proposal to DFES for comment if one (or more) of the above answers are ticked "Yes".

BPAD Accredited Practitioner Details and Declaration

Name	Accreditation Level	Accreditation No.	Accreditation Expiry
Zac Cockerill	Level 2	BPAD37803	31/08/2023
Company		**Contact No.**	
JBS&G Australia Pty Ltd		(08) 9792 4797	

I declare that the information provided within this bushfire management plan is to the best of my knowledge true and correct

Signature of Practitioner **Date** 27/03/2023

Bushfire Management Plan: Various lots, Clontarf Road, Beaconsfield

Stockland Development Pty Ltd

150,356 | 64360

27 March 2023

BPAD Bushfire Planning & Design Accredited Practitioner Level 2

JBS&G

We acknowledge the Traditional Custodians of Country throughout Australia and their connections to land, sea and community.

We pay respect to Elders past and present and in the spirit of reconciliation, we commit to working together for our shared future.

Table of Contents

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Appendices

Abbreviations

Term	Definition
AS	Acceptable Solution
AS 3959	*Australian Standard 3959-2018 Construction of buildings in bushfire-prone areas* (SA 2018)
APZ	Asset Protection Zone
BAL	Bushfire Attack Level
BMP	Bushfire Management Plan
BPAD	Bushfire Planning and Design
DFES	Department of Fire and Emergency Services
EP Act	*Environmental Protection Act 1986*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
ESA	Environmentally Sensitive Area
F/US	Flat/upslope
FDI	Fire Danger Index
Guidelines	*Guidelines for Planning in Bushfire Prone Areas Version 1.4* (WAPC 2021)
POS	Public Open Space
SA	Standards Australia
SPP 3.7	*State Planning Policy 3.7 Planning in Bushfire Prone Areas* (WAPC 2015)
WAPC	Western Australian Planning Commission

1. Proposal details

1.1 Background

Stockland Development Pty Ltd is seeking to lodge a subdivision application for proposed residential development within various lots along Clontarf Road, Beaconsfield (the project area), located in the City of Fremantle. The subdivision plan (Figure 1) identifies:

- 184 proposed residential lots
- proposed internal road layout
- proposed areas of Public Open Space (POS).

1.2 Site description

The project area comprises approximately 4.68 ha within Lots 25, 72 and 100 Clontarf Road and Lot 73 Naylor Road and is surrounded by (see Figure 2):

- Strang Street and existing commercial and residential lots to the north, as well as Lot 5 Strang Street and undeveloped landholdings to the northeast
- Clontarf Road, existing residential lots and Clontarf Hill bushland to the south
- Existing residential lots adjoining Butterworth Place and Vickridge Close to the east
- Naylor Street and existing commercial and residential lots to the west.

1.3 Bushfire prone designation

A portion of the project area is designated as bushfire prone on the *Map of Bush Fire Prone Areas* (DFES 2021; see Plate 1).

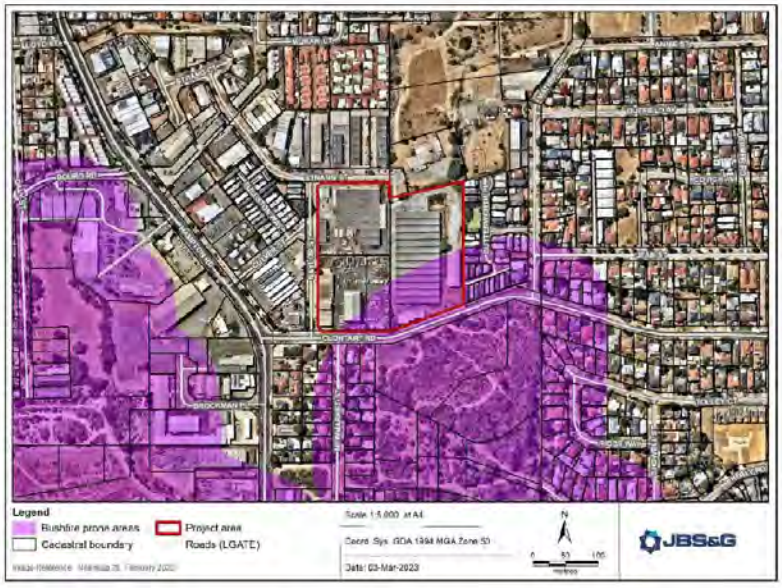


Plate 1: Map of Bush Fire Prone Areas (DFES 2021)

1.4 Purpose of this report

This Bushfire Management Plan (BMP) has been prepared to accompany subdivision application and address requirements under Policy Measures 6.2 and 6.4 of *State Planning Policy 3.7 Planning in Bushfire-Prone Areas* (SPP 3.7; WAPC 2015) in accordance with *Guidelines for Planning in Bushfire-Prone Areas Version 1.4* (the Guidelines; WAPC 2021).

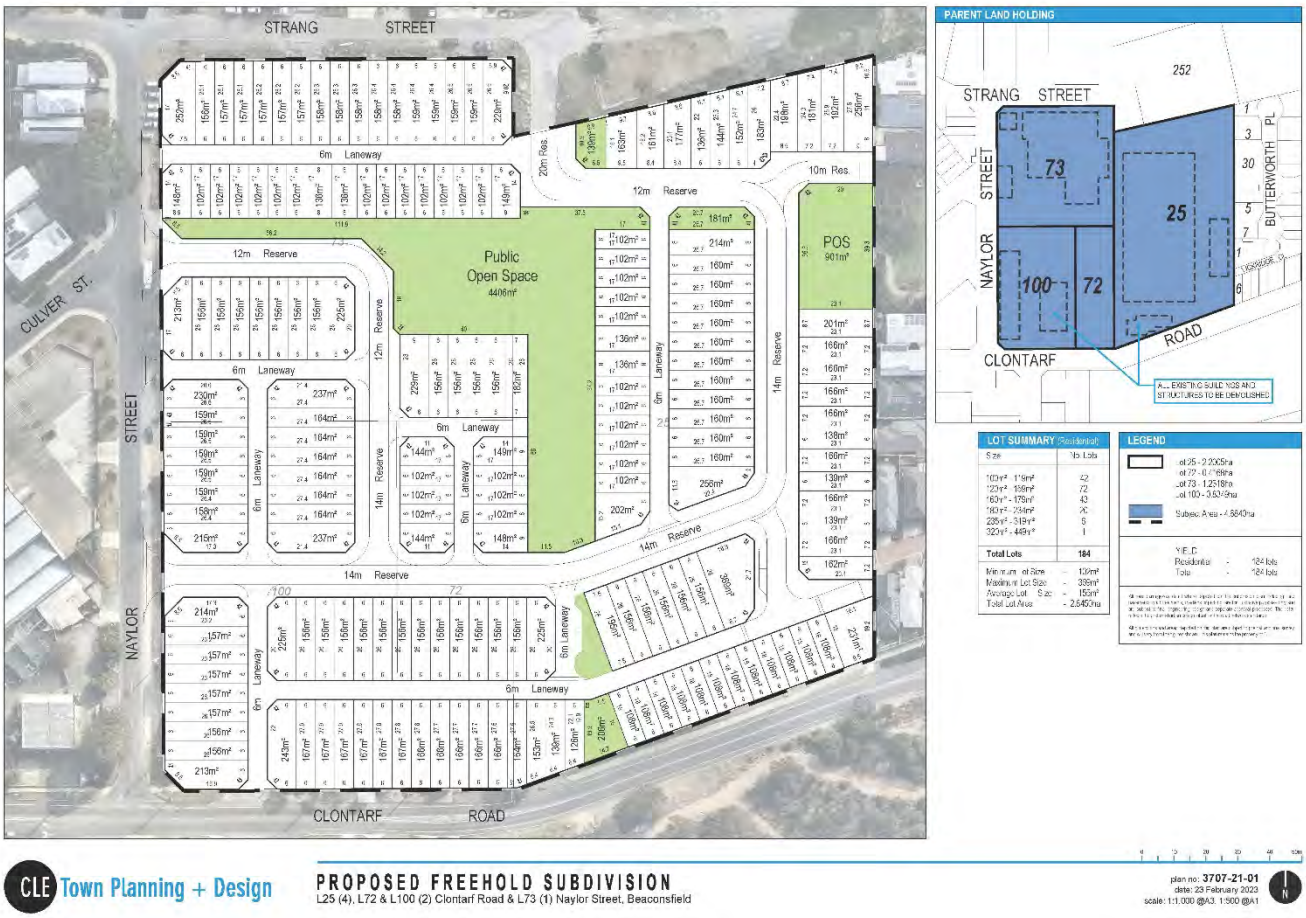
This report provides an assessment of the proposed development, bushfire risk context, and required bushfire mitigation measures and includes:

- a review of existing and post-development vegetation classification, exclusions and slope within the project area and surrounds
- results of a Bushfire Attack Level (BAL) contour assessment to demonstrate the indicative BAL ratings across the project area
- details of any bushfire hazard issues relevant to the site and proposed development
- a compliance assessment to demonstrate the proposed development can comply with the bushfire protection criteria of the Guidelines
- a list of stakeholder responsibilities for implementing the bushfire management measures set out within this BMP.

1.5 Other plans/reports

Other bushfire-related reports that have been prepared for the project area include:

- Bushfire Due Diligence Advice: Various lots Clontarf Road, Beaconsfield WA (JBS&G63339/146,389 2022).


STRANG STREET
CULVER ST.
NAYLOR STREET
CLONTARF ROAD
Public Open Space 4406m²
POS 901m²
6m Laneway
12m Reserve
14m Reserve
10m Res.
20m Res.
PARENT LAND HOLDING
252
73
25
100
72
BUTTERWORTH PL
LOT SUMMARY (Residential)
Size
No. Lots
Total Lots 184
LEGEND
Subdiv. Area - 4.5840ha
YIELD
Residential - 184 lots
Total - 184 lots
PROPOSED FREEHOLD SUBDIVISION
L25 (4), L72 & L100 (2) Clontarf Road & L73 (1) Naylor Street, Beaconsfield
plan no: 3707-21-01
date: 23 February 2023
scale: 1:1,000 @A3, 1:500 @A1


SCOTT ST
BEARD ST
LIVINGSTONE ST
MORAN ST
LONGFORD RD
DIXON ST
EDMONDSON ST
ANNIE ST
LLOYD ST
STRANG CT
STRANG ST
HAMPTON RD
DUFFIELD AV
DERMER RD
MATHER RD
WARDLE RD
COVICH AV
DOURO RD
CULVERSTONE PL
CULVER ST
NAYLOR ST
BUTTERWORTH PL
JEAN ST
CLONTARF RD
BROCKMAN PL
NEWMARKET ST
TOLLEY CT
RIGGS WAY
SHOVELL ST
HEALY RD
OMMANNEY ST
CARDIGAN ST
COCKBURN RD
ROCKINGHAM RD
HEINSSON WAY
DEBAKER DR
Legend
Project area
Highways
Main road
Minor road
Pedestrian way
Scale 1:6,500 at A4
0 50 100
metres
Coord. Sys. GDA 1994 MGA Zone 50
Job No: 64360
Client: Stockland Corporation Ltd
Version: A
Date: 03-Mar-2023
Drawn By: jcrute
Checked By: ZC
Various lots, Clontarf Road Beaconsfield,WA
SITE OVERVIEW
FIGURE 2
JBS&G
File Name: W:\Projects\1)Open\Stockland\Bushfire\64360 Clontarf Road Beaconsfield subbie BMP\GIS\02_MapProjects\R01_Rev_A\64360_02_SiteOverview.mxd
Image Reference: www.nearmap.com© - Imagery Date: 26, February 2023

2. Environmental considerations

2.1 Environmental values

A search of publicly available environmental databases is summarised in Table 1 to provide an overview of the environmental values associated with the project area and proposed development.

Environmental impacts resulting from implementation of the proposal will be addressed by the proponent under standard State and Federal environmental assessment and referral requirements where applicable under the *Environmental Protection Act 1986* and *Environment Protection and Biodiversity Conservation Act 1999*.

Table 1: Summary of environmental values

Environmental value	Present within or adjacent to the project area	Description
Environmentally Sensitive Area (ESA)	N/A	N/A
Swan Bioplan Regionally Significant Natural Area	N/A	N/A
Ecological linkages	Within	The entire project area is designated as forming part of a Perth Regional Ecological Linkage
Wetlands	Within a buffer zone	The site is within a 10 km buffer zone for Ramsar listed Forrestdale and Thomsons Lakes
Waterways	N/A	N/A
Threatened Ecological Communities listed under the EPBC Act	Potentially within and adjacent	The site has been largely cleared of remnant vegetation so the likelihood of a TEC is low
Threatened and priority flora	Potentially within and adjacent	The site has been largely cleared of remnant vegetation so the likelihood of any threatened and priority flora is low
Fauna habitat listed under the EPBC Act	Within a buffer zone	Project area mapped as being in a 6 km buffer for endangered Carnaby's Black Cockatoo roosting site and partially within a buffer for a black cockatoo roosting site
Threatened and priority fauna	Potentially within and adjacent	The site has been largely cleared of remnant vegetation so the likelihood of any threatened and priority fauna is low
Bush Forever Site	N/A	N/A
DBCA managed lands and waters (includes legislated lands and waters and lands of interest)	N/A	N/A
Conservation covenants	None known	N/A

2.2 Native vegetation – modification and clearing

As the project area is largely cleared, the proposal will not result in clearing of any significant native vegetation.

2.3 Revegetation / Landscape Plans

Any vegetation introduced as part of the landscaping in POS within the project area will need to consist of low threat and managed gardens and street scaping in accordance with AS 3959 Clause 2.2.3.2 (f) and Schedule 1 of the Guidelines (refer to Appendix A).

3. Bushfire assessment results

3.1 Assessment inputs

A Bushfire Attack Level (BAL) contour assessment has been undertaken in accordance with Method 1 of AS 3959 for the project area. The Method 1 procedure incorporates the following factors:

- state-adopted FDI 80 rating
- vegetation classification
- effective slope
- distance maintained between proposed development areas and the classified vegetation.

The BAL rating gives an indication of the level of bushfire attack (i.e. the radiant heat flux) that may be received by future development and subsequently informs the standard of building construction and/or setbacks required for proposed habitable development to potentially withstand such impacts and/or deliver compliance with the bushfire protection criteria of the Guidelines.

The BAL contours are based on:

- the vegetation classifications and effective slope observed at the time of inspection
- consideration of the proposed on-site clearing extent and resultant vegetation exclusions
- separation distances between future habitable development and classified vegetation achieved in line with the Plan of Subdivision in Figure 1
- consideration of vegetation retained within Clontarf Hill bushland.

3.1.1 Vegetation classification

Classified vegetation and exclusions were assessed within the project area and adjoining 150 m (the assessment area) through on-ground verification on 1 March 2023 in accordance with AS 3959 and the *Visual Guide for Bushfire Risk Assessment in Western Australia* (DoP 2016).

Georeferenced site photos and a description of the vegetation classifications and exclusions are contained in Appendix B, with vegetation plots being depicted in Figure 3.

Classified vegetation exists to the south and southeast opposite Clontarf Road within Clontarf Hill bushland in the form of coastal scrub on the predominant up-slope (northern) face and a three-tiered forest fuel profile with eucalyptus canopy along the ridge.

All other land within the assessment area was identified as being excluded from classification under Clauses 2.2.3.2 (e) and (f) of AS3959 as being non-vegetated or in a low threat managed state based on the existing extent of urban development and lack of intact vegetation within and adjacent to the project area.

3.1.2 Effective slope

Effective slope under classified vegetation was assessed within the assessment area through on-ground verification on 1 March 2023 in accordance with AS 3959. Results were cross-referenced with DPIRD 2m contour data and are depicted in Figure 3.

Site observations indicate that land within Clontarf Hill, to the south and southeast of the project area, is flat or upslope in relation to the project area.

3.1.3 Summary of inputs

Figure 3 illustrates the anticipated post-development vegetation classifications and exclusions following completion of subdivision works and implementation of low threat landscaping throughout the project area. The post-development vegetation classifications/exclusions and effective slope are summarised in Table 2.

Table 2: Summary of post-development vegetation classifications, exclusions and effective slope

Vegetation plot	Vegetation classification	Effective slope	Comments
1	Class A Forest	Flat/upslope (0°)	Three tiered forest fuel profile with eucalyptus canopy across the ridge of Clontarf Hill to the south and southeast of the site
2	Class D Scrub	Flat/upslope (0°)	Continuous scrub fuel profile 2–6 m in height on the up-slope (northern) face of Clontarf Hill to the south and southeast of the site
3	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	Existing non-vegetated and low threat managed areas throughout the site and surrounding extent of urban development

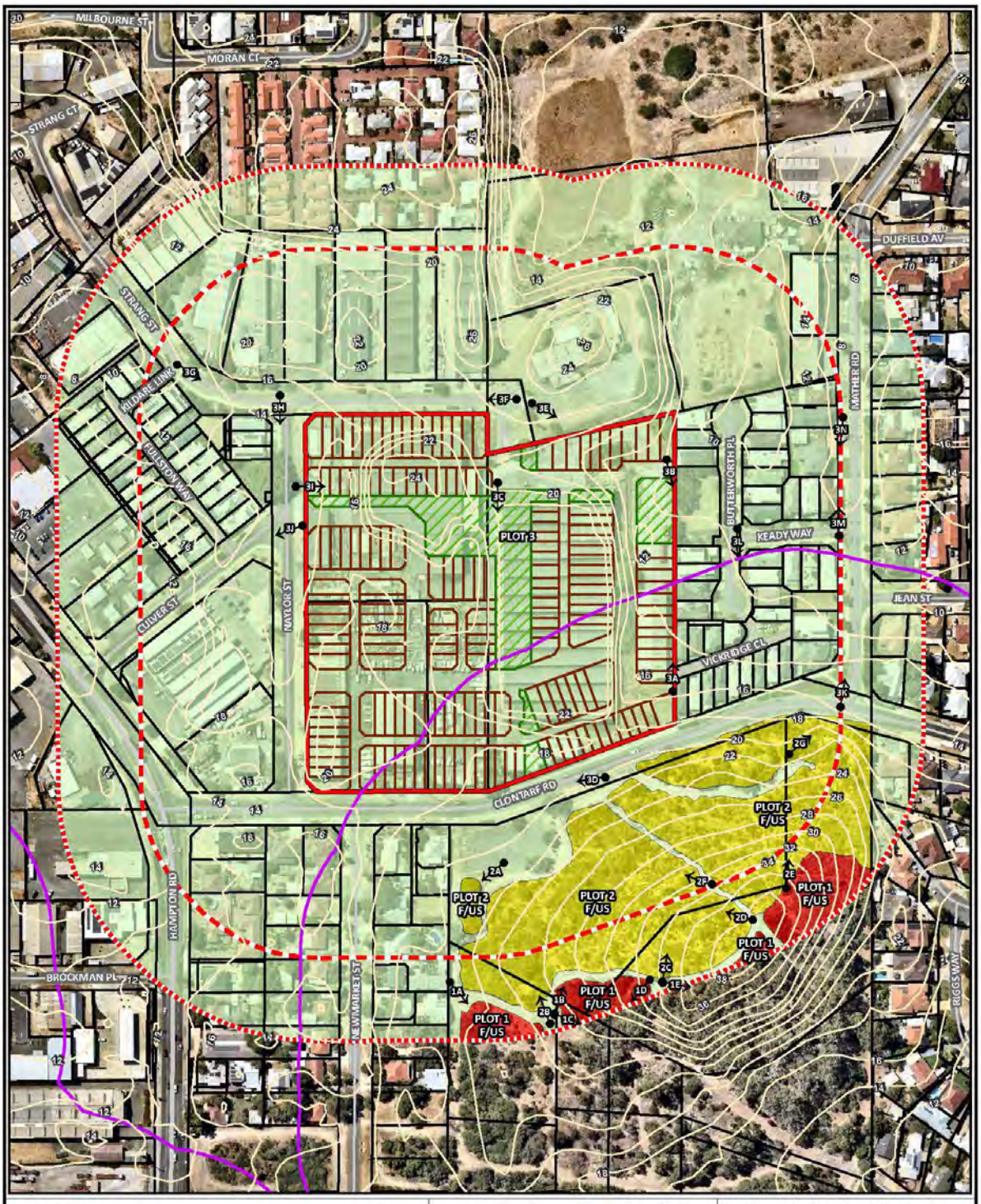


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Image Reference: www.nearmap.com© - Imagery Date: 26 February 2023

3.2 Assessment outputs

3.2.1 BAL Contour assessment results

Results of the BAL contour assessment are detailed in Table 3 and illustrated in Figure 4. The highest BAL applicable to the external boundary of the proposed lots is BAL–29.

Table 3: BAL contour assessment results

Method 1 BAL determination				
Plot	**Vegetation classification**	**Effective slope**	**Separation distance (to nearest lot boundary)**	**Highest BAL (to lot boundary)**
1	Class A Forest	Flat/upslope (0°)	>100 m	BAL–Low
2	Class D Scrub	Flat/upslope (0°)	14 m	BAL–29
3	Modified to non-vegetated and/or low threat (Clauses 2.2.3.2 [e] and/or [f])	N/A	N/A	N/A

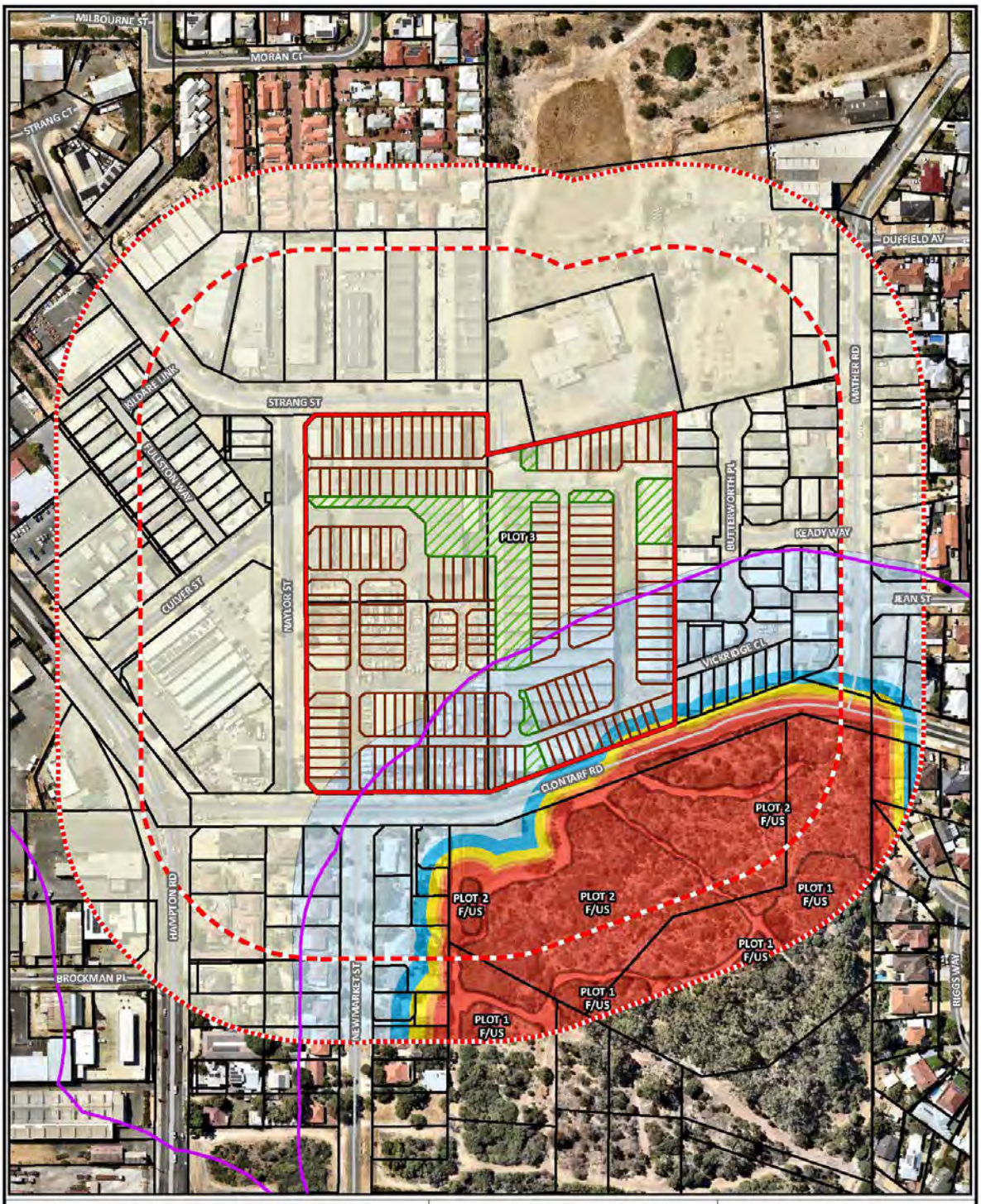
MILBOURNE ST
MORAN CT
STRANG CT
STRANG ST
GILDABIE LINK
HOLSTON WAY
CULVERT
TAYLOR ST
PLOT 3
BUTTERWORTH PL
MATHER RD
DUFFIELD AV
KEADY WAY
JEAN ST
WICKRIDGE CL
CLONTARF RD
PLOT 2 F/US
PLOT 2 F/US
PLOT 2 F/US
PLOT 1 F/US
PLOT 1 F/US
PLOT 1 F/US
PLOT 1 F/US
HAMPTON RD
BROCKMAN PL
NEWMARKET ST
RIGGS WAY
Legend
Project area
100m assessment area
150m assessment area
Cadastral boundary
Bushfire prone areas
POS
Classified vegetation
Main road
Minor road
Pedestrian way
BAL contours
BAL FZ
BAL 40
BAL 29
BAL 19
BAL 12.5
BAL Low
Proposed lots
Scale 1:3,000 at A4
0 25 50
metres
Coord. Sys: GDA 1994 MGA Zone 50
Job No: 64360
Client: Stockland Corporation Ltd
Version: A
Date: 07-Mar-2023
Drawn By: jcrute
Checked By: ZC
Various lots, Clontarf Road Beaconsfield,WA
BAL CONTOUR MAP
FIGURE 4
JBS&G
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Image Reference: www.nearmap.com© - Imagery Date: 26. February 2023

4. Identification of bushfire hazard issues

4.1 Bushfire context

The project area is predominantly surrounded by existing urban development in the form of roads, commercial/residential precincts and low threat managed landscaping that do not pose a bushfire threat.

The greatest bushfire threat to the proposed development is from vegetation retained within Clontarf Hill bushland, which at its nearest, is located approximately 14 m southeast of the project area. This separation is provided by Clontarf Road, which forms a permanent and substantial buffer between the bushfire hazard and the proposed development. Clontarf Hill bushland contains a combination of Class D Scrub and Class A Forest vegetation, amongst a network of firebreaks and recreational access tracks.

The worst case bushfire scenario is a fire run through approximately 330 m of forest and scrub vegetation on Clontarf Hill from the southeast of the project area, coinciding with winds from a southerly direction, which are most prevalent through the summer months. This scenario has the potential to result in elevated levels of radiant heat and ember attack at the development interface; however, the vegetation grades from forest to scrub, up—slope from the project area, which combined with the separation and defendable space provided by Clontarf Road, will result in moderation of bushfire behaviour and impact.

On the basis of the above bushfire context, JBS&G considers the bushfire risk to the proposed development can be appropriately managed through standard adoption of acceptable solutions and compliance with bushfire protection criteria, as discussed below and in Section 5.

4.2 Bushfire hazard issues

The following bushfire hazard issues have been identified for the proposed development:

1. The project area is located within a bushfire prone area and is subject to a BAL rating above BAL-Low due to the surrounding bushfire hazards and therefore requires an assessment against the bushfire protection criteria of the Guidelines in accordance with Policy Measure 6.4 of SPP 3.7.
2. The BAL Contour assessment identifies that future habitable development within all proposed lots has capacity to achieve BAL-29, with the majority of lots being able to achieve BAL-12.5 or BAL-Low.
3. Any vegetation introduced as part of the landscaping in POS within the project area will need to consist of low threat and managed gardens and street scaping in accordance with AS 3959 Clause 2.2.3.2 (f) and Schedule 1 of the Guidelines (refer to Appendix A).
4. If development is staged, 100 m wide low threat staging buffers may need to be considered over land on adjacent development stages to manage any regrowth grassland/weeds.
5. Multiple access routes can be provided for proposed development through linkage with Clontarf Road (south), Naylor Street (west) and Strang Street (north).
6. If development is staged, vehicular access arrangements will need to ensure that that all occupiers and visitors are provided with at least two vehicular access routes at all times. Management of potential staging issues are discussed in Section 5.3.
7. Reticulated water supply is available for proposed development via extension from existing services along the abovementioned road reserves.

8. Future habitable development within a designated bushfire prone area will require a bushfire construction response in accordance with AS 3959 if located within an area of BAL-12.5 or higher. BAL ratings and bushfire construction response will be determined at the BMP compliance (subdivision clearance) stage or future building approval stage.

Bushfire mitigation measures designed to address the abovementioned bushfire hazard issues and achieve compliance with the bushfire protection criteria of the Guidelines are described in Section 5 of this BMP.

5. Assessment against the bushfire protection criteria

5.1 Compliance with Elements 1 – 4

Compliance with Elements **1 – 4** of the bushfire protection criteria of the Guidelines (Version 1.4) is demonstrated by meeting the acceptable solutions, as detailed in Table 4.

Table 4: Compliance with the bushfire protection criteria of the Guidelines (Elements 1 – 4)

Bushfire protection criteria	Performance Principle	Method of compliance Acceptable solutions	Statement of development compliance	Compliance achieved
Element 1: Location	**P1** – The strategic planning proposal, subdivision and development application is located in an area where the bushfire hazard assessment is or will, on completion, be moderate or low, or a BAL–29 or below, and the risk can be managed. For unavoidable development in areas where BAL–40 or BAL–FZ applies, demonstrating that the risk can be managed to the satisfaction of the decision-maker.	**A1.1 Development location** The strategic planning proposal, subdivision and development application is located in an area that is or will, on completion, be subject to either a moderate or low bushfire hazard level, or BAL–29 or below.	The BAL contour assessment (see Figure 4 and Table 3) indicates that all proposed lots can achieve BAL-29 or lower.	✓
Element 2: Siting and design	**P2** – The siting and design of the strategic planning proposal, subdivision or development application, including roads, paths and landscaping, is appropriate to the level of bushfire threat that applies to the site. The proposal incorporates a defendable space and significantly reduces the heat intensities at the building surface thereby minimising the bushfire risk to people, property and infrastructure, including compliance with AS 3959 if appropriate.	**A2.1 Asset Protection Zone** Every habitable building is surrounded by, and every proposed lot can achieve, an APZ depicted on submitted plans, which meets the requirements set out in Schedule 1.	N/A. No formal APZs are required to deliver BAL-29 or lower for proposed lots. This separation is already provided in the form of Clontarf Road reserve. Any low threat POS landscaping or streetscaping is to be established and maintained in accordance with AS 3959 Clause 2.2.3.2 (f) and Schedule 1 of the Guidelines (refer to Appendix A).	N/A
Element 3: Vehicular access	**P3i** – The design and capacity of vehicular access and egress is to provide for the community to evacuate to a suitable destination before a bushfire arrives at the site, allowing emergency services personnel to attend the site and/or hazard vegetation.	**A3.1 Public roads** *The minimum requirements under this acceptable solution are applicable to all proposed and existing public roads.* Public roads are to meet the minimum technical requirements in Table 6, Column 1. The trafficable (carriageway/pavement) width is to be in accordance with the relevant class of road in the Local Government Guidelines for Subdivisional Development (IPWEA Subdivision Guidelines), Liveable Neighbourhoods, Austroad standards and/or any applicable standards for the local government area.	All public roads will be constructed to the relevant technical requirements of the Guidelines (see Appendix C).	✓

Bushfire protection criteria	Performance Principle	Method of compliance Acceptable solutions	Statement of development compliance	Compliance achieved
		A3.2a Multiple access routes Public road access is to be provided in two different directions to at least two different suitable destinations with an all-weather surface (two-way access). If the public road access to the subject site is via a no-through road which cannot be avoided due to demonstrated site constraints, the road access is to be a maximum of 200 metres from the subject lot(s) boundary to an intersection where two-way access is provided. The no-through road may exceed 200 metres if it is demonstrated that an alternative access, including an emergency access way, cannot be provided due to site constraints and the following requirements are met: • the no-through road travels towards a suitable destination; and • the balance of the no-through road, that is greater than 200 metres from the subject site, is wholly within BAL-LOW, or is within a residential built-out area – Figure 23.	A combination of existing perimeter roads and the proposed internal vehicle access network will provide all occupants with the option of travelling to more than two different destinations, including: • connection with Clontarf Road to the south, providing the option of travelling west to Hampton Road or east to Carrington Street • connection with Naylor Street to the west, providing the option of travelling north to Strang Street or south to Clontarf Road.	✓
		A3.2b Emergency access way *Where it is demonstrated that A3.2a cannot be achieved due to site constraints, or where an alternative design option does not exist, an emergency access way can be considered as an acceptable solution.* An emergency access way is to meet all the following requirements: • requirements in Table 6, Column 2; • provides a through connection to a public road; • be no more than 500 metres in length; and • must be signposted and if gated, gates must open the whole trafficable width and remain unlocked.	N/A – the proposed subdivision design does not require Emergency Access Ways (EAWs) to provide through access to a public road.	N/A
		A3.3 Through-roads All public roads should be through-roads. No-through roads should be avoided and should only be considered as an acceptable solution where: • it is demonstrated that no alternative road layout exists due to site constraints; and • the no-through road is a maximum length of 200 metres to an intersection providing two-way access, unless it satisfies the exemption provisions in A3.2a of this table. A no-through road is to meet all the following requirements: • requirements of a public road (Table 6, Column 1); and • turn-around area as shown in Figure 24.	The proposed no-through road in the northeast is required due to the landlocked corner of the site and inability to connect to any surrounding public roads. It is approximately 32 m long, services four proposed lots and is situated within an area of BAL-Low. Therefore this no-through road does not trigger any bushfire management technical compliance requirements. The proposed no-through road in the southeast is required due to the landlocked corner of the site and inability to connect to any surrounding public roads including Clontarf Road. It is approximately 22 m long and services two proposed lots that would be assisted by fire appliances from either the nearby road intersection or Clontarf Road to the south, such that a compliant turnaround head is not warranted. Due to the nature of the site as an infill development, there is no alternative road layout that exists that would avoid the need for the proposed no-through roads.	✓
	P3ii – The design of vehicular access and egress provides: • access and egress for emergency service vehicles while allowing the community to evacuate;	**A3.4a Perimeter roads** A perimeter road is a public road and should be provided for greenfield or infill development where 10 or more lots are being proposed (including as part of a staged subdivision) with the aim of:	Strang Street, Naylor Street and Clontarf Road act as perimeter roads to the infill development. Clontarf Road in particular provides the necessary perimeter road interface to the predominant bushfire hazards.	✓

Bushfire protection criteria	Performance Principle	Method of compliance Acceptable solutions	Statement of development compliance	Compliance achieved
	• a defendable space for emergency services personnel on the interface • between classified vegetation and development site; and • hazard separation between classified vegetation and the subject site to reduce the potential radiant heat that may impact a lot(s).	• separating areas of classified vegetation under AS3959, which adjoin the subject site, from the proposed lot(s); and • removing the need for battle-axe lots that back onto areas of classified vegetation. A perimeter road is to meet the requirements contained in Table 6, Column 1. A perimeter road may not be required where: • the adjoining classified vegetation is Class G Grassland; • lots are zoned for rural living or equivalent; • it is demonstrated that it cannot be provided due to site constraints; or • all lots have frontage to an existing public road.		
	P3iii – Vehicular access is provided which allows: • access and egress for emergency service vehicles; • defendable space for emergency services • personnel on the interface between classified vegetation and development; and • hazard separation between classified vegetation and the site to reduce the potential radiant heat that may impact a lot(s).	**A3.4b Fire service access route** *Where proposed lots adjoin classified vegetation under AS3959 (excluding Class G Grassland), and a perimeter road is not required in accordance with A3.4a, a fire service access route can be considered as an acceptable solution to provide firefighter access, where access is not available, to the classified vegetation.* A fire service access route is to meet all the following requirements: • requirements in Table 6, Column 3; • be through-routes with no dead-ends; • linked to the internal road system at regular intervals, every 500 metres; • must be signposted; • no further than 500 metres from a public road; • if gated, gates must open the required horizontal clearance and can be locked by the local government and/or emergency services, if keys are provided for each gate; and • turn-around areas designed to accommodate type 3.4 fire appliances and to enable them to turn around safely every 500 metres.	N/A – the proposed subdivision design does not require fire service access routes (FSARs) to achieve access within and around the perimeter of the project area.	N/A
	P3iv – Vehicular access is provided which allows emergency service vehicles to directly access all habitable buildings and water supplies and exit the lot without entrapment.	**A3.5 Battle-axe access legs** *Where it is demonstrated that a battle-axe cannot be avoided due to site constraints, it can be considered as an acceptable solution.* There are no battle-axe technical requirements where the point the battle-axe access leg joins the effective area of the lot, is less than 50 metres from a public road in a reticulated area. In circumstances where the above condition is not met, or the battle-axe is in a non-reticulated water area, the battle-axe is to meet all the following requirements: • requirements in Table 6, Column 4; and • passing bays every 200 metres with a minimum length of 20 metres and a minimum additional trafficable width of two metres (i.e. the combined trafficable width of the passing bay and constructed private driveway to be a minimum six metres).	N/A – no battle-axes are proposed as part of the subdivision and the project area is not serviced by an existing battle-axe.	N/A
		A3.6 Private driveways There are no private driveway technical requirements where the private driveway is: • within a lot serviced by reticulated water; • no greater than 70 metres in length between the most distant external part of the development site and the public road measured as a hose lay; and	N/A – the proposed lots are of size where all future habitable development will be located within 50 m of a public road.	N/A

Bushfire protection criteria	Performance Principle	Method of compliance Acceptable solutions	Statement of development compliance	Compliance achieved
		• accessed by a public road where the road speed limit is not greater than 70 km/h. In circumstances where all of the above conditions are not met, or the private driveway is in a non-reticulated water area, the private driveway is to meet all the following requirements: • requirements in Table 6, Column 4; • passing bays every 200 metres with a minimum length of 20 metres and a minimum • additional trafficable width of two metres (i.e. the combined trafficable width of the passing bay and constructed private driveway to be a minimum six metres); and • turn-around area as shown in Figure 28 and within 30 metres of the habitable building.		
Element 4: Water	No performance principle applies	**A4.1 Identification of future water supply** Evidence that a reticulated or sufficient non-reticulated water supply for bushfire fighting can be provided at the subdivision and/or development application stage, in accordance with the specifications of the relevant water supply authority or the requirements of Schedule 2. Where the provision of a strategic water tank(s) is required a suitable area within a road reserve or a dedicated lot the location should be identified, should be identified on the structure plan, to the satisfaction of the local government.	A4.1 is applicable to strategic planning applications only.	N/A
	P4 – Provide a permanent water supply that is: • sufficient and available for firefighting purposes; • constructed from non-combustible materials (e.g. steel), or able to maintain its integrity throughout a bushfire; and • accessible, with legal access for maintenance and re-filling by tankers and emergency service vehicles.	**A4.2 Provision of water for firefighting purposes** Where a reticulated water supply is existing or proposed, hydrant connection(s) should be provided in accordance with the specifications of the relevant water supply authority. Where these specifications cannot be met, then the following applies: • The provision of a water tank(s), in accordance with the requirements of Schedule 2; and • Where the provision of a strategic water tank(s) is applicable, then the following requirements apply: – land to be ceded free of cost to the local government for the placement of the tank(s); – the lot or road reserve where the tank is to be located is identified on the plan of subdivision; – tank capacity, construction, and fittings, provided in accordance with the requirements of Schedule 2; and – a strategic water tank is to be located no more than 10 minutes from the subject site (at legal road speeds). Where a subdivision includes an existing habitable building(s) that is to be retained, a water supply should be provided to this existing habitable building(s), in accordance with the requirements listed above.	The proposed development will be connected to reticulated water supply via extension of services from adjacent residential development in accordance with Water Corporations Design Standard 63 requirements.	✓

5.2 Compliance with Element 5

Element 5 relates specifically to vulnerable tourism land uses and is therefore not applicable to the proposed subdivision.

5.3 Specific and additional management measures

JBS&G advises the following specific and additional bushfire management measures to increase the level of bushfire risk mitigation across the site as part of the current subdivision application and to inform ongoing planning stages of the development.

5.3.1 Low threat staging buffers

Development may occur on a staged basis and therefore slashing of regrowth grasses/weeds may need to occur on adjacent development stages to ensure habitable buildings are not inhibited by a temporary BAL-40/FZ impact imposed by temporary regrowth vegetation. If required, this will be achieved by ensuring that each approved stage subject to construction is surrounded by sufficient low threat staging buffers (up to 100 m in width). If required, low threat staging buffers will need to be maintained on a regular and ongoing basis in accordance with AS 3959 Clause 2.2.3.2 (e) and (f) and Schedule 1 of the Guidelines (refer to Appendix A). Management will include slashing of grassland at 100 mm or lower to achieve a low threat minimal fuel condition all year round, until such time that the buffer area is developed as part of the next development stage.

5.3.2 Staging of access

If development (and therefore construction of vehicular access) is to occur on a staged basis, vehicular access arrangements will need to ensure that all occupiers and visitors are provided with at least two access routes for all stages of development. This can be achieved via construction of access in advance of stages or through provision of temporary compliant emergency access ways/no-through roads until two formal access roads are available.

5.3.3 Fuel management within cleared vacant lots

Cleared vacant (titled) lots are to be managed on a regular and ongoing basis by the developer until sale of lots after which time landowners will be responsible for ongoing management. Maintenance is to be in accordance with Clause 2.2.3.2 (f) of AS 3959 and Schedule 1 of the Guidelines (refer to Appendix A) and will involve slashing/mowing of grassland and weeds to height of less than 100 mm.

5.3.4 Road verge fuel management

Existing and proposed road verges that have been excluded as low threat are to be managed to ensure the understorey and surface fuels remain in a low threat, minimal fuel condition in accordance with Clause 2.2.3.2 (f) of AS 3959. Ongoing road verge management is a shared responsibility between the City and the landowner.

5.3.5 Notification on Title

A notification, pursuant to Section 165 of the Planning and Development Act 2005, is to be placed on the certificates of title of the proposed lots subject to BAL-12.5 or higher to ensure landowners/proponents and prospective purchasers are aware that their lot is located within a bushfire prone area and is subject to an approved BMP. The notification is to state as follows:

This land is within a bushfire prone area as designated by an Order made by the Fire and Emergency Services Commissioner and is subject to a Bushfire Management Plan. Additional planning and building requirements may apply to development on this land (Western Australian Planning Commission).

5.3.6 Building construction standards

Future Class 1, 2, 3 and associated 10a buildings in areas subject to BAL-12.5 or higher are required to comply with the bushfire specific building construction requirements of AS 3959.

5.3.7 BMP compliance and condition clearance report

A BMP compliance and condition clearance report is to be prepared prior to issue of title to validate and confirm that relevant management measures of this BMP have been implemented appropriately to achieve the intended bushfire management outcomes and compliance with bushfire protection criteria.

5.3.8 Landscaping Plan

The BAL contour assessment is reliant on all POS landscaping being implemented and maintained as low threat vegetation in accordance with Section 2.2.3.2 (f) of AS3959. Responsibility for establishment and maintenance of low threat landscaping is discussed in Section 6.

5.3.9 Compliance with annual firebreak notice

The developer/land manager and prospective land purchasers are to comply with the current City of Fremantle annual firebreak notice as amended (refer to Appendix D).

6. Responsibilities for implementation and management of the bushfire measures

Implementation of the BMP applies to the developer, prospective landowners and the City to ensure bushfire management measures are adopted and implemented on an ongoing basis. A bushfire responsibilities table is provided in Table 5 to drive implementation of all bushfire management works associated with this BMP.

Table 5: Responsibilities for implementation and management of the bushfire measures

Implementation/management table	
Developer – prior to issue of titles	
No.	Implementation action
1	Construct the public roads (and any staged access provisions) and reticulated water supply to the standards stated in this BMP.
2	Establish the project area and POS landscaping to the required low threat state in accordance with the standards stated in this BMP.
3	Undertake BMP compliance assessment.
Developer – until sale/transfer of lots	
No.	Implementation action
1	Maintain the project area and POS landscaping in a low threat state in accordance with exclusion Clause 2.2.3.2 (f) of AS 3959, including slashing/mowing of grassland and weeds to height of less than 100 mm.
2	Comply with the relevant local government annual firebreak notice issued under s33 of the *Bush Fires Act 1954*.
Landowner/occupier – prior to building construction and ongoing	
No.	Implementation action
1	Maintain cleared/vacant lots in a low threat state to achieve exclusion Clause 2.2.3.2 (f) of AS 3959, including slashing/mowing of grassland and weeds to height of less than 100 mm, until developed to a permanent low fuel state.
2	Where practical, adopt bushfire construction measures relevant to the applicable BAL rating for non-residential habitable buildings.
3	Comply with the City's annual firebreak notice as amended.
Local government – ongoing management following handover	
No.	Implementation action
1	Maintain road verges and POS in a low threat minimal fuel condition as per Clause 2.2.3.2 (f) of AS 3959.

7. Limitations

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only, and has been based in part on information obtained from the client and other parties.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by JBS&G, and should not be relied upon by other parties, who should make their own enquires.

Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the regulatory requirements.

Limited sampling and laboratory analyses were undertaken as part of the investigations undertaken, as described herein. Ground conditions between sampling locations and media may vary, and this should be considered when extrapolating between sampling points. Chemical analytes are based on the information detailed in the site history. Further chemicals or categories of chemicals may exist at the site, which were not identified in the site history and which may not be expected at the site.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this report are based on the information obtained at the time of the investigations.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, JBS&G reserves the right to review the report in the context of the additional information.

8. References

Department of Fire and Emergency Services (DFES) 2021, *Map of Bush Fire Prone Areas*, [Online], Government of Western Australia, available from: https://maps.slip.wa.gov.au/landgate/bushfireprone/, [26/02/2023].

Department of Planning (DoP) 2016, *Visual guide for bushfire risk assessment in Western Australia*, Department of Planning, Perth.

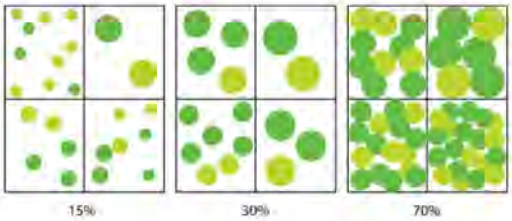
Standards Australia (SA) 2018, *Australian Standard AS 3959–2018 Construction of Buildings in Bushfire-prone Areas*, Standards Australia, Sydney.

JBS&G 2022, *Bushfire Due Diligence: Various lots, Clontarf Road, Beaconsfield WA*, JBS&G, Bunbury.

Western Australian Planning Commission (WAPC) 2015, *State Planning Policy 3.7 Planning in Bushfire Prone Areas*, Western Australian Planning Commission, Perth.

Western Australian Planning Commission (WAPC) 2021, *Guidelines for Planning in Bushfire Prone Areas*, Version 1.4 December 2021, Western Australian Planning Commission, Perth.

Appendix A Asset Protection Zone standards and explanatory notes

Schedule 1: Standards for Asset Protection Zones	
Object	**Requirement**
Fences within the APZ	• Should be constructed from non-combustible materials (for example, iron, brick, limestone, metal post and wire, or bushfire-resisting timber referenced in Appendix F of AS 3959).
Fine fuel load (Combustible, dead vegetation matter <6 millimetres in thickness)	• Should be managed and removed on a regular basis to maintain a low threat state. • Should be maintained at <2 tonnes per hectare (on average). • Mulches should be non-combustible such as stone, gravel or crushed mineral earth or wood mulch >6 millimetres in thickness.
Trees* (>6 metres in height)	• Trunks at maturity should be a minimum distance of six metres from all elevations of the building. • Branches at maturity should not touch or overhang a building or powerline. • Lower branches and loose bark should be removed to a height of two metres above the ground and/or surface vegetation. • Canopy cover within the APZ should be <15 per cent of the total APZ area. • Tree canopies at maturity should be at least five metres apart to avoid forming a continuous canopy. Stands of existing mature trees with interlocking canopies may be treated as an individual canopy provided that the total canopy cover within the APZ will not exceed 15 per cent and are not connected to the tree canopy outside the APZ. Figure 19: Tree canopy cover – ranging from 15 to 70 per cent at maturity 
Shrub* and scrub* (0.5 metres to six metres in height). Shrub and scrub >6 metres in height are to be treated as trees.	• Should not be located under trees or within three metres of buildings. • Should not be planted in clumps >5 square metres in area. • Clumps should be separated from each other and any exposed window or door by at least 10 metres.
Ground covers* (<0.5 metres in height. Ground covers >0.5 metres in height are to be treated as shrubs)	• Can be planted under trees but must be maintained to remove dead plant material, as prescribed in 'Fine fuel load' above. • Can be located within two metres of a structure, but three metres from windows or doors if >100 millimetres in height.
Grass	• Grass should be maintained at a height of 100 millimetres or less, at all times. • Wherever possible, perennial grasses should be used and well-hydrated with regular application of wetting agents and efficient irrigation.

Schedule 1: Standards for Asset Protection Zones	
Defendable space	Within three metres of each wall or supporting post of a habitable building, the area is kept free from vegetation, but can include ground covers, grass and non-combustible mulches as prescribed above.
LP Gas Cylinders	Should be located on the side of a building furthest from the likely direction of a bushfire or on the side of a building where surrounding classified vegetation is upslope, at least one metre from vulnerable parts of a building. The pressure relief valve should point away from the house. No flammable material within six metres from the front of the valve. Must sit on a firm, level and non-combustible base and be secured to a solid structure.

** Plant flammability, landscaping design and maintenance should be considered – refer to explanatory notes*

Source: *Guidelines for Planning in Bushfire Prone Areas (WAPC 2021)*

Element 2 Explanatory Notes

E2 Managing an Asset Protection Zone (APZ) to a low threat state

An APZ is a low fuel area maintained around a habitable building to increase the likelihood that it will survive a bushfire, by providing a defendable space and reducing the potential for direct flame contact, radiant heat exposure and ember attack.

Vegetation management within an APZ should provide defendable space and be maintained to a low threat state, in perpetuity, in accordance with the requirements outlined in Schedule 1.

The width of an APZ varies with slope and vegetation type, however it should only be as wide as needed to ensure the potential radiant heat impact of a bushfire does not exceed 29kW/m² (BAL-29), or 10kW/m² where a building is identified for use as an on-site shelter. An APZ is generally not required where a building or development site achieves 29kW/m² (BAL-29) or lower in its pre-development state (prior to any vegetation clearing or modification).

An APZ should include an area of defendable space immediately adjoining a building, that is kept free from combustible items and obstructions, within which firefighting operations can be undertaken to defend the structure. Where a lot contains a building envelope, it may not be necessary for the entire building envelope to achieve 29kW/m² (BAL-29) as this may result in significant unnecessary clearing. It is recommended that the BMP identifies that a sufficient APZ can be accommodated within the building envelope, with the development site and associated APZ to be determined at the development approval stage.

An APZ should be contained within the boundaries of the lot on which the building is situated, except in instances where it is demonstrated that the vegetation on the adjoining land is managed in a low threat state, as per cl. 2.2.3.2 of AS 3959, such as a road, managed park, rocky outcrop or a water body.

The siting of a habitable building and associated APZ should aim to minimise the clearing of vegetation. The BMP should demonstrate that the proposed APZ has minimised the unnecessary loss of vegetation or potential for conflict with landscape or environmental objectives; and complies with environmental approvals/exemptions (where necessary). A re-design or reduction in lot yield may be necessary to minimise the removal and modification of remnant vegetation.

It is recommended that development be located on flat areas or slopes less than 20 degrees (especially where classified vegetation is located downslope to a building) and away from ridge tops, crests or narrow gullies, as bushfire can spread rapidly in these areas. Circumstances where these locations may be suitable for development to occur include where the land is already cleared, and 29kW/m² (BAL-29) or lower can be achieved for the whole development

Element 2 Explanatory Notes
site without the use of an APZ. To ensure soil stability within an APZ, vegetation removal on slopes exceeding 18 degrees is discouraged. Fine fuel load should be maintained to less than two tonnes per hectare, however this is often a subjective assessment. Reducing fuel load levels does not necessarily require the removal of existing vegetation. A combination of methods can be utilised to reduce fuel load such as raking, weed removal, pruning, mulching and/or the removal of plant material. A simple method to estimate fuel load is to roughly equate one tonne of fuel load per hectare as 100 grams per square metre. For example, two tonnes per hectare of leaf litter is roughly 200 grams of leaf litter per square metre and eight tonnes per hectare is roughly 800 grams. Eucalyptus leaf litter is approximately 100 grams per handful, so two handfuls of litter per square metre will roughly equate to two tonnes per hectare. Different types of fine fuel, like mulch or pine needles may be more or less than a handful, however the 100 grams per square metre rule of thumb can still be used. The landowner or proponent is responsible for maintaining an APZ in accordance with Schedule 1 - Standards for Asset Protection Zones. Ongoing maintenance of an APZ is usually enforced through the local government firebreak notice issued under section 33 of the Bushfires Act 1954, and/or through a condition of a development approval, which requires the implementation of measures identified within a BMP. A copy of the firebreak notice and Schedule 1 should be included in a BMP specifically as a how-to guide for the landowner, and to demonstrate to decision-makers that the measures outlined in the BMP to achieve the appropriate BAL rating through provision and ongoing management of an APZ, can be implemented.
E2 Landscaping and design of an Asset Protection Zone
Landscaping, design, and maintenance of an APZ in a bushfire prone area can significantly improve the bushfire resilience of a building. An APZ should not be seen as an area entirely cleared of vegetation, but as a strategically designed space that gives holistic consideration to how existing or proposed vegetation or non-combustible features interact with, or affect the building's bushfire resilience. A well designed APZ provides a greater level of vegetation management within the first few metres of a building with, for example, less vegetation or inclusion of non-combustible materials. The vegetation within the remainder of an APZ can increase further away from the building with carefully considered plant selection and landscaping techniques. Strategic landscaping measures can be applied, such as replacing weeds with low flammability vegetation (refer to E2 Plant Flammability) to create horizontal and vertical separations between the retained vegetation. The accumulation of fine fuel load from different plants is an important consideration for ongoing maintenance in accordance with Schedule 1. For example, when planting ground covers under deciduous trees within an APZ, the total fine fuel load prescribed in Schedule 1 will include any dead plant material from ground covers and leaf litter from the trees. Plant density and final structure and form of mature vegetation should be considered in the initial landscaping stages. For example, clumps of sapling shrubs planted at a density without consideration of future growth, may increase the bushfire risk as a clump will quickly grow to exceed $5m^2$. It should be noted that in some cases, a single shrub in a mature state may be so dense as to fill a $5m^2$ clump alone. The location of plants within an APZ is a key design technique. Separation of garden beds with areas of low fuel or non-combustible material, will break up fuel continuity and reduce the likelihood of a bushfire running through an APZ and subjecting a dwelling to radiant heat or direct flame contact. It is important to note, where mature trees are separated from a building

Element 2 Explanatory Notes

by six metres, but the canopy has grown to extend or overhang a building, maintenance and pruning to remove the overhanging branches should be undertaken without the entirety of the tree being removed.

Mulches used within the APZ should be non-combustible. The use of stone, gravel, rock and crushed mineral earth is encouraged. Wood mulch >6mm in thickness may be used, however it is recommended that it is used in garden beds or areas where the moisture level is higher by regular irrigation. These materials could be sourced from non-toxic construction and demolition waste giving the added benefit of reducing the environmental impact of any 'hard landscaping' actions.

Combustible objects, plants, garden supplies such as mulches, fences made from combustible material, should be avoided within 10 metres of a building. Vines or climbing plants on pergolas, posts or beams, should be located away from vulnerable parts of the building, such as windows and doors. Non-flammable features can be used to provide hazard separation from classified vegetation, such as tennis courts, pools, lawns and driveways or paths that use inorganic mulches (gravel or crushed rock). Consider locating firewood stacks away from trees and habitable buildings.

Incorporation of landscaping features, such as masonry feature walls can provide habitable buildings with barriers to wind, radiant heat and embers. These features can include noise walls or wind breaks. Use of Appendix F of AS 3959 for bushfire resistant timber selection within areas of 29kW/m² (BAL-29) or below, or the use of non-combustible fencing materials such as iron, brick, limestone, metal post and wire is encouraged.

In addition to regular maintenance of an APZ, further bushfire protection can be provided at any time by:

- ensuring gutters are free from vegetation;
- installing gutter guards or plugs;
- regular cleaning of underfloor spaces, or enclosing them to prevent gaps;
- trimming and removing dead plants or leaf litter;
- pruning climbing vegetation (such as vines) on a trellis, to ensure it does not connect to a building, particularly near windows and doors;
- removing vegetation in close proximity to a water tank to ensure it is not touching the sides of a tank; and/or
- following the requirements of the relevant local government section 33 fire break notice, which may include additional provisions such as locating wood piles more than 10 metres from a building.

Preparation of a property prior to the bushfire season and/or in anticipation of a bushfire is beneficial even if your plan is to evacuate. As embers can travel up to several kilometres from a bushfire and fall into small spaces and crevices or land against the external walls of a building, best practice recommends that objects within the APZ are moved away from the building prior to any bushfire event. Objects may include, but are not limited to:

- door mats;
- outdoor furniture;
- potted plants;
- shade sails or umbrellas;
- plastic garbage bins;
- firewood stacks;
- flammable sculptures; and/or
- playground equipment and children's toys.

E2 Plant flammability

There are certain plant characteristics that are known to influence flammability, such as moisture or oil content and the presence and type of bark. Plants with lower flammability

Element 2 Explanatory Notes

properties may still burn during a bushfire event, but may be more resistant to burning and some may regenerate faster post-bushfire.

There are many terms for plant flammability that should not be confused, including:

- Fire resistant – plant species that survive being burnt and will regrow after a bushfire and therefore may be highly flammable and inappropriate for a garden in areas of high bushfire risk.
- Fire retardant – plants that may not burn readily or may slow the passage of a bushfire.
- Fire wise – plants that have been identified and selected based on their flammability properties and linked to maintenance advice and planting location within a garden.

Although not a requirement of these Guidelines, local governments may develop their own list of fire wise or fire retardant plant species that suit the environmental characteristics of an area. When developing a recommended plant species list, local governments should consult with ecologists, land care officers or environmental authorities to ensure the plants do not present a risk to endangered ecological communities, threatened, or endangered species or their habitat.

When selecting plants, private landholders and developers should aim for plants within the APZ that have the following characteristics:

- grow in a predicted structure, shape and height;
- are open and loose branching with leaves that are thinly spread;
- have a coarse texture and low surface-area-to-volume ratio;
- will not drop large amounts of leaves or limbs, that require regular maintenance;
- have wide, flat, and thick or succulent leaves;
- trees that have bark attached tightly to their trunk or have smooth bark;
- have low amounts of oils, waxes, and resins (which will often have a strong scent when crushed);
- do not produce or hold large amounts of fine dead material in their crowns; and/or
- will not become a weed in the area.

Refer to the WAPC Bushfire and Vegetation Fact Sheet for further information on clearing and vegetation management and APZ landscaping, design and plant selection reference material.

Source: *Guidelines for Planning in Bushfire Prone Areas (WAPC 2021)*

Appendix B Vegetation plot photos and descriptions

Plot 1		
Vegetation classification	**Pre-development**	Class A Forest
	Post-development	Class A Forest
Description / justification		
Trees 10-30 m high at maturity, dominated by Eucalypts, multi-tiered structure comprising tall canopy layer, shrubby middle layer and grass/herb/sedge understorey located on the south side of Clontarf Hill		

Photo ID: 1a

Photo ID: 1b

Photo ID: 1c

Photo ID: 1d

Photo ID: 1e

Plot 2		
Vegetation classification	**Pre-development**	Class D Scrub
	Post-development	Class D Scrub
Description / justification		
Vegetation with a continuous horizontal and vertical fuel structure, greater than 2 m high at maturity located at Clontarf Hill		

Photo ID: 2a

Photo ID: 2b

Photo ID: 2c

Photo ID: 2d

Photo ID: 2e

Photo ID: 2f

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Plot 2

Photo ID: 2g

Plot 3		
Vegetation classification	**Pre-development**	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])
	Post-development	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])

Description / justification

The surrounding landscape is comprised of non-vegetated and low threat areas including roads, residential and commercial development.

Photo ID: 3a

Photo ID: 3b

Photo ID: 3c

Photo ID: 3d

Photo ID: 3e

Photo ID: 3f

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Plot 3

Photo ID: 3g

Photo ID: 3h

Photo ID: 3i

Photo ID: 3j

Photo ID: 3k

Photo ID: 3l

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Plot 3

Photo ID: 3m

Photo ID: 3n

Appendix C Vehicular access: Guideline explanatory notes and technical requirements

Acceptable Solution A3.1 – Public Roads
Explanatory Note E3.1
These Guidelines do not prescribe values for the trafficable (carriageway/pavement) width of public roads as they should be in accordance with the class of road as specified in the IPWEA Subdivision Guidelines, Liveable Neighbourhoods, Austroad Standards and/or any applicable standard in the local government area. The IPWEA Subdivision Guidelines, Liveable Neighbourhoods, Austroad Standards do not prescribe a horizontal clearance. However, it is recommended that a traversable verge is provided to allow for emergency services vehicles to stop and operate on the side of the public road, specifically where the public road may traverse large areas of classified vegetation. Where local government roads are proposed to be widened by the proponent, they must obtain approval from the local government.    Figure 20: Example of a public road

Source: *Guidelines for Planning in Bushfire Prone Areas (WAPC 2021)*

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Acceptable Solution A3.2a – Multiple access routes

Explanatory Note E3.2a

Two-way public road access is public road access from a lot in at least two different directions to two suitable destinations, and provides residents and the community, as well as emergency services, with access and egress from both the subdivision and individual habitable buildings/development in the event of a bushfire emergency. A single road provides no alternative route if the access becomes congested or is unable to be traversed due to smoke and/or fallen trees during a bushfire.

Two-way public road access applies to access/egress routes leading into a subdivision, as well as those within a subdivision. A road that loops back onto itself does not constitute the option of two different directions.

Two-way public road access should always be the first option. Where the site is not able to achieve two-way access within 200 metres of the lot boundary, due to demonstrated site or environmental constraints, the proponent should identify options for an emergency access way from the subject site to a suitable destination. Where an emergency access way cannot be provided, the proponent should demonstrate compliance with the performance principle.

Subject sites or proposed lots greater than 200 metres from an intersection, which provides two-way access, do not satisfy the requirement for two-way access unless they meet the provisions which allow for no-through roads greater than 200 metres in A3.2a.

To demonstrate compliance with the performance principle for two-way access, the bushfire planning practitioner may have regard to:

a. the extent of the bushfire hazard, location and vegetation classification, the likelihood, potential severity and impact of bushfire to the subject site and the road network;
b. time between fire detection and the onset of conditions in comparison to travel time for the community to evacuate to a suitable destination;
c. available access route(s) travelling towards a suitable destination; and
d. turn-around area for a fire appliance for no-through roads.

Figure 21: Example of compliant and non-compliant tworway

Source: *Guidelines for Planning in Bushfire Prone Areas (WAPC 2021)*

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Acceptable Solution A3.3 – Through roads

Explanatory Note E3.3

In bushfire prone areas, a proposed structure plan or subdivision that incorporates no-through roads should be avoided because they do not provide a connected and legible design that allows for easy access and egress by the community, residents and emergency services in the event of a bushfire. No-through roads also reduce the options available for access and egress in the event of a bushfire emergency.

There will however be situations where a subject site is accessed via an existing or proposed no-through road and alternative access cannot be provided. In these situations, the proponent should demonstrate to the decision-maker, that all efforts have been made with the local government and/or adjoining landowners to secure alternative public road access or an emergency access way and that a redesign has been explored. The bushfire planning practitioner may need to develop a performance principle-based solution or address the non-compliance and demonstrate to the decisionmaker why discretion should be exercised in accordance with section 2.6 of these Guidelines.

No-through roads will only be considered an acceptable solution where it is demonstrated by the proponent, to the satisfaction of the decision maker, that a no through-road cannot be avoided due to site constraints. For example, the internal road design of a structure plan or subdivision where site constraints, such as a water body or Bush Forever, prevent the ability to create a through-road and a no through road may be a more appropriate road layout.

No-through roads should be a maximum of 200 metres from the lot(s) boundary to an intersection where two-way access is provided and may only exceed 200 metres if it meets the provisions which allow for no-through roads greater than 200 metres in A3.2a.

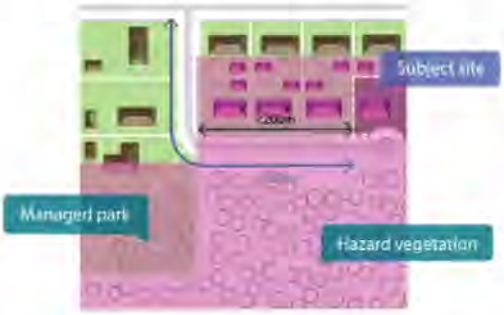

Figure 23: Example of a site on a no-through road greater than 200 metres from the intersection, but within 200 metres of BAL-LOW

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Acceptable Solution A3.3 – Through roads

Explanatory Note E3.3

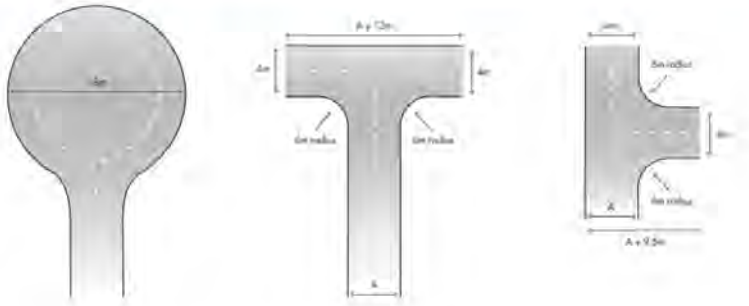

Figure 24: Turn-around area dimensions for a no-through road

Source: *Guidelines for Planning in Bushfire Prone Areas (WAPC 2021)*

Acceptable Solution A3.4a – Perimeter roads

Explanatory Note E3.4a

Where a planning proposal includes the creation of 10 or more lots adjacent to each other, which adjoin classified vegetation under AS 3959 with the exception of Class G Grassland, as part of a greenfield development or large urban infill site, hazard separation and defendable space should be provided in the form of a perimeter road. Greenfield is 'undeveloped or minimally developed areas that have been identified for urban development'; and urban infill is 'the redevelopment of existing urban areas at a higher density than currently exists'. The creation of 10 or more lots includes cumulative subdivision applications where the subdivision application may be part of a staged subdivision.

A perimeter road should be in accordance with the class of road as specified in the IPWEA Subdivision Guidelines, Liveable Neighbourhoods, Austroad Standards and/or any applicable standard in the local government area as per the requirements of a public road in Table 6, Column 1.

As the road is likely to function as a key neighbourhood distributor, or similar, consideration should be given to the provision of additional width to allow for emergency services vehicles to stop and operate on the side of the perimeter road, whilst simultaneously proving for the evacuation of the community (Figure 20).

When designing a strategic planning proposal and/or subdivision, creating a large setback between classified vegetation and proposed lots with a perimeter road, and orientating habitable buildings to front onto (rather than back onto) areas of vegetation has many benefits, including:

- passive surveillance;
- defendable space for firefighting and emergency management purposes;
- reducing the potential radiant heat that may impact a habitable building in a bushfire event;
- reducing the need for battle-axe lots; and

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Acceptable Solution A3.4a – Perimeter roads

Explanatory Note E3.4a

- unconstrained public access/egress for the community in the event of a bushfire.

In developments where no perimeter road exists, property defence in a bushfire event is difficult and can be impossible. Where proposed lots have frontage to an existing public road and abut the hazard at the rear or side, it may be an undesirable planning outcome to create lots which front the existing public road and back onto a perimeter road. In this instance, consideration should be given to a fire service access route. Refer to E3.4b below.

Figure 25: Example of a perimeter road

Source: *Guidelines for Planning in Bushfire Prone Areas (WAPC 2021)*

Technical requirement	1	2	3	4
	Public road	Emergency access way[1]	Fire service access route[1]	Battle-axe and private driveways[2]
Minimum trafficable surface (m)	In accordance with A3.1	6	6	4
Minimum horizontal clearance (m)	N/A	6	6	6
Minimum vertical clearance (m)	4.5	4.5	4.5	4.5
Minimum weight capacity (t)	15	15	15	15
Maximum grade unsealed road[3]	As outlined in the IPWEA Subdivision Guidelines	1:10 (10%, 6°)	1:10 (10%, 6°)	1:10 (10%, 6°)
Maximum grade sealed road[3]		1:7 (14.3%, 8°)	1:7 (14.3%, 8°)	1:7 (14.3%, 8°)
Maximum average grade sealed road		1:10 (10%, 6°)	1:10 (10%, 6°)	1:10 (10%, 6°)
Minimum inner radius of road curves (m)		8.5	8.5	8.5

[1] To have crossfalls between 3 and 6%

[2] Where driveways and battle-axe legs are not required to comply with the widths in A3.5 or A3.6, they are to comply with the Residential Design Codes and Development Control Policy 2.2 Residential Subdivision

[3] Dips must have no more than a 1 in 8 (12.5% -7.1 degree) entry and exit angle.

Appendix D Local Government Firebreak Notice

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9. Fire breaks

The penalty for failing to comply with fire break requirements is a fine of up to $5 000 and a person in default is also liable whether prosecuted or not to pay the cost of performing the work directed in this notice if it is not carried out by the owner or occupier by the date required by this notice.

Once installed the fire break must be maintained up to and including 31 March the following year.

Contact the chief bush fire control officer on 1300 MY FREO for more information regarding fire control.

If you want to use a solid fuel BBQ's or wood fire pizza ovens between the 14 December–31 March, check with DFES as their use may be prohibited. Call the Total Fire Ban Information Line on 1800 709 355.

10. Burning of garden refuse and rubbish

The City of Fremantle prohibits the burning of garden refuse and rubbish in an incinerator or on the ground all year round. Any person who deliberately lights a fire may face penalties.

Pursuant to the powers contained in section 33 of the *Bush Fires Act 1954*, property owners or occupiers are hereby required on or before the 30th day of November each year to clear flammable matter from the land in accordance with these requirements:

11. Land area less than or equal to 1500 square metres

The owner or occupier is to remove all the flammable matter from the whole of the property except living trees, shrubs, plants under cultivation and lawns by slashing or mowing to a height of not more than one hundred (100) millimetres, or otherwise to the satisfaction of council or an authorised officer.

12. Land area greater than 1500 square metres

clear firebreaks of a minimum width of three (3) metres inside all external boundaries of the land and all buildings situated on the land by ploughing, cultivating or scarifying.

Document Status

Rev No.	Purpose	Author	Reviewed and approved for Issue	
			Name	Date
Rev A	For review by client	Michelle Gellender	Zac Cockerill (BPAD 37803, Level 2)	10 March 2023
Rev 0	**Issued for use: to accompany subdivision application**	**Michelle Gellender**	**Zac Cockerill (BPAD 37803, Level 2)**	**27 March 2023**

www.jbsg.com.au

JBS&G

Adelaide
Kaurna Country | 100 Hutt St,
Adelaide, SA 5000
T: 08 8431 7113

Brisbane
Turrbal/Yuggera Country | Level 37, 123
Eagle Street, Brisbane, QLD 4000
T: 07 3211 5350

Bunbury
Wardandi Noongar Country | 177
Spencer Street Bunbury, WA 6230
T: 08 9792 4797

Canberra
Ngunnawal Country | Level 1, The Realm
18 National Circuit Barton, ACT 2600
T: 02 6198 3278

Darwin
Larrakia Country | Suite G1, Level 1
48-50 Smith Street, Darwin NT 0800
T: 08 8943 0600

Hobart
Muwununa/Nuenon Country | Level 6,
111 Macquarie Street Hobart, TAS 7000
T: 03 6108 9054

Melbourne
Kulin Country | Level 5, 10 Queen
Street, Melbourne, VIC 3000
T: 03 9642 0599

Newcastle
Awabakal/Worimi Country | 61 / 63
Parry Street Newcastle West, NSW 2302
T: 02 8245 0300

Perth
Whadjuk Nyoongar Country | Allendale Square,
Level 9, 77 St Georges Terrace, WA 6000
T: 08 9380 3100

Sydney
Gadigal Country | Level 1, 50
Margaret Street, Sydney, NSW 2000
T: 02 8245 0300

Wollongong
Dharawal Country | Suite 1A, 280 - 286
Keira Street, Wollongong, NSW 2500
T: 02 4225 2647

Attachment 8 - Design Advisory Committee Minutes (11 September 2023)

Design Review Report

Project Name: No1 Naylor Street, No.2-4 Clontarf Road, Beaconsfield : DR 1

11 September 2023

Design Review Report		
Subject	**Subdivision- No1 Naylor Street, No.2-4 Clontarf Road, Beaconsfield– Design Review 1**	
Date	11 September 2023	
Time	3.30 -5.00pm	
Location	City of Fremantle	
Design Reviewers	Marco Vittino Patrick Kosky Flavia Kiperman Tobias Busch	Acting Chair Panel Member Panel Member Panel Member
Proponent	Stockland	Lachlan McCaffrey, Andrew Wallis, Anthony Spagnolo
Project Team	CLE Town Planning + Design Plus Architecture Emerge Associates	Simon Burnell, Neil Thom Will Schofield Shane Caddy
Planning Authority	City of Fremantle	
Staff	Chloe Johnston Justin Lawrence Bindi House Gena Binet	Manager Development Approvals Coordinator Statutory Planning Senior Urban Designer Heritage Coordinator
Stakeholders	Jenna Campbell Preeti Kumari	DPLH
Declarations	None	
Briefings		
Relevant Authorities Project Team	The Planning Officer made a presentation to the Committee. The Applicant made a presentation to the Committee.	
Design Review Report endorsement		
Reviewers signature	Marco Vittino	

Introductory Comments	
In accordance with clause 78B(6)(b) of Local Planning Scheme No. 4, Council shall not determine a development application that proposes a building with a building height of 11 metres or greater in any zone other than the Residential or Industrial zones without first referring the application to the Design Advisory Committee for advice and having regard to the advice provided by the DAC. In providing advice to Council, the DAC shall have due rear to the following principles of good design: Character; Continuity and Enclosure; Quality of the public realm, Ease of movement; Legibility; Adaptability; and Diversity. For the purposes of recording the advice of the DAC, the City will record the strengths of the proposal and comments and recommendations in accordance with SPP7.0 Design of the Built Environment, as detailed below.	
Design quality evaluation	
Strengths of the Proposal	The overall site response, addressing the surrounding and 'internal' streets with house frontages wherever possible and providing rear service lanes. The provision of an open public link between north and south, reflecting the vision of the Beaconsfield masterplan, and an east-west pedestrian link to encourage movement through the site. Overall, the housing designs proposed are well resolved and generally functional. The DAC noted that the Applicant's proposal was committed to providing the following: • Diversity in housing sizes, in response to demographics and lifestyle aspirations • Extensive green space and POS greater that the basic requirements • Activation of the public open spaces by the introduction of gathering places • Engagement with Traditional Owners early in the process to ensure their stories continue to be told through integrated design initiatives • Reinterpretation of the existing character of the site and surrounding broader context • Adaptive reuse of materials demolished from the existing structures on site • Sustainability initiatives such as using green materials, provision of productive garden, waterwise landscapes
Principle 1 **Context and character**	*Good design responds to and enhances the distinctive characteristics of a local area, contributing to a sense of place.*
	a) It would be great to have more diversity of built structure with the interpretation of the site history and its industrial history, as well as today's Fremantle community character. b) The challenge of the topography around the edges of ,and within the site should be seen as an opportunity to engage with the history of the land and integrated into the design of the Public Open Spaces as an extension of the Beaconsfield Masterplan and adjacent Clontarf Hill c) The ancient and more recent, and site specific, industrial history associated with the site and surrounding context, should be better documented and reflected in the design proposition to become an ongoing story d) A specific study of the material character of the area should be adopted when establishing suitable finishes for the dwellings

Recommendations	**1. Consider a more responsive site engagement that reflects the diverse nature of the surrounding contextual character.** **2. Consider alternative built form and a mixture of scales and housing types, rather than a blanket cover over the entire site, providing not only diversity in dwelling sizes but also dwelling typologies.** **3. Consider strengthening the connections of the POS on the site, with Clontarf Hill to the south and the Portugese Club site and quarry precinct to the north, in order to truly engage with and invite the broader public to traverse and use the site for recreational activities.** **4. Consider revising the material palette of the dwellings to better reference the historic and specific (industrial) character of the site and surroundings.** **5. Consider the preparation of an Archaeological survey of significant structures or buildings on the site, such as the former Bus Terminal, to better undersatnd the archaeological and historical significance on site.** **6. Consider the preparation of a Photographic Archival Record of the place prior to demolition to the satisfaction of the City of Fremantle.** **7. Consider the provision of interpretive signage and information that documents and highlights all layers of history (including pre-colonisation, industrial and recent), and is prepared by an historian qualified in the interpretation of Western Australian history.**
Principle 2 **Landscape quality**	*Good design recognises that together landscape and buildings operate as an integrated and sustainable system, within a broader ecological context.*
	a) Refer to Strengths of the Proposal b) Compared with some of the existing established trees on the surrounding sites, the proposal illustrates relatively small diameter species uniformly distributed throughout.
Recommendations	**1. Consider establishing a clear strategy for the landscape that is identifiable and integrated with the surrounding and historical ecological context** **2. Consider introducing tree varieties that are appropriately scaled for their purpose and location**
Principle 3 **Built form and scale**	*Good design ensures that the massing and height of development is appropriate to its setting and successfully negotiates between existing built form and the intended future character of the local area.*
	a) The DAC questioned why the Applicant, given the size of the site, has not considered a variety of housing typologies
Recommendations	**1. Consider alternative built form and a mixture of scales and housing types, rather than a blanket cover over the entire site, providing not only diversity in dwelling sizes but also dwelling typologies and tenure models.**
Principle 4 **Functionality and build quality**	*Good design meets the needs of users efficiently and effectively, balancing functional requirements to perform well and deliver optimum benefit over the full life-cycle.*
	a) The DAC pointed out that adopting the same house plans that were designed for lots oriented north-south, on lots that are oriented east-west was not ideal. b) The DAC highlighted that some of the spaces in the middle of the house plans that do not have access to window, and are on the upper floors, could be afforded roof lights in order to provide natural light and ventilation.
Recommendations	**1. Consider redesigning house plans for lots oriented east-west to better engage with environmental parameters.** **2. Consider introducing roof lights or internal light wells to provide natural light and ventilation deeper in the floor plans.**

Principle 5 **Sustainability**	*Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.*
	a) Refer Principle 4 – Functionality and Build Quality
Recommendations	**1. Refer Principle 4 – Functionality and Build Quality**
Principle 6 **Amenity**	*Good design optimises internal and external amenity for occupants, visitors and neighbours, providing environments that are comfortable, productive and healthy.*
	b) The DAC pointed out that, whilst the rear laneways separate vehicle movement and remove garages from primary streets, they have the potential to become barren hardscapes that are not usable or active c) The panel pointed out that some of the house designs have very limited access to outdoor spaces (balconies and courtyards)
Recommendations	**1. Consider ways of making the laneways more usable by ensuring they provide additional green space, shade and activation.**
Principle 7 **Legibility**	*Good design results in buildings and places that are legible, with clear connections and easily identifiable elements to help people find their way around.*
	a) Refer Principle 1 – Context and Character
Recommendations	**1. Refer Principle 1 – Context and Character**
Principle 8 **Safety**	*Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use.*
	a) Refer Principle 6 - Amenity
Recommendations	**1. Refer Principle 6 - Amenity**
Principle 9 **Community**	*Good design responds to local community needs as well as the wider social context, providing environments that support a diverse range of people and facilitate social interaction.*
	a) Refer Principle 1 – Context and Character b) The DAC pointed out that there is no provision for alternate functions within the proposed scheme, and felt that the scale of the site warrants thinking about the introduction of supporting uses, such as small commercial activities (eg café, deli), community hall, men's shed etc, which have the potential of catering for the community on site as well as the broader community
Recommendations	**1. Consider the introduction of supporting uses, such as small commercial activities (eg café, deli, workshops), community hall, men's shed etc, which have the potential of catering for the community on site as well as inviting the broader community to engage.**
Principle 10 **Aesthetics**	*Good design is the product of a skilled, judicious design process that results in attractive and inviting buildings and places that engage the senses.*
	a) Refer Principle 1 – Context and Character b) Refer Principle 3 - Built Form and Scale c) The DAC pointed out that developing an appropriate architectural language for any repetitive housing model is of paramount importance in articulating the individuality of dwellings and breaking down the scale of blocks
Recommendations	**1. Further consider the architectural language and materiality of long facades to break down the scale of dwelling blocks**

Concluding Remarks
The DAC advises that the proposal for the site in question has the potential to become much richer and more responsive to the context and character of the area. The key points raised at the meeting were: • Reconsidering the repetitive housing model and exploring the potential of a variety of housing typologies over the site and a diversity of residential models and tenure that better reflect the culture, character and qualities of the Fremantle district. • Further developing the north-south public open space connection to better engage with the Beaconsfield Masterplan vision and with particular attention to the southern part and its relation to Clontarf Road and Clontarf Hill. • Developing and proposing a strategy for the assessment, documentation and further interpretation of the significant existing structures on the site, through the engagement of qualified sub-consultants. • Further developing an architectural language and materiality that reflect the existing industrial character of and around the site. • Consider the introduction of supporting uses and community structures