



Precinct 15 Strategic Redevelopment Area, Altona North

Density and Design Principles Report
FINAL

Prepared for Precinct 15 Land Owner Group
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1.0 Introduction

David Lock Associates (Australia) Pty. Ltd has been engaged by Precinct 15 landowners to undertake an Density and Design Principles Report to inform the Development Plan for the Precinct 15 Strategic Redevelopment Area, Altona North.

The purpose of the report is as follows:

- Outline General Design Principles for the future development of the site.
- Identify appropriate design responses to interfaces with adjoining residential land at Blackshaws s Road, New Street and Kyle Road.
- Identify appropriate design responses to interfaces with adjoining industrial land at the electrical terminal station.
- Identify appropriate design responses to interfaces with the interim industrial uses, proposed public open space and the neighbourhood activity centre within the site
- Identify the appropriate development density for the site and the rationale underpinning it.
- Identify the appropriate building heights for the site and the rationale underpinning them.

This report is set out in the following format:

Part 2.0 of this report summarises the subject site's strategic and local physical context, and the policy considerations relevant to the subject site, to inform the appropriate density and built form outcome for the site.

Part 3.0 of this report presents four relevant case studies to inform the appropriate density and built form outcome for the site.

Part 4.0 and 5.0 of this report analyses the external and internal interfaces of the site and identifies successful design responses used at similar interfaces elsewhere to inform preferred design responses.

Part 6.0 of this report identifies the potential distribution and location of dwellings within the site by dwelling type based on the density and interface analysis.

Part 7.0 of this report identifies general design principles, drawn from relevant practice guidelines to inform the development of the site.



Figure 1: Precinct 15 Location (Source-nearmap)

2.0 Strategic Context

2.1 Strategic Context

The subject site is located in Altona North, with its southern boundary to Blackshaws s Road, western frontage to Kyle Road, eastern frontage to New Street, north east frontage to the Newport Rail Corridor, a frontage to Watson Street and a northern frontage to the West Gate Freeway and an SP Ausnet Terminal Station. The site is currently within 34 separate ownerships. It lies approximately 8 kilometres west of Melbourne’s CBD and sits adjacent to the West Gate Freeway.

Plan Melbourne identifies the site as an urban renewal area and the Hobsons Bay Planning Scheme identifies the site as a Strategic Redevelopment Area. Precinct 15 being a considerably large industrial land sitting within a well-established residential area of Altona North, was identified by Hobsons Bay Council within the Industrial Land Management Strategy (ILMS) for urban renewal. Over the next decade or so, Hobsons Bay’s population is forecast to increase to 91,500 by 2020, of which most of the growth is forecast to be located in Altona North. The transition of the subject site to residential uses will accommodate considerable amount of this growth.

The subject site is bordered by existing residential uses on the east, west and south and is a large parcel of industrial land in Altona North. Due to the subject site’s sensitive interfaces and the decline in industrial manufacturing, the land was identified within the Hobsons Bay Industrial Land Management Strategy (2008) (the Strategy) for redevelopment for residential purposes. The Strategy was undertaken to provide clear direction for the future use and development of industrial land in Hobsons Bay over the following 15 years. The Strategy also reviewed land currently zoned industrial to decide whether it is better suited to achieve urban consolidation and provide for additional housing or commercial growth. The core and secondary industrial areas to be retained, have been identified as being located to the west of Millers Road and south of the Princes Highway.

The subject site is proximate to a number of activity centres – including the lower order Circle Neighbourhood Centre and Altona Gate Major Activity Centre. The site is located on the Principal Public Transport Network (PPTN) and is serviced by local bus services along Blackshaws s Road. The site is located 2.5 kilometres (approximately 26 minutes walking) from Newport Train Station.

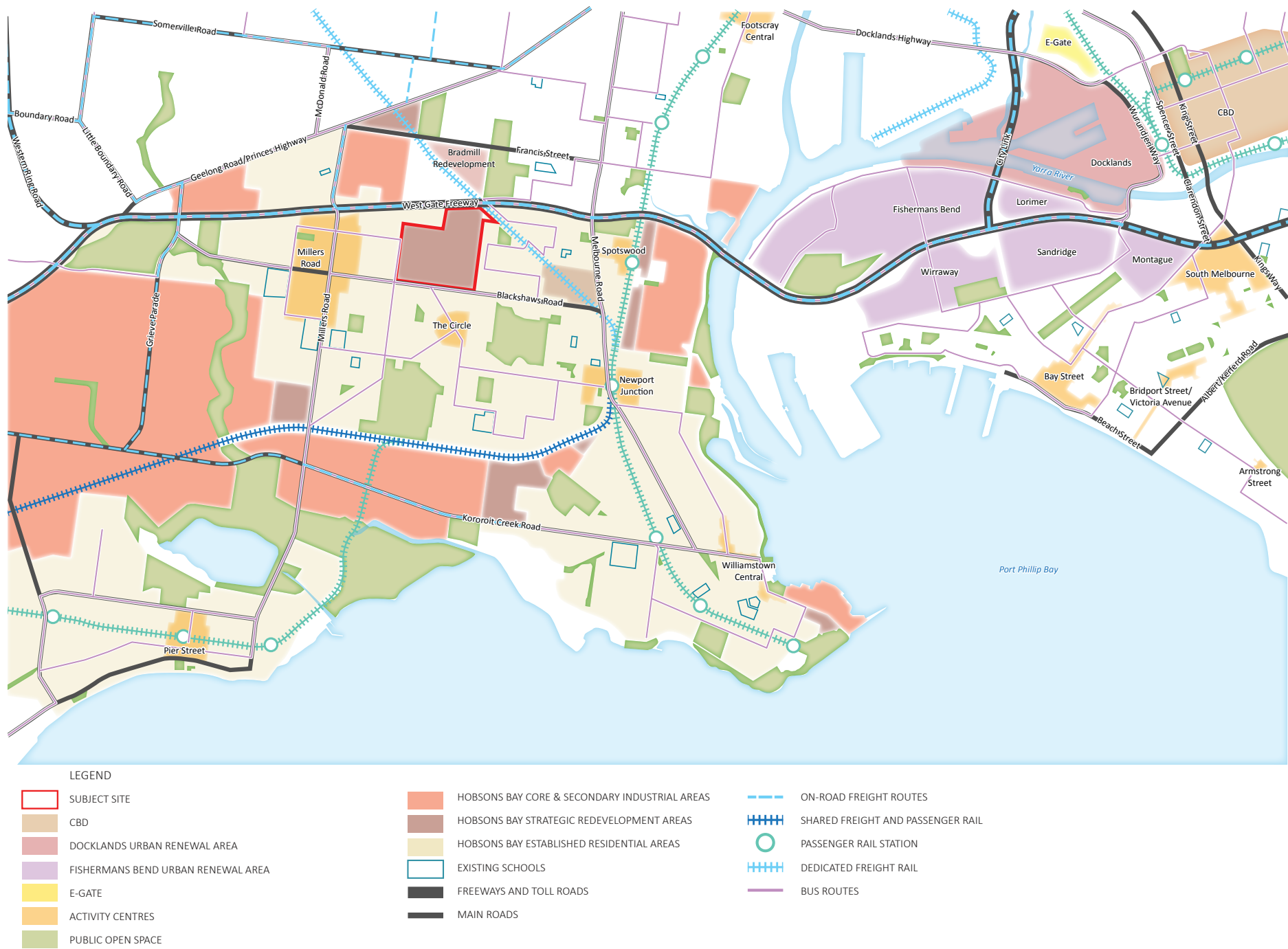


Figure 2: Strategic Context Map

2.2 Policy Context

The site is currently zoned Industrial 1 and Industrial 3 (INZ1, INZ3) and is affected in part by Heritage Overlay Schedule 166 ‘Gilbertsons Meat Processing Complex (former) (HO166).’ However, it is evident that there are no significant heritage places remaining on the site.

There is clear policy direction for the subject site to be redeveloped for a new residential community. This is clearly articulated in the Municipal Strategic Statement (MSS). Clause 21.02 includes the Hobsons Bay Strategic Framework Plan which identifies locations where specific land use outcomes will be supported and promoted. It identifies sites suitable for transitioning from Strategic Redevelopment Areas to accommodating urban growth. The policy identifies the subject site as a Strategic Redevelopment Area which aligns with State Policy, in particular Clause 16.01-3, the objective of which is to identify strategic redevelopment sites for large residential development in Metropolitan Melbourne.

The site has been identified as a Strategic Redevelopment Site due to its location within walking distance of a Major Activity Centre, its potential to implement a new neighbourhood activity centre, its location abutting a bus route that is part of the Principal Public Transport Network (PPTN) and its ability to provide 10 or more dwellings, close to activity centres and well served by public transport. A key issue the policy discusses is protecting the quality and character of existing suburbs from pressure associated with urban consolidation.

Of particular note, Clause 21.02-3 ‘Key Issues’ refers to defining a new neighbourhood character for the Strategic Redevelopment Areas which balances character and costs associated with remediation of former industrial sites. The policy basis is the Hobsons Bay Industrial Land Management Strategy (2008). The Strategy was undertaken to provide clear direction on the future use and development of industrial land in Hobsons Bay over the next 15 years. The subject site was identified as Precinct 15 within the Strategy (See Figure 4). The analysis of the precinct found that it was unsuitable for many industrial uses due to its location and access from residential streets. Though the land in question is substantial, the locational criteria to attract new, replacement industries that are compatible with the surrounding residential areas are minimal. Further to this, the Strategy suggests the area as a whole is considered unsuitable to large transport companies due to the site’s proximity to residential areas. In consideration of the precinct and the available road infrastructure and nearby residential neighbourhoods, the Strategy confirmed the most suitable use for the majority of the precinct is residential within a Strategic Redevelopment Area. It does maintain an area of the precinct for Secondary Industrial at the GWF site (Don’s smallgoods), however, this land parcel is no longer being used for industrial use and has subsequently ceased its operations in this location and demolished its buildings.

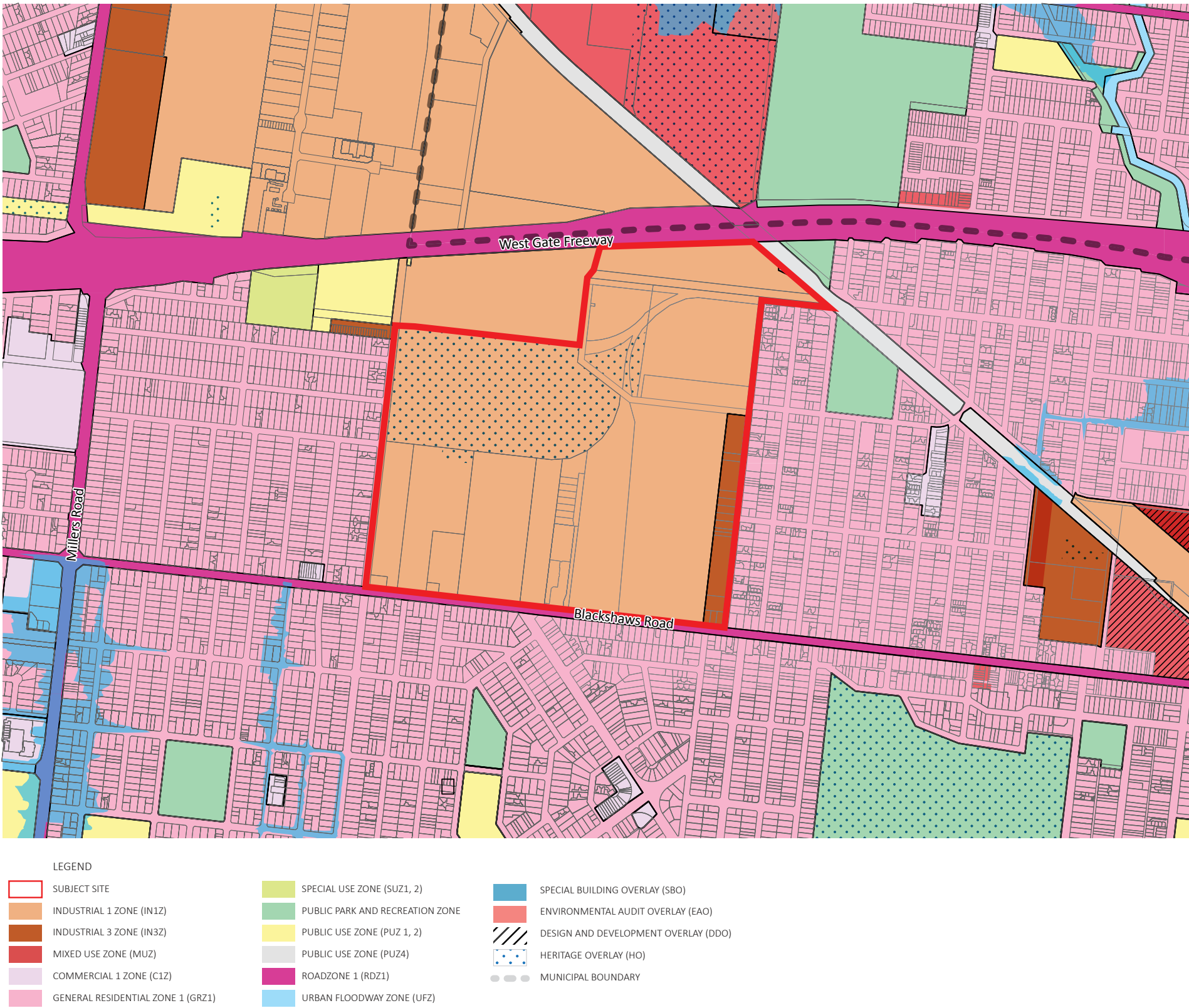


Figure 3: Zones and Overlays Map - Planning Scheme Online, 06/11/2015

The Strategy identifies the boundaries of the Strategic Redevelopment Area and the Secondary Industrial area, however it states that an Outline Development Plan or similar will need to be prepared for the Strategic Redevelopment Area, and this will formalise this boundary through a subsequent amendment process. The Strategy also discusses the significance of the project and the importance of designing to manage interfaces with existing industries. It further states that affordable housing should be provided.

The subject site is currently zoned Industrial 1 and 3 Zones (IN1Z - IN3Z). The majority of the site is proposed to rezoned to Residential Growth and Mixed Use Zone, with a portion in the north-west corner to be rezoned from INZ1 to INZ3. .

Clause 21.03 ‘Settlement’ sets the activity centre network within Hobsons Bay, with a key objective being to retain and strengthen existing activity centres in the municipality to cater for the shopping needs of residents, workers and visitors.

Within close proximity of the site , Clause 21.03 identifies Altona Gate as a Major Activity Centre (MAC), and The Circle and Vernon Street as Neighbourhood Activity Centres (NAC).

Clause 21.07 ‘Housing’ refers to providing a distinct neighbourhood focus and a coherent sense of community. It also states that a range of housing types should be implemented to meet the needs of the diverse households in the municipality. Key strategies include supporting medium density residential development where it can be accommodated within the capacity of existing infrastructure, along with not prejudicing the character and amenity of the neighbourhood. It further states that higher density residential development should be supported in activity centres or where access to safe, efficient and reliable public transport is provided. Within the Local Planning Policy Framework (LPPF), this is the main policy direction with regards to density and its location.

Clause 21.08 ‘Economic Development’ refers to the municipality’s role in attracting both large and small scale industries. It refers specifically to protecting core and secondary industrial areas from the impacts of encroachment of residential and other sensitive land uses. It particularly notes the importance of managing the successful transition of identified Strategic Redevelopment Areas through the development of Outline Development Plans. It refers to the utilisation of Local policy at Clause 22.02 to facilitate appropriate Industrial (or similar) activity and development in Hobsons Bay.

Clause 22.02 ‘Industry’ implements both the Hobsons Bay Industrial Land Management Strategy (2008) and the Hobsons Bay Industrial Development Design Guidelines June 2008. The Guidelines have been drafted to achieve high quality urban design and architecture within the industrial areas of the municipality.

Clause 22.08 ‘Hobsons Bay North Neighbourhood Character Policy’ is relevant to this project as is it sets the parameters for responding to the preferred neighbourhood character of the precinct in which it is located. The site is not subject to the policy but the land to the south and east falls within Character Precinct 3, Altona North, the preferred neighbourhood character of this area refers to the horizontality of the dwellings and the garden settings of the dwellings being retained and strengthened. To the east of the site lies Character Precinct 4, whose preferred neighbourhood character is to retain and enhance the cohesiveness of the built form and garden settings of dwellings.

The MSS provides limited specific guidance on residential density. However, population growth in Hobsons Bay between 2015 and 2031 is estimated to be 17,622 new residents; 7,683 of whom will be in Altona North (www.forecast.id.com.au/hobsons-bay/home). Clause 21.02 projects an average household size of 2.43 people per household by 2020. Therefore, Hobsons Bay needs around 7,020 new dwellings by 2031; 3,162 of which should be in Altona North.

The Strategic Redevelopment Areas within the suburb of Altona North are approximately 75 hectares (including Precinct 15 and Precinct 9). Therefore, in order to accommodate the projected growth, it needs an average density of at least 47 dwellings per hectare. Although some of the demand will be met by redevelopment outside the Strategic Redevelopment Area, this will be at least partly offset by decreasing household size in existing dwellings.

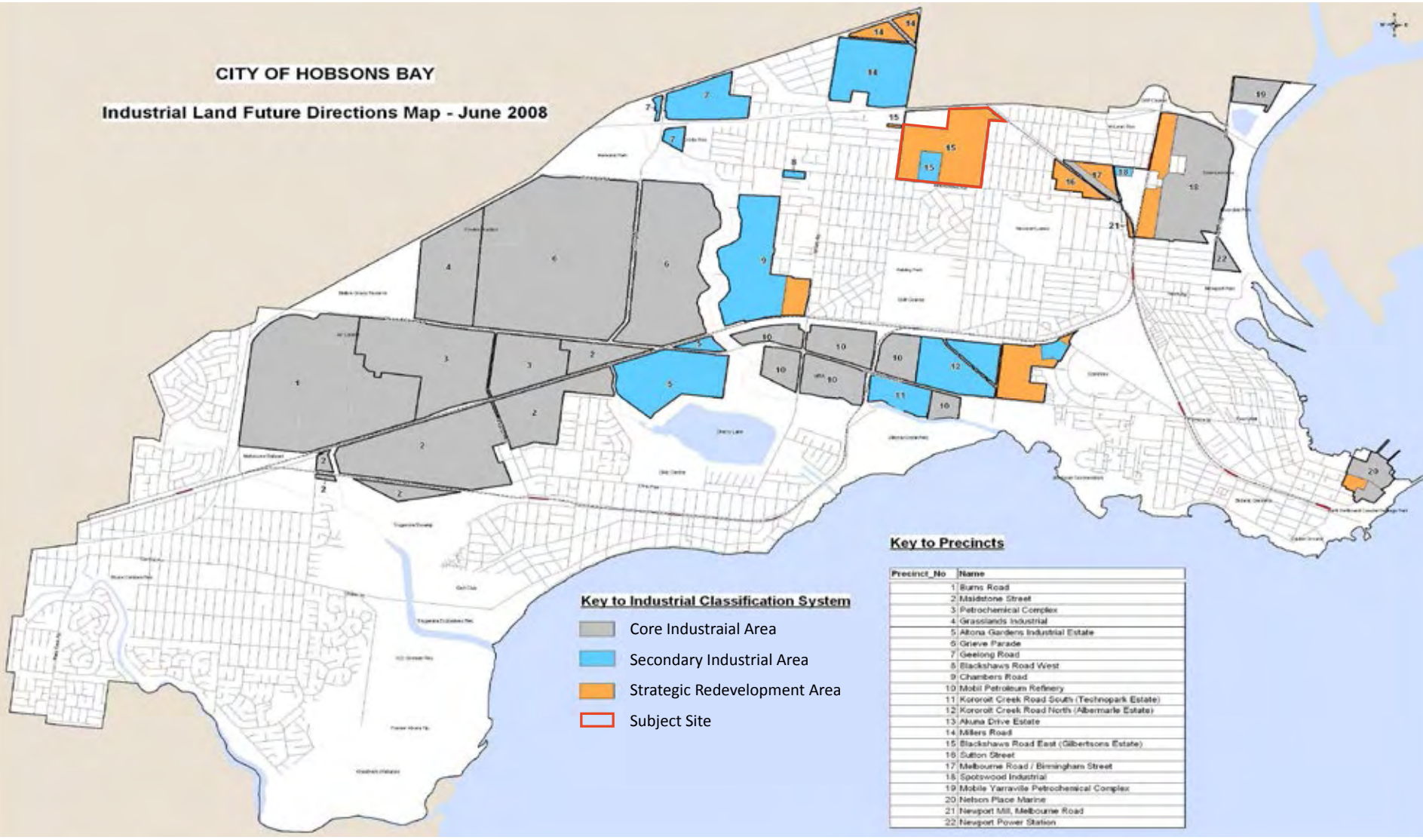


Figure 4 : Industrial Land Future Directions Map - Hobsons Bay Industrial Land Management Strategy, June 2008

2.3 Local Context

The subject site consists of vacant land along with existing industrial uses. Land to the west, south and east of the precinct is used for residential purposes and is zoned General Residential Zone (GRZ) which is typically understood to be an “incremental” change zone. This has led to a consistent pattern of urban consolidation in the form of small scale townhouse developments across Altona North. The existing lot sizes typically allow for the development of 1-3 new townhouses on a lot. This is resulting in a change to the existing residential character. The Schedule to the GRZ does not specify allowable heights, therefore the requirements of Clause 54 and 55 apply, which state that the height should not exceed 9m, unless the slope of the natural ground level at any cross section wider than 8m of the site of the building is 2.5° or more, in which case the maximum height should not exceed 10m. Any redevelopment at the edges of the precinct should consider the height limitations imposed on the surrounding residential area.

The subject site’s northern boundary interfaces with an electrical terminal station, the West Gate Freeway and the Newport rail corridor, all of which will need to be considered for acoustic attenuation measures. There are a number of key movement routes located in proximity to the site, with Blackshaws s Road in particular delivering an important transit corridor for buses, cyclists, pedestrians and vehicles. However, the public realm amenity of this corridor is currently poor, with a lack of active frontages, landscape treatments, pedestrian priority, and meaningful open space components.



Figure 5: Existing small scale residential development on Kyle Road opposite to the site. (1 Kyle Road, Altona North, VIC 3025)



Figure 6: Existing residential development on Blackshaws s Road opposite to the site. (295, Blackshaws s Rd, Altona North, VIC 3025)



Figure 7: Existing residential townhouse typology on Kyle Rd opposite from site. (11 Kyle Rd, Altona North, VIC 3025)



Figure 8: Existing industrial uses on New Street within the site. (72 New Street, South Kingsville, VIC 3015)



Figure 9: Existing built form on site, characterised by low amenity. Located on the South Western corner of the site, on the intersection of Kyle Street and Blackshaws s Road.



Figure 10: View towards electrical terminal station and transmission lines in the North West corner of the site

3.0 Density and Built Form Analysis

To identify an appropriate development density and built form outcome for the site, an analysis of similar developments was undertaken. The following section describes the process undertaken to identify a series of relevant case studies. It then provides an analysis of the density of each case study and draws a conclusion in terms of an appropriate development density for Precinct 15.

3.1 Case Study Selection and Attributes

The first step in this process was to identify a list of developments across Melbourne that are of a similar nature and scale and hold similar strategic attributes. To narrow the case studies down, the first parameter was to identify development sites located a similar distance from the Melbourne CBD as Precinct 15. More than 10 development sites at a similar distance from the city as Precinct 15 and similar scale and nature were identified and analysed, these are depicted in Figure 9.

To narrow the list down further, a series of criteria were identified to determine their relevance to Precinct 15. The attributes analysed are as follows:

- Locations (distance from the CBD - ideally, the development should be no more than 2km closer or further from the CBD than that of Precinct 15).
- Site area and dwellings (no less than 400, preferably over 1000 dwellings).
- Proposal date (not older than 5 years since approval or completion).
- Proposed land use composition (residential and mixed use).
- Access to public transport, but more specifically:
 - walking distance from bus services;
 - walking distance from train services;
 - walking distance from tram services.
- Proximity to Activity Centres.
- Availability of documentation.

From a review of the key attributes and criteria listed above, the most relevant case studies were identified. These are:

- Bradmill Precinct (West Yarraville);
- Banbury Village;
- Maidstone Hampstead Road; and
- Coburg Hill Development (Kodak Site).

The following section provides an explanation of the key attributes of each study area, including an analysis of the density approved or proposed. The case studies are listed in their order of relevance.

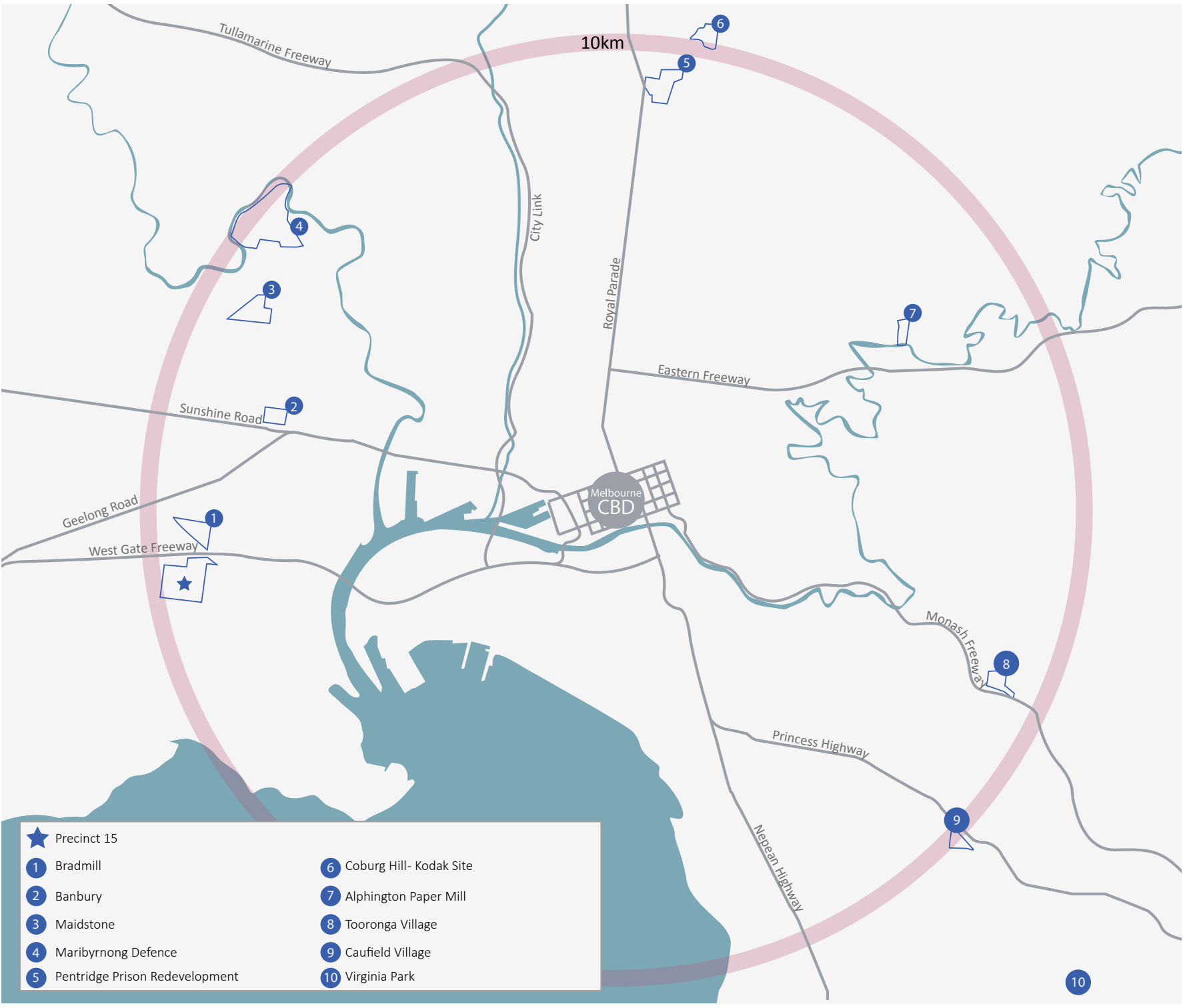


Figure 11: Location of Development Sites

3.2 Case Study Analysis

Case Study 1 - Bradmill Precinct	
Proposal	The Bradmill Precinct development is proposed to include a maximum of 1,500 new dwellings which will be supported by a Neighbourhood Activity Centre (6,040m²).
Status	Planning Scheme Amendment C63 applied DPO7 to the subject (Approved 5 May 2011). There is an approved Development Plan in place.
Site Location and Proximities	The site is located within the suburb of Yarraville at the south western extent of the municipality of Maribyrnong. It's located approximately 8 km from the Melbourne CBD and 4 km from Footscray Principal Activity Centre (PAC). The site has access to bus services within 5 minutes walking distance. The closest train station is 2.5 km from the site (33 minutes walking distance).
Site Characteristics	The subject site has an area of 23.6 ha and has interfaces that include low-scale residential, the West Gate Freeway and the Newport Rail Corridor Line. Its rail line interface proposal includes landscaping followed by a road frontage.
Density	Net residential density: 69 dw/ ha, over 21.7 ha Gross residential density: 64 dw/ ha, over 23.6 ha
Built Form Heights	Heights of 1-2 storeys are proposed fronting existing residential areas. Moving into the site, the height transitions to 2-4 storeys. The higher density housing is located around the proposed NAC and open space, and includes 3-8 storey development.
Relevance to Precinct 15	The Bradmill Precinct is the most relevant case study to Precinct 15. In relation to its strategic context, the Bradmill Precinct is located a similar distance from the CBD, has similar typology of residential development in the surrounding and has a interfaces including existing low-scale residential streets, the West Gate Freeway and the Railway line. The Bradmill Site also has similar levels of access to public transport, with heavy reliance on bus services.



Figures 12 and 13: Development Plan and Master Plan for Bradmill Development



Figures 14-16: Existing Interfaces

Case Study 2 - Banbury Village	
Proposal	Banbury Village consists of 430 town houses, dwellings and apartments supported by open space (3,987m²).
Status	Project is "Sold out" and near completion.
Site Location and Proximities	The site is located within the suburb of West Footscray and sits directly to the north of the West Footscray Train Station. It's located approximately 7 km from the Melbourne CBD and 1.4 km from Footscray Principal Activity Centre (PAC).
Site Characteristics	The subject site has an area of 10 ha and has interfaces that include existing light industrial, retail, low-scale residential and a pedestrian and bike trail adjacent to a railway line.
Density	Net residential density: 54 dw/ ha, over 7.9 ha Gross residential density: 43 dw/ ha, over 10 ha
Building Heights	The development includes 2 storey detached dwellings or townhouses at interfaces to existing residential areas. This increases slightly to 3 storey townhouses within the site and apartments up to 5-6 storeys adjacent to the train station and open space.
Relevance to Precinct 15	Banbury Village has similar interfaces to Precinct 15, including an abuttal to light industrial managed through several different design treatments which have been drawn upon in this report. It is also located a similar distance from the CBD (7 km) and is located in a similar region to Precinct 15. It should be taken into consideration that the site location next to the West Footscray Train Station favours a higher density.



Figure 17: Master Plan for Banbury Village



Figures 18-20: New built form typology within Banbury Village

Case Study 3 - Coburg Hill Development	
Proposal	The Coburg Hill Development consists of 400 dwellings with a capacity for 1,200 residents along with a 4,500 m ² NAC.
Approval Status	Approved and gazetted 1st of May 2012. The development is currently under construction and nearing completion.
Site Location and Proximities	The site is located in Coburg North in the City of Moreland 9.6 km (10.7km driving) distance from the CBD. Public transport access includes a bus service less than 400 m (or 5 min walking distance) from the development. The development includes a Neighbourhood Activity Centre including a full-line supermarket and other specialty stores. The site is located 2km away from Preston Principal Activity Centre.
Site Characteristics	The site has an area of 20 hectares and was previously used by the Kodak factory (Industrial - Commercial). The site interfaces with low-scale residential Typical interface treatments include 2-3 storey detached dwellings or townhouses.
Density	Net residential density: 22 dw/ha, over 18.45 ha Gross residential density: 20 dw/ha, over 20 ha
Built Form Heights	The development includes 2-3 storey detached dwellings or townhouses at interfaces to existing residential areas. This increases to 3 storey townhouses within the site and closer to the activity centre.
Relevance to Precinct 15	Coburg Hill Development is similar to Precinct 15 in relation to its strategic context, with a similar distance to the CBD and a heavy reliance on buses as the main public transport service. However the PPTN coverage and proximity of Precinct 15 is significantly better.



Figure 21: Coburg Hill Development Plan



Figures 22-24: Detached and apartment typology within the Coburg Hill Development

Case Study 4 - Maidstone Hampstead Road	
Proposal	Maidstone Hampstead Road is proposed to include a mix of residential, commercial, industrial and open space. The residential development is proposed to be a mix of low, medium density housing delivering approximately 400 dwellings in the residential area and with higher density residential taking place in the mixed used land.
Status	Council resolved to adopt Maribyrnong Amendment C108 as recommended by the Panel and reference documents including Maidstone Hampstead Road East Framework Plan (November 2015). The amendment will be submitted to the Minister for Planning for final approval.
Site Location and Proximities	The study area is located within the jurisdiction of Maribyrnong City Council and lies approximately 11 km north west of Melbourne CBD within the suburb of Maidstone. The precinct is located on Melbourne's Principal Public Transport Network (PPTN) and as such, is well served by public transport including numerous bus services and three tram stops within an 800m radius. Abutting the study area to the north-east is the Highpoint Principal Activity Centre.
Site Characteristics	The area is a large established industrial and commercial precinct surrounded predominantly by residential land to the east and south. The existing land uses within the study area are primarily commercial with a mix of factoryettes, industrial and retail units.
Density	Net residential density: 62 dw/ ha, over 6.6 ha Gross residential density: 21 dw/ ha, over 20.1 ha (does not take into account the mixed use area which is likely to provide an additional number of higher density housing, up to 10 storeys towards the centre of the site)
Heights	The proposal includes 3 storey residential in response to the residential interfaces, with mixed use buildings of 5 storeys towards the centre of the site.
Relevance to Precinct 15	Similarly to Precinct 15, the site abuts low-scale residential areas and consists of industrial and commercial uses. Further to this, the intention is for parts of the industrial and commercial uses to remain within the site, therefore treatment of interfaces will be similar to Precinct 15. Its strategic attributes however, and in particular its access to public transport suggest it should accommodate more density than Precinct 15.



Figure 25 :Maidstone Hampstead Road Framework Plan



Figures 26-28: Existing built form within Maidston Hampstead Road

3.3 Findings

To provide a clear connection between the case study analysis and the future development of Precinct 15, the table displayed on the right compares the key attributes for each case study and the strategic attributes proposed for Precinct 15.

The case study analysis identified certain attributes which support higher density within large redevelopment sites. Firstly, there is no clear correlation between increased proximity to public transport (in particular trains) as a requirement for higher density. For example, Banbury Village is located adjacent to West Footscray Train Station but has a gross density of 43 ha, which is less than the density proposed in the Bradmill Precinct, which is heavily reliant on bus services.

Several case studies propose a mixed use component within the development. This typically provides the impetus for increased densities as it improves the activity centres catchment and also helps to activate and enliven the centre. Both Maidstone and Bradmill include a mixed use/commercial component which helps to support their respective densities. Proximity to an existing activity centre is also a key consideration for achieving higher density.

A site’s interfaces can affect the density that can be achieved across a portion of the site. Generally, the case studies analysed provided a similar response to certain interfaces. For sites that interface with existing low-scale residential areas, the response was typically 1-3 storey detached dwellings or townhouses depending on the existing character. Height typically increases further into the site where it has no visual bulk impact on the surrounding area. Across all the case studies, densities were generally increased along interfaces to freeways and rail reserves. Increasing the density on the edge helps to shield residents from both noise and visual impacts associated with the infrastructure.

From a review of the case studies identified, it is believed that Precinct 15 is most similar in nature, scale and location to the Bradmill Development and Banbury Village. There is a clear correlation between Precinct 15 and these two sites with regard to their location within the western region, their distance from the Melbourne CBD, their proposed densities and inclusion of a neighbourhood activity centre/mixed use area to activate and support the higher densities. The Bradmill Development and Banbury Village have densities of 64 (max) and 43 dwellings per hectare respectively. Based on this analysis, a density of approximately 45-60 dwellings per hectare for Precinct 15 is considered appropriate.

		Case Studies			
Strategic Attributes	Precinct 15	Bradmill Precinct	Banbury Village	Coburg Hill Development	Maidstone Hamstead Road
Distance from the CBD	8.5 km	8 km	7 km	9.6 km	8.5 km
Site Area	67 ha (56.4 ha Residential)	23.6 ha (21.7 ha Residential)	10 ha (10 ha residential)	20 ha (18.45 ha Residential)	6.7 ha Residential
Public transport proximity to:					
Train	24 minutes walking (2.5 km)	33 minutes walking (2.8 km)	8 minutes walking (800 m)	24 minutes walking (2 km)	35 minutes walking (3 km)
Bus	5 minutes walking (Bus stop on Blackshaws Road)	5 minutes walking (400 m)	5 minutes walking (400 m)	5 minutes walking (400 m)	5 minutes walking (400 m)
Tram	-	-	-	10 minutes walking (800 m)	5 minutes walking (400 m)
Proximity to Activity Centre	Altona Gate Shopping Centre (CAC) 700 m	Footscray Principal Activity Centre (PAC) 4km	Footscray Principal Activity Centre (PAC) 1.4 km	Preston Central Activity Centre (CAC)	High Point Principal Activity Centre (PAC)
Heights at residential interfaces, adjacent to open space and activity centres	Height of 2-3 storeys are proposed fronting existing residential areas, 3-4 storeys elsewhere. Higher density housing is proposed in the core of the precinct linking the mixed use area and Quarry Park and on the fronting with the open spaces and the Electric Terminal Station.	Heights of 1-2 storeys are proposed fronting existing residential areas. Moving into the site, the height transitions to 2-4 storeys. The higher density housing of up to 6 storeys is located around the proposed NAC away from the surrounding residential uses.	The development includes 2 storey detached dwellings or townhouses at interfaces to existing residential areas. This increases slightly to 3 storey townhouses within the site and apartments up to 5-6 storeys adjacent to the train station and to the south of open space.	The development includes 2-3 storey detached dwellings or townhouses at interfaces to existing residential areas. This increases to 3 storey townhouses within the site and closer to the activity centre.	The proposal includes up to 3 storey residential in response to the residential interfaces along the east.
Density	Proposed gross residential density: 45 dw/ha over 67 ha	Gross residential density: 64 dw/ ha, over 25.9 ha	Gross residential density: 43 dw/ ha, over 10 ha	Gross residential density: 20 dw/ha, over 20 ha	Gross residential density: 60 dw/ ha, over 6.7 ha
Proposed NAC / MUZ	A neighbourhood activity centre (NAC) of 1.34 ha may be developed in the Mixed Use Area along Blackshaws s Road. The mixed use area will contain residential development (potentially integrated with commercial uses) and would interface with residential land to the west, north and east.	A neighbourhood activity centre of 0.6ha is proposed on the north-east corner. It has roads on 3 sides and Mclvor Reserve on the fourth. Higher density is proposed around the NAC.	Does not provide an activity centre.	A neighborhood activity centre of 0.45ha is located on the eastern edge of the development along Elizabeth Street. The NAC includes Woolsworths, a gymnasium and shops. It has roads on all four sides and the townhouses surrounding the NAC have fences at these interfaces.	Retail and office uses up to 5 storeys are proposed on the south-west corner at the intersection of Ham-sptead Road and Mitchell Street. Mixed Use build-ings of up to 10 storeys are proposed more to the centre of the site and away from the surrounding residential uses. The mixed use area will provide higher density residential but the quantity is still to be determined.

4.0 External Interfaces

Precinct 15 has a range of different external interfaces that any future development of the site must consider and respond to. These vary from existing residential areas to freeway, freight rail line, pipeline and electrical terminal station interfaces. Some of the existing industrial uses are likely to cease operation over time and by the time of development some of the interfaces described may no longer exist or have changed character.

The interfaces are illustrated at Figure 27.

This section analyses the interfaces to the site and provides guidance on the appropriate development interface to respond to existing neighbouring character with high level of respect while also taking into consideration future development contemplated by the Hobsons Bay Planning Scheme. The design responses are supported by design principles and successful design responses used at similar interfaces elsewhere.

Given that the Parcel 3 (D.J.E.Palmer land) in the north-east corner of the site is suspected to remain industrial, this report does not provide design guidance in relation to the interface with the Freeway and Freight Line. However, the design solutions identified for the Electrical Terminal Station interface could be applied as an interface for this parcel of land.



Figure 29: External Interface Map

Residential Interfaces - Design Solutions

Precinct 15 has residential interfaces on 3 sides. Its western interface is Kyle Road which includes a 20 metre wide road reserve and low-scale 1-2 storey dwellings with average front setbacks of 4 metres. Its eastern interface is New Street which includes a 16 metre wide road reserve and low-scale 1-2 storey dwellings with average front setbacks of 6 metres. Both streets are currently going through a period of subdivision and intensification of land use with a number of 2 storey townhouses developed in the past few years. The southern interface is Blackshaws s Road, it consists of a 20 metre wide road reserve and low-scale 1-2 storey dwellings with an average front setback of 7 metres.

To develop an appropriate interface response, the following design principles should be applied:

- Development should incorporate a minimum front setback of 4 metres to provide defensible space and a residential character whilst making efficient use of the land (see Figures 30 and 31).
- Development fronting Kyle Road and New Street should consist of 2-3 storey with the 3rd level recessed at increments along the street to relate to the 1-2 storey scale opposite and to retain the open nature of the residential area (see Figure 30).
- Development along Blackshaws s Road should consist of built form with a maximum height of 4 storeys with the 4th level recessed to relate to the low-rise scale opposite whilst reflecting the main road/ PPTN role of the street (see Figure 31).

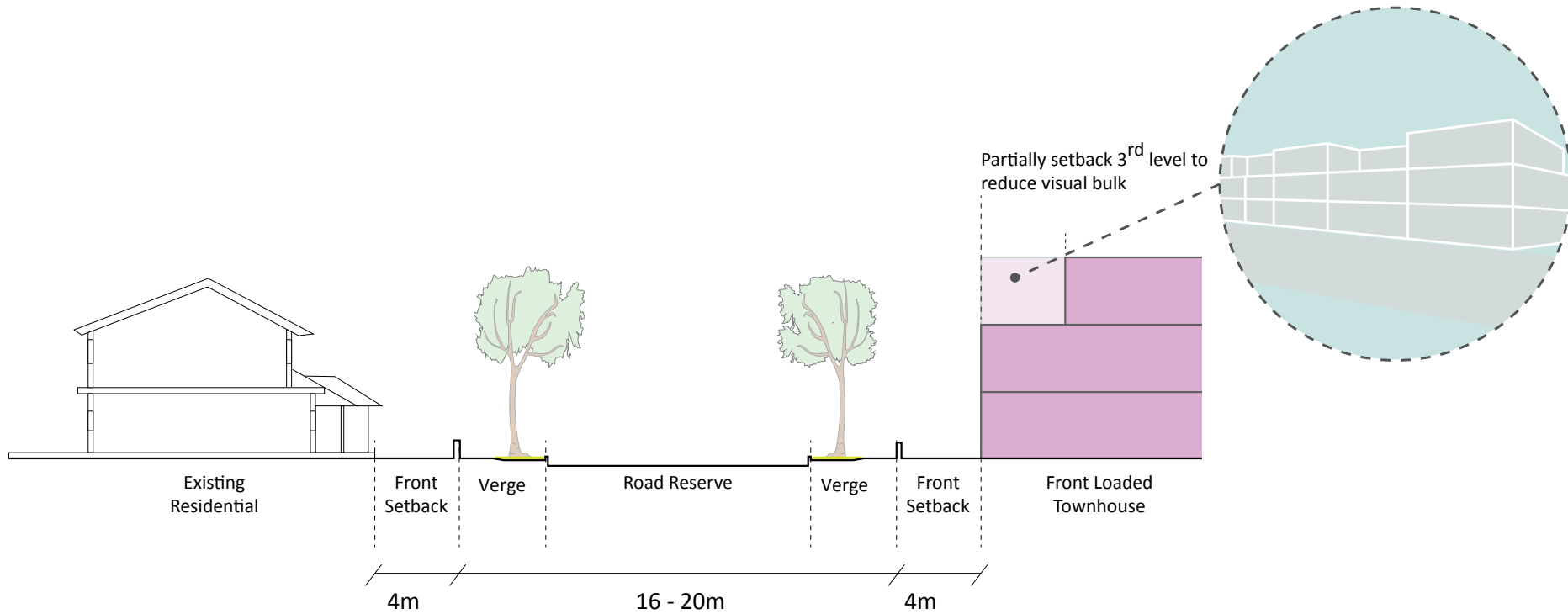


Figure 32: Interface design response to Kyle Road and New Street



Figure 30: Example of 3 storey townhouse typology with recessed upper levels



Figure 31: Example of 4 storey apartment typology with recessed upper levels

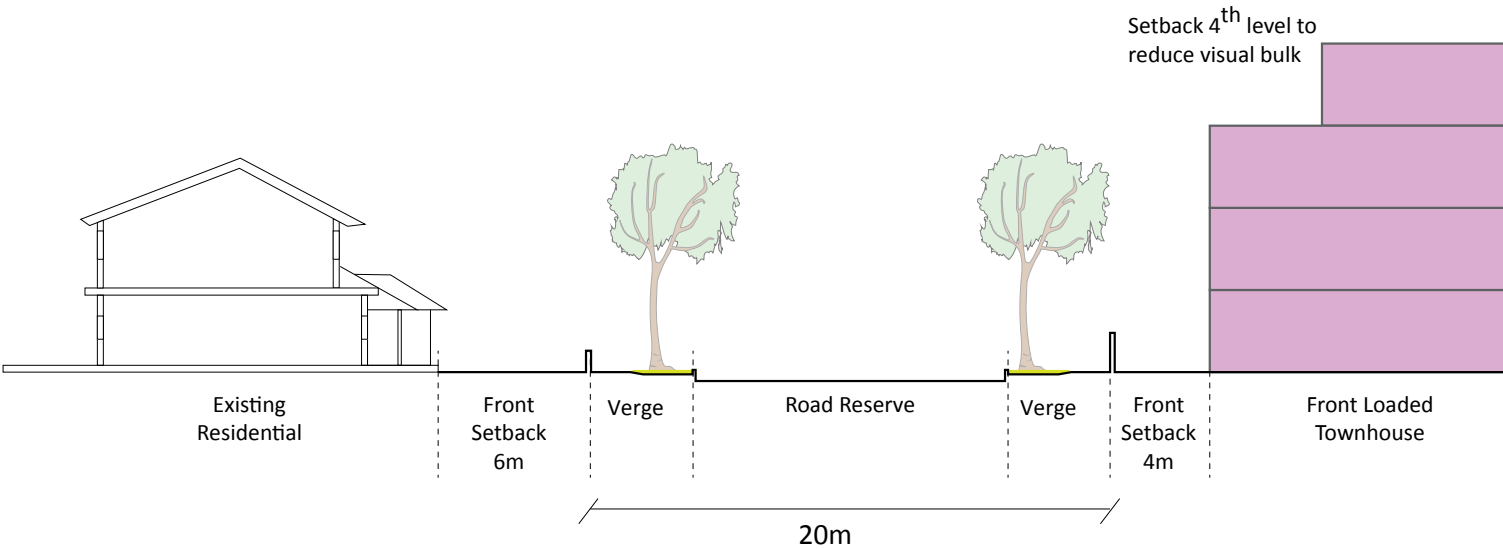


Figure 33: Interface design response to Blackshaws s Road

Electrical Terminal Station Interfaces - Design Solutions

The north boundary of Precinct 15 interfaces with an electrical terminal station that will have significant amenity impacts if not managed appropriately. The terminal station has a negative visual impact and should be hidden where possible from the public realm. To deliver an improved amenity to the public realm internal to the precinct, new built form could act as an acoustic treatment and also reduce the visual impact associated with the terminal station. To develop an appropriate interface response, the following design principles should be applied:

- The configuration and height of development should be designed to limit public and private views towards the terminal station and associated transmission lines.
- Development should be designed to face away from the terminal station to ‘protect’ the public realm as outlined in Figures 34, 35 and 36.
- An acoustic buffer could be incorporated into the built form, providing noise and visual attenuation to the public and private realms within the Precinct.
- Development should take advantage of northerly aspects where possible.

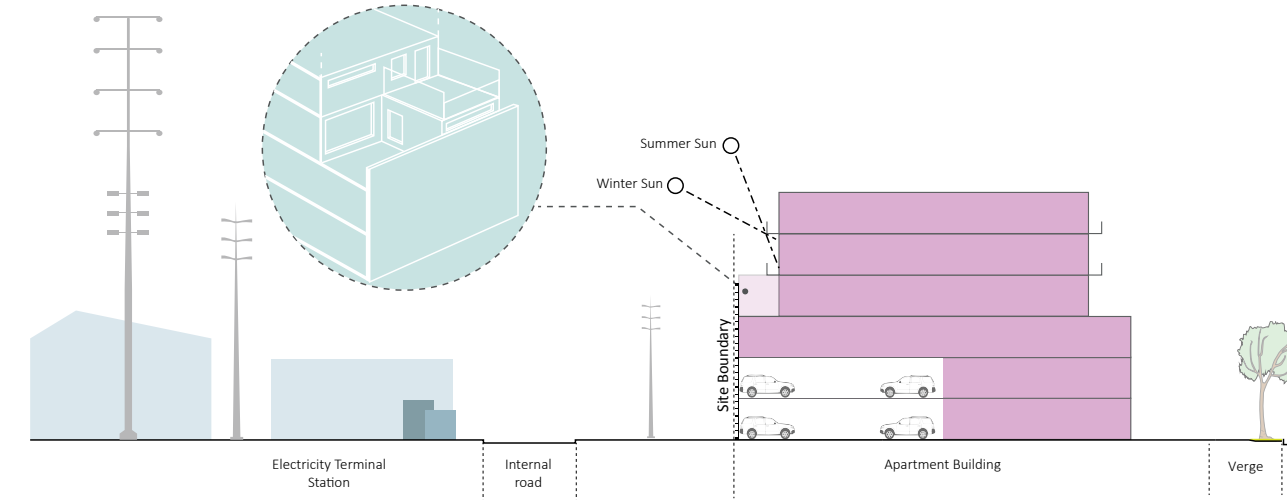
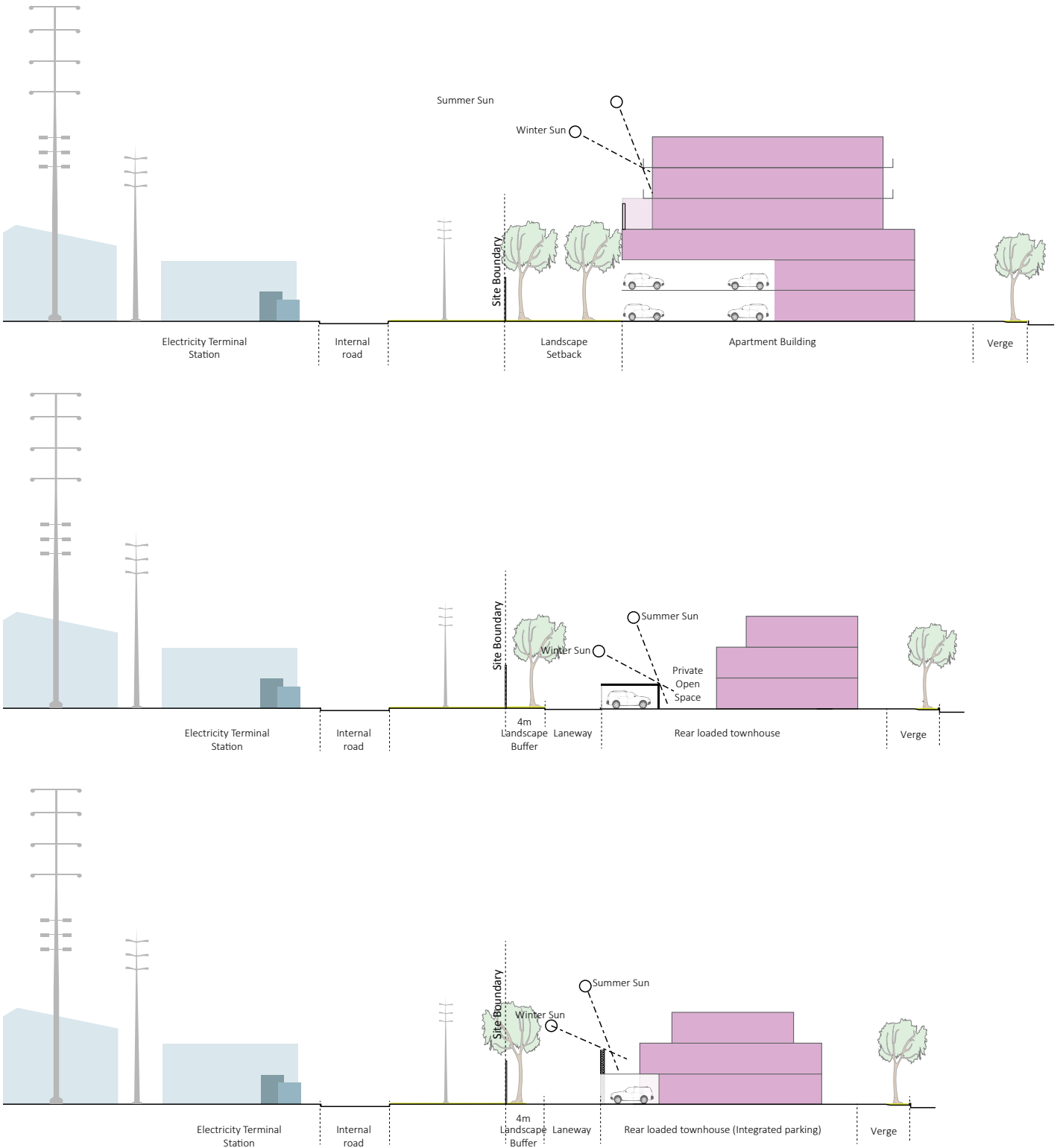


Figure 34 : Possible design solutions for Electricity Terminal Station Interface

5.0 Internal Interfaces

Parcel 3 (D.J.E. Palmer land) in the northeastern corner of Precinct 15 is proposed to remain as industrial use. Other properties within the precinct are also expected to remain in industrial use at least in the short term, where other residential development within the precinct commences.

This section of the report identifies preferred design responses for these interfaces. These design responses are intended to both provide an appropriate interface treatment while land to one side remains industrial, and also facilitate the redevelopment of that land into residential use in the future.

This section also provides guidance for development alongside public open space and a potential future neighbourhood activity centre in the mixed use area.

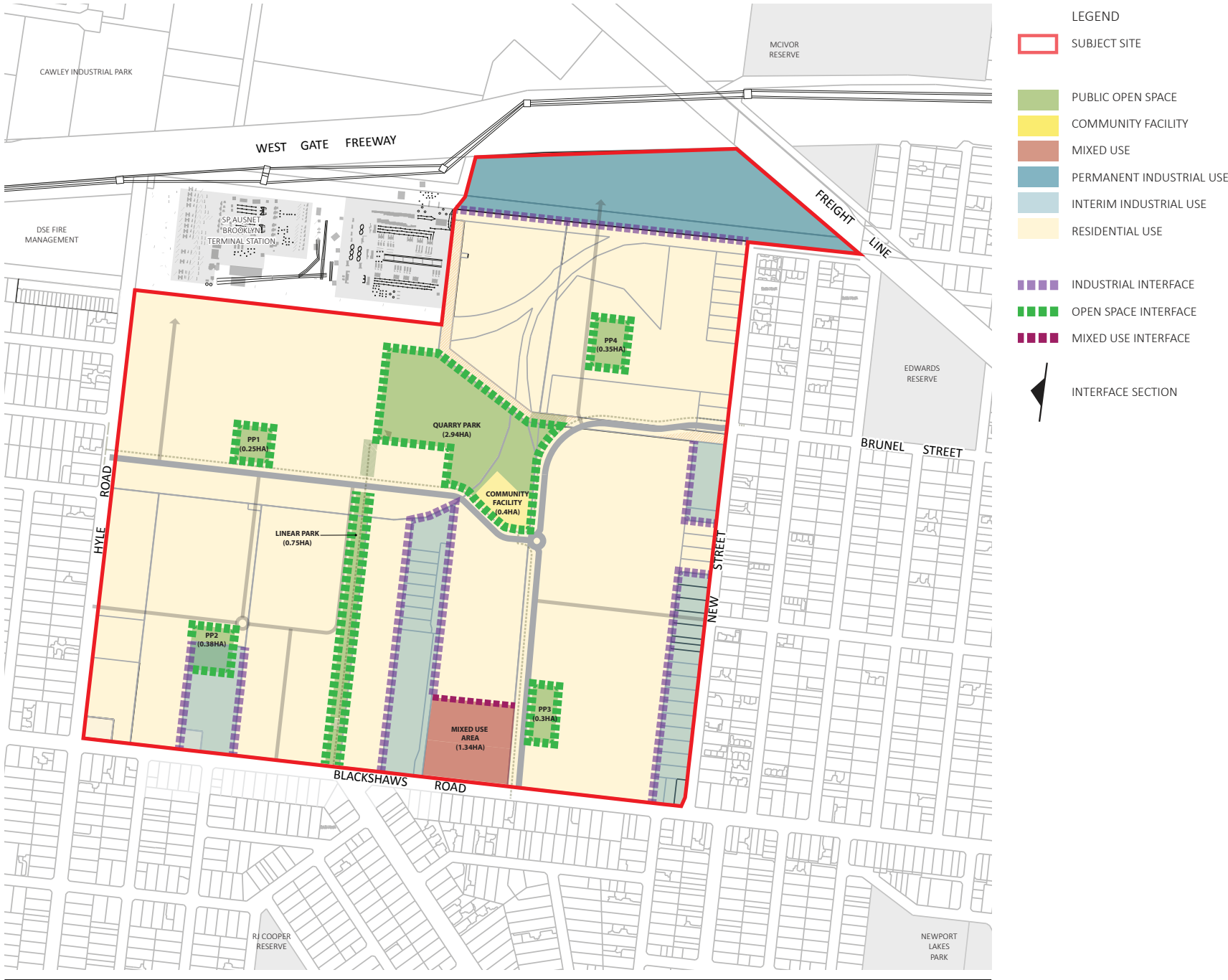


Figure 35: Internal Interface Map

Industrial Interfaces - Design Solutions

Some early residential development will interface with existing industrial uses within the precinct as shown in Figure 35. The Form 700 land along Blackshaws s Road has a petrol station to the west and a 2 storey industrial shed (equates to 3 storey residential) to the east, separated by an internal road and parking. The industrial land along New Street contains approximately 2-3 storey high buildings mainly built to the western boundary. However, these properties are intended to change to residential use in the medium term. Parcel 3 land in the north-east corner of the precinct includes three 1-2 storey sheds with the majority of the land being used for storage. The land south of this is an approximately 20m wide power easement/reserve associated with the electrical terminal station. This land is intended to remain easement for drainage.

Properties and operations of this type, if expected to remain in site at the outset, will have visual and acoustic impacts on the future residential development alongside. From analysis of each of these industrial interfaces, it was identified that they each require similar design treatments to reduce their amenity impacts on future residential. To develop an appropriate interface response, the following design principles should be applied:

- Development should be designed to provide a landscape buffer and an acoustic buffer between the industrial and residential uses.
- Development should be designed to face away from the industrial uses to ‘protect’ the amenity of residential uses.
- It should be noted that all possible design solutions are interchangeable with each other.

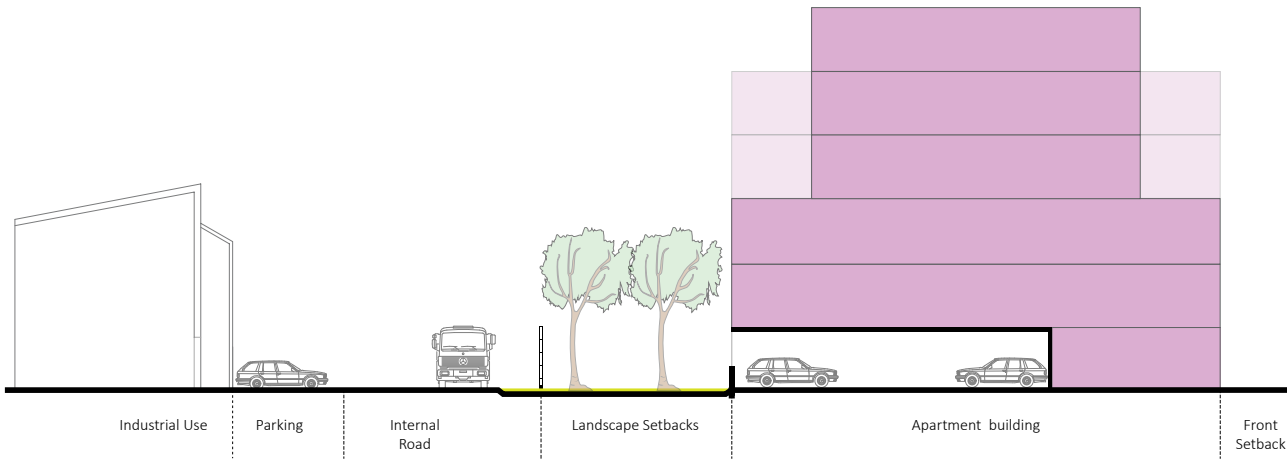


Figure 37 : Possible design solution for interface with Form 700 land

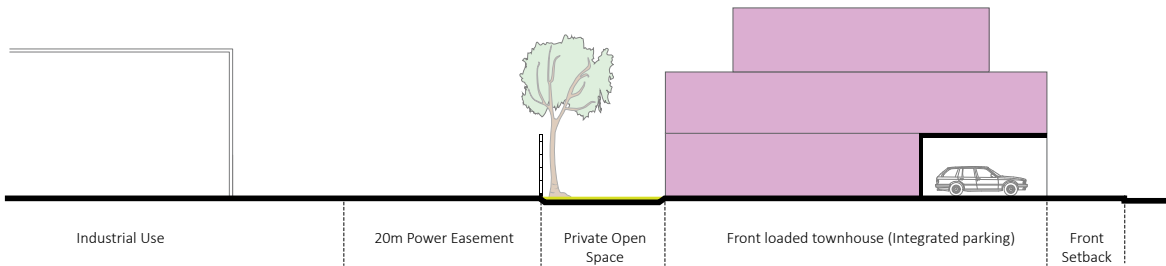


Figure 38: Possible design solution for interface with D.J.E. Palmer land



Figure 36 : Possible before and after design solution for interface with interim industrial properties along New Street

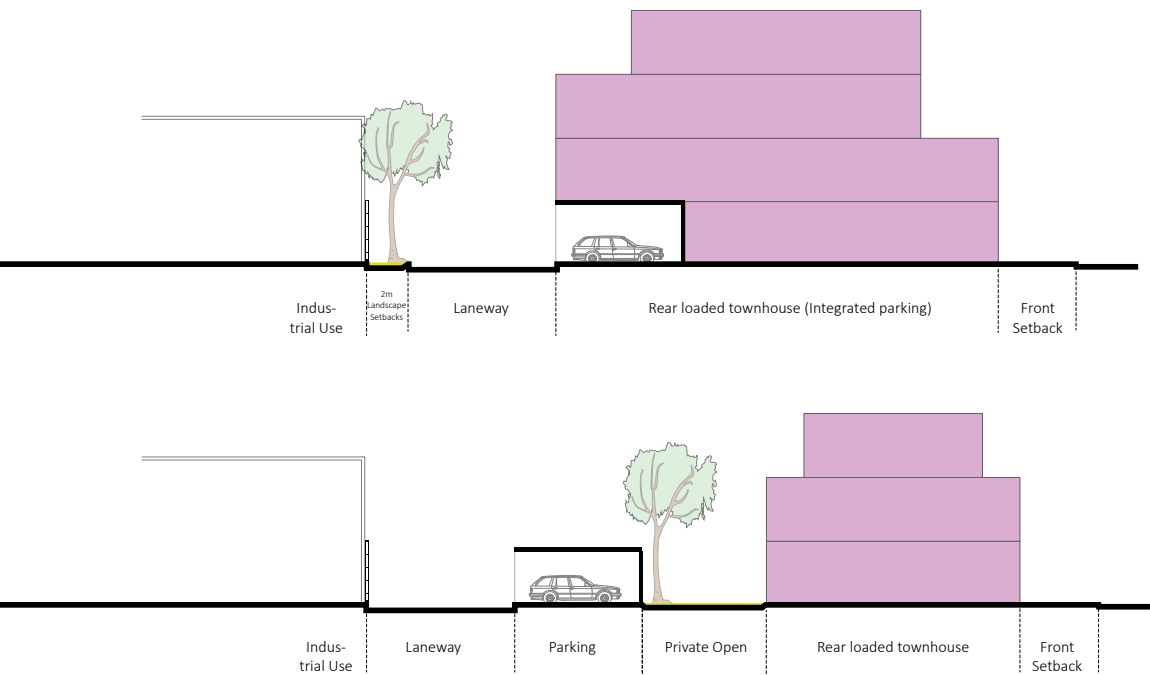


Figure 39 : Possible design solutions for interface with industrial properties along New Street

Open Space Interfaces - Design Solutions

New public open spaces are proposed within the Precinct. It is important to ensure that the proposed development contributes to the safety, appeal and sense of place of the proposed open spaces. To develop an appropriate interface response, the following design principles should be applied:

- Public open spaces be bounded by a street or shared use lane along all edges to provide a clearly defined public realm.
- Development should provide higher built form around the edges of open space to ensure spatial definition, with preferred building height one third to half of the width of the open space.
- Development should be designed to front public open space to provide active frontages and passive surveillance, and take advantage of views.
- Development around public open space should ensure that at least two-thirds of the space receives sunlight between 11am and 2pm at the equinoxes and one-third receives sunlight between 11am and 2pm at the winter solstice.
- Development adjoining public open space should incorporate a low to moderate height fence to clearly define the public realm while retaining the potential for visual interaction.

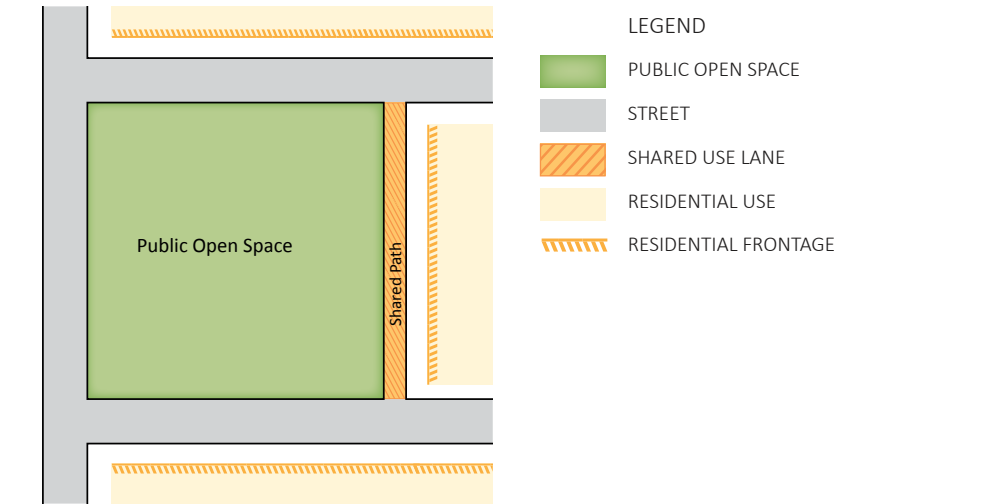


Figure 40 : Possible design solution for interface with open space

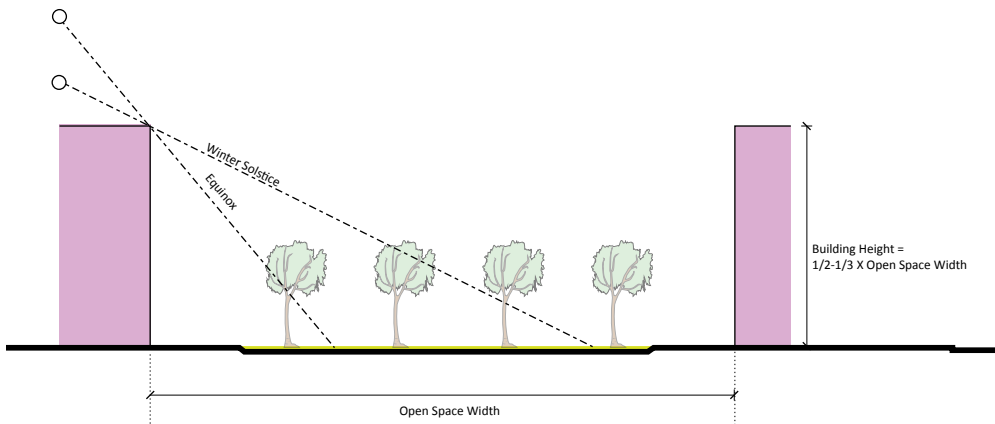


Figure 41 : Preferred building height alongside open space

Mixed Use Interfaces - Design Solutions

A neighbourhood activity centre may be developed in the Mixed Use Area broadly identified. This would interface with residential land to the west, north and east. The diagram alongside illustrates the preferred design response at each of these interfaces. To develop an appropriate interface response, the following design principles should be applied:

- Development should be designed to front main streets to provide active frontages to provide passive surveillance.
- Development should provide large car parks, loading bay and other 'back of house' away from public spaces, main streets and residential areas to minimise the amenity impacts of public realm.

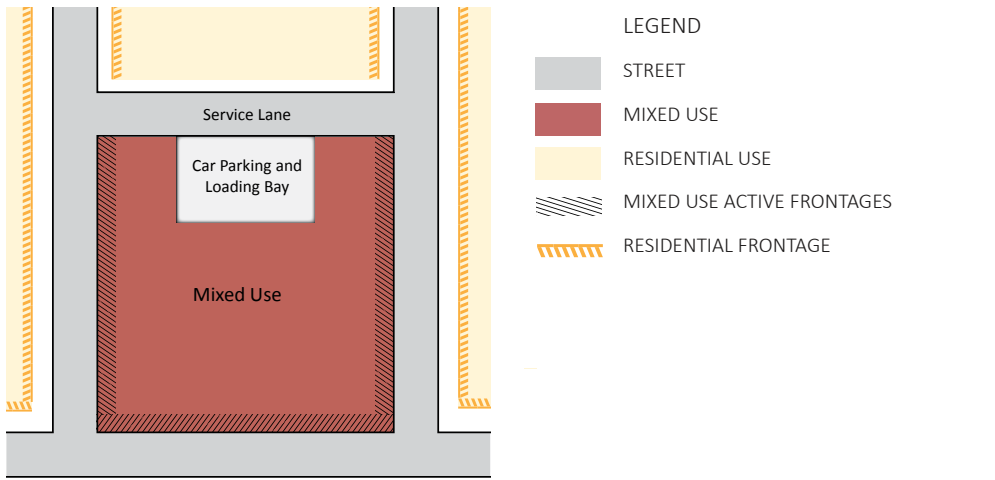


Figure 42 : Possible design solution for interface with mixed use area

6.0 Dwelling Distribution

This section identifies the potential distribution of 3,000 dwellings within the site by dwelling type. The landholding numbers are based on Figure 15 Land Ownership and Property Description Plan from the Development Plan report prepared by Tract Consultants. In order to do this, it adopts the following assumptions:

- Apartments will be limited to locations alongside public open space (except side closest to existing residential areas beyond the precinct), the mixed use area, and alongside the proposed road linking the Mixed Use Area and Quarry Park (TIC), with the remainder of the site developed typically for attached townhouses.
- Townhouse heights will range 2-3 storeys in height along Kyle Road and New Street (in accordance with the external interface guidelines in Section 4), and be up to 4 storeys elsewhere, with an average net density of 39 dwellings per hectare.
- Apartment building heights will range from 5 to 6 storeys, with an average net density of 200 dwellings per hectare.
- The Mixed Use Area will contain residential development (potentially integrated with commercial uses).
- The D.J.E. Palmer landholding (parcel 3) will remain industrial.

The table alongside summarises the indicative yield by landholding.

From an urban design perspective, it is considered that there is potential for more development of 5 or more storeys within the precinct if transport and services capacity allows. In particular, it is considered that development need only be limited to townhouses alongside the three bounding roads, and with greater height in the core of precinct linking the mixed use area and Quarry Park.

Building heights should take into consideration the following:

- Respect for the existing low-rise character along Kyle Road, New Street and Blackshaws Road, while also noting the changing residential character of these streets through of new medium-density townhouses;
- Responding to larger road reserves and therefore the ability to implement slightly increased heights;
- Apply transitional heights (3-4 storey) from the edge treatments (2-3 storey) towards the mixed use component towards the centre of the site;
- Benefits of increased density in proximity to the proposed mixed use area and open space;
- Potential for buildings to shield visual impact of the electricity terminal station;
- The need to maintain sunlight access to the public realm and open space;
- Value of gradual transition between different heights;
- Value of consistent scale on both sides of a street.

		Development type	2-3 storey townhouses	3-4 storey townhouses	5-6 storey apartments	Total site area (ha)	Total yield (dwellings)
No.	LANDHOLDING	Density (dw/ha)	39	39	200		
2	CATALFAMO 40 Kyle Road, Altona North	Site area (ha) Yield (dwellings)	0.850 33	11.340 442	1.030 206	13.220	681
5	4 New Street, Altona North	Site area (ha) Yield (dwellings)	0.000 0	0.878 34	0.000 0	0.878	34
6	2 New Street, Altona North	Site area (ha) Yield (dwellings)	0.000 0	0.136 5	0.000 0	0.136	5
7	22 SPOT 2-48 New Street, South Kingsville	Site area (ha) Yield (dwellings)	0.942 37	3.591 140	0.440 88	4.973	265
8	New Street, Altona North (Lot 1 TP224796)	Site area (ha) Yield (dwellings)	0.000 0	0.840 33	0.148 30	0.988	62
9	48 New Street, South Kingsville	Site area (ha) Yield (dwellings)	0.242 9	1.154 45	0.000 0	1.397	54
10.-11.	50-58 New Street, South Kingsville (Lot 24 LP1402)	Site area (ha) Yield (dwellings)	0.493 19	0.000 0	0.000 0	0.493	19
12	HARBOLT 188-198 Blackshaws Road, Altona North	Site area (ha) Yield (dwellings)	0.325 13	9.981 389	1.109 222	11.415	624
13.-24.	70-186 New Street, South Kingsville	Site area (ha) Yield (dwellings)	1.496 58	0.000 0	0.000 0	1.496	58
25	TIC 200 - 214 Blackshaws Road, Altona North	Site area (ha) Yield (dwellings)	0.000 0	3.025 118	1.296 259	4.321	377
26	230 Blackshaws Road, Altona North	Site area (ha) Yield (dwellings)	0.000 0	1.179 46	0.000 0	1.179	46
27	216 Blackshaws Road, Altona North	Site area (ha) Yield (dwellings)	0.000 0	0.927 36	0.049 10	0.975	46
28	TIC 232-246 Blackshaws Road, Altona North	Site area (ha) Yield (dwellings)	0.000 0	2.068 81	0.109 22	2.177	102
29	GEORGE WESTON 248 Blackshaws Road, Altona North	Site area (ha) Yield (dwellings)	0.000 0	4.429 173	0.233 47	4.662	219
30	FORM 700 270-274 Blackshaws Road, Altona North	Site area (ha) Yield (dwellings)	0.000 0	0.919 36	0.162 32	1.081	68
31	276 Blackshaws Road, Altona North	Site area (ha) Yield (dwellings)	0.000 0	0.082 3	0.000 0	0.082	3
32	SECON 280-288 Blackshaws Road, Altona North	Site area (ha) Yield (dwellings)	0.000 0	3.836 150	0.202 40	4.038	190
33	296-298 Blackshaws Road, Altona North	Site area (ha) Yield (dwellings)	0.121 5	0.000 0	0.000 0	0.121	5
34	ROSEN 8-38 Kyle Road, Altona North	Site area (ha) Yield (dwellings)	0.977 38	1.280 50	0.000 0	2.257	88
35	COUNCIL ROAD RESERVE	Site area (ha) Yield (dwellings)	0.000 0	0.455 18	0.152 30	0.607	48
TOTAL		Site area (ha) Yield (dwellings) % of total	5.445 212 7%	46.119 1799 60%	4.930 986 33%	56.494	2997
Note: Site Areas exclude Community Facility and Public Open Space.							



Figure 43: Dwelling Types Map (indicative only)

7.0 Urban Design Principles

This section outlines guiding general urban design principles for the future development of the site. These principles underpin the Development Plan.

The design principles are presented in two main parts, providing specific guidance on the broader residential, neighbourhood activity centre and open space components of Precinct 15.

The Residential Urban Design Principles are based around the following key qualities of successful places:

- Character and Sense of Place - a place with its own individual identity
- Continuity and Enclosure - a place with clearly distinguished public and private spaces
- Movement and Access - a place that is easy to get to and move through
- Adaptability - a place that is easy to change
- Diversity - a place with choice and variety

The Activity Centre/Open Space Urban Design Principles are based around the following key qualities of successful Activity Centres:

- Urban Structure and Public Realm - a place with a vibrant and accessible urban environment
- Street Network - a place with an integrated and highly accessible street network.
- Built Form - a place with an appealing and safe public realm.

These qualities have been distilled into a series of urban design principles to support the development framework and achieve a successful development and quality public realm.

Residential Urban Design Principles

Theme	Objective	Principles
Character and Sense of Place	<ul style="list-style-type: none">• To achieve a unique and engaging sense of place and character whilst responding to and reinforcing locally distinctive patterns of development.	<ul style="list-style-type: none">• Respond to the existing residential character through the application of 2-3 storey heights at Kyle Road and New Street as a response to Clause 22.08. As a major thoroughfare, taller built form (4 storeys) can be placed along Blackshaws s Road.• Design the built form on the edges of Precinct 15 to engage with the surrounding neighbourhood in a considered manner.• Enhance the sense of place through implementing a new centre that is a focal point for the community and visitors. Preferably locate this adjacent to the existing activity centre and near to the proposed open space (Quarry Park).• Provide public open space within each character area and vary its size, formal or informal character, tree species and landscaping styles utilised in each to give them a distinctive character and sense of place.• Reinforce the street hierarchy by including a distinctive design for each type of street.• Apply a different tree species palette in connector and local streets to reinforce the legibility of the neighbourhood. Develop distinct character areas within Precinct 15 by applying a different set of species for local street trees.• Design streets and spaces to terminate views on key buildings or gradually reveal themselves through gently curving or facettted alignments.• Join adjoining character precincts with different uses along the rear of properties rather than at the street.• Apply consistent activities and heights on each side of a street to deliver a coherent character.• Apply facade design parameters to reinforce the existing character on the edges of Precinct 15, and to create a new character internal to the precinct.
		<ul style="list-style-type: none">• Create more memorable, safe and inviting places by lining the edge of streets and public open spaces (including the linear park) with building frontages to provide a high quality urban design in response to Clause 22.02.• Minimise front and side setbacks to ensure a well-defined urban form.• Place taller buildings along major thoroughfares, within and adjacent to the potential activity centre and next to public open space, to contribute to a legible urban pattern.• Configure height of development to limit public and private realm views towards transmission lines, electricity terminal station, freeway and freight rail line.• Relate the building height to the width of the street to deliver a legible structure.• Configure height of development to avoid overshadowing public open space.

Residential Urban Design Principles

Theme	Objective	Principles
Movement and Access	To promote accessibility and permeability by making places that connect with each other and are easy to move through.	<ul style="list-style-type: none">Implement a permeable street network in the form of a closely spaced grid of interconnected streets.Incorporate footpaths on both sides of streets as appropriate, cycle lanes (on-road or shared path) on connector roads and kerbside parallel parking.Design a street network and lot configuration that allows for a range of future land uses and building types.Design the street network to reinforce the character of the existing street pattern surrounding.Extend the existing street alignments of Brunel Street and Cyclamen Avenue into the site to improve legibility across the neighbourhood.Limit the length of blocks to deliver a permeable street network that offers direct and convenient routes across the area and redistributes traffic, reducing congestion. Provide shorter blocks in denser areas and those with a greater traffic generation, such as the proposed activity centre.Apply a rear loaded design outcome to lots with double garages narrower than 12 metres and single tandem garages to lots narrower than 6 metres.Configure the street network and lot layout to facilitate good solar access to each lot.Integrate internal networks for movement - walking, cycling and driving - with surrounding connections and links.
Adaptability	To promote a development that can adapt easily and respond to changing conditions.	<ul style="list-style-type: none">Apply block sizes that allow for flexibility in uses and typologies over the long term.Apply a lot layout that facilitates change over time, with any lots closer to the proposed activity centre designed to enable future intensification.Design buildings in mixed use areas to facilitate change of use by:<ul style="list-style-type: none">→ lightweight internal partitions to enable varied occupancy sizes;→ a higher ceiling at ground floor to enable retail, commercial and civic uses requiring larger spaces;→ rear vehicle and a back of house area at ground floor for storage and deliveries to enable a full range of retail and hospitality uses;→ separate access to ground floor and upper floor levels, both from the street, to provide convenient and legible access for visitors to different uses; and→ upper floors that are shallow enough to provide natural daylight and ventilation to most of the floor area, ensuring they are suitable for residential uses.
Diversity	To promote variety and choice through a mix of developments and uses that combine to create successful places that respond to local needs.	<ul style="list-style-type: none">Incorporate a diversity of housing typologies from apartments to townhouses to provide housing choice.Establish a diversity of streets and spaces to live, work, interact and linger.

Activity Centre Urban Design Principles

Theme	Objectives	Principles
Urban Structure and Public Realm	<ul style="list-style-type: none">To deliver a highly vibrant and accessible urban environment.	<ul style="list-style-type: none">Provide a compact and vibrant centre anchored off a main route(s) that is likely to attract the highest level of passing trade.
		<ul style="list-style-type: none">Concentrate commercial premises into continuous active frontages, built on or close to the street boundary.
		<ul style="list-style-type: none">Design public spaces (including streets) to be well proportioned, unique and integrated with the buildings that surround them.
		<ul style="list-style-type: none">Incorporate higher density housing within and around the proposed activity centre in response to Caluse 21.07.
		<ul style="list-style-type: none">Design streets to provide for all modes of transport but particularly prioritise pedestrians, cyclists and public transport.
		<ul style="list-style-type: none">Avoid large car parks at road frontages. If unavoidable, locate surface car parks on local streets and design them to form safe and attractive public spaces, with active frontages along their edges to provide passive surveillance.
		<ul style="list-style-type: none">Locate loading bays and other ‘back of house’ aspects away from public spaces, streets and residential areas to minimise amenity issues.
Street Network	<ul style="list-style-type: none">To deliver a well integrated and highly accessible street network.	<ul style="list-style-type: none">Create clear, legible links through the proposed activity centre.
		<ul style="list-style-type: none">Develop an interconnected street network that is safe, easy to navigate and has logical links from new development to the core of the proposed activity centre.
		<ul style="list-style-type: none">Implement a block size and shape that improves permeability and accessibility.
		<ul style="list-style-type: none">Provide direct links to the existing surrounding neighbourhoods, particularly for pedestrians and cyclists.
Built Form	<ul style="list-style-type: none">To deliver built form that contributes to an appealing and safe public realm.	<ul style="list-style-type: none">Provide visual interest at a walking pace through richly detailed façades at lower levels with frequent vertical articulation.
		<ul style="list-style-type: none">Define street edges by introducing built form on or close to the street boundary to achieve good definition of the public realm and avoid creating potential places of concealment and entrapment.

8.0 Conclusion

The purpose of this Density and Design Principles Report is to:

- Outline General Design Principles for the future development of the site.
- Identify appropriate design response to interfaces with adjoining residential land at Blackshaws Road, New Street and Kyle Road;
- Identify appropriate design responses to interfaces with adjoining industrial land at the electrical terminal station.
- Identify appropriate design responses to interfaces with the interim industrial uses, proposed public open space and the neighbourhood activity centre within the site
- Identify the appropriate development density for the site and rationale underpinning it; and
- Identify appropriate building heights for the site and the rationale underpinning them.

From a contextual perspective, this report identifies the site as one of the last remaining industrial precincts within Altona North, sitting within a well-established residential area. From a policy perspective, the site is identified as an urban renewal area and a Strategic Redevelopment Site due to its location within walking distance of a MAC, its potential to implement a new neighbourhood activity centre, its location abutting a bus route that is part of the Principal Public Transport Network (PPTN) and its ability to provide 10 or more dwellings, close to activity centres and well served by public transport. Of particular note is the Hobsons Bay Industrial Land Management Strategy (2008), which identifies the site for redevelopment for residential purposes because the locational criteria to attract new, replacement industries that are compatible with the surrounding residential areas are minimal.

To inform a position regarding an appropriate density for the site, 4 relevant case studies of a similar scale and nature were analysed. The most similar case studies found were the Bradmill Development and Banbury Village. The case study analysis found there was a clear correlation between Precinct 15 and these developments and based on this, considered a density of approximately 45-60 dwellings per hectare for Precinct 15 to be appropriate.

To deliver a responsive development, an analysis of the existing and proposed internal and external interfaces was undertaken. Supported by the identification of successful design responses at similar interfaces elsewhere, annotated diagrams for interface design responses are provided. The design responses proposed to the sensitive residential interfaces include 3 storey maximum townhouses on New Street and Kyle Road, with 4 storey on Blackshaws Road. The solution requires the upper level/s to be recessed to avoid visual bulk.

The other main external interface is the Electrical Terminal Station. The design solutions proposed focuses on managing the visual impact of the Electrical Terminal Station through configuration of landscape buffer and height to limit public and private views towards it. Furthermore, it is recommended that development should be faced away from the terminal station to ‘protect’ the public realm.

Internal interface design solutions are required to manage the amenity impacts of existing industrial uses within the site that will remain in the interim but may be redeveloped for residential ultimately. The design solutions were based upon protecting future residents from the visual and acoustic impacts of the industrial land, whilst ensuring the redevelopment of that land into residential uses in the future. The design solutions proposed different methods to manage the impacts of noise and visual impacts including facing development away from the industrial use and using landscaping, laneways and non-sensitive parts of the built form (garage) as buffers.

Design solutions are also provided to the proposed open space and mixed use components of Precinct 15. The design solutions proposed for interfaces to any proposed open space ensure a clearly defined public realm is achieved through bounding the space with either a street or a shared use lane along with residential frontage. Increased heights are proposed around the interface to manage spatial definition of the space, however this is limited to ensure adequate sunlight.

Design solutions to the mixed use areas focus on achieving active frontages to main streets with car parking, loading etc placed at the rear to minimise amenity impacts on the public realm.

The final component of this report is the application of typologies to achieve a potential distribution of 3,000 dwellings within the site. The heights and typologies proposed were identified through a capacity analysis based on a series of assumptions on typologies and yield. It is represented in a Dwelling Types Map that identifies: locations for 5-6 storey apartments – typically adjacent to the mixed use area, the community facility and open spaces; areas for 2-3 storey townhouses – along the interfaces to Kyle Road and New Street and locations for 3-4 storey townhouses throughout the site. These typologies and their distribution are supported by a set of general urban design principles that will guide the future development of the site.

Based on the above our findings are as follows:

- There is strong policy support for development of the site for residential and mixed use purposes;
- The case study analysis suggests a suitable density for the site is in the range of 45-60 dwellings per hectare;
- The existing and future internal and external interfaces all require specific design solutions which have been clearly outlined within this report;
- To achieve 3,000 dwellings within the site, the balance of the site should accommodate 3-4 storey townhouses, with 2-3 storey townhouses along Kyle Road and New Street, and 5-6 storey apartments adjacent to proposed open space, community facilities and the proposed mixed use area; and
- A redevelopment of the site in accordance with the dwelling types map, interface design solutions and design principles of this report will enable the development of the site for 3,000 dwellings.



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