



BURWOOD HIGHWAY DESIGN GUIDELINES

.....

**PREPARED FOR KNOX CITY COUNCIL
BY HANSEN PARTNERSHIP**

August 2016



Acknowledgments

Council Project Team

Sarah Lane

Spiros Manolakis

Hansen Partnership

Alastair Campbell, Project Director

Ed Bolton, Urban Designer

Contents

- introduction 4
- vision and objectives 5
- study area 6
- landuse 7
- overall summary & corridor plan 9 - 10
- 1. design guidelines 10 - 19
 - 1.1 commercial core 10
 - 1.2 burwood highway south 12
 - 1.3 lewis road - mixed use 14
 - 1.4 lewis road industry 16
 - 1.5 strategic redevelopment site 18

Figures

- figure 1. Burwood Highway looking east
- figure 2. Burwood Highway and High Street Road junction
- figure 3. Study Area
- figure 4. Landuse Framework Plan
- figure 5. Artist Impression of Burwood Highay
- figure 6. Overall Burwood Highway Corridor Plan
- figure 7. Section AA - Commercial Core
- figure 8. Section BB and CC - Burwood Highway South - Mixed Use
- figure 9. Section DD - Lewis Road - Mixed Use
- figure 10. Section EE and FF - Lewis Road Industry
- figure 11. Section GG - Strategic Redevelopment Site

Appendices

Introduction

The purpose of the Burwood Highway Design Guidelines is to provide direction for the appropriate form of development along Burwood Highway within the Knox Central Activity Centre.

These Guidelines build upon various strategic studies that have guided the form and function for the Knox Central Activity Centre and seek to inform the Knox Central Structure Plan

The Guidelines generally relate to Burwood Highway between Stud Road and Scoresby Road. This area is the main commercial corridor within the City of Knox and is the 'spine of' the Knox Central Activity Centre.

Currently Burwood Highway presents as a disjointed strip with a diversity of built form that provides little indication of the diversity of activities contained within the Westfield Knox shopping centre, the valued landscape setting or the topographical features.

It is envisaged that future development along Burwood Highway will provide a well-defined and memorable urban corridor, with feature forms at the topographical high points and primary intersections. Importantly future development will be unified by the landscape spine characterised by the landscape character which provides a distinctive environmental and design feature.

The key built form recommendations for Burwood Highway can be summarised as:

- A heightened sense of address to the Knox Central Activity Centre and surrounds through consistency and high quality architectural forms
- Increased density through the introduction of a 6 storey prevailing building scale along Burwood Highway with recessive upper levels and punctuations of higher forms at corners/key sites and building height stepped-down to the rear to protect sensitive interfaces
- A green boulevard with the landscape character reflected in the public and private spaces where appropriate; and
- Frontages configured to orient development towards Burwood Highway and provide activation and surveillance of the street.

The resulting built form will be a well-defined and consistent urban corridor with key punctuations at key locations that emphasise the urban structure. The built form will enhance Knox Central's role as the civic and public heart of the municipality by providing a distinct sense of place for the Activity Centre.

These guidelines are not intended to be restrictive. As 'guidelines' they seek to provide direction for both designers and Council officers in relation to development applications fronting Burwood Highway.



Figure 1. Burwood Highway looking east

Vision & Objectives

The vision for Burwood Highway is closely tied to the change envisaged in Knox Central. As stated in the draft Knox Structure Plan the vision for the wider area is that:

Knox Central will be a vibrant modern mixed-use activity centre that attracts residents, workers and visitors from across Melbourne's east. It will be the most well known and popular destination in the east of Melbourne. It will be a busy and attractive urban centre which has a strong connection to the natural environment. It will provide a focus for public life, connecting people and communities, and will be an attractive place to live, work and play.

This aspirational statement paints a picture of the future character of the wider area where Knox Central will become the capital of the east. To this end the vision for Burwood Highway in relation to its built form is to create:

A distinctive and high quality, built form that provides: a contemporary entryway into Knox Central and surrounds, improved frontages to the public realm, legible connections across Burwood Highway and development that strongly defines the Activity Centre.

The following objectives have been formulated for the Burwood Highway corridor and highlight the desirable features for this area based on themes of built form, landscape and environment, and movement.

Built Form Objectives

- Encourage high quality, robust and contemporary development, with larger intensive nodes at key intersections and feature forms at identified key intersections such as Stud Road, Lewis Street/High Street Road, and at Scoresby Road. Promote building form that defines a distinctive sense of place for Knox Central.
- Encourage high intensity and diverse of built form along Burwood Highway.
- Encourage frontages that relate to the human scale and provide a degree of activation and surveillance to the street through entryways at grade, windows and balconies.
- Design for increased activity along the Burwood Highway and side street frontages with car parking structures concealed.
- Ensure a sensitive transition of building height, profile and mass between precincts.
- Avoid large, unbroken expanses of street walls to public space or exposed to oblique side views.
- Step buildings in relation to the topography so that building profiles and floor plates limit the presentation of blank walls as a result of level change.
- Encourage the setbacks scale and mass of buildings to allow substantial landscape to reinforce the landscaped boulevard character.
- Encourage buildings of a high quality architectural design incorporating ESD design principles in their design and operation.
- Encourage a consistent 'rhythm' in subdivision pattern by built form responding to the existing lot layout and development grain.
- Develop frontages with a degree of consistency within areas but staggered building heights and breaks to allow views through to north and south.
- Develop distinctive roof profiles with clear definition of the base, middle and top of forms.



Figure 2. Burwood Highway and High Street Road junction

Study Area

The study area is divided by Burwood Highway with a range of uses and built form to the north and south.

As is evident in Figure 1, Westfield Knox makes up the majority of the north western portion of the study area.

Also to the north are car parks, offices, commercial, municipal and vacant land owned by the Department of Environment, Land, Water and Planning.

The south comprises a number of large sites where residential, retail and commercial uses prevail, with a less intense built form. The study area is unified by a strong landscape presence both in the public and private space.



Figure 3. Study Area

Land Use

The background research and technical studies undertaken to guide the development of the draft Structure Plan determined a land use framework that divides the Burwood Highway Corridor within the Knox Central Activity Centre, into five land use based precincts.

These precincts and their key relevant objectives are as follows:

Commercial Core

The commercial core will provide a broad mix of land uses including residential, employment, business, entertainment, community and leisure activities. A reorientation of the built form within the precinct will provide integration with Lewis Park to the north and the civic and mixed use precincts to the east.

Land uses that facilitate active frontages Burwood Highway will allow for interaction with the street and make a positive contribution to the public realm. The interface with Lewis Park will be capitalised through the development of high density residential development, which will provide activation of the open space.

New development within the Commercial Core will improve permeability of the precinct and support pedestrian amenity and safety.

Burwood Highway South Mixed Use

The southern side of Burwood Highway will provide a mixed-use environment providing high density residential development and commercial uses at ground floor. Commercial uses will be complementary to the activities within the commercial core and will activate street frontages, particular in high pedestrian 'nodes'.

In areas other than high pedestrian 'nodes', where active frontage may not be critical, ground floor frontages will provide transparency and surveillance opportunities.

Development will provide a consistent built form character to Burwood Highway, through the use of front setbacks, street wall heights and landscaping. Development will contribute to an active, vibrant pedestrian environment.

Lewis Road Mixed Use

The Lewis Road mixed use area will see a transition from the existing industrial character to a mixed use precinct, characterised by high density residential development with vibrant commercial premises at ground floor.

During this transition, the continuation of commercial and industrial uses with existing uses rights will be supported. New sensitive land uses will be required to address potential impacts to amenity resulting from existing commercial and industrial uses.

New land uses which are likely to result in poor amenity outcomes for residential land uses within the precinct are discouraged.

Given the fine grain subdivision pattern in some locations, consolidation of lots will be supported in order to achieve the desired land use outcomes.

Appropriate site remediation measures will be required to be undertaken prior to the commencement of new sensitive land uses.

Lewis Road Industry

This area will support the on-going viability of existing commercial/industrial uses. In addition, the area will support opportunities for emerging industry clusters and encourage a transition from traditional industrial uses to high amenity, high value employment uses over time. Non-industrial uses, such as indoor recreational facilities and places of assembly, are considered appropriate given the Activity Centre context of this industrial areas. These types of uses are supported in locations that minimise amenity impacts on adjoining and nearby land uses.

Development will continue to be of a low scale industrial nature, with the exception of sites fronting Burwood Highway. Burwood Highway provides opportunities for a more intensive built form, in keeping with the development vision for this central corridor.

Strategic Development Site

The redevelopment of this underutilised site will provide a high amenity medium density neighbourhood in the northern portion of the site, which is well-integrated with the Blind Creek corridor.

The neighbourhood will be supported by a mixed use precinct to the Burwood Highway frontage and Scoresby Road corner which will provide a small amount of local convenience retail and support local employment opportunities. The on-going use of part of the site by government departments is supported.

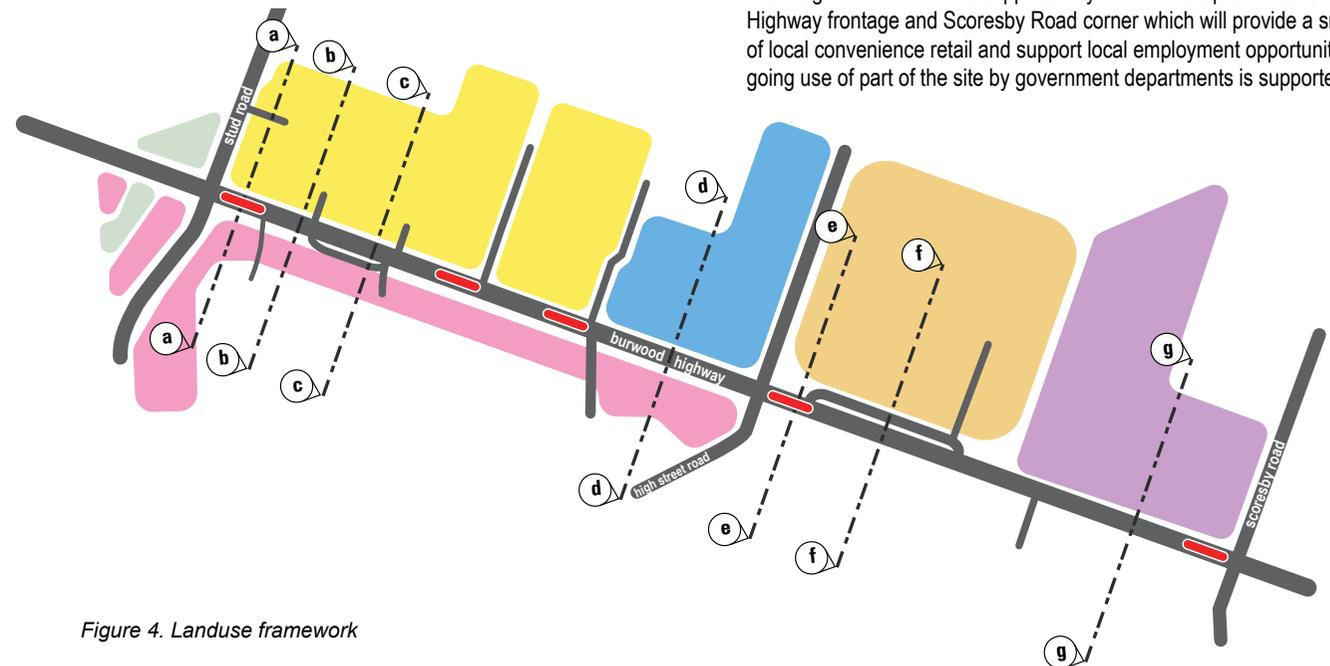


Figure 4. Landuse framework

Overall Summary

Within the Knox Central Activity Centre, the Burwood Highway corridor will present 5 distinct land use precincts, each comprising its own preferred future built form response. 4 of these precincts are located along the northern side of Burwood Highway, being Commercial Core, Lewis Road Mixed Use, Lewis Road Industry and Strategic Development Site. While there is only 1 precinct along the southern side of Burwood Highway, being Burwood Highway South, which has a predominantly mixed use focus, with residential at upper levels.

The key preferred use, built form heights and frontage setbacks for each precinct are summarised as follows:



Figure 5: Artist Impression of Burwood Highway

Commercial Core		
Land Use	Built Form	Setback
Commercial	6-7 storeys with 4 storey streetwall 10 storey 'feature forms' with 6 storey streetwall	12m front setback from Burwood Highway

Burwood Highway South Mixed Use		
Land Use	Built Form	Setback
Mixed use (predominantly residential)	6 storeys with 4 storey streetwall 10 storey 'feature forms' with 6 storey streetwall	12m front setback from Burwood Highway (except where existing service lane present)

Lewis Road Mixed Use		
Land Use	Built Form	Setback
Mixed use	7 storeys with 4 storey streetwall 10 storey 'feature forms' with 6 storey streetwall	15m front setback from Burwood Highway

Lewis Road Industry		
Land Use	Built Form	Setback
Industrial/commercial	6 storeys with 4 storey streetwall	8m front setback from Burwood Highway service lane (except 551 and part 557 Burwood Highway)

Strategic Development Site		
Land Use	Built Form	Setback
Commercial	7 storeys with 4 storey streetwall 10 storey 'feature forms' with 6 storey streetwall	8m front setback from Burwood Highway (property boundary)



Figure 6: Overall Burwood Highway Corridor Plan

Commercial Core

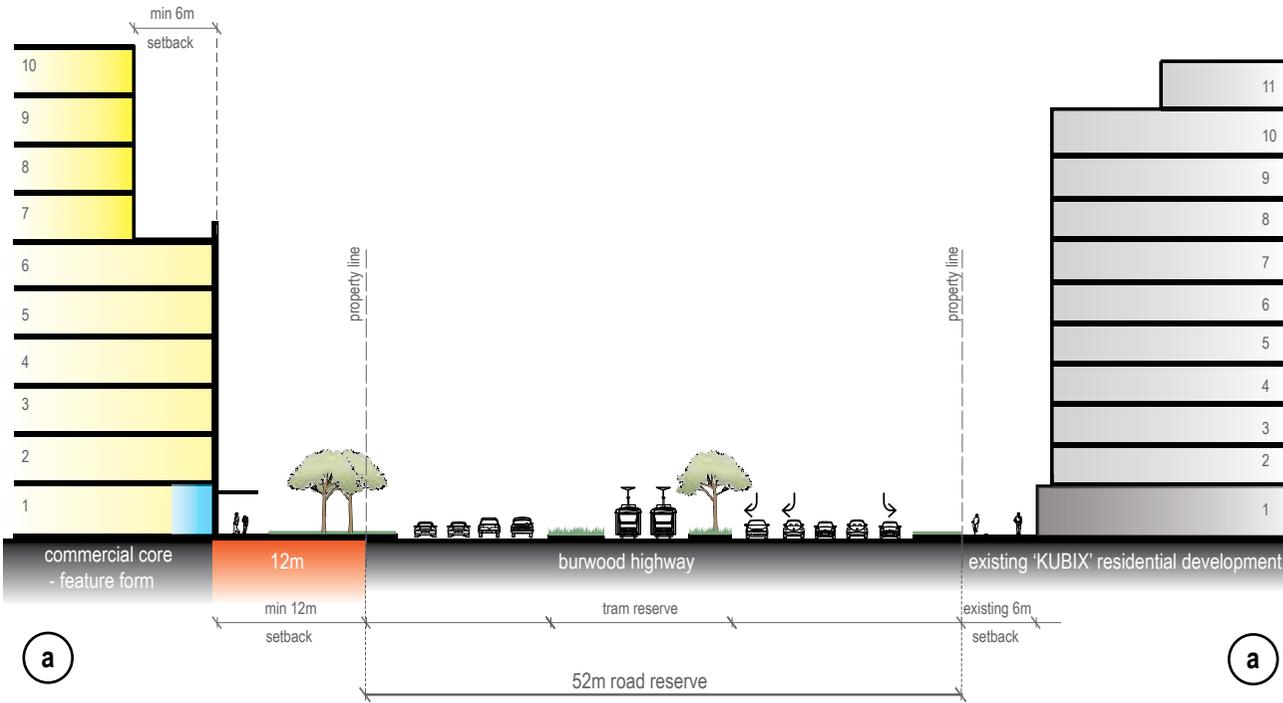
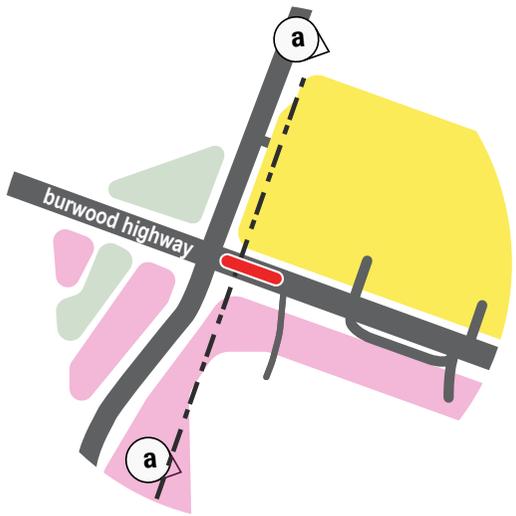
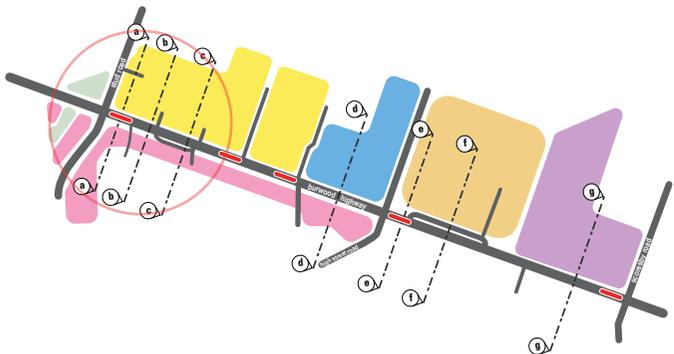


Figure 7. Section AA - Commercial Core

Commercial Core - Guidelines		
Element	Performance Criteria	Decision Guidelines
Height	<ul style="list-style-type: none"> Maximum streetwall height of up to 4 storeys (16m) Maximum building heights of up to 6 storeys (24m) 	<ul style="list-style-type: none"> Encourage a more intense built form outcome to Burwood Highway Encourage a consistent streetwall height
Feature Forms	<ul style="list-style-type: none"> Maximum streetwall height of up to 6 storeys (24m) Maximum building heights of up to 10 storeys (40m) 	<ul style="list-style-type: none"> Feature forms encouraged at key intersections and gateways
Building Setbacks	<ul style="list-style-type: none"> To streetwall or front parapet wall: <ul style="list-style-type: none"> 12m from Burwood Highway (property boundary) Upper levels above the streetwall: <ul style="list-style-type: none"> A minimum of 6m behind the streetwall/parapet 	<ul style="list-style-type: none"> Encourages a pedestrian scale Evoke community experience and activity Buildings should 'wrap' from frontage to side streets Encourage higher forms to be well spaced to equitably distribute views towards the Dandenong Ranges
Form	<ul style="list-style-type: none"> Defined parapet streetwall/podium with upper level forms setback Building scale should be in proportion with size of allotments Feature forms may be expressed via design detailing, active frontages, building height and visually interesting roof forms Use feature forms to punctuate points of entry to precinct Maximise key views towards Dandenong Ranges 	<ul style="list-style-type: none"> Establish a pedestrian scale through podium treatment Buildings should include a balance of horizontal and vertical detailing to break up wide building mass Ensure design detailing and articulation is provided across building frontages Demarcate the gateways to the precinct with notable and visually interesting forms Create focal points Ensure feature forms are provided at key gateways and intersections Ensure new forms do not detract from key views of Dandenong Ranges Limit unreasonable overshadowing to adjoining buildings
Streetscape	<ul style="list-style-type: none"> Establish active frontages to Burwood Highway Streetwall parapet and podiums are highly glazed with design detailing Avoid blank walls where visible to streets and the public realm and wrap design details from the Burwood Highway frontage into the side streets Provide clearly delineated internal and external access ways 	<ul style="list-style-type: none"> Enhance safety through passive surveillance (seeing into and out of buildings) Promote active frontage through provision of windows and entries to street interfaces Encourage pedestrian activity on streets Encourage physical and visual connections to public open space to north Encourage through block connections
Landscape	<ul style="list-style-type: none"> Use building setbacks for soft landscaping Complement the existing landscape character Encourage high quality urban landscape treatments in high pedestrian areas Encourage retention of existing established vegetation Landscaping to comprise canopy trees and formal understorey landscaping. 	<ul style="list-style-type: none"> Ensure development is compatible with existing landscape character Increase permeable surface area, soft landscape and employ water sensitive principles Contribute to the treed boulevard character.
Services, Access and Car parking	<ul style="list-style-type: none"> Conceal loading and car parking within building envelopes or to the rear of buildings Encourage north – south pedestrian links through commercial core Provide prominent and safe public transport stops at selected sites 	<ul style="list-style-type: none"> Conceal loading and car parking from view Reduce unsightly hard surface area

Burwood Highway South

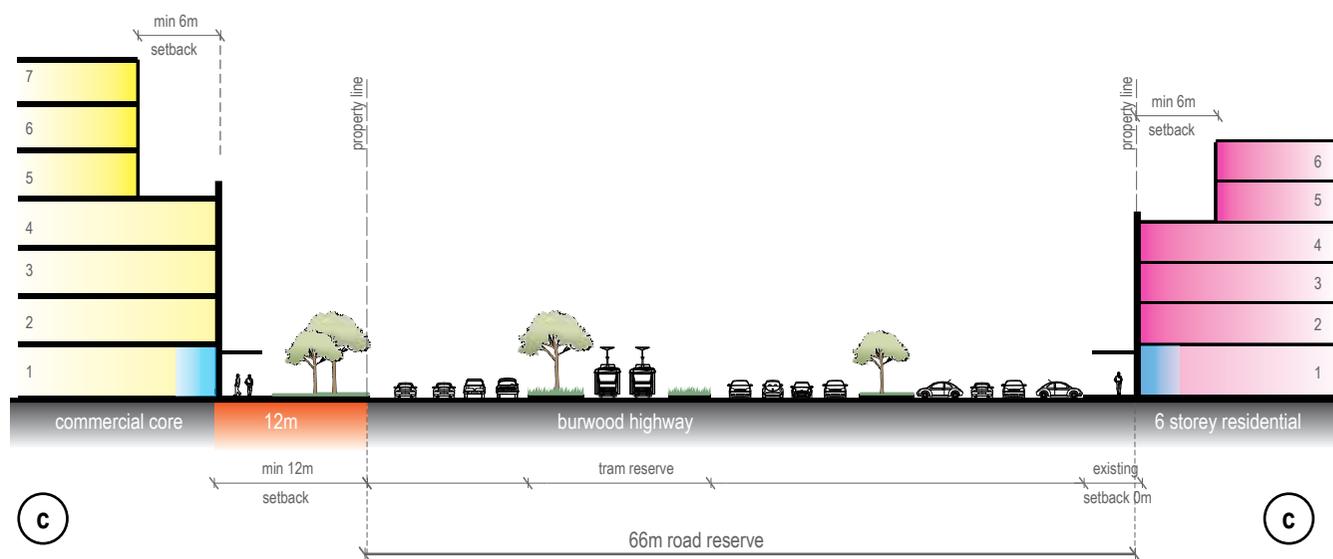
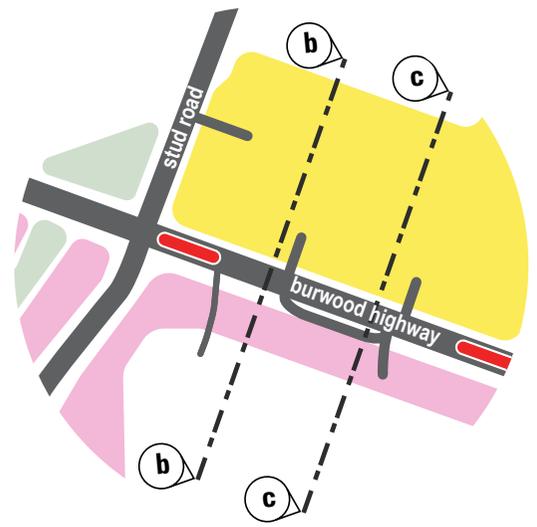
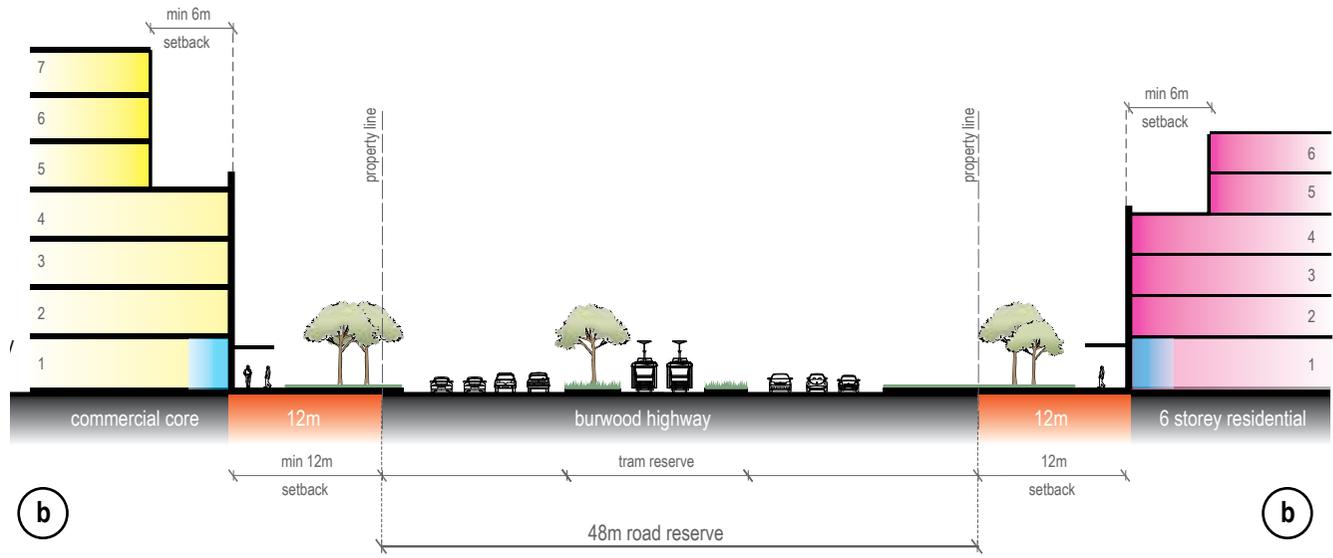
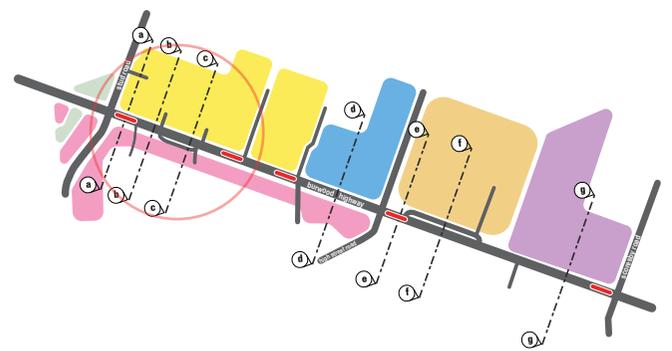


Figure 8. Section BB and Section CC - Burwood Highway South Mixed Use

Burwood Highway South Mixed Use - Guidelines		
Element	Performance Criteria	Decision Guidelines
Height	<ul style="list-style-type: none"> Maximum streetwall height of up to 4 storeys (13m) Maximum building heights of up to 6 storeys (18m) 	<ul style="list-style-type: none"> Encourage a modest built form outcome to Burwood Highway Encourage a consistent streetwall height Ensure height at residential interface provides adequate transition
Feature Forms	<ul style="list-style-type: none"> Maximum streetwall height of up to 6 storeys (24m) Maximum building heights of up to 10 storeys (40m) 	<ul style="list-style-type: none"> Feature forms encouraged at key intersections and gateways
Building Setbacks	<ul style="list-style-type: none"> To streetwall or front parapet wall: <ul style="list-style-type: none"> 12m from Burwood Highway (property boundary); and 0m from existing service lane for (5 Tyner Road and 342-452 Burwood Highway) Upper levels above the streetwall: <ul style="list-style-type: none"> A minimum of 6m behind the streetwall/parapet 	<ul style="list-style-type: none"> Encourages a pedestrian scale Encourage mixed use development Buildings should 'wrap' from frontage to side streets Avoid car parking in front setbacks
Form	<ul style="list-style-type: none"> Establish a consistent 4 storey streetwall/ parapet Defined parapet streetwall/podium with upper level forms setback Building scale should be in proportion with size of allotments Use feature forms to punctuate points of entry to precinct 	<ul style="list-style-type: none"> Built form should visually and physically engage with the street Establish a pedestrian scale Encourage highly glazed streetwall edges and ground level activity encouraged Encourage mixed forms including fine grain domestic, broad grain civic and highly articulated commercial Limit unreasonable overshadowing to adjoining buildings
Streetscape	<ul style="list-style-type: none"> Establish active frontages at key nodes of pedestrian activity Design detailing wraps from highway frontage to side street interfaces Encourage active commercial frontages to street level Avoid blank walls where visible to streets and the public realm 	<ul style="list-style-type: none"> Enhance safety through passive surveillance (seeing into and out of buildings) Promote active frontage through provision of windows and entries to street interfaces Development should not turn its back on Burwood Highway or other street interfaces Encourage pedestrian activity on streets
Rear Interfaces	<ul style="list-style-type: none"> Provide transition to residential zone interfaces to the south 	<ul style="list-style-type: none"> Building heights, setbacks and landscape treatments should transition to residential areas
Landscape	<ul style="list-style-type: none"> Use building setbacks for soft landscaping Maintain/reinstate a continuous landscape setback along Burwood Highway with native tree canopy and formal landscaping reflecting the landscape character of Knox Central Support active and pedestrian friendly street frontages and public space Landscaping to comprise canopy trees and formal understorey landscaping. 	<ul style="list-style-type: none"> Ensure development is compatible with Knox Central landscape character Employ water sensitive urban design principles and water harvesting of hard surface landscape
Servicing	<ul style="list-style-type: none"> Conceal car parking within building envelopes or to the rear of buildings Provide prominent and safe public transport stops at selected sites 	<ul style="list-style-type: none"> Conceal car parking from view Reduce unsightly hard surface area

Lewis Road Mixed Use

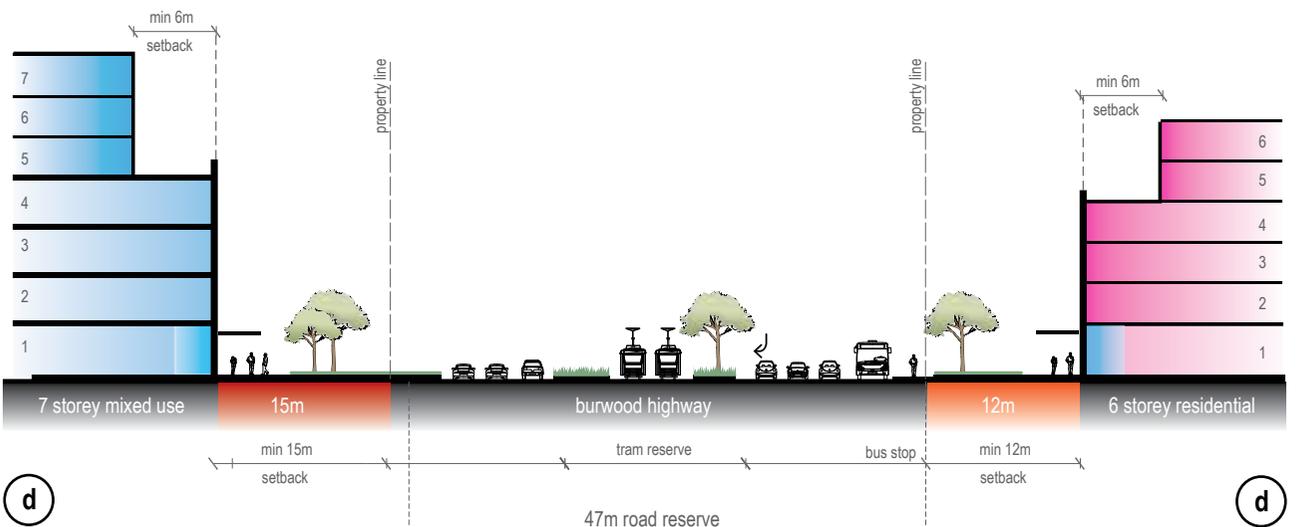
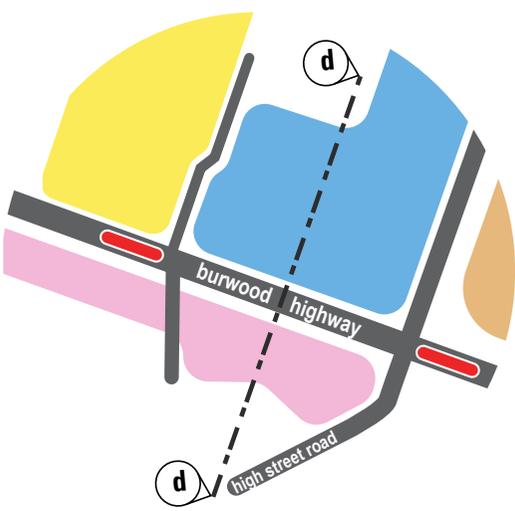
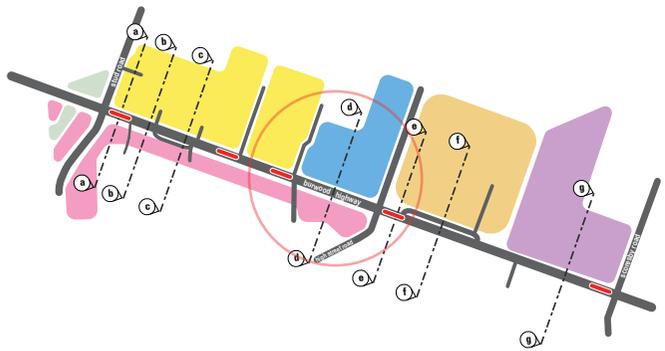
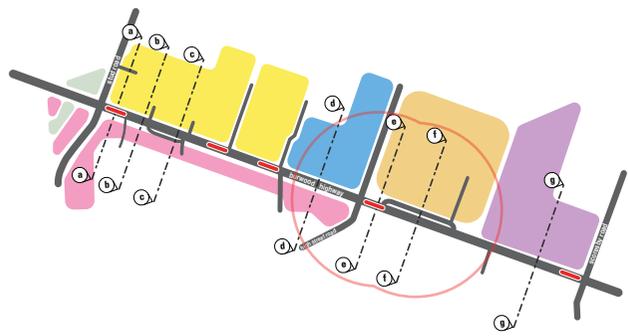
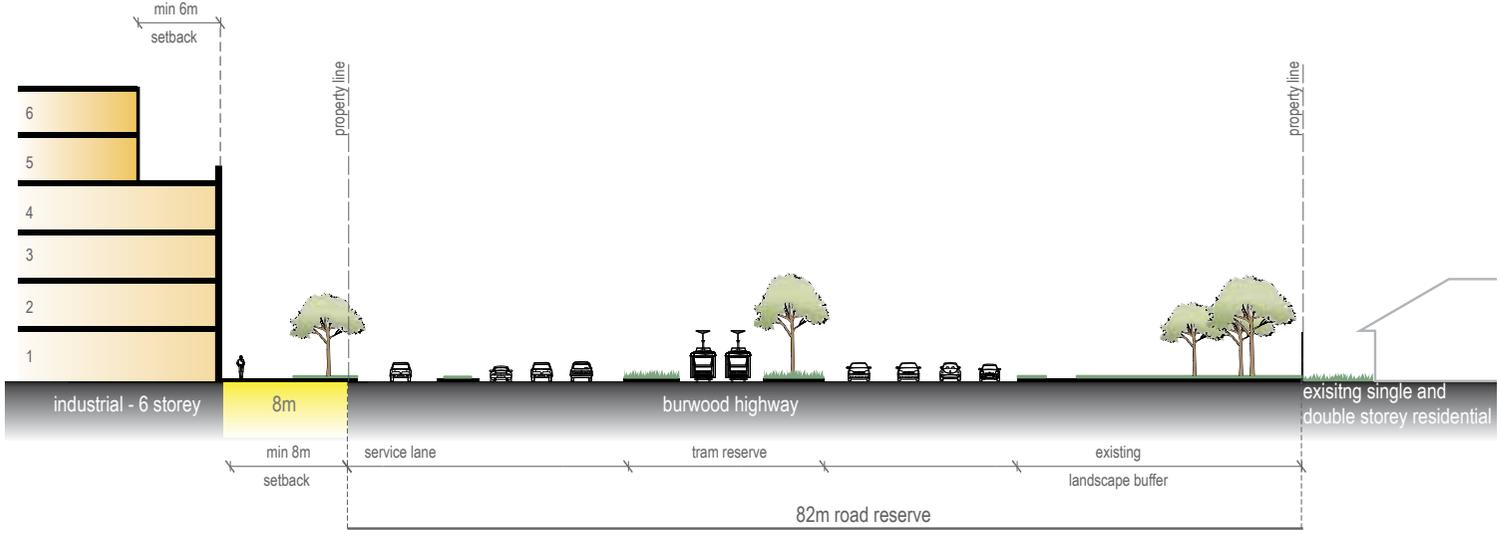


Figure 9. Section DD - Lewis Road Mixed Use

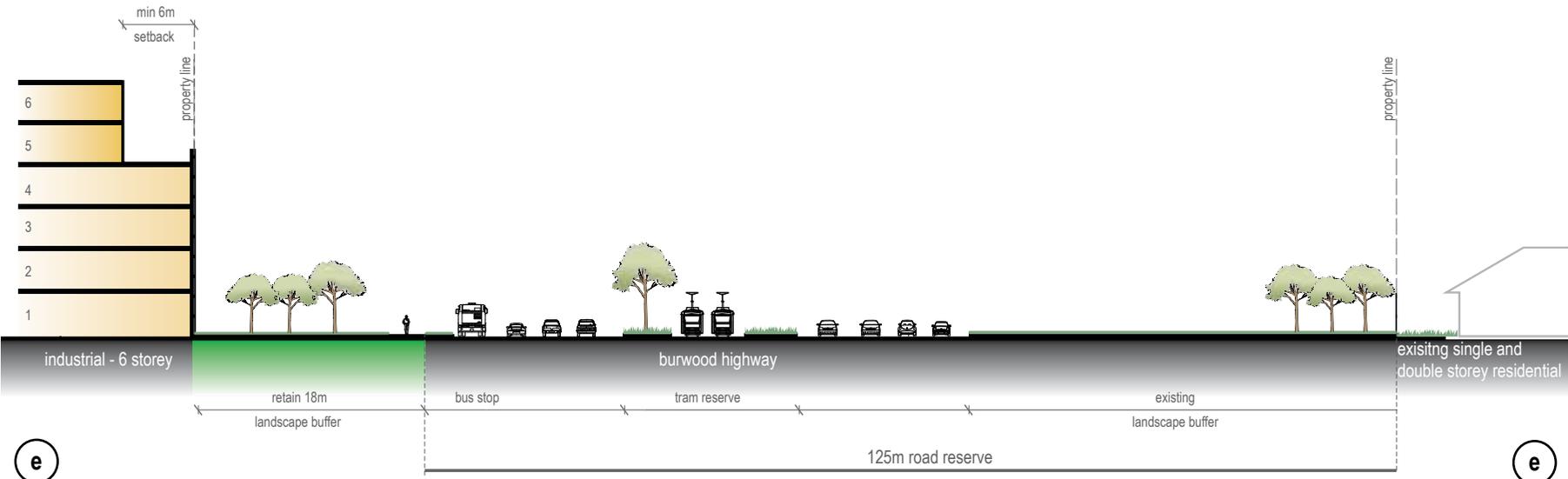
Lewis Road Mixed Use - Guidelines		
Element	Performance Criteria	Decision Guidelines
Height	<ul style="list-style-type: none"> Maximum streetwall height of up to 4 storeys (16m) Maximum building heights of up to 7 storeys (28m) Encourage a more intense built form outcome on Burwood Highway Allow for a feature form to punctuate consistent built form at corner of Burwood Highway and Capital City Boulevard 	<ul style="list-style-type: none"> Encourage a more intense built form outcome to Burwood Highway Encourage a consistent streetwall height Feature forms encouraged at key intersections and gateways
Feature Forms	<ul style="list-style-type: none"> Maximum streetwall height of up to 6 storeys (24m) Maximum building heights of up to 10 storeys (40m) 	<ul style="list-style-type: none"> Feature forms encouraged at key intersections and gateways
Building Setbacks	<ul style="list-style-type: none"> To streetwall or front parapet wall: <ul style="list-style-type: none"> 15m from Burwood Highway (property boundary) Upper levels above the streetwall: <ul style="list-style-type: none"> A minimum of 6m behind the streetwall/parapet 	<ul style="list-style-type: none"> Encourages a pedestrian scale Encourage mixed use development Buildings should 'wrap' from frontage to side streets Avoid car parking in front setbacks
Form	<ul style="list-style-type: none"> Establish a consistent 4 storey streetwall/ parapet Defined parapet streetwall/podium with upper level forms setback Building scale should be in proportion with size of allotments Use feature forms to punctuate points of entry to precinct 	<ul style="list-style-type: none"> Built form should visually and physically engage with the street Establish a pedestrian scale Buildings should include a balance of horizontal and vertical detailing to break up wide building mass Ensure design detailing and articulation is provided across building frontages Encourage highly glazed streetwall edges and ground level activity encouraged Ensure new forms do not detract from key views of Dandenong Ranges
Streetscape	<ul style="list-style-type: none"> Establish active frontages at key nodes of pedestrian activity Streetwall parapet and podiums are highly glazed with design detailing to achieve environmental performance Avoid blank walls where visible to streets and the public realm and wrap design details from the highway frontage to the side streets Provide clearly delineated internal and external access ways 	<ul style="list-style-type: none"> Enhance safety through passive surveillance (seeing into and out of buildings) Promote active frontage through provision of windows and entries to street interfaces Encourage pedestrian activity on streets Encourage physical and visual connections to public open space to north Encourage through block connections
Landscape	<ul style="list-style-type: none"> Use building setbacks for soft landscaping Complement the existing landscape character Encourage high quality urban landscape treatments in high traffic pedestrian areas Encourage retention of existing established vegetation Landscaping to comprise canopy trees and formal understorey landscaping. 	<ul style="list-style-type: none"> Ensure development is compatible with existing landscape character Increase permeable surface area, soft landscape and employ water sensitive principles
Servicing	<ul style="list-style-type: none"> Conceal loading and car parking within building envelopes or to the rear of buildings Provide prominent and safe public transport stops at selected sites 	<ul style="list-style-type: none"> Conceal loading and car parking from view Reduce unsightly hard surface area

Lewis Road Industry



f

f



e

e

Figure 10. Section EE and FF - Lewis Road Industry

Lewis Road Industry - Guidelines		
Element	Performance Criteria	Decision Guidelines
Height	<ul style="list-style-type: none"> Maximum streetwall height of up to 4 storeys (16m) Maximum building heights of up to 6 storeys (24m) Encourage a more intense built form outcome on Burwood Highway 	<ul style="list-style-type: none"> Encourage a more intense built form outcome to Burwood Highway Encourage a consistent streetwall height
Building Setbacks	<ul style="list-style-type: none"> To streetwall or front parapet wall: <ul style="list-style-type: none"> 8m from property boundary when fronting existing service lane; and 0m from property boundary when directly fronting Burwood Highway (551 Burwood Highway and part 557 Burwood Highway). Upper levels above the streetwall: <ul style="list-style-type: none"> A minimum of 6m behind the streetwall/parapet 	<ul style="list-style-type: none"> Encourage a consistent built form profile to Burwood Highway Encourages a pedestrian scale Encourage mixed use development Buildings should 'wrap' from frontage to side streets Avoid car parking in front setbacks
Form	<ul style="list-style-type: none"> Establish a 4 storey streetwall/ parapet Defined parapet streetwall/podium with upper level forms setback Building scale should be in proportion with size of allotments 	<ul style="list-style-type: none"> Encourage adaptable commercial/industrial development Built form should visually and physically engage with the street Establish a consistent streetwall and setback profile Buildings should include a balance of horizontal and vertical detailing to break up wide building mass Ensure design detailing and articulation is provided across building frontages Encourage highly glazed streetwall edges and ground level activity
Streetscape	<ul style="list-style-type: none"> Highly glazed and activated ground floors Avoid sheer blank walls where visible to streets and the public realm and wrap design details from the highway frontage to the side streets Provide clearly delineated internal and external access ways 	<ul style="list-style-type: none"> Enhance safety through passive surveillance (seeing into and out of buildings) Promote active frontage through provision of windows and entries to street interfaces Establish a consistent landscape setback
Landscape	<ul style="list-style-type: none"> Use building setbacks for soft landscaping Complement the existing landscape character Encourage high quality urban landscape treatments Encourage retention of existing established vegetation 	<ul style="list-style-type: none"> Ensure development is compatible with existing landscape character Increase permeable surface area, soft landscape and employ water sensitive principles Encourage a consistent and continuous landscape frontage to Burwood Highway
Servicing	<ul style="list-style-type: none"> Conceal loading and car parking behind primary frontages or to the rear of buildings Provide improved rear access to industrial forms Locate car parking between built form Provide prominent and safe public transport stops at selected sites 	<ul style="list-style-type: none"> Conceal loading and car parking from view Reduce unsightly hard surface area

Strategic
Redevelopment
Site

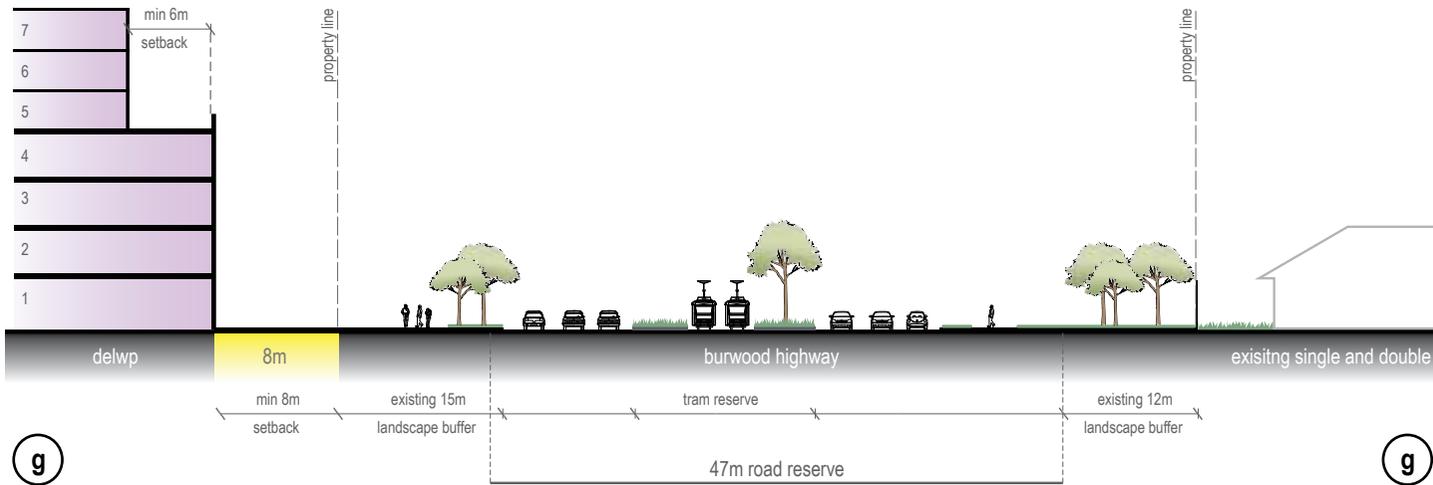
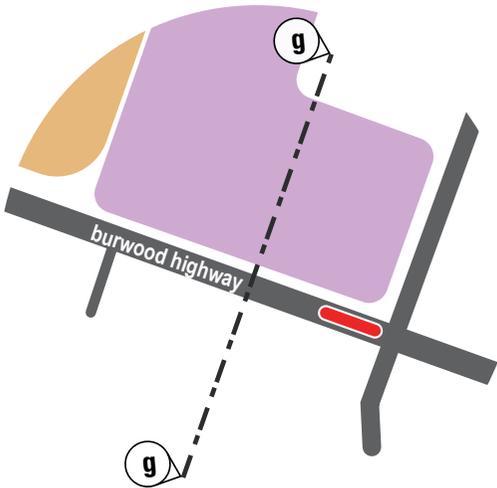
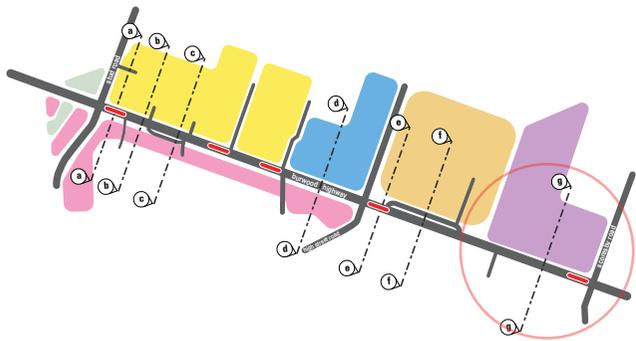


Figure 11. Section GG - Strategic Redevelopment Site

Strategic Redevelopment Site - Guidelines		
Element	Performance Criteria	Decision Guidelines
Height	<ul style="list-style-type: none"> Maximum streetwall height of up to 4 storeys (16m) Maximum building heights of up to 7 storeys (28m) 	<ul style="list-style-type: none"> Encourage a more intense built form outcome to Burwood Highway Encourage a consistent streetwall height
Feature Forms	<ul style="list-style-type: none"> Maximum streetwall height of up to 6 storeys (24m) Maximum building heights of up to 10 storeys (40m) 	<ul style="list-style-type: none"> Ensure height at residential interface provides adequate transition Feature forms encouraged at key intersections and gateways
Building Setbacks	<ul style="list-style-type: none"> To streetwall or front parapet wall; <ul style="list-style-type: none"> 8m from property boundary to Burwood Highway. Upper levels above the streetwall: <ul style="list-style-type: none"> A minimum of 6m behind the streetwall/parapet 	<ul style="list-style-type: none"> Encourage a new and consistent built form profile to Burwood Highway Encourage a pedestrian scale Encourage mixed use development Encourage higher forms to be well spaced to equitably distribute views towards the Dandenong Ranges Buildings should 'wrap' from frontage to side streets Avoid car parking in front setbacks
Form	<ul style="list-style-type: none"> Defined parapet streetwall/podium with upper level forms setback Building scale should be in proportion with size of allotments Feature forms may be expressed via design detailing, active frontages building height and visually interesting roof forms Building scale should be in proportion with size of allotments Avoid sheer walls Use feature forms to punctuate point of entry into precinct Maximise key views towards Dandenong Ranges 	<ul style="list-style-type: none"> Establish a pedestrian scale through podium treatment Buildings should include a balance of horizontal and vertical detailing to break up wide building mass Ensure design detailing and articulation is provided across building frontages Demarcate the eastern gateway with notable and visually interesting form Ensure feature forms are provided at key gateways and intersections Ensure new forms do not detract from key views of Dandenong Ranges
Streetscape	<ul style="list-style-type: none"> Highly glazed and activated ground floors Avoid sheer blank walls where visible to streets and the public realm and wrap design details from the highway frontage to the side streets Provide clearly delineated internal and external access ways 	<ul style="list-style-type: none"> Enhance safety through passive surveillance (seeing into and out of buildings) Promote active frontage through provision of windows and entries to street interfaces Establish a consistent landscape setback
Landscape	<ul style="list-style-type: none"> Use building setbacks for soft landscaping Complement the existing landscape character Encourage high quality urban landscape treatments in high pedestrian areas Encourage retention of existing established vegetation 	<ul style="list-style-type: none"> Ensure development is compatible with existing landscape character Increase permeable surface area, soft landscape and employ water sensitive principles
Servicing	<ul style="list-style-type: none"> Conceal loading and car parking within building envelopes or to the rear of buildings Encourage north – south pedestrian links through commercial core Provide prominent and safe public transport stops at selected sites 	<ul style="list-style-type: none"> Conceal loading and car parking from view

Appendices





APPENDICES

URBAN DESIGN ANALYSIS

.....

**PREPARED FOR KNOX CITY COUNCIL
BY HANSEN PARTNERSHIP**

August 2016



APPENDIX 1



The 'place features' define the setting and make it distinctive. The values below define the valued existing condition and also the features that new development should respond to. The place values relate to the built form and the natural features.

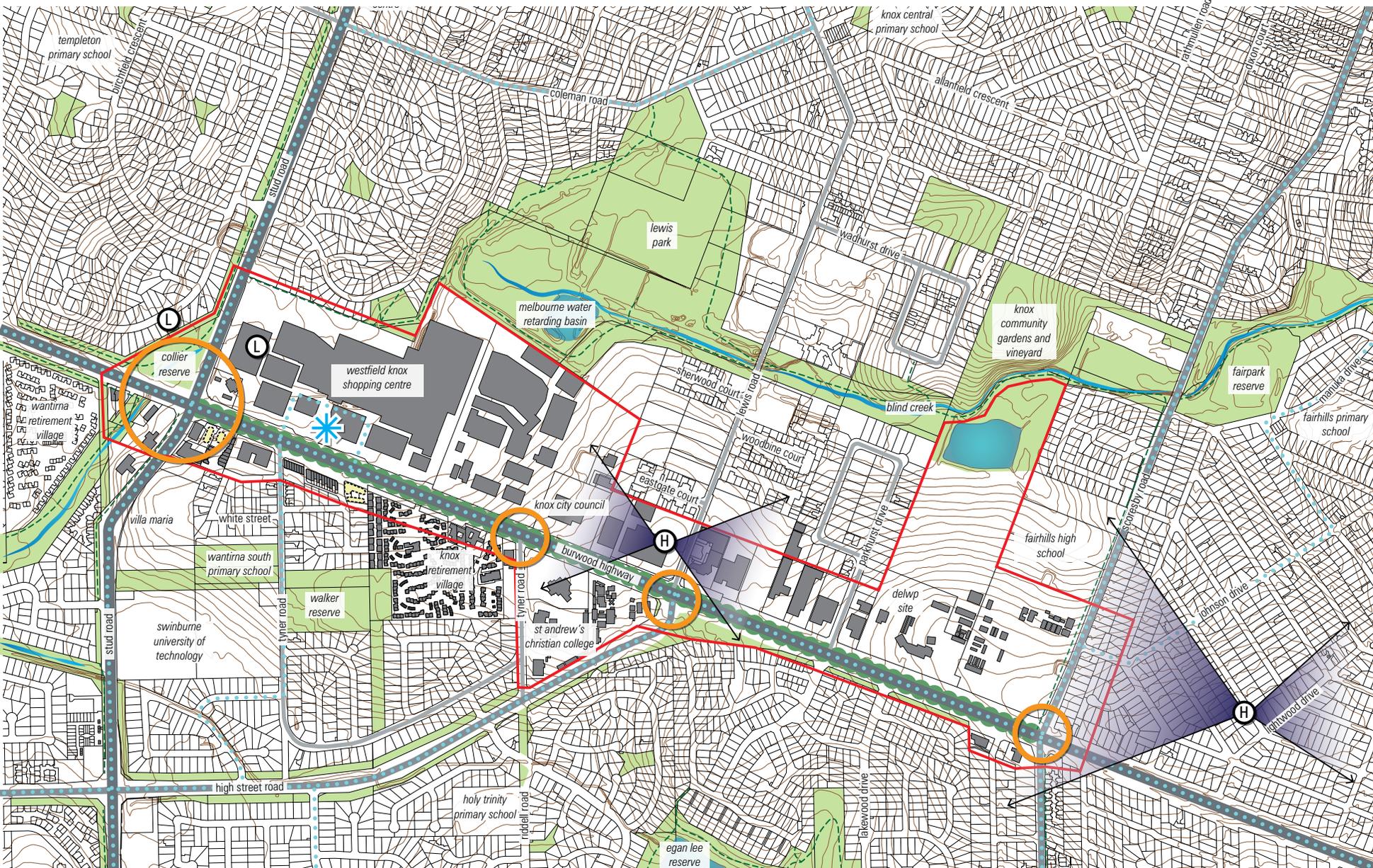
The place values as detailed in Figure 1 can be summarised as:

- **topography** – The topography is undulating and is an opportunity for built form to reinforce the topography. A key high point is situated near the intersection of Burwood Highway and Tyner Road, whilst the intersection of Stud Road and Burwood Highway is a notable low point.
- **landscape setting** - Landscape features are well established in both the public and private realm. There is an existing strong bush boulevard effect in the public realm of Burwood Highway. This is supplemented by a strong domestic landscape character in residential settings. The larger building forms along the highway are sited within a treed setting.
- **views** – There are corridor views available along Burwood Highway with limited wider views to the surroundings. As such taller building forms will benefit from these long range views.
- **diversity** – There is a diversity of building form and subdivision type. Built form is strongly linked with the types of land uses that are situated in the study area. The subdivision pattern ranges between the fine grain terrace shops with narrow frontages to the broader footprints of the Westfield Knox Shopping centre and the commercial/industrial stock in towards Scoresby Road.

figure 1

**Burwood Highway
Wantirna South**

place features



legend

- subject site 
- gateway 
- topography high point 
- topography low point 
- view point 
- bus interchange 
- bus route 
- pedestrian / bicycle path 
- bush boulevard 
- major road 
- secondary road 
- local road 
- existing built form 
- proposed built form 
- open space 
- water course 
- water retention area 
- contour 



Project Ref: 16.220
 Dwg No.: UDD-001
 Scale: 1:5000@A1
 Date: 30.08.16
 Revision: A

hansen partnership pty ltd
 melbourne | vietnam
 level 4 136 exhibition st
 melbourne vic 3000
 t 61 3 9654 8844 f 61 3 9654 8088
 e info@hansenpartnership.com.au
 w hansenpartnership.com.au



The area demonstrates a relatively low rise development character with obvious opportunities for further consolidation along the Burwood Highway corridor.

The 8 storey office tower at Westfield Knox Shopping Centre has been the tallest building in the precinct, however has recently been surpassed by the Kubix development (on the prominent corner of Burwood Highway and Stud Road) which comprise 3 apartment buildings ranging in height from 9 to 11 storeys. There are significant parcels of land along the Burwood Highway corridor which are deemed to have development potential, given their current use and built form condition. Further, the presence of car parking areas in building setbacks such as at Westfield Knox Shopping Centre detaches the buildings from the activity in the public realm.

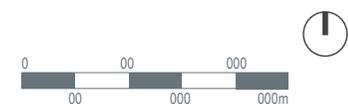
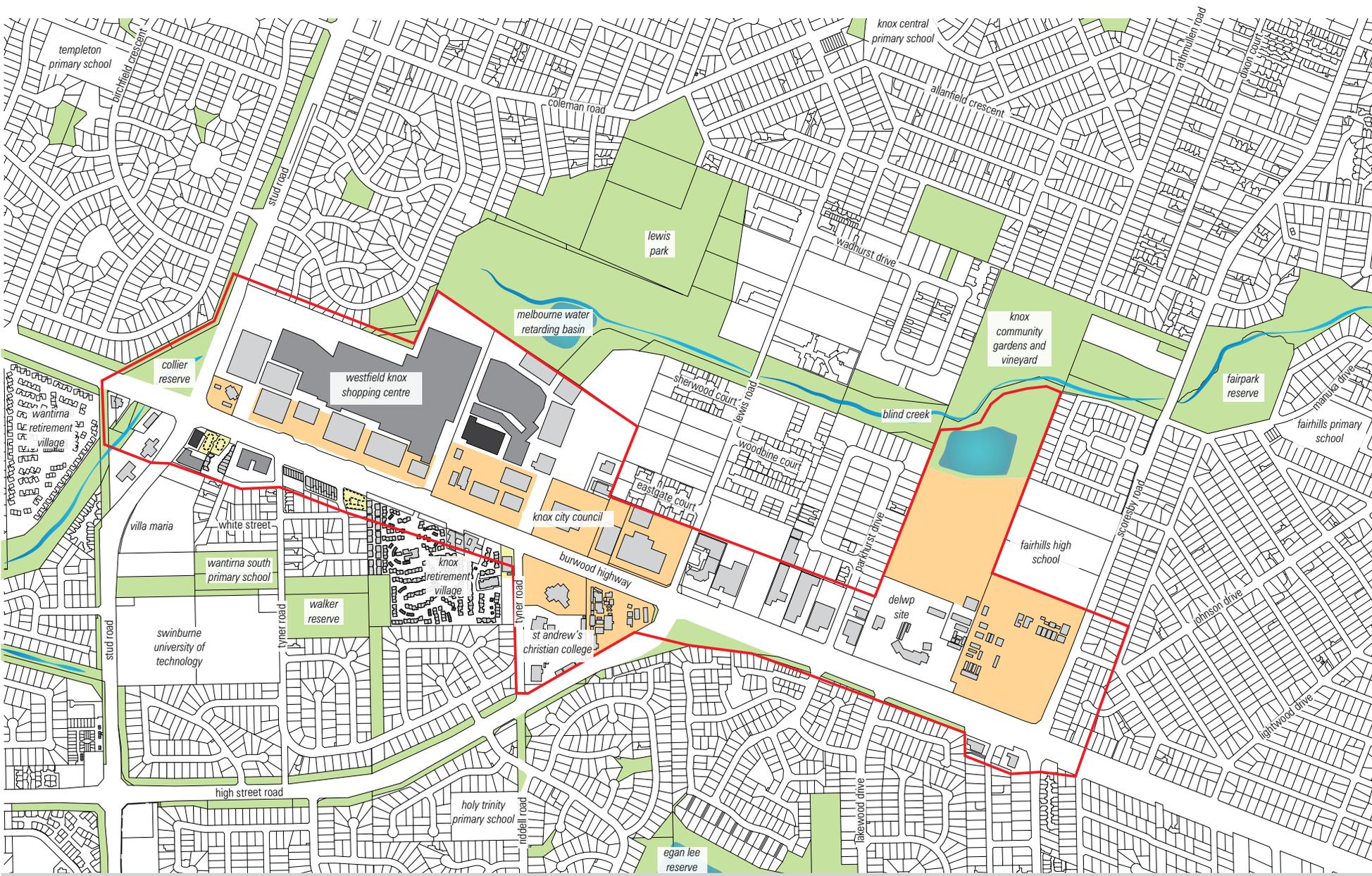
figure 2

**Burwood Highway
Wantirna South**

existing built-
form and scale

legend

- subject site 
- 1-2 storey 
- 3-4 storey 
- 5-8 storey 
- proposed built form 
- development site 
- potential development site 
- open space 
- water course 
- water retention area 



Project Ref: 16.220
 Dwg No.: UDD-001
 Scale: 1:5000@A1
 Date: 30.08.16
 Revision: A

hansen partnership pty ltd
melbourne | vietnam
 level 4 136 exhibition st
 melbourne vic 3000
 t 61 3 9654 8844 f 61 3 9654 8088
 e info@hansenpartnership.com.au
 w hansenpartnership.com.au



The corridor spans 2.2km and incorporates a mix of 3 lane and 4 lane road carriageways in each direction. A mix of service road and direct vehicle access is provided for properties along its length. Bus services are the principal form of public transport in the area, including a bus interchange at Westfield Knox Shopping Centre, which is proposed to be relocated.

Cells of car parking presently surround large format developments such as the Westfield Knox Shopping Centre, Council offices and other large commercial buildings along the north side of the highway. At present connections from education facilities and public reserves to the south and north of the precinct are not clearly defined. Pedestrian activity areas are established adjoining the shopping strip between Tyner Road and Lynn Avenue, and along the Knox Ozone precinct within the Westfield site.

Given the existence of the shared path along Blind Creek open space corridor (to the north) there is significant potential to encourage stronger pedestrian and bicycle access to the Activity Centre from the north. While to the south, Burwood Highway presents as a major physical and psychological barrier to pedestrian and bicycle access.



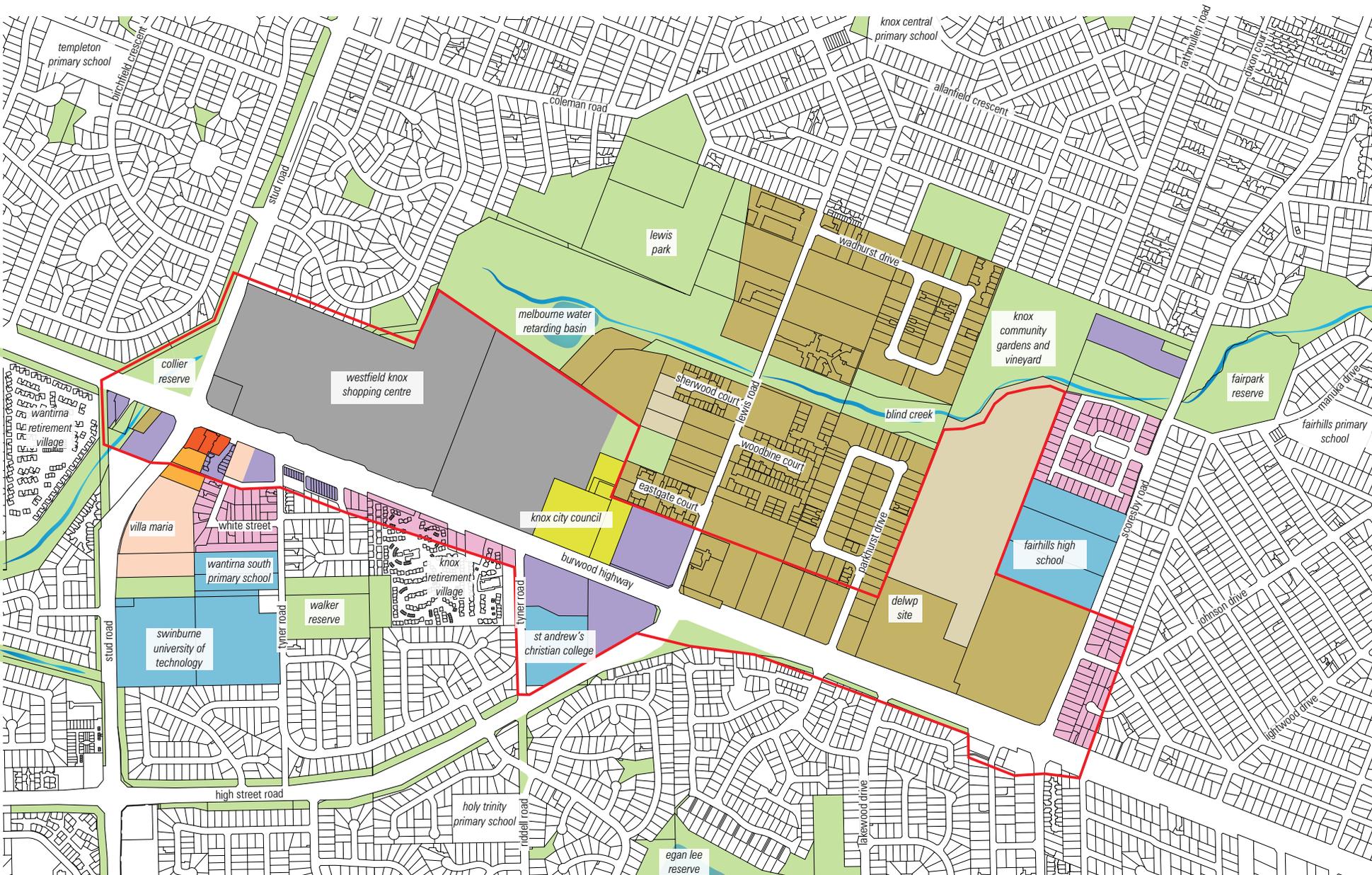
Figure 4 sets out the existing land use patterns which demonstrate a mix of different uses located in pockets along the highway corridor. The predominant land use is the retail hub of the Westfield Knox Shopping Centre whilst large tracts of industrial uses occupy the northern and western areas. The mix of uses extends to civic and education uses spread across the precinct.

The land use zones and overlays affecting the precinct are contained at appendix 2. A key distinction in the zoning is the provision of the Priority Development Zone 1 (PDZ1) to key parcels of land which front arterial roads and encourage a more intense use of the land. While, the Commercial 1 Zone (C1Z) within the 'core' of the centre (to both sides of Burwood Highway) encourages offices and complementary commercial uses, as well as residential at upper levels. Such zones provide opportunities for mixed uses which include residential. Mixed use development can assist in facilitating development which is well articulated, revitalises the public space and generates pedestrian activity throughout the day and evening.

figure 4

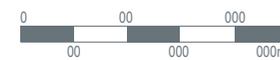
**Burwood Highway
Wantina South**

land use



legend

- subject site
- large format retail
- retail / commercial
- education
- industry
- vacant land
- high rise residential
- low - medium rise accommodation
- community facilities
- council office
- residential
- open space
- water course
- water retention area



Project Ref: 16.220
 Dwg No.: UDD-001
 Scale: 1:5000@A1
 Date: 08.09.16
 Revision: A

hansen partnership pty ltd
 melbourne | vietnam
 level 4 136 exhibition st
 melbourne vic 3000
 t 61 3 9654 8844 f 61 3 9654 8088
 e info@hansenpartnership.com.au
 w hansenpartnership.com.au



The preferred built form heights for the Knox Central Activity Centre were determined through a critical review of the heights contained within the KCUDF. A collaborative workshop with Council officers informed the Views and Vistas Study.

Figure 5 sets out an indicative elevation of the changes in building scale and form along the northern edge of Burwood Highway. Development should be responsive to the topography so that overall building heights will vary along the Burwood Highway corridor.

Figure 6 details the future built form, gateway sites and where feature forms are to be encouraged. Where buildings abut street intersections, development should wrap both street frontages from the highway frontage to the side street frontage, addressing the corner with detailed design treatments.

Feature forms should demarcate key corners through textured building details, building entries and a sense of address, and interesting roof profiles. Feature forms may also include building forms of up to 10 storeys.

The built form will express podium forms which seek to achieve a sense of human scale at street level, maintain sunlight to pedestrian spaces and streets, and provide for internal amenity.

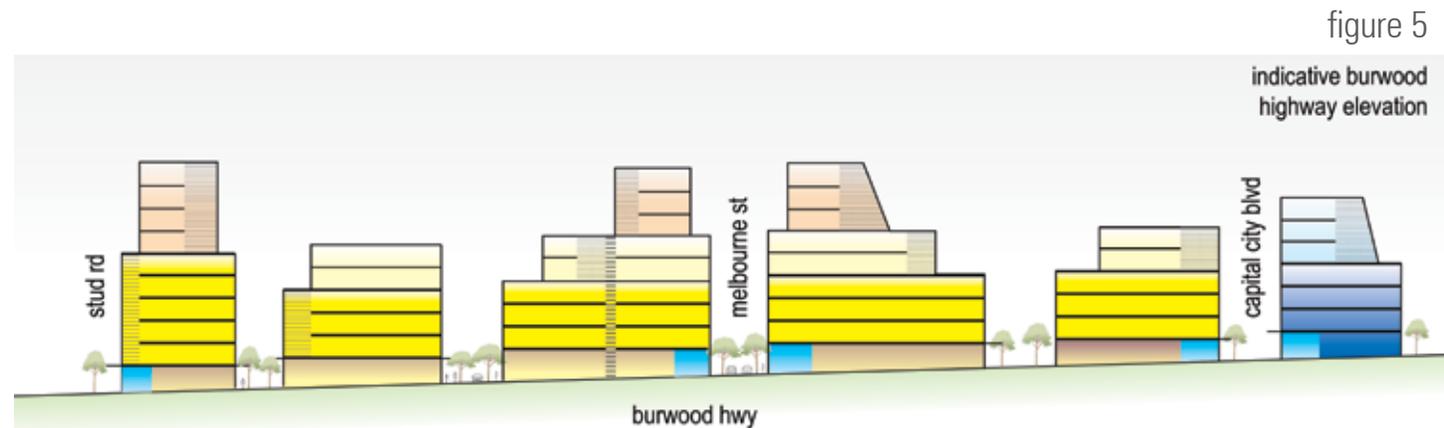


figure 5

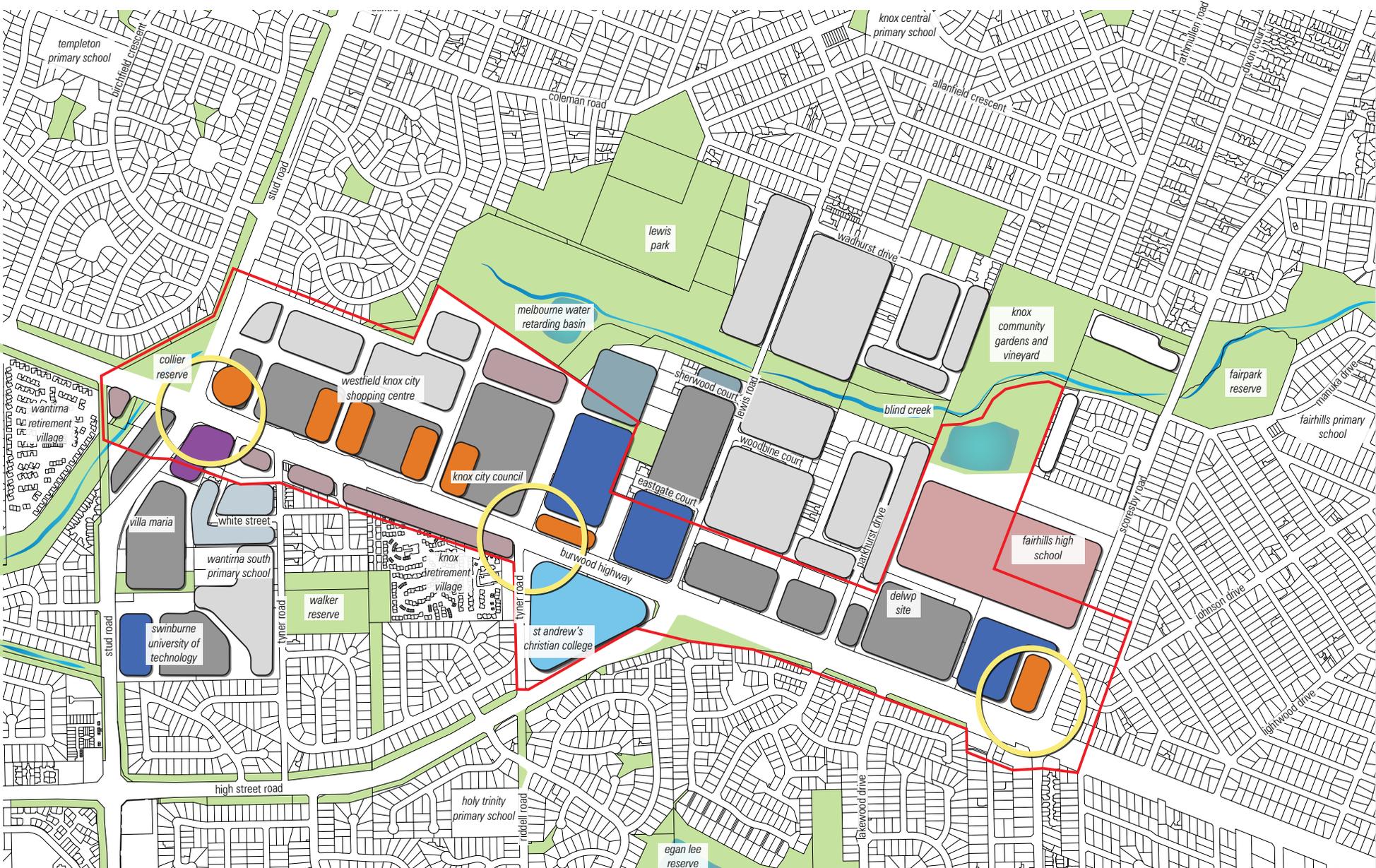
figure 6

**Burwood Highway
Wantirna South**

preferred built form heights

legend

- subject site 
- landmark treatment 
- 8m 2 storey residential 
- 9m 3 storey residential 
- 10m 3 storey residential 
- 12m 3 storey commercial / industrial 
- 18m 6 storey residential 
- 20m 5 storey commercial 
- 21m 7 storey residential 
- 24m 6 storey commercial 
- 28m 7 storey commercial 
- 34m 11 storey residential 
- 40m feature form 10 storey commercial 
- open space 
- water course 
- water retention area 



An analysis was undertaken of the existing road reserve width and profile through the Activity Centre. The analysis identified that the road corridor widths vary significantly through the study area from approximately 47m (between Capital City Boulevard and Lewis Road) to approximately 82m (between Lewis Road and Parkhurst Drive). It was considered important to provide a more consistent overall width and landscape presentation to the corridor, while addressing a number of inconsistencies caused by the provision of short sections of service road and development anomalies which project forward of other developments (refer figure 7).

Burwood Highway South and Commercial Core Precincts

The existing road reserve width and presentation is highly varied within the western section of the Burwood Highway. It currently ranges from a minimum width of approximately 47m up to approximately 78m.

Therefore, a 12m setback was defined along the southern side of Burwood Highway as it aligns with the existing 0m setback at 432-452 Burwood Highway, the 5m setback at 5 Tyner Road and, as well as the 12m setback to the Police Station, at 420 Burwood Highway. Other than the setbacks of the Kubix development a 12m setback would result in a more consistent separation between the existing Burwood Highway road profile and future built form edge. Also given the narrowing in the road width towards the western end of the Activity Centre it was considered appropriate to apply a 12m setback to the commercial core setback to the northern side of Burwood Highway. This would be sufficient to overcome the varied nature of the property line, which largely follows the kerbside, includes various entry and exit points, while also providing sufficient space for landscape provision.

Industrial Precinct

In this section of Burwood Highway (between Lewis Road and Scoresby Road) the existing property interface and built form setbacks are varied. There is a 20m landscape reserve to the Lewis Road corner, outside 551 Burwood Highway and the western portion of 557 Burwood Highway). Then moving eastwards is a section of service lane associated with the industrial precinct. In total the service lane provision is 12m wide.

Therefore, it was considered appropriate to apply an 8m setback from the northern extent of the service lane to create a consistent setback profile as currently achieved by the 20m wide Council landscape reserve.

Strategic Development Site

In relation to the DELWP site and underutilised land further to the east it is noted that there is an inconsistency between the property line and the existing fence line. The property line is approximately 12m to the North of the fenceline (within the land parcels) and aligns with the neighbouring property line to the west (at 605 Burwood Highway).

Therefore, consistent with the approach taken with the industrial precinct, it was considered appropriate to apply an 8m setback to result in a consistent future setback treatment along the northern side of Burwood Highway, between Lewis Road and Scoresby Road in order to widen the corridor to a more unified width.

Lewis Road – Mixed Use

Given the precinct's central to the Burwood Highway corridor within the Knox Central Activity Centre, its future mixed use designation, the existing road reserve width (approximately 47m) as well as the proposed setbacks to either side, which seek to create a more consistent presentation. It was considered appropriate to apply a 15m setback to the properties on the northern side of Burwood Highway, between Capital City Boulevard and Lewis Road.

burwood highway road reserve

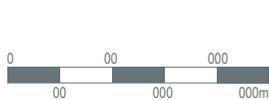
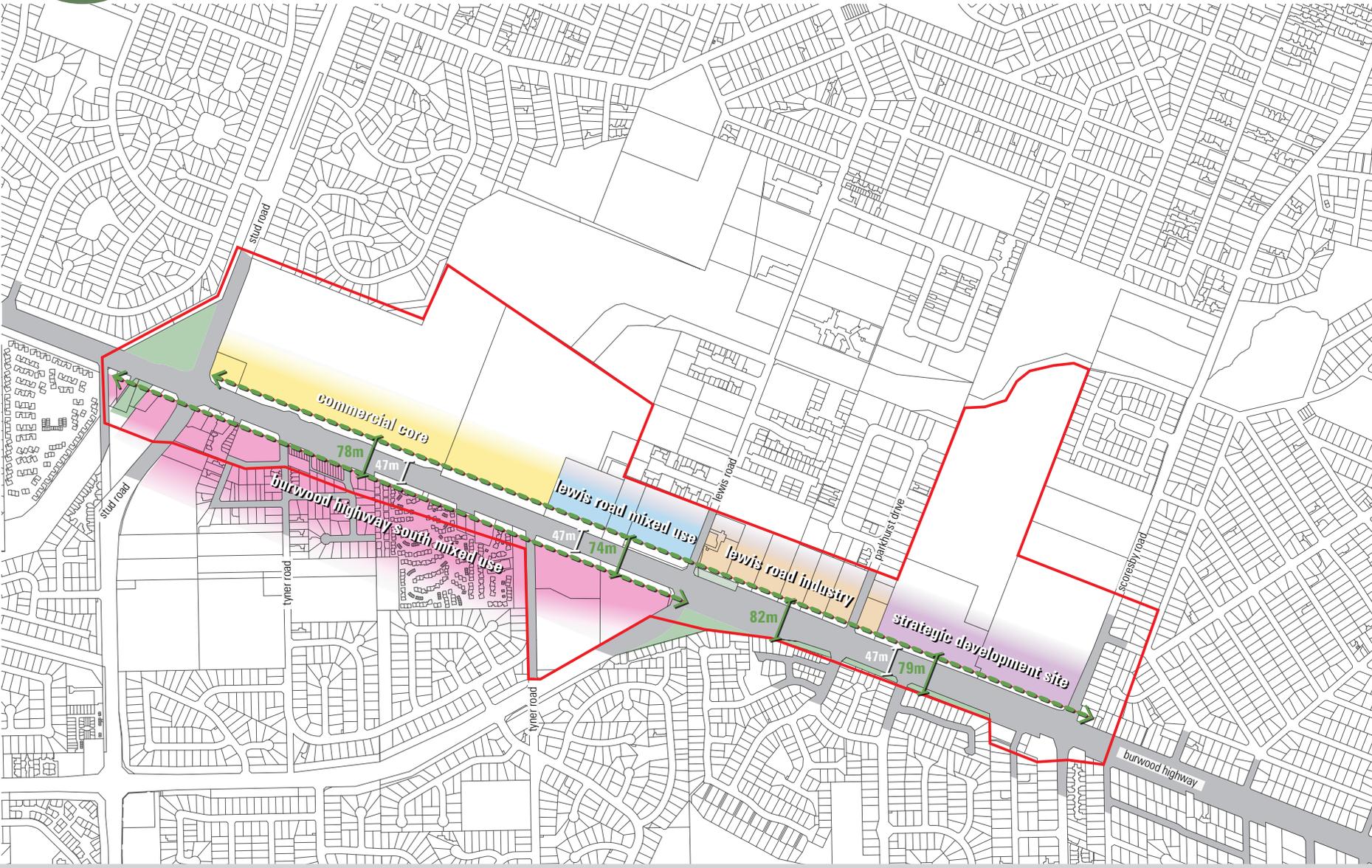
figure 7

Burwood Highway Wantirna South

road reserve setbacks

legend

- subject site
- vic roads reserve
- public open space
- proposed setback ↔
- existing setback
- proposed setback



Project Ref: 16.220
 Dwg No.: UDD-001
 Scale: 1:5000@A1
 Date: 30.08.16
 Revision: A

hansen partnership Pty Ltd
 melbourne | vietnam
 level 4 136 exhibition st
 melbourne vic 3000
 t 61 3 9654 8844 f 61 3 9654 8088
 e info@hansenpartnership.com.au
 w hansenpartnership.com.au

built-form profile

The preferred overall maximum building heights were tested and determined by the Views and Vistas Study. However, this study only identified maximum heights (and broad envelopes) based on the visual impact of such forms on the Dandenong Ranges from key vantage points.

The Burwood Highway Guidelines need to provide further detail as to how future buildings should mass within these overall envelopes and be further modulated and articulated into buildings which present proportionately and appropriately to the Burwood Highway corridor.

Given the broad nature of Burwood Highway as well as the 8-15m landscape setbacks sought, it was considered appropriate to encourage a minimum 4 storey streetwall profile, within the Activity Centre. This form was primarily determined to create a more intimate and pedestrian friendly scale of development at the streetscape edge.

Above the primary streetwall upper levels are encouraged, provided that they are setback at least 6m, behind the parapet, to create a clear visual distinction between the streetwall and upper levels.

Where, feature forms (up to 10 storeys) are sought to 'mark' key corners and entries into the Westfield parcel it was considered appropriate to increase the streetwall height to 6 storeys in order to retain the proportional relationship between the streetwall and upper levels. Rather than to encourage a different and 'sheer' rising tower built form typology. Such a tower outcome is not considered appropriate given the surrounding urban and broader metropolitan context.

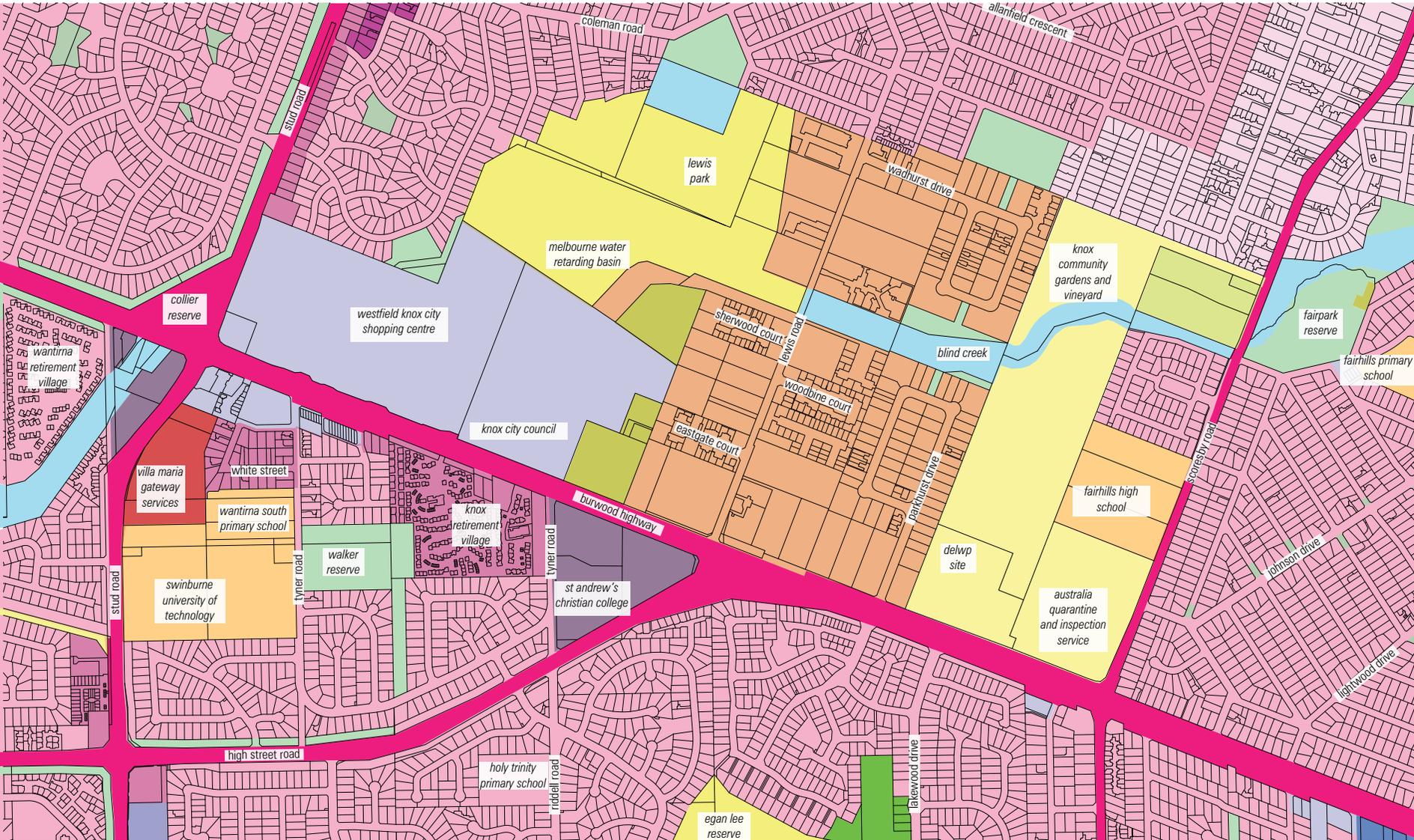






APPENDIX 2

existing zones



legend

- commercial zone 1 (CZ1)
- commercial zone 2 (CZ2)
- industrial zone 1 (IN1Z)
- priority development zone 1 (PDZ1)
- mixed use zone (MUZ)
- urban floodway zone (UFZ)
- special use zone 1 (SUZ1)
- public park and recreation zone (PPRZ)
- public use zone 1 (PUZ1)
- public use zone 2 (PUZ2)
- public use zone 6 (PUZ6)
- public use zone 7 (PUZ7)
- public conservation and resource zone (PCRZ)
- residential growth zone (RGZ1)
- general residential zone 1 (GRZ1)
- general residential zone 2 (GRZ2)
- general residential zone 3 (GRZ3)
- general residential zone 5 (GRZ5)
- road zone category 1



Project Ref: 16.220
 Dwg No.: UDD-001
 Scale: 1:5000@A1
 Date: 30.08.16
 Revision: A

hansen partnership pty ltd
 melbourne | vietnam
 level 4 136 exhibition st
 melbourne vic 3000
 t 61 3 9654 8844 f 61 3 9654 8088
 e info@hansenpartnership.com.au
 w hansenpartnership.com.au

existing overlays



planning scheme - overlays

legend

- DPO2
- LSIO
- VPO1
- VPO3
- VPO4
- SBO
- HO
- ES02



Project Ref: 16.220
 Dwg No.: UDD-001
 Scale: 1:5000@A1
 Date: 30.08.16
 Revision: A

hansen partnership pty ltd
 melbourne | vietnam
 level 4 136 exhibition st
 melbourne vic 3000
 t 61 3 9654 8844 f 61 3 9654 8088
 e info@hansenpartnership.com.au
 w hansenpartnership.com.au

