
Figure. 3.22a Existing Footpaths

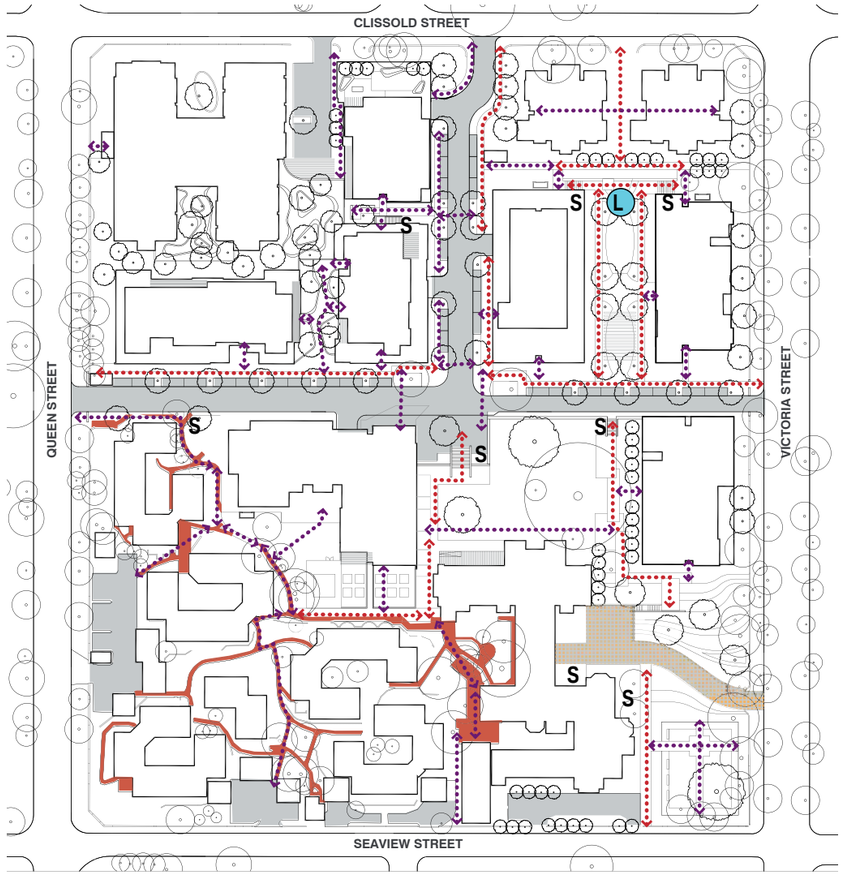


Figure. 3.22b Pedestrian Network

Existing internal streets and carpark

Existing pathways

Existing vehicular access

Legend

Shareway

External stairs

External lift

Existing pathways to be retained

Proposed major footpaths

Proposed minor footpaths

### 3.9.2 Pedestrian Links

The existing pedestrian circulation system across the site is convoluted. Neither the internal roadways nor pathways aid site legibility or address.

The rationalisation of the existing internal streets and vehicle entry points to create a simple east-west axis between Queen and Victoria Streets, connecting to a new north-south street and vehicle access off Clissold Street will assist greatly with site legibility.

Detailed consideration has been given to the pedestrian circulation system to ensure a solution that is accessible, convenient, comfortable and safe for all users. The pedestrian system included in the Concept Plan has been designed to encourage movement through the site and opportunities for socialising. The new path network provides a rational and legible network connecting residents to community facilities, outdoor recreation spaces, bus stops, services such as post boxes and bins, and to each other. New openings to the street allow public access through the site, and to the major community open spaces.

Design of the path network has aimed to integrate access for disabled into the main path of travel, minimising the reliance on 1:14 gradient ramps and convoluted switchbacks. Most paths are at a gradient of about 1:20 or flatter, making, where possible, a generous and comfortable path, where possible.

All buildings have an accessible entrance at ground floor. In places, a link through communal foyers in buildings makes use of a lift as a means of providing access within the constraint of relatively steep topographic conditions. It is also proposed to connect the existing south west quadrant, making the entire site accessible.

The pedestrian network is shown on Figure 3.22b. This represents a significant improvement to the existing convoluted pathway system as shown on Figure 3.22a.

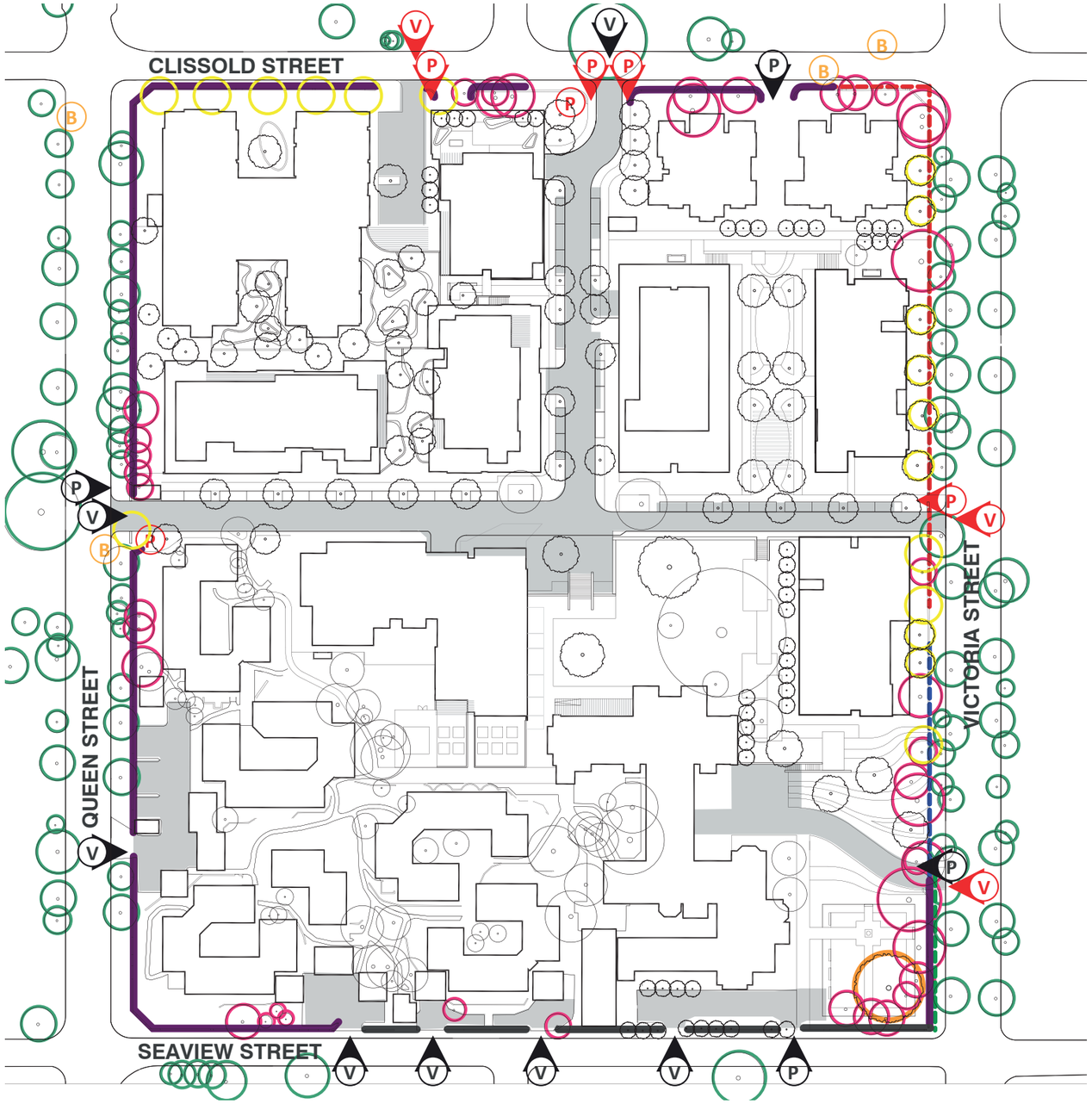


Figure. 3.23 Landscape Strategy

### 3.9.3 Public Domain Interface

The Concept Plan as modified retains and reinforces the strong public domain interface of walls, fences, gateways and boundary trees that define the block of the village within its framework of streets. Significant buildings and trees that 'mark' the village within its urban setting are retained and highlighted.

The strong character of the existing sandstone walls, and iron palisade fence and plinth will be reflected in the detailed design of new openings.

This strategy is shown on Figure 3.23 and includes the following initiatives:

- Retain major pedestrian and vehicular gateways on all streets;
- Relocate gateway on Clissold Street to align with main site link;
- Retail major pedestrian and vehicular gateways on all streets;
- Form a new gateway on Clissold Street for the new vehicle and pedestrian access to the care precinct;
- Relocate the gateway on Victoria Street to align with the new ceremonial entrance to the chapel and create a new shared vehicle and pedestrian access point;
- Make new pedestrian gates in the fence along Victoria Street to encourage activation of the street, improve pedestrian access to Glentworth House and heritage garden forecourt, and reveal views of the house;
- Ensure that there is a clearly defined mail collection area for each precinct;
- Retain and reinforce the boundary plantings, replace the existing Camphor Laurel over time with more suitable species, and thinning existing tree planting to reveal public views of heritage items.

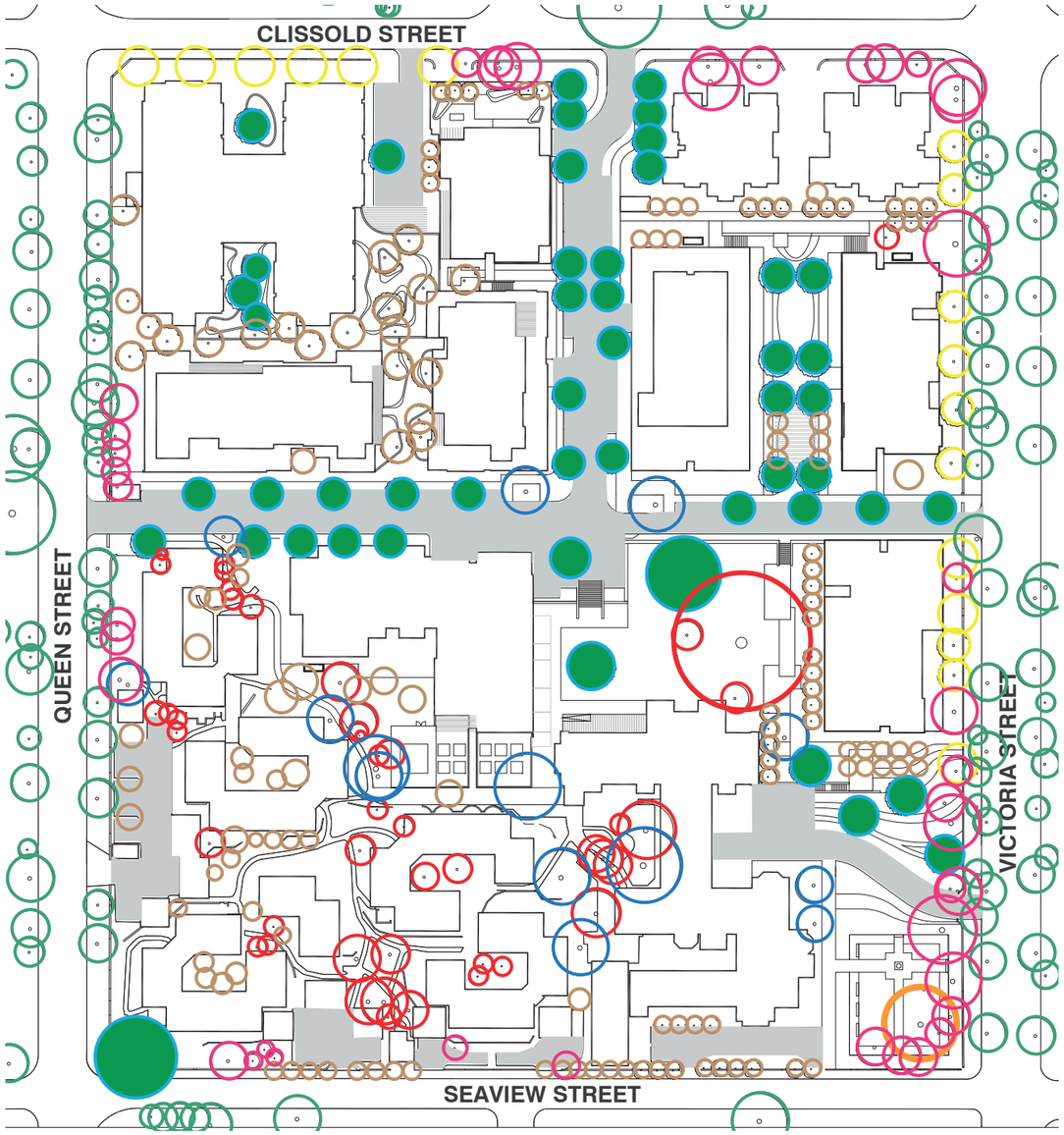


Figure. 3.24 Tree Strategy

### 3.9.4 Tree Strategy

There is a relatively good cover of existing trees over the site, which contributes to the character and quality of the surrounding streetscape, and mark the site within the locality, as well as creating a leafy character and shaded areas.

The Concept Plan as approved and as modified shows the removal of many existing site trees for a variety of reasons, including the impact of proposed buildings. The site does, however, contain many trees that are self seeded, in inappropriate locations, are considered to be weeds or environmental nuisance plants, are overcrowded or struggling to grow under the canopy of other trees, or are past their safe useful life expectancy. The removal of trees will occur gradually, with new tree planting being provided at each stage of development. This will mitigate the impact of tree removal so that the site will never have the appearance of being cleared of its tree cover. Reference should be made to the TreeIQ Arboricultural Impact Assessment for details of existing tree assessment and recommendations for retention or removal (Appendix N in Volume 3).

The planting strategy retains the key aims of the approved Concept Plan which are to:

- respect and enhance the character of the site, including the existing heritage values;
- respond to the scale of proposed buildings and site by reinforcing the framework of larger trees; and
- include gardens of domestic scale to enhance the residential character.

It is proposed that the detailed landscape design would create different experiences and recognisable spaces within the site by using a variety of different planting types, colours, textures, and scent; and using landscape elements such as furniture to identify a place or destination and reinforce the communal accessibility of the gardens.

The proposed tree planting will also recognise the contribution the site makes to the quality and character of the streetscape and neighbourhood.

The strategy is detailed briefly below, and illustrated in Figure 3.24:

- Respect and enhance the defining character of the village by retaining mature and significant trees where possible.
- Reinforce the framework of trees by including large growing, long life trees that will be visible from outside the site. These trees act as markers in the locality, and should also relate to the heritage values of the site. Suitable trees include: Australian rainforest trees such as Moreton Bay Figs *Ficus macrophylla*, Lilly Pilly *Syzygium luehmanni*, Weeping Water Gum *Waterhousia floribunda*, Firewheel Tree *Stenocarpus sinuatus*, Australian conifers such as Queensland Kauri *Agathis robusta*, and Queensland Pine *Araucaria cunninghamii* and palms such as Cabbage Tree Palm *Livistona australis* and Kentia Palm *Howea fosteriana*. The existing row of *Melaleuca quinquinervia* should be supplemented with the same species to replace the ones that will be removed. The recommended species have been modified from those described in the approved Concept Plan Environmental Assessment;
- Retain existing trees with lesser significance but providing amenity and contributing to the overall site character.
- Supplement the retained trees with smaller scale flowering trees that will provide shade and shelter, and contribute to the domestic scale of gardens. Suitable trees include Crepe Myrtle *Lagerstroemia indica*; Glory Bush *Tibouchina Alstonville;* small flowering gums, *Tristaniopsis laurina;* Bottlebrush *Callistemon citrinus* and Jacaranda *Jacaranda mimosifolia*.
- Remove all Environmental Nuisance plants over time, and replace with more suitable species. Retain significant and moderately significant trees at the edge of Glentworth House and the chapel, but remove undergrowth and weedy species to reveal views of the buildings and garden to the street.
- Plant trees along the boundary at Queen Street, particularly in the Care Precinct.

New trees are illustrated on the modified Concept Plan and should be considered preliminary, as work at a more detailed scale occurs at project application stage. The number to be planted is less than the number removed – this is not a product of reduced landscape space, but a deliberate design aim to promote long term plant health. Many existing trees are close planted, or have self sown under existing trees. In many places there are three or four canopies where one would be sufficient or expected. Trees well planted with enough room to grow will make considerably more amenity and visual impact.


Figure. 3.25 Major Landscape Spaces

### 3.9.5 Major Landscape Spaces Village Green

Under the modified Concept Plan, the Village Green remains the major public landscape space of Cardinal Freeman Village. The green occupies a prominent position in the Village, slightly elevated and backed by the Chapel building. It provides a curtilage to the Chapel, revealing views to the façade; and allows retention of important mature heritage trees. Some of the existing understorey vegetation will be removed to create a more open and usable space.

The Village Green will provide for flexibility of use, accommodating use by residents and visitors, including events and larger gatherings such as recitals. The west side of the green will interface with the pedestrian walkway from the new drop-off area and the outdoor area for the new community facilities. A boules court may be included, as well as gardens and seating areas.

### Glentworth House and Chapel Heritage Gardens

Rationalisation and relocation of living units allows the major part of the landscape curtilage of Glentworth House to be revealed and reinstated as gardens. The gardens will allow views to Glentworth House and the Chapel from Victoria Street, accommodated in part by removal of weedy growth along the Victoria Street boundary. The freeing up of this curtilage also allows reinstatement of the landscape banks on the eastern and northern sides of Glentworth House, forming a green podium to the building.

The Garden Forecourt will be a destination space that is publicly accessible and will be able to accommodate larger gatherings and events. The Garden will be accessible to residents and the public, with a new access gate formed on Victoria Street to give direct access. The Garden Forecourt should reflect the heritage values of the house, with the design kept simple with a combination of paving, lawn and planting, to interpret the former gardens.

All gardens are able to be irrigated using reclaimed stormwater.

### Western Garden

The Western Garden is located on the west side of the Chapel, on top of the proposed swimming pool. It will be accessed from the adjacent community facilities building and will provide a spill-out space. There will be a combination of lawn areas and seating areas enclosed by planting beds and accessed by pathways with small trees and/or trellis structures to provide shade.

### Courtyards

Courtyards are smaller scale, semi-private spaces that will allow for small gatherings and casual socialisation. The two major courtyard spaces are located between the two wings of the RACF and between buildings 5 and 6. Walls, fences or landscape structures will be used in combination with planting to define the entry points to these spaces and reinforce their semi-private nature. These spaces will accommodate both major and minor pathways, small paved seating and lawn areas, defined by planting. Small trees will be used along with landscape structures to provide shade. Planting will also be used to provide privacy to adjacent living units.

### Green Links

The pedestrian circulation system will be designed to be convenient, comfortable and safe for all users, but also to be a pleasure to use - to encourage movement through the site and opportunities for socialising. The pedestrian network will work with the internal streets to provide a legible network connecting residents to community facilities and other services, outdoor recreation spaces, the site entry points and to each other. The many openings to the street will allow public access through the site, and to the major community open spaces.

The pedestrian pathways will be designed as ‘Green links’, integrated into the design and responding to the character of the landscape spaces through which they pass. The width and alignment of pathways will reflect their hierarchy, with major links being wider and more direct in route than more minor ones. Planting will be used to reinforce the character and to provide visual interest and shade to green links.

Major pedestrian links shall be designed to be accessible walkways wherever possible, with gradients of about 1:20 or flatter, rather than ramps at 1:14 requiring convoluted switchbacks, handrails and tactile ground surface indicators.

### Residential Garden

The south-west part of the site will not be redeveloped, but it is important that it is still linked to the rest of the site and the adjacent streets, and that it reads as part of the village in terms of its landscape character. This precinct already has a more intimate and domestic character with smaller scale buildings and spaces reinforcing its private nature. It is proposed to improve the quality of the landscape through selective management of existing vegetation, replacement and additional planting, and the upgrade of pathways.

### Edge Conditions

The landscape design retains and reinforces the strong public domain interface of walls, fences, gateways and boundary trees that define the block of the site and ‘mark’ the village within its urban setting.

The strong character of the existing sandstone walls which dominate the Clissold and Queen Street frontages, and the iron palisade fence and plinth along the southern half of the Victoria Street frontage will be refl ected in the detailed design of new openings.


| | |
|---|---|
| TOTAL resident spaces | 282 |
| TOTAL visitor spaces | 48 |
| TOTAL staff spaces | 20 |
| TOTAL Loading dock areas | 1 |
| Time limited (staff or visitors) | 1 |
| Informal spaces | 2* |
| **TOTAL SPACES** | **354** |

Existing resident carparking at grade
Existing under cover resident carparking
Reconfigured resident carparking at grade
Visitor parking space at grade
Informal/unmarked car space
Loading bay (3.6 x 6m) or other service bays
Time limited parking space
Existing street or path
Re-configured internal stree
New shared zone
Proposed basement zone below ground
Re-located or new vehicle entry point
Existing main vehicle access point
Existing vehicle access point
Possible location for future vehicle entry points subject to future studies

Figure. 3.26 Access Strategy

## 3.10 Access and Parking

### 3.10.1 Access and Internal Circulation

The modifications to the approved Concept Plan include the following changes to access arrangements:

- The proposed east-west traffic arrangement is proposed to be maintained as per the approved Concept Plan, with two way traffic on Victoria Lane from Queen Street to the central core of the site, whilst retaining the one way entry from Victoria Street.
- Two access points are retained from Clissold Street as per the approved Concept Plan including Clissold Lane providing a connection from Clissold Street to Victoria Lane within the site.
- The proposed general speed limit of 25km/h continue to apply to the internal access roads, except at raised pedestrian crossings where a 10km/h “shared zone” speed limit shall apply.
- The modified Concept Plan includes a new ceremonial entrance to the Chapel and Glentworth House area for use for special functions such as funerals.

Other access principles remain the same and include:

- All localised short length access roads leading off the central spine roads and from Seaview Street shall be sign posted as 10km/h “shared zones”.
- Provide separate pedestrian paths along 25km/h access corridors and maximise pedestrian path integration within the site to various precincts and to frontage streets.
- Maintain pedestrian access integration throughout the site in order to strengthen and create a pedestrian dominant environment within the site. Maintain pedestrian linkages to bus stops within and on the frontages of the site in accordance with appropriate standards.
- Provide adequate facilities for service vehicles and ambulances. Kitchen and laundry areas will be served by dedicated on-site loading bays. The main office area will make allowance for a courier bay in a convenient location. There is no strict rate for the provision of loading bays for RACF and ILU’s.
- A minimum road carriageway width of 4.0m is required for these vehicles with a minimum headroom of 4.5m for fire appliance vehicles and 3.6m for ambulance vehicles. An area of at least 6m wide by 15m in length is desirable at or near hydrant locations for fire appliance vehicles.
- Waste collection points to be concentrated at perimeter locations to eliminate the needs for waste collection vehicles to enter the pedestrian ‘core’ of the site. Any waste collection by vehicles from the central pedestrian ‘core’ area of the site shall be restricted to smaller waste collection vehicle lengths.

Vehicle access points are shown on Figure 3.26.

Parts of the internal access roads are to be treated as “shared zones” (such as through the Village Green) with vehicles speeds restricted by signposting and traffic management controls to 10km/hr.

Proposed road geometry is described in the Civil Report prepared by by TTW contained in Appendix K of Volume 3.

### 3.10.2 Parking

There are no changes to the approved Concept Plan parking arrangements with:

- Car parking provided generally in accordance with SEPP (Housing For Seniors) and having regard to Department of Transport and RTA Guidelines;
- The parking layout is to be designed in accordance with AS2890.1-2004 (or better);
- Bicycle parking provision to comply with Ashfield Council’s DCP 2007;
- Motorcycle parking provision to comply with Ashfield Council’s DCP 2007 which specifies that for sites containing 25 or more car parking spaces at the rate of 1 space per 25 car parking spaces in a communal area accessible to residents/staff/visitors or other users of the parking facility. Motorcycle parking spaces are to be provided with the dimensions of 2.5m by 1.3m Calculations are to be rounded up or down to the nearest whole number. In this particular case residents are unlikely to need motorcycle parking provision, however, some provision for staff and visitors should be provided.

## 3.11 Accessibility

No changes to the accessibility principles are proposed. These principles are:

- To provide continuous wheelchair accessible paths of travel from site entrances to all buildings and amenities in accordance with AS1428.1;
- Pathways shall be 1500mm minimum width and provide “passing areas: of 1800mm width at frequent locations for convenient access around the site;
- Where lifts form part of “common domain” continuous accessible paths of travel the lifts shall be directly accessible via external access points to facilitate easy access and avoid “access control devices”;
- To provide wheelchair access to outdoor recreational areas to enable inclusive access;
- Where shared accessways exist the traffic control devices shall facilitate pedestrian right of way priority;
- Where stairways will be provided in addition to the wheelchair accessible routes the stairs shall be designed in accordance with AS1428.1;
- Apartments shall be designed to comply with Schedule 3 of the SEPP (2004) Housing for Seniors or People with a Disability;
- Resident private car parking and 10% of visitor shall be designed in accordance with the accessibility requirements of AS2890.1 and Schedule 3 of the SEPP 2004 Housing for Seniors or People with a Disability;
- Residential Aged Care Facility shall be designed in accordance with AS1428.1 where applicable by Part D3 of the BCA to satisfy the SEPP (2004) Housing for Seniors or People with a Disability;
- Communal facilities shall be designed in accordance with AS1428.1 as a minimum and AS1428.2 where possible to satisfy Schedule 3 of the SEPP (2004) Housing for Seniors or People with a Disability;
- New wayfinding signage shall be provided throughout the Cardinal Freeman Village to enable appropriate access for residents and visitors to the site, including Village maps at principal entrances and key facilities within the site;
- Outdoor lighting of pedestrian pathways shall be upgraded to facilitate safe pedestrian access around the site.

External lighting will be provided in accordance with the approved Concept Plan.

It is proposed that subsequent project applications will be consistent with these principles.


Figure. 3.27 Accessibility


Figure. 3.28 Water Sensitive Urban Design Strategy

Nutrient filtration zone
Rainwater tank
On site detention
Sewer main connection and water meter to existing S-W Precinct
Surface run-off
Hydrant Line
Sewer
Existing street drainage

1 Existing street drainage upgrades to accommodate revised road alignment.
2 New water, gas and fire hydrant services extended from Victoria Street along re-aligned Victoria Lane.
3 Village Green Precinct to connect to existing sewer and stormwater infrastructure in re-aligned Clissold Lane.
4 Upstream flows to be deflected around the Village Green Precinct to reflect existing condition flows to continue down Clissold Lane to Clissold Street to reflect existing condition.
5 Approximate location for OSD and rainwater harvesting tanks and plant.
6 Approximate location for rainwater harvesting.
7 Approximate location of sewer main connection and water meter serving the S-W Precinct.
8 Water, gas, and hydrant service extends from terminated points.
9 New stormwater line provided down re-aligned Clissold Lane for OSD in Village Green Precinct and connection to Council infrastructure in Clissold Street in accordance with existing condition.
10 Approximate location for OSD and rainwater harvesting outlet extends to existing connection in Clissold Street.
11 New Care Precinct connection to existing Sewer main.
12 Existing gas and water meter connection is retained if Care Precinct is separated from remainder of site.

## 3.12 Safer by Design

The modified Concept Plan continues to maximise opportunities for increased safety and crime prevention through the site through the following passive design strategies:

- Buildings are to be designed to provide casual surveillance of public and internal streets, pathways and common garden areas;
- Footpaths, landscaped areas and driveways will be designed to provide opportunities for surveillance and allow safe movement of residents around the site;
- High walls around residential buildings and parking structures which obstruct views into the development will be minimised;
- Dwelling and building entries are to be well lit and visible from the pathways on public or internal streets;
- Shared entries should serve a minimum number of dwellings and be lockable, with controlled access operated from within each dwelling;
- The demarcation between public, communal and private areas is to be clearly recognisable, throughout the site;
- All visitor parking is to be located on the internal streets with clear lines of sight.
- Perimeter fences and walls will be retained with entrances clearly marked providing a clear distinction between the public domain (streets) and the site.

Additionally, the following active systems will be in place to complement the passive strategies:

- ILU buildings are to have adequate lighting in common areas, stairwells and lifts;
- CPTED principled security lighting to ameliorate any potentially furtive spaces;
- Secure car parking is to be provided in the basements of ILU buildings for residents;
- On-site 24hr security staff (based in the RACF) is to be provided;
- Electronic access control to ILU building foyers;
- Electronic proximity reader to access underground car parks;
- Video intercom to ILUs;
- CPTED and SEPP HSPD compliant landscape lighting strategy;
- CCTV monitoring to village entries;
- Alarms integrated with the pendant/call system supplied to all residents (eg doctor's safety line or similar).

A Crime Risk Assessment review has been undertaken and is contained in Appendix C of Volume 3.

## 3.13 Servicing Strategies

The approved Concept Plan includes strategies for the provision of services to the development envisaged under the Concept Plan. These remain unchanged and have been amended to reflect the changed building layouts and are described below.

### 3.13.1 Stormwater Management Strategy Water Quantity

Strategies for managing stormwater on the site are presented in the Civil Report prepared by Taylor Thomson Whitting (NSW) Pty Ltd contained in Appendix K of Volume 3. This reflects modifications to the strategy in accordance with the modifications to the approved Concept Plan. The basic servicing strategies remain the same and have been adjusted to suit the new building layout.

The site is currently serviced by a considerable piped drainage network and overland flow paths of varying age, type and condition. Most of those inspected have been found to be in satisfactory condition.

The site survey also shows a 525mm pipe running along the internal roads and connecting to a Council pit on the South side of the Clissold Street – Williams Street intersection.

Inquiries to Council confirmed that this would be their preferred point connection for the site stormwater drainage system. Council also indicated that only minor connections to other Council drainage systems (eg. Queen Street) can be accommodated. A 300mm pipe was also found running through the north-eastern portion of the site and connecting into the 525mm pipe just before the Clissold Street connection. This pipe will eventually be demolished and replaced by a new piped drainage system. Various smaller drainage pipes connect into these two main lines described above, servicing each building and open areas.

Overland flows around the southern portions of the site fall towards the current East-West Street which then drains into the current North-South Street. It eventually finds its way to the Clissold Street car park entry where it is joined by overland flows from the north-eastern and north-western portions of the site as it all flows into Williams Street.

The Concept Plan seeks to improve the amount of landscaped area and useful open spaces on the site and is not expected to lead to any significant increase in impervious area. The stormwater drainage system will be designed using the common practice of providing separate minor and major drainage systems to accommodate the full range of storm events up to the 1:100yr ARI. The minor system will generally be in the form of a pit and pipe drainage network and shall be designed for storms up to the 1:20yr ARI. The major system will generally be in the form landscaped swales, channels, and roads, creating a network of overland flow paths to safely convey runoff in excess of the minor system's capacity (with allowances for blockage) up to the 1:100yr ARI storm event.

It is proposed to retain most of the existing 525mm pipe where possible although some diversions may be required where it will be affected by proposed redevelopment works.

Other existing pipes will also be retained where possible although most of the smaller pipe networks, particularly those servicing buildings that are going to be demolished, will be replaced with a new pipe network suitable for the redeveloped site.

An On-Site Detention (OSD) system shall be provided for each redevelopment stage of the site in order to ensure that the volume of stormwater leaving the site does not adversely affect downstream properties. These OSD systems shall be designed in accordance with the requirements of Council's Stormwater Management Code.

The impervious areas of the approved Concept Plan have been compared with the modified Concept Plan which indicated as follows:

- the revised layout does not change additional impervious area compared to the approved development and the previously approved OSD storage of 63m³ is proposed for the Village Precinct;
- the revised layout does not change additional impervious area compared to the approved development and the previously approved OSD storage of 132m³ is proposed for the Care Precinct. The OSD is proposed to be provided in two locations, 62m³ at RACV building and 70m³ at Building 2;
- no OSD storage is proposed for the reminder of the development.

The OSD tank storages are shown conceptually on the drawings being toward the lower side of the respective precinct, generally adjacent/combined with rainwater tanks incorporated inside the underground parking area.

#### Water Quality

WSUD principles are incorporated in various design elements of the proposed civil works. Rainwater harvesting systems, buffer strips, vegetated swales, rain gardens and permeable pavers are to be implemented where possible. OSD systems will be used to reduce peak flows but also the integrated trash screens will reduce gross pollutants. Use of litter baskets on individual pits versus end of line GPT is to be considered to provide the most maintenance/cost effective system. The aim of the above measures is to provide treatment at the source which is the preferred and the most effective method for the whole treatment train.

#### Rainwater Harvesting

It is proposed to retain roof runoff in rainwater tanks to be used for toilet flushing, landscape irrigation, and wash down facilities for the delivery docks.

#### Erosion and Sediment Controls

Erosion and sediment controls will be provided during the construction phase in accordance with Council guidelines.


Figure. 3.29 Hydraulics Strategy

- Nutrient filtration zone
- Surface water from carpark - connection to existing lines
- Surface water line to filtration
- Surface water run-off
- OSD
- Rainwater tank
- Roof water for re-use on landscape
- Rainwater reticulated for toilet flushing
- Roof gutters
- Existing rainwater reticulated for toilet flushing to be retained
- Existing roof gutters to be retained

### Water Sensitive Urban Design

Water Sensitive Urban Design (WSUD) principles have been incorporated in the various design elements of the proposed civil infrastructure – from construction to staged commissioning and full operation. Following is a summary of the proposed measures.

| WSUD | Design Response |
|---|---|
| Permeable/porous pavements | Some permeable concrete paving may be used for light trafficked and non-trafficable pavements to increase site surface permeability and improve stormwater drainage quality. |
| Water and soil management compliance | Stormwater drainage, sediment and erosion management measures have been designed in accordance with the intent of Ashfield Council's design guidelines. |
| Water quality management | Measures such a gross pollutant sediment traps, trash screens and pit litter baskets shall be incorporated in the design of civil infrastructure to remove gross litter, sediment and other pollutants from stormwater prior to discharge into the downstream drainage systems. |
| On-site Stormwater Detention systems | OSD systems will be used to reduce the peak stormwater flows being discharged into the downstream drainage systems and watercourses and help reduce the load on council's drainage systems and flooding downstream. |
| Rainwater re-use tanks | Rainwater reuse tanks will be used to store roof runoff for use in landscape irrigation and sanitary flushing resulting in an overall reduction to the volume of stormwater being discharged into the downstream drainage systems and water courses. |
| Sediment and Erosion Management | Various sediment and erosion control measures will be provided to suit the requirements of each application stage. |

## 3.13.2 Hydraulic Services

There are no changes to the Hydraulic services strategy for the site. The strategy aims to rationalise the existing services on the site and provide a more efficient distribution system.

## 3.13.3 Energy

### Electricity

A revision of the strategy for upgrading electrical services on the site has been prepare by Jim Hatz & Associates based on the modified Concept Plan (Appendix Q of Volume 3). The servicing strategy remains unchanged as is described as follows.

The existing site is currently served by 5 independent electrical feeds of varying capacities from Energy Australia's street network. While these street feeds are adequate to service the current site needs they are not considered adequate to accommodate the increased electrical load requirements for the redevelopment site.

The redevelopment site is to be served by two 1,000KVA substations strategically positioned at the northern and southern parts of the site. These will replace the 5 independent low voltage feeds that currently service the site.

Each new substation will also have a new main switchboard associated with it for the distribution of power throughout its respective half of the site. New main switchboards will be equipped with Supply Authorities metering, load monitoring devices, bulk power factor correction and surge protection equipment.

The substation and its associated main switchboard at the northern end of the site has recently been established with the on-going requirement for one additional substation. This substation will be relocated to integrate with the emerging design and stormwater management system.

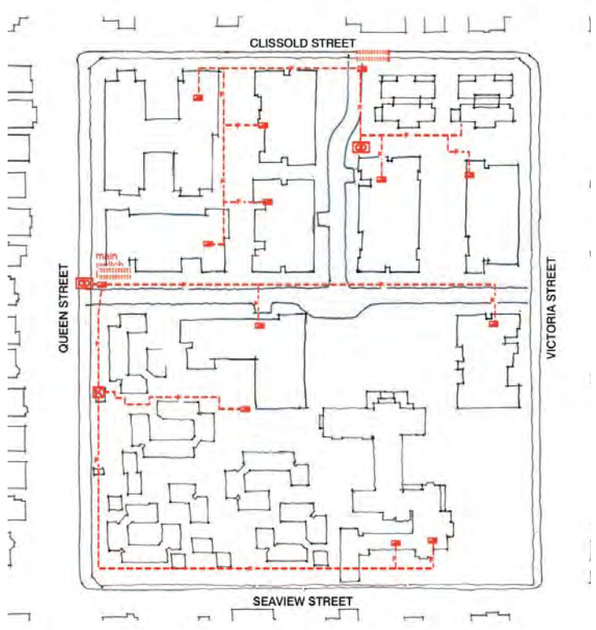


Figure. 3.30 Electrical Strategy

### Gas

Gas mains are located in Victoria and Queen Streets. A number of gas meters are located around the site to serve the various buildings and plant. Gas will be extended to the site from existing supplies in the adjoining streets.

## 3.13.4 Communications and Security

The is no change to communications and security strategies for the site. These are as follows.

### Communications

The current telecommunications network throughout the Village is convoluted, antiquated and not reliable. There is little or no evidence of any structured data cabling system. It is proposed that the Village will be served from a consolidated Campus Distributor (CD) ideally located close to the geographical centre of the Village. The Campus Distributor will typically house the following:

- Telephone main distribution frame / Telstra fibre optic cabinet;
- Village PABX;
- Security system head end;
- IT servers, hubs, routers etc; and
- Other miscellaneous telecommunications and electronic equipment.

All critical equipment within the Campus Distributor will be protected and supported by appropriately sized Uninterruptable Power Supplies (UPS).

All new seniors apartments will be wired and capable (Mode 3) of accepting independently managed emergency call facilities.

### Security

It is proposed that a networked security system will be introduced to the Village consisting of the following facilities:

- Electronic access control of select doors and gates (card readers, electric strikes, reed switches etc);
- Movement detection security;
- Select fixed duress alarm push buttons; and
- Back to base 24hr monitoring

It is proposed that a robust yet simple security system such as Concept 4000 would be implemented throughout the Village. It is further proposed that the head end of this system will be established as a part of the RACF construction and be housed within the Campus Distributor. Each building developed on the site will be equipped with a local Data Gathering Panel (DGP) and will be linked back to the head end via LAN cabling. LAN cabling will utilize the telecommunications conduit / pit network.

A comprehensive Closed Circuit Television (CCTV) will be implemented throughout the RACF for security of Village residents and staff as well as other key locations in the greater Village (extent and location of CCTV to be determined at the detailed design of subsequent stages).

It is proposed that a new and comprehensive fire detection and Building Occupant Warning System (BOWS) will be implemented throughout the Village complying with the requirements of the Building Code of Australia and AS1670.1.

### 3.13.5 Waste Management Strategy

The Waste Management Strategy for the operation of Cardinal Freeman Villages remains consistent with the approved Waste Management Strategy, provided at Appendix I of Volume 3, with the exception of the revised Waste Management Plan diagram at Figure 3.31 to reflect the revised building layout.

The current and proposed waste management practice for the ILUs relies on the Council managed collection system utilised by all residential dwellings within the Ashfield Local Government Area (LGA). Nine consolidated bin enclosures for ILU residents are provided around the perimeter of the site, directly adjacent to each of the four roads that bound the site. Existing bin storage areas are located near vehicular and pedestrian entrances to the Village. In the proposed ILU buildings garbage enclosures are provided in the basement with access via the lifts.

Residents are responsible for depositing general and recycling waste in the closest bin enclosure or garbage room to their dwelling. Grounds staff maintain the cleanliness of the bin enclosures and are responsible for transport of bins kerbside for collection and returning them to the enclosures.

Resident's general waste is collected by Council's waste contractor on a weekly basis (currently Mondays), while recycled waste is collected fortnightly. Resident's recycle waste in accordance with Ashfield Council's recycling. Signage is provided within each bin enclosure or garbage room to guide recycling practices and residents are reminded of protocols at resident meetings.

Currently, all commercial and clinical waste from the nursing home and other communal facilities is managed by Aevum Ltd (Stockland Developments Pty Ltd), independent of Council's residential collection system. A specialised waste management contract with a private contractor, Veolia, is currently in place to manage and dispose of general waste, putrescible waste, clinical waste, paper and comingled recyclables. The current management plan requires that an 8.8m medium rigid vehicle (MRV) must enter the site to access the garbage room

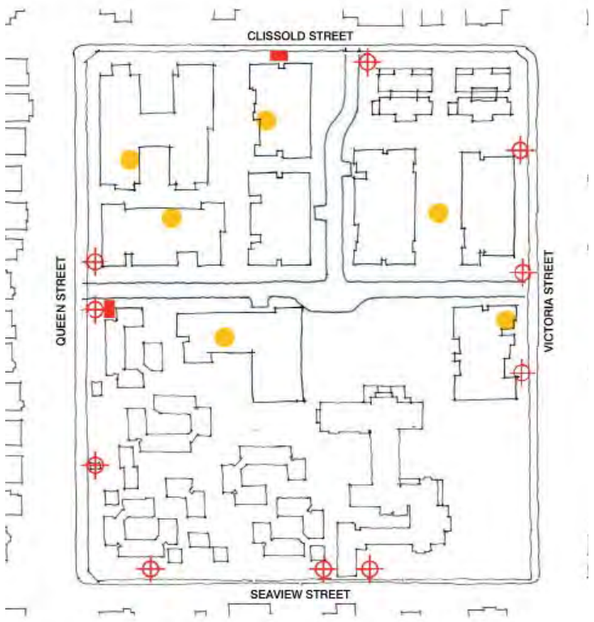


Figure. 3.31 Site Servicing Strategy

#### Independent Living Units

The Concept Plan waste management strategy for ILUs builds upon the existing successful ILU resident waste management strategy. Localised bin enclosures providing general and recycled waste bins will be provided either within or adjacent to new buildings.

In addition, the consolidation of residential bin storage points will improve efficiency of collection by Council. The strategy includes:

- localised bin enclosures to each new senior apartment block for general waste and recycling;
- operational management processes utilising Aevum Ltd (Stockland Developments Pty Ltd) grounds staff to transfer waste from localised storage areas to consolidated bin storage areas at the perimeter of the Village;
- Streamline current bin collection system by consolidating bin storage locations to increase operational efficiency;
- Simplify Council's waste collection process by consolidating perimeter bin enclosures to reduce the number of pick up points;
- Progressively expand storage to accommodate increased capacity requirements at each stage.

#### Residential Aged Care Facility and Commercial Waste Management Strategy

Provision is made for functional, consolidated waste storage areas that are convenient for staff access and improve operational efficiency. Future storage areas will be located directly adjacent to or beneath the buildings that generate the highest amount of commercial and clinical waste. It is envisaged that a consolidated waste management hard stand areas will be provided in the Residential Aged Care Facility (RACF) loading dock. Each ILU is provided with a garbage room in the basement parking area. The strategy includes:

- Consolidated waste storage areas to simplify waste collection process and improve efficiency;
- Locating consolidated waste storage areas proximate to access roads;
- Implementing alternate vehicle access plan to negate through fare access by service vehicles;
- Limiting services vehicle access to small rigid vehicles (SRV) to improve resident amenity and safety;
- Designing internalised waste storage areas to provide visual screening and adequate ventilation to minimise intrusion on resident and staff amenity;
- Consulting a waste management service provider throughout the design process to ensure compliance with vehicle access requirements.

#### Recycling Initiatives

All kitchens and communal laundries will be provided with facilities that enable waste to be divided and sorted into different waste streams to encourage the composting and recycling of materials. Each bin enclosure or waste collection area will include sign posting to clearly indicate treatment of recyclables.

A landscaped area or areas will be provided for on-site composting and potentially a worm farm.

### 3.13.6 Environmental Sustainability

The ESD Report prepared by Cundall (see Appendix L in Volume 3) proposes an integrated approach to ESD for the Concept Plan and proposes the following key strategies:-

- Creation of village environment to maximise the developments positive impact on the community as a whole;
- Minimisation of car parking and implementation of initiatives to encourage the alternative means of transport;
- Passive building design;
- Efficient building services;
- Water efficient tapware, toilets and appliances;
- Centralised Solar Hot Water (Note: this is proposed only to be installed in larger unit blocks that are capable of achieving critical mass for efficient energy capture and payback periods. To be assessed at each detailed project stage);
- Rainwater Harvesting;
- On site stormwater detention;
- Consideration to material selection and specification ;

Implementation of environmental and waste management policies.

ESD initiatives form part of building design requirements and servicing strategies under the Concept Plan.

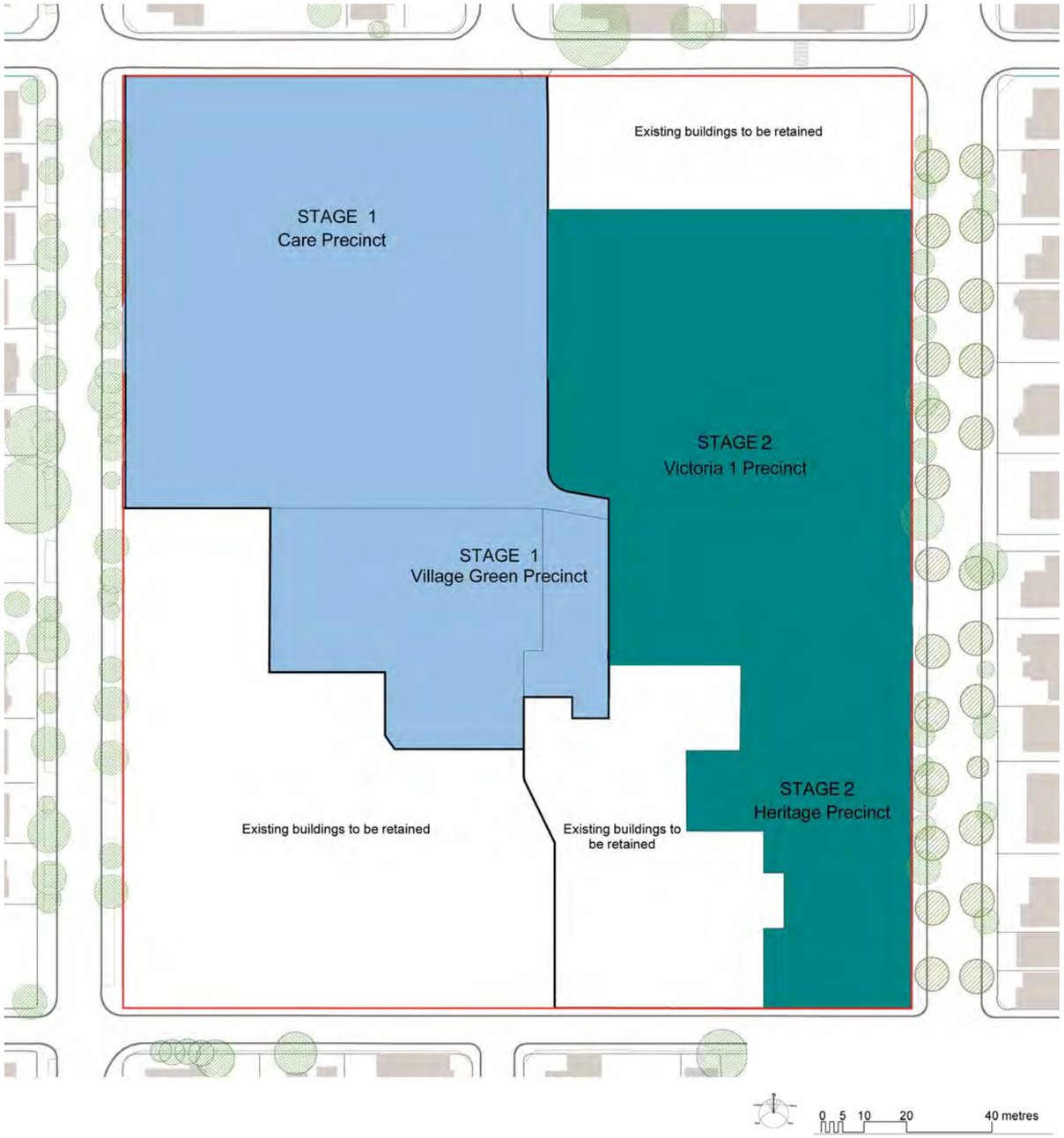


Figure. 3.32 Proposed Construction Staging

## 3.14 Construction Staging and Management Strategy

### 3.14.1 Introduction

Minimising the potential impact of redevelopment on existing residents and services has been a key driver of the development staging and sequencing. It is recognized that development will occur progressively whilst existing residents continue to live at the village. Thus it is important that this process is managed with construction carefully controlled so that the Village will continue to operate and residents retain access to community facilities and services.

There are four main elements to construction management:

- Staging and managing works in a manner that limits the extent of interruption to the village requiring discrete packages of work with impacts limited to a discrete part of the site enabling the remainder of the site to continue to operate effectively;
- Maintaining access to community facilities and services throughout construction;
- Controlling construction activities to minimize impacts on the residential amenity of existing residents;
- Consultation with existing residents so that they are fully aware and informed of activities and have clear lines of communication with construction managers to raise issues during the construction process and have these issues addressed.

It is noted that in forming the opinion that the refurbishment and expansion of the Village is development of a major project for which the Minister is the approval authority, the then Minister for Planning, Kristina Keneally, raised concern regarding the potential impact of the redevelopment on existing residents and services during the period of redevelopment. The Minister requested a detailed staging plan indicating how housing and services can continue to be provided during the redevelopment.

### 3.14.2 Development Staging Plan

Construction management concepts for the project have been modified to reflect the modifications to the staging program. These are described in the Construction Management Plan prepared by epm Projects Pty Ltd ("EPM") contained in Appendix H of Volume 3. This CMP is indicative only. The CMP is to be updated during the detailed design phase and prior to construction commencing. The following construction staging strategy is proposed for this application (Figure 3.32).

It is proposed that the development will occur in two discrete and manageable stages.

Under the approved Concept Plan, the first precinct constructed was to be the Village Green Precinct followed by the Care Precinct. The Project Approval allows development in these precincts.

In discussion with the residents, a change to the staging program is proposed. The RACF will now be constructed first followed by the ILUs adjacent to the RACF (Buildings 2 and 3). This will then be followed by Buildings 1 and 4 and part of the Village Green.

This will provide for the earlier opening of the new RACF.

The construction program continues the process of progressive improvement and redevelopment of the Village that took place during the 1970s and 1980s.program is proposed. The RACF will now be constructed first followed by the ILUs adjacent to the RACF (Buildings 1, 2 and 3). This will then be followed by Building 4 and the Village Green.

This will provide for the earlier opening of the new RACF.

The construction program continues the process of progressive improvement and redevelopment of the Village that took place during the 1970s and 1980s.

## Stage 1 Project Approval Development

Stage 1 will be constructed in the following order of priority:

- RACF
- Buildings 2 & 3
- Building 1
- Building 4 and Village Green

The construction of the RACF and Buildings 2 and 3 enables construction activity to be confined generally to the north west quadrant and enables the construction of the RACF and the immediate ILU buildings with minimal construction activity throughout the remainder of the Village.

This will then be followed by the Buildings 1 and 4 and part of the proposed village green area and includes the proposed new community facilities.

The existing east-west through-site roadway will be upgraded and realigned and named Victoria Lane, and complemented by the construction of a temporary north-south central spine road. This road will be constructed from Queen Street to part way through the site to the new porte cochere area of Building 4.

The end of this stage of construction will see the completion of all development approved under the modified Project Approval.

## Stage 2 Buildings 5, 6 and 7

The approved Concept Plan envisaged the remainder of site developed over 3 stages generally progressing from north to south along Victoria Street. It is now proposed to complete these buildings in one stage with significant reduction in the overall construction timetable. The existing hostel and ILUs will be demolished and three new ILU buildings will be constructed, two to address Victoria Street and one to address the new Clissold Lane and Village Green.

This will bring forward the improvement to the garden setting for Glentworth House providing a second significant communal garden space. It will also reduce the construction timeframe.


Figure. 3.33a Context After Stage 1 Development


Figure. 3.33b Site Context After Concept Plan Development

### 3.14.3 Resident Relocation Plan & Access to Housing

A key element of construction management and staging is to manage relocation of existing residents. This involves a number of elements including:

- Communication and consultation with with village residents;
- Careful coordination of staging and development activity;
- Resident information systems and the provision of timely information;
- Processes for relocating residents and the provision of any necessary assistance and information.

A revised Residential Relocation Plan has been prepared reflecting the changes to staging however retaining the key elements of the plan as approved (Appendix A in Volume 3).

The construction staging program has been designed to minimise resident relocation and to ensure it can happen in a timely and harmonious manner.

### 3.14.4 Resident Access to Facilities and Services

At the completion of the Village Green Precinct, residents will have access to a wide range of improved community facilities and services and open space. Disabled access and vehicular access to the site will be improved and services including power, communications, water, sewerage and drainage upgraded to improve the reliability of the supply. This includes access to letterboxes, garbage handling areas and bus stops external to the site. This area will then be separate from all other construction zones and can provide continuity of service and a community focus for the Village.

During the construction of the Village Green development, temporary facilities will be provided as required together with temporary access to existing and temporary facilities and services. The details will be fully documented in the updated Construction Management Plan in consultation with the appointed builder and with input from the residents prior to construction commencing.

### 3.14.5 Consultation

Aevum Ltd (Stockland Developments Pty Ltd) is committed to open and transparent communication with both village residents and adjoining community residents. Open and ongoing communication with residents and their families will help ensure the success of the redevelopment by ensuring residents are notified and consulted about all construction works. Accordingly, Aevum Ltd (Stockland Developments Pty Ltd) propose to:

- Prepare and distribute regular resident updates about construction timing, delays and upcoming works to village residents and residents within a defined catchment of adjoining properties. Updates will include:
- Easy-to-read large print resident newsletters;
- Posters with updates on construction progress and planned works;
- A5 flyers;
- Inform the Village Manager of all construction activities and associated issues;
- Conduct meetings with residents in each building prior to construction works commencing (starting with Block E) to provide the opportunity for one-on-one discussions with residents and family members about key issues and relocation;
- Ensure willingness to comply with established community relations protocols is written into contracts for all appointed construction contractors;
- Continue to meet with the Village Resident Committee as required;
- Establish a complaints management and handling process to ensure all complaints are acknowledged and resolved within a timely manner;
- Set up a project specific free-call 1800 hotline for residents to make enquiries and register complaints;
- Appoint a dedicated member of the project team to be available (at nominated times) during construction periods to liaise with residents in person about redevelopment issues and be available during construction for residents to discuss works and any issues they may have;
- Conduct one-on-one meetings with residents as required;
- Provide continued opportunities for family involvement to support village residents.

The Construction Management Plan in Appendix H of Volume 3 sets out the specific initiatives of Aevum Ltd (Stockland Developments Pty Ltd) about consultation and communication with Village residents.

### 3.14.6 Construction Process

Detailed consideration has been given to managing the construction process so that impacts on existing residents will be minimized. Specific measures are set out in the CMP contained in Appendix H of Volume 3.

***Complaints Management***

Aevum Ltd (Stockland Developments Pty Ltd) will establish a Complaints Management Process whereby members of the community and Village Residents can lodge complaints with Aevum Ltd (Stockland Developments Pty Ltd), and so that Aevum Ltd (Stockland Developments Pty Ltd) can address and respond to issues during the course of construction. Stockland will aim to address the source of each complaint within two hours of receiving the complaint, and to respond to the person raising a complaint within one business day of receiving the complaint. The Construction Management Plan (CMP) in Appendix H of Volume 3 contains a Complaints Management Process and template Complaints Management Register.

***Hours of Work***

Hours of work are as proposed in the approved Concept Plan and reflected in the Statement of Commitments.

***Program***

The CMP includes an indicative programme for the works approved under the Project Approval. The key target dates associated with Stage 1 are:

- Concept & Project Plan Modification Approval May 2013
- Commence Construction March 2014
- Complete Construction January 2017

***Temporary Works, Security, Traffic Management & Dust Control***

Aevum Ltd (Stockland Developments Pty Ltd) will engage a Principal Contractor to undertake the construction of each stage of the Project. The Principal Contractor will install and maintain temporary fences and hoardings as is necessary to comply with his obligations under the Occupational Health & Safety Act and Regulations and to facilitate the objectives of Aevum Ltd (Stockland Developments Pty Ltd) to minimise the impact of construction on the Village Residents.

The extent of temporary fences, temporary accommodation for workmen, pedestrian 'accessible' walkways in the Village, hoardings, visitor and resident parking, access for emergency services vehicles, and access for construction vehicles and vehicles servicing the Village during Stage 1 of the Project is illustrated in great detail in the diagrams attached to the CMP.

The Principal Contractor will establish a single point of entry and egress to the Site for all workmen and construction traffic involved in the construction of the new buildings, which is shown in the diagrams attached to the CMP. The Principal Contractor will manage all personnel involved in the Building Work as well as visitors to areas of the Site that are under his control in accordance with the specific provisions of his Occupational Health & Safety Plan.

The Principal Contractor will be required to engage a consultant having at least 15 years of experience in transport or traffic planning or management to prepare a Construction Traffic Management Plan (CTMP). Aevum Ltd (Stockland Developments Pty Ltd) will consult with the Village Residents about the CTMP prior to the CTMP being submitted to the Principal Certifying Authority as a condition precedent to commencement of work on the Site.

The Principal Contractor will control airborne dust by wetting down of demolition and excavated areas. Concrete and brick rubble will be watered down during demolition as well as managed into small pieces and covered when loaded onto trucks and transported off the Building Site.

***Management of Construction Noise***

Aevum Ltd (Stockland Developments Pty Ltd) has commissioned Acoustic Logic Consultancy to prepare a Construction Noise and Vibration Management Plan (CNVMP) that forms part of the Acoustic Report contained in Appendix O of Volume 3. The Principal Contractor will be required to comply and regularly provide evidence to Aevum Ltd (Stockland Developments Pty Ltd) of compliance with the measures set out in the CNVMP.

In addition to the measures set out in the CNVMP, on Saturdays noise from constriction would be restricted to 10dB(A) above the ambient background noise level in accordance with the Department of Environment and Climate Change Interim Guideline for Construction Noise.

Only work that does not exceed this control would be permitted on Saturdays between 8:00am and 1:00pm. The benefit of this approach is that the overall duration of construction would be significantly reduced from that which would otherwise be the case if a complete restriction on work on Saturdays were to be imposed.