



Planning Framework

Planning Framework

Sydney LEP 2012

In preparing this report there have been a number of important documents and policies that were reviewed in order to understand the site's existing and proposed future context.

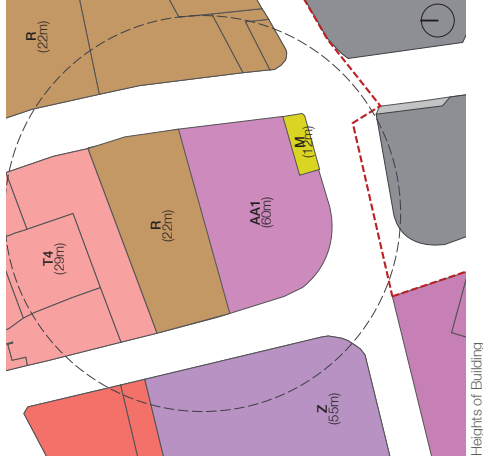
Located at the northern edge of the Green Square Town Centre, the site has been the subject of several planning, design and policy documents over the past 10 years. We have distilled this planning history into a summary statement that focuses on a number of key documents.

We also recognise that the planning framework for the area will continue to evolve over time as development in the town centre begins and key projects, such as the Green Square Library are finalised.

This summary is not meant to be an exhaustive overview, as it intends to focus on the elements of the planning framework that will directly influence the site's development potential and operation.

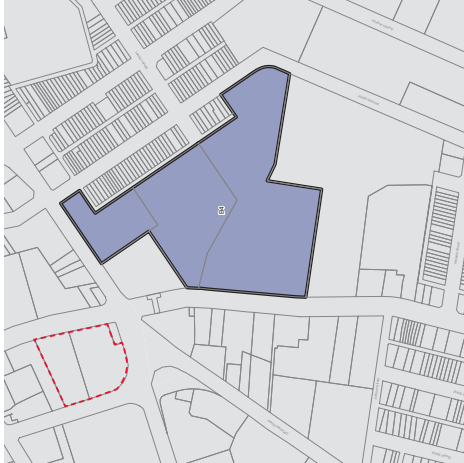
The documents reviewed in this section include:

- City of Sydney LEP 2012
- Green Square Town Centre DCP, April 2012
- City of Sydney Planning Proposal, Landcom & Mirvac Sites, November 2011
- City of Sydney Planning Proposal, Remaining Sites, March 2012



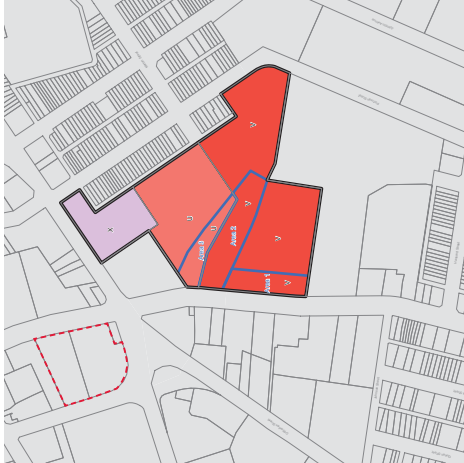
Planning Framework

Sydney Local Environmental Plan (Green Square Town Centre) 2013



Land Use Zoning

M Mixed Use



Floor Space Ratio

U 2.56
V 3.18
X 4.15
Refer to clause 4.4A



Active Frontages

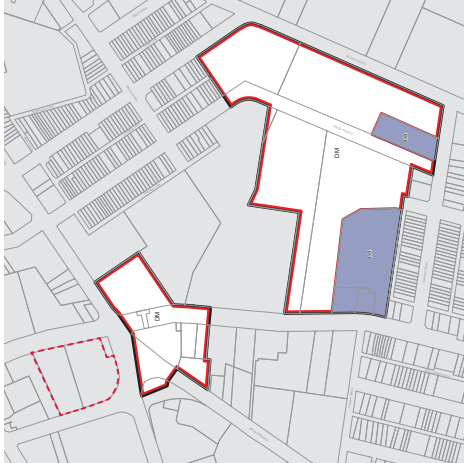
Active Street Frontage



Height of Building (m)

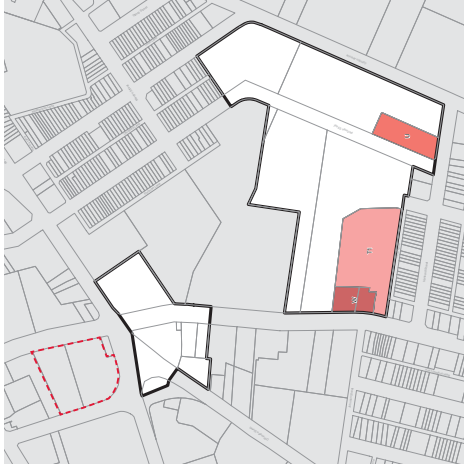
20 - 30
30 - 40
40 - 50
50 - 60
60 - 70
70 - 80
80 - 90
90 - 100
100 - 110
110 - 120

Planning Framework



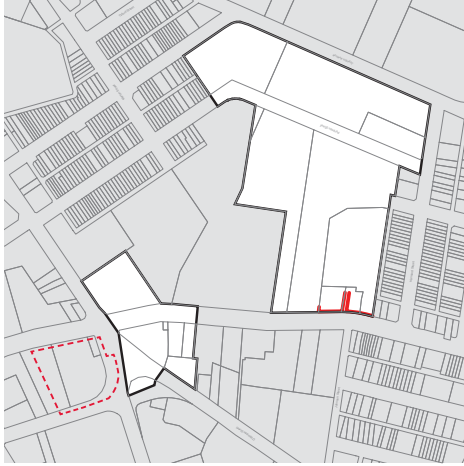
Land Use Zoning

- Mixed Use
- Deferred Matter



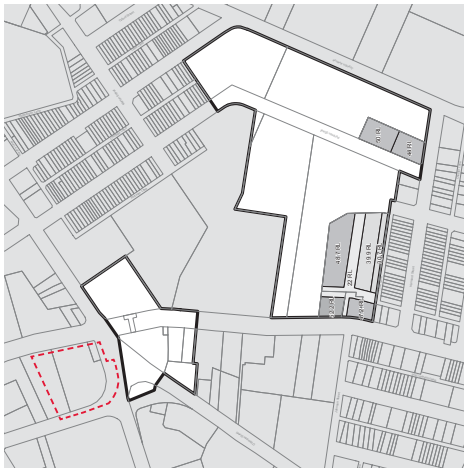
Floor Space Ratio

- 2.16
- 2.58
- 3.64



Active Frontages

- Active Street Frontage



Height of Building (m)

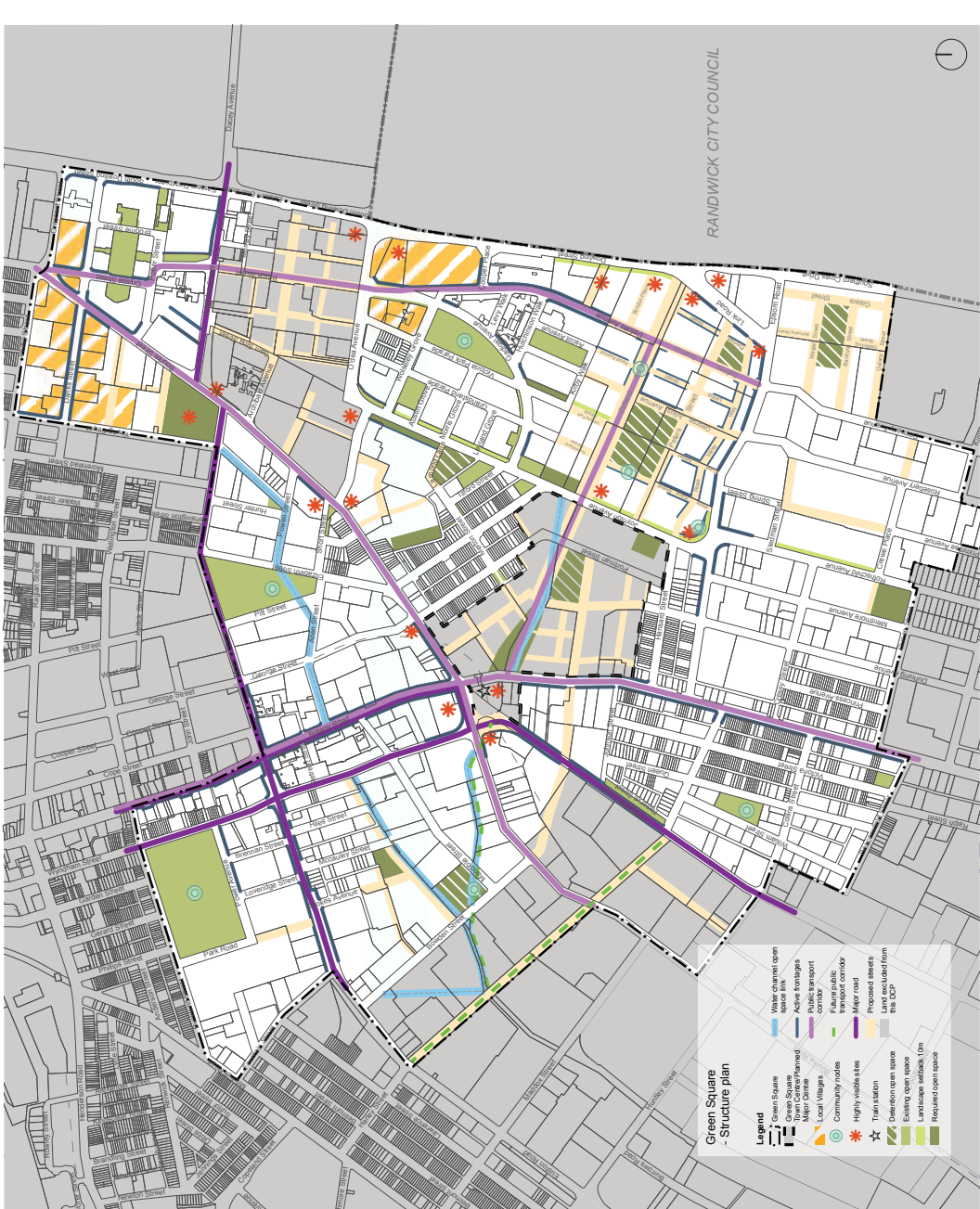
- 20 - 30
- 30 - 40
- 40 - 50
- 50 - 60

Planning Framework

Sydney DCP 2012

The City of Sydney Development Control Plan includes Section 5 - Specific Areas, which addressed the controls associated with development in the Green Square precinct. The objectives presented in this section of the DCP are outlined below, and the various structure plans (public open space, movement, etc.) have been reflected in the urban analysis below:

- Ensure development contributes to the realisation of the Green Square Urban Strategy.
- Ensure the Green Square Town Centre becomes the major centre for the southern areas of the City of Sydney and a meeting place for the local community.
- Create a hierarchy of centres throughout Green Square that support the primary function of the Town Centre and serve the worker, resident and visitor population. Ensure that the centres are to be accessible by public transport and supported by excellent public domain, open spaces and other community facilities.
- Allow for the sustainable, on-going renewal of Green Square, by encouraging sensitive in-fill development, whilst allowing for the continued operation of appropriate existing uses.
- Create residential environments with centres, community facilities, public parks and public streets to improve civic life and support diverse communities.
- Acknowledge Green Square's strategic location in the Airport to Central Sydney corridor, identified in the NSW Government's Metropolitan Strategy by facilitating the development of a strong and diverse economy to support the wider economy.
- Ensure that development complements the desired future character of the neighbourhoods and responds to the topography, natural features, orientation, street pattern, street width, existing development, heritage buildings, street block size, land use and protects important public view corridors
- Provide a variety of high quality and accessible multi-purpose open spaces and walking and cycleways that are well connected to regional green corridors. Incorporate Green Square's characteristic water channels into the design of open spaces and cycleways.
- Provide a new, fine-grain public street network that improves amenity, encourages travel on foot and by bike and, where appropriate, is suitably designed to accommodate future public transport services.
- Encourage a mix of land uses, building types, diverse public spaces and employment and housing choices to support a socially diverse community.



Green Square Structure Plan - DCP 2012 (6.2.3)

Planning Framework

Green Square Town Centre DCP 2014



01 Direct Sunglight to Green Square Plaza Plan - 12pm



01 Direct Sunglight to Green Square Plaza Plan - 1pm



01 Direct Sunglight to Green Square Plaza Plan - 2pm

Planning Framework

Green Square Town Centre DCP 2012

Located immediately to the south of the site, the Green Square Town Centre will become the service, retail, community and commercial hub for the entire Green Square (South Sydney) area.

The Development Control Plan 2012 for the Town Centre, whilst not relating specifically to the site, provides a valuable reference for the planned future character and performance of the precinct. Outlined on these facing pages are a summary of the key controls and plans from the DCP 2012, which have been considered as part of the design process.



- KEY**
- A Transport Plaza
 - B Green Square Plaza (dashed line indicates proposed extension)
 - C Nelson Square
 - D The Drying Green
 - E Maroon Ruby Grant Park
 - F Refer to Conservation Management Plan for heritage carriage (plans administration building)

Local Infrastructure - Public Open Space

The site stands at the western end of the open space spine that extends from Joynton Avenue through the GSTC to the train station. Any development on the site will serve as a prominent landmark when viewed along Zetland Avenue and the plazas.

Green Square Plaza will be a minimum size of 6,257m² and will form the 'heart' of the GSTC as it features a range of community and retail uses, public open spaces, public transport and pedestrian zones, and the proposed Green Square Library.

The open space network extends from the Green Square Plaza through the site along its southern boundary to O'Riordan Street.



- KEY**
- A Pedestrian priority - potential shared or pedestrian zones
 - B Area closed to private vehicles (vehicular entry to adjacent sites not permitted or permitted)
 - C Area potentially closed to private vehicles
 - D Proposed pedestrian network or corridor - light rail (dashed line - long term signal, possible short term bus connection)
 - E No vehicular access to or from lanes
 - F Temporary vehicular access

Access & Circulation

Vehicular access to the site from its western, northern and eastern frontages is not permitted, according to the DCP. The site's southern boundary is identified as a new public space connecting Botany Road to O'Riordan Street, which essentially seals the site off from its frontages to create an 'island site'.

The same approach is being applied to the public plazas in the town centre, with access gained from secondary streets. Unfortunately the subject site hasn't got the same urban structure (i.e. secondary frontages). All its frontages are important to pedestrian access to the station, retail and commercial uses.



- KEY**
- A Retail
 - B Commercial
 - C Retail or commercial (orange hatch - residential permissible)
 - D Community (including green infrastructure or open space (A - potential use of green infrastructure hub))
 - E Residential, retail or commercial
 - F Parking, retail or commercial
 - G Grey hatch - limited back of house and basement access

Land Use - ground floor

The GSTC seeks to introduce a range of land uses to this area of Sydney in order to transform the industrial estates that once dominated the area to a thriving community and employment destination.

The site's contribution to this new mixed-use precinct is new commercial and retail uses, particularly due to the proximity to public transport (i.e. above the station). Another commercial building is proposed immediately to the south of the site.

Planning Framework

Green Square Town Centre DCP 2012

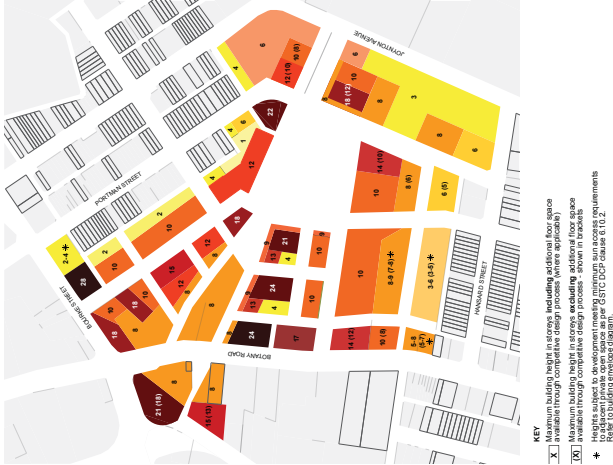


Location of Active Frontages

Proposals for the site include activation of the site's frontages with a retail or commercial use.

Within the frontage an allowance must be made for the access to the train station, while any retail would need to serve passing traffic and the nearby workers, as a substantial area of retail is being proposed in the town centre.

The alignment of the frontages assumes the realignment of O'Riordan Street, however, for the purposes of this study the assumption is that the O'Riordan Street frontage would be activated.



Heights

Following the submission of the two planning proposals for the GSTC, prepared by Landcom/Minvac/Leightons, and the City of Sydney, a revised heights plan was included in the DCP:

The height designation for the site is 21 storeys, based on the building being prepared through a competitive design process (18 storeys without a competition).

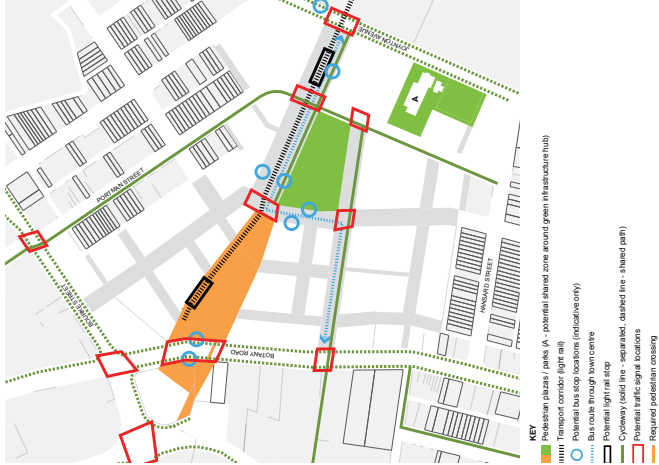
Retail floor to floor heights should be between 4.5 and 5.5m, with commercial heights set at 3.6m and residential between 3.0m and 3.3m.



Street Frontages & Primary Setbacks

The Bourke Road and Botany Road frontages of the site have been identified to provide a 5m setback from the kerb to the ground and first floor alignments. No such designation has been applied to the O'Riordan Street frontage.

Within the town centre area a colonnade setback is proposed along the southern edge of the plazas and a 3m setback along the northern edge. A landscape setback is proposed for the residential areas, and to assist the integration between the town centre and existing neighbourhoods to the north.



Transport Structure Plan

The plan features a cycleway that passes through the southern section of the site between the town centre and Botany Road to O'Riordan Street.

Three key traffic signal zones, where pedestrian crossing can be facilitated, are proposed at the site's northern corners, and an additional crossing to the south along Botany Road



Urban Analysis

Urban Analysis

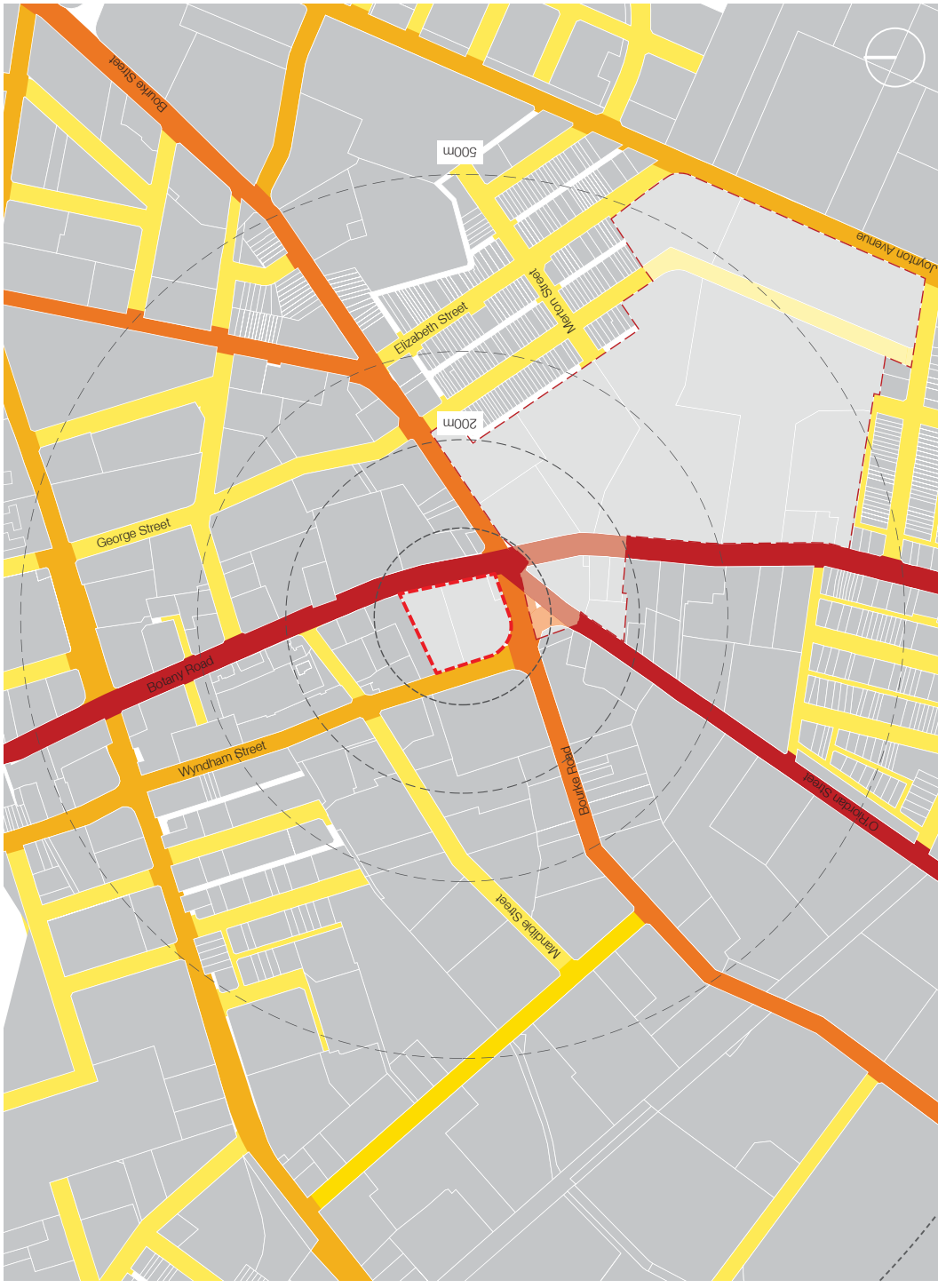
Movement, Existing - Vehicles

The site is located at one of the busiest and congested traffic intersections in South Sydney. Two primary and two secondary movement traffic corridors converge from the north, south, east and west at a single point.

With frontages to Botany Road, Wyndham Street and Bourke Road, the site must respond to the varying traffic conditions, characters and environmental impacts created by these streets. Wyndham Street starts at the intersection with Botany Road and Bourke Street, before extending north. Botany Road extends between the Redfern railway precinct and the Airport precinct. Bourke Street and Bourke Road extend between Potts Point and Surry Hills localities of Sydney City and the Airport precinct.

The strategic nature of these routes and their importance to the performance of South Sydney has resulted in a number of proposals and planned reconfiguration, including connecting O'Riordan and Wyndham Streets to support the traffic movement. These alterations to the movement network are planned as part of the Green Square Town Centre project and are addressed on the facing page.

- Site Boundary
- Green Square Town Centre
- Primary (Arterial) Road
- Secondary (Collector) Road
- Local (Access) Road



01 Movement Hierarchy - Vehicles

Urban Analysis

Movement, Proposed - Vehicles

In preparing this study consideration was given to the potential future conditions any development on the site should address. These include the Green Square Town Centre, and other major developments within a close vicinity which would influence the site's performance.

Vehicular access to the site has been restricted (as per the DCP), leaving few opportunities for service and parking entrances. The plans identify a suitable location off Wyndham Street and Botany Road.

- Site Boundary
- Green Square Town Centre
- Shared Zone
- Slow Zone
- Primary (Arterial) Road
- Secondary (Collector) Road
- Local (Access) Road
- No Vehicle Access



01 Movement Network - Vehicles

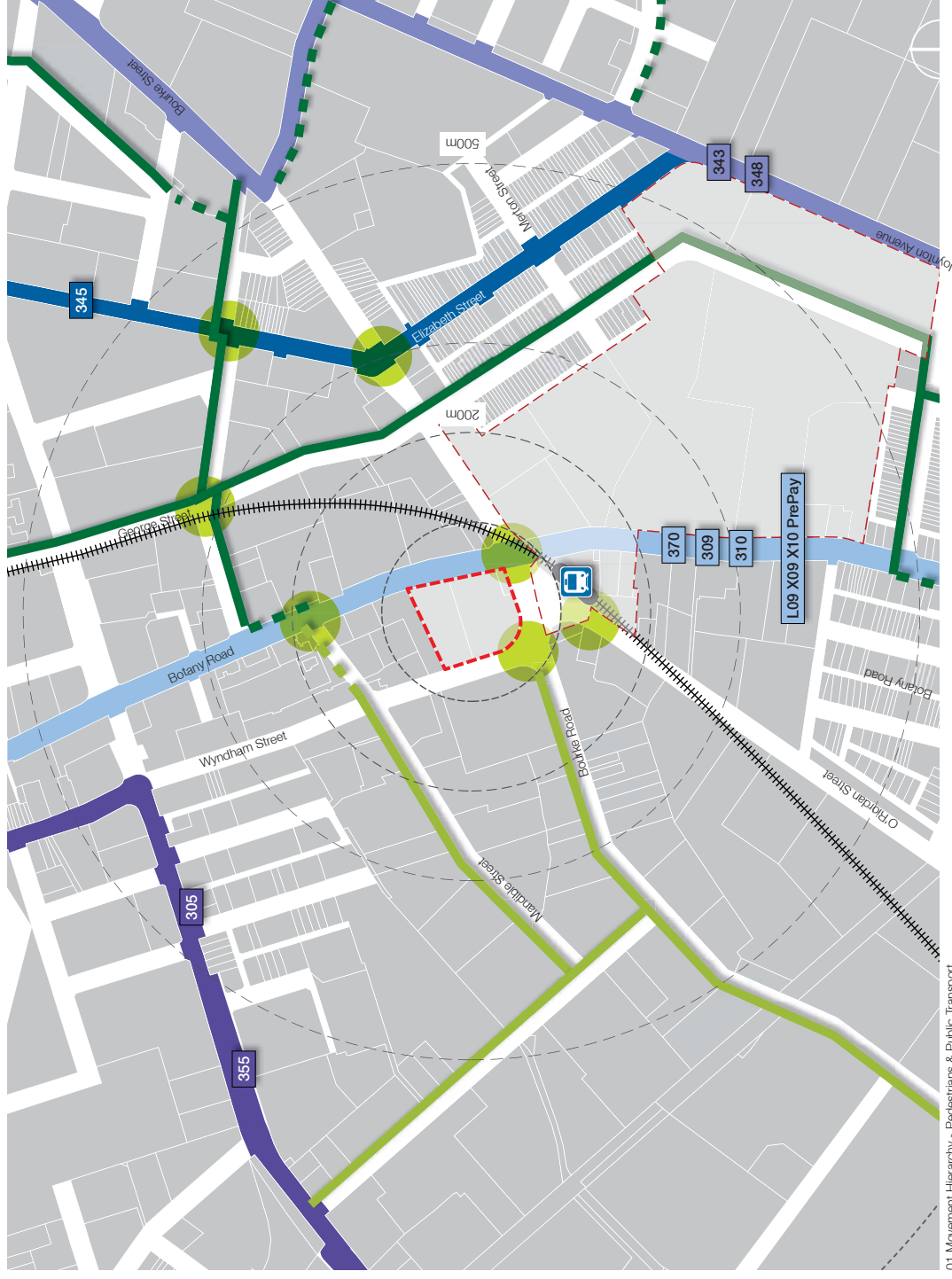
Urban Analysis

Movement, Existing - Public Transport & Pedestrians

A range of public transport services and connections are located within close proximity to the site, including 10 bus routes, Green Square station, dedicated and on-road cyclepaths connected into the City of Sydney's cycle network.

Whilst the local street network carries high volumes of commercial, commuter and industrial traffic, there are a range of local routes suitable for pedestrians and cyclists. A number of signalled crossing points enable connections across busy roads and junctions, including those at Botany Road, Bourke Road, Elizabeth Street and George Street.

The planned realignment of O'Riordan Street to connect with Wyndham Street will improve the quality and accessibility the local pedestrian and cyclist network, and improve the station forecourt environment. There are plans for light-rail connections through the Green Square Town Centre, which are addressed on the facing page.



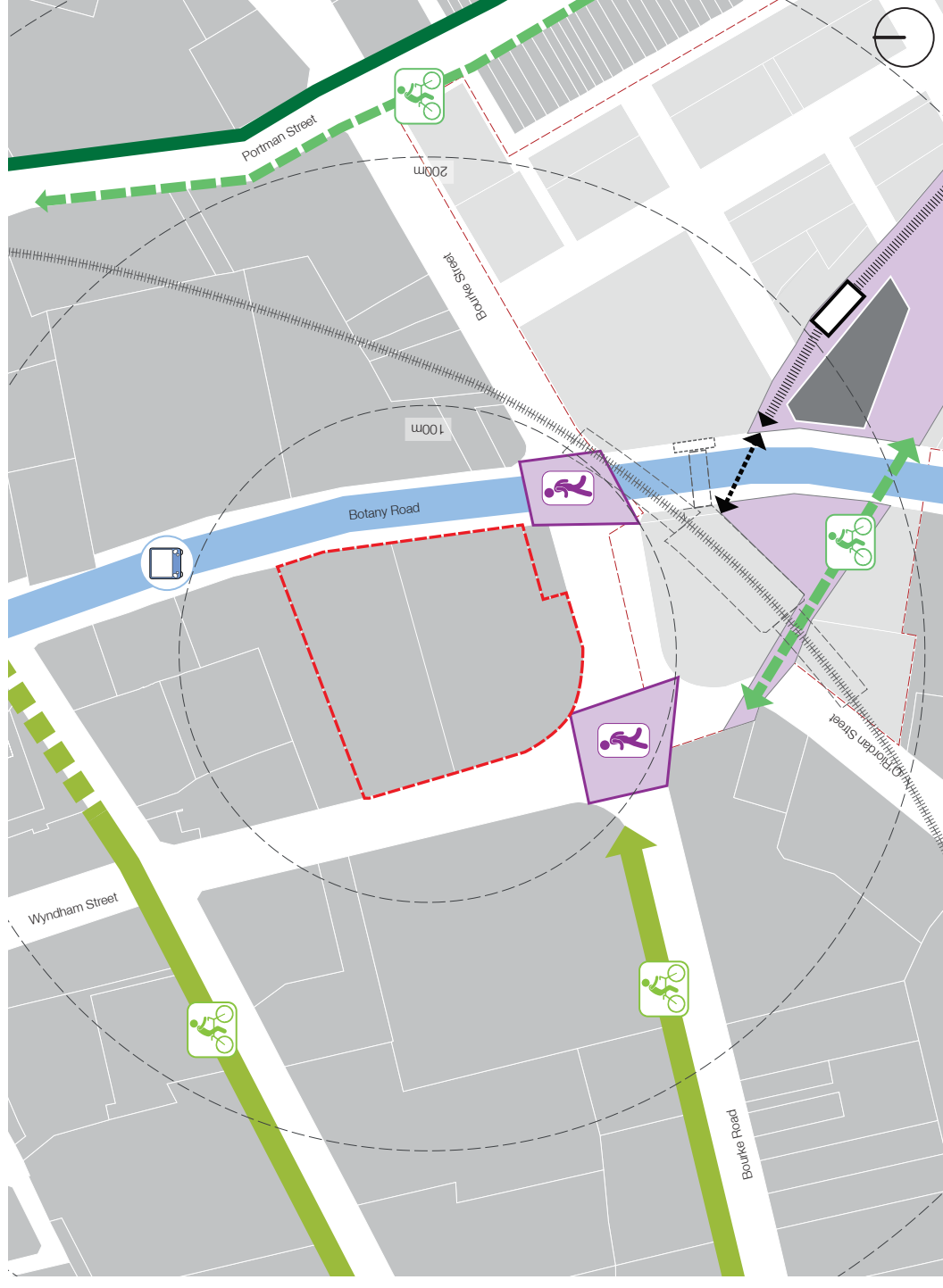
Urban Analysis

Movement, Proposed - Public Transport & Pedestrians

The site is already adjacent to an important transport node for the local area, with the Green Square station located less than 100m away. The proposal for GSTC looks to further increase the transport significance of the site by extending a number of pedestrian, cycle and public transport services past and through the site.

Botany Road currently and will continue to serve as a barrier to east-west movements between the station and the town centre. A pedestrian connection under the road, linking to the station, currently exists. Proposed cycle and pedestrian connections will need to be supported by additional signalised crossings or tunnels.

A cycleway is proposed to run south of Bourke Road, between Botany Road and O'Riordan Street.



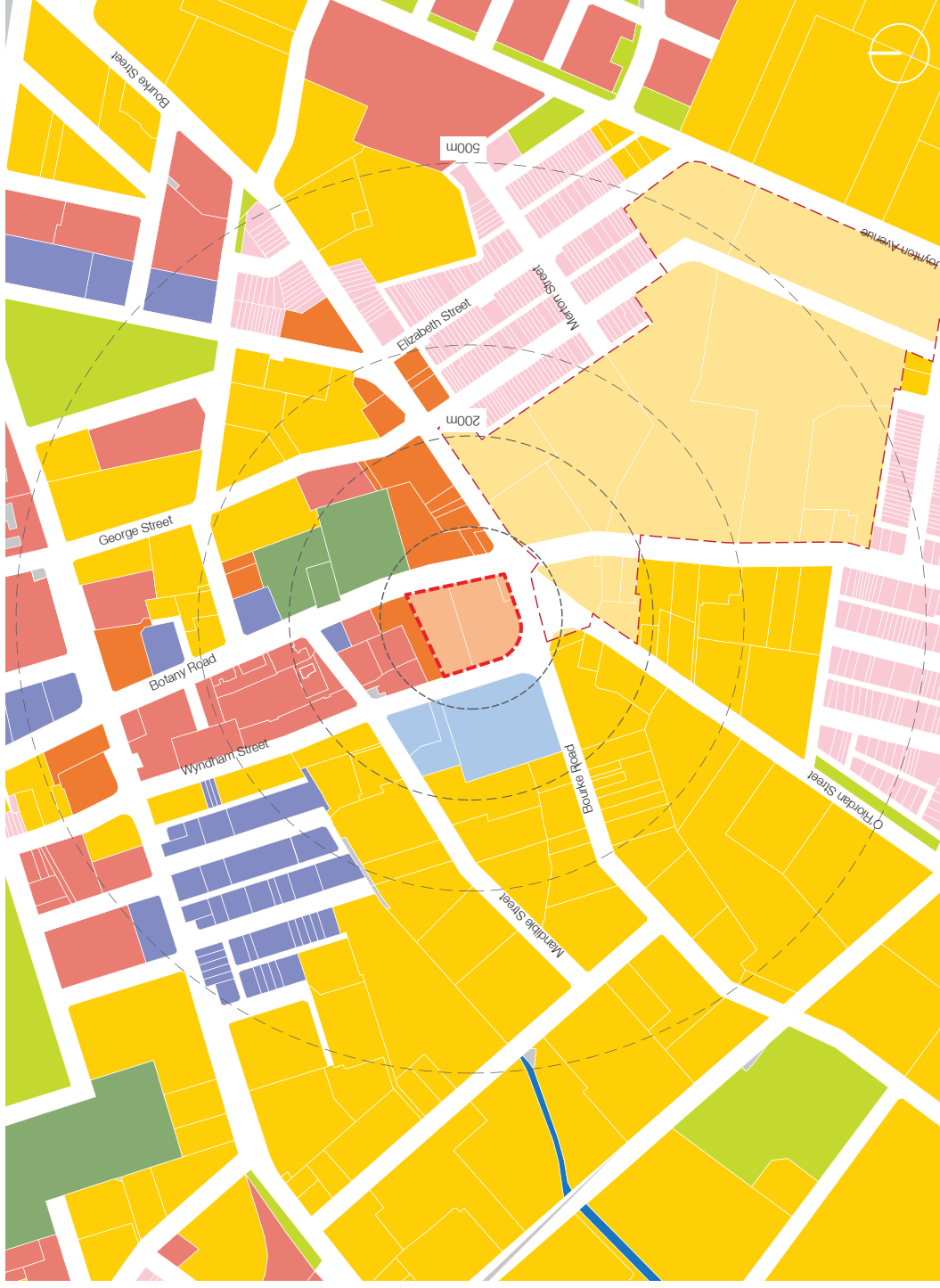
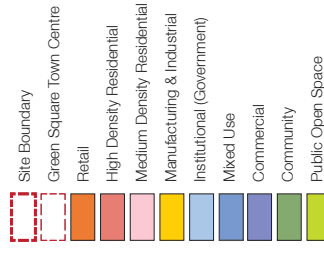
Urban Analysis

Land Uses, Existing

Green Square and the surrounding suburbs of Alexandria, Zetland, Erskineville and Redfern are currently under-going major urban regeneration and gentrification, created by the growing demand for housing close to the Sydney CBD and the shrinking industrial and manufacturing operations in South Sydney.

State Government projects such as Victoria Park to the east, and Green Square Town Centre immediately to the south of the site have encouraged a whole range of smaller privately developed schemes in the surrounding streets, including Diversity, Moore Park Gardens, Epsom Park and sites along Danks Street. The outcome has been the creation of the largest regeneration precinct in the southern hemisphere.

Green Square is in transition and there still remains extensive areas of light industrial, commercial and retail uses surrounding the site, as indicated on the land use diagram. Pockets of Victorian housing located to the east of the site are interspersed with large consolidated industrial sites, which are predominately located to the south and west. The regeneration of Sunny Hills and Redfern is slowly extending south into Alexandria, along Botany Road and Bourke Road, both of which feature a number of new high-density residential developments.



01 Land Use Diagram

Urban Analysis

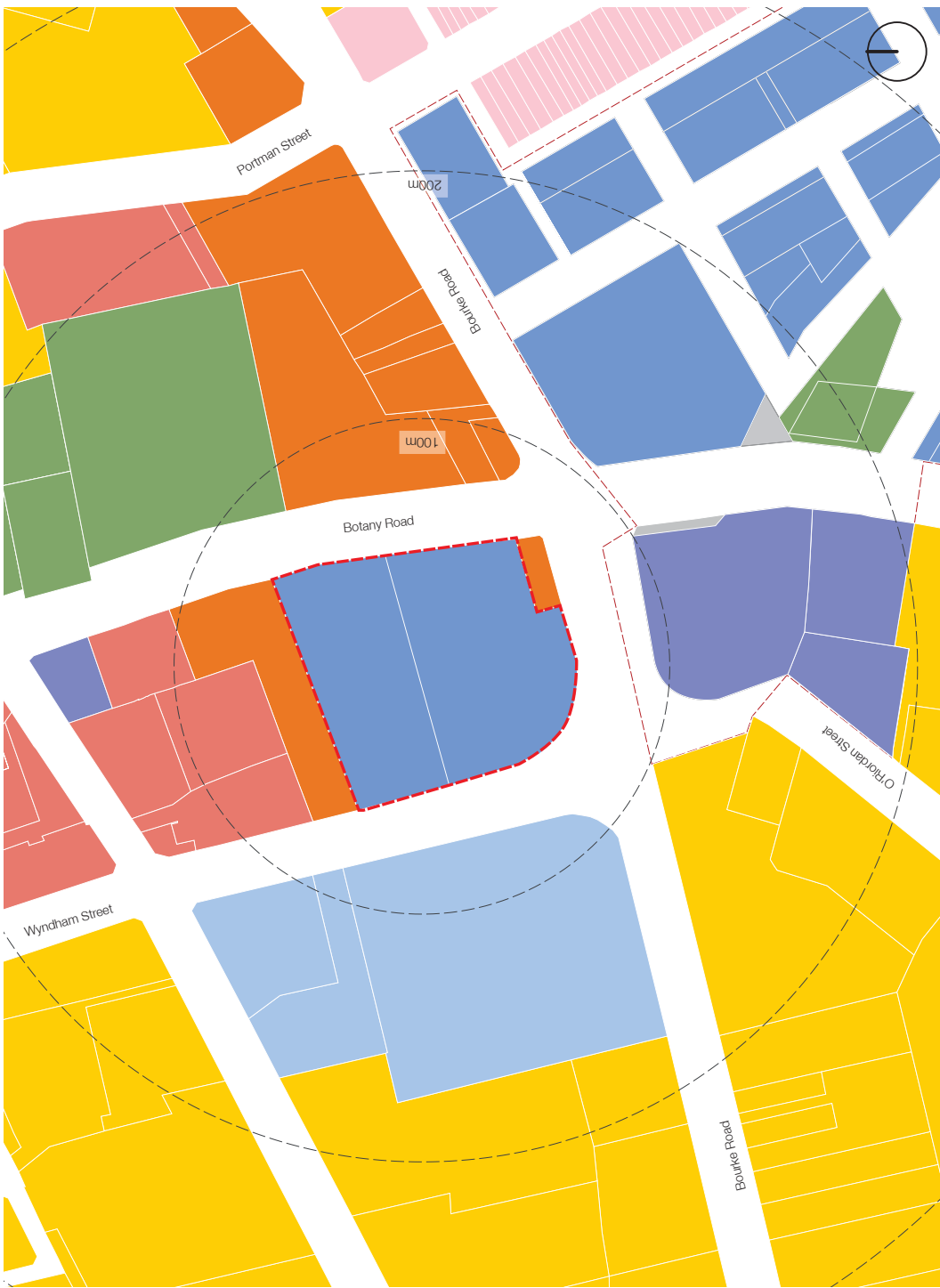
Land Uses, Proposed

Based on the GSTC proposals the land use characteristics of the area will change dramatically as the light industrial and manufacturing uses are replaced with a range of commercial, retail, residential, community and recreational uses.

Whilst the GSTC is a major driver of this urban transformation there are sites in the immediate vicinity that are also making a positive contribution and should be considered carefully, this project being one of them.

It is one of many major developments in the area that will combine to make Green Square a major city precinct in the years to come.

- Site Boundary
- Green Square Town Centre
- Retail
- High Density Residential
- Medium Density Residential
- Manufacturing & Industrial
- Institutional (Government)
- Mixed Use
- Commercial
- Community
- Public Open Space



01 Potential Movement Network - Pedestrians & Public Transport

Urban Analysis

Public Open Space, Existing

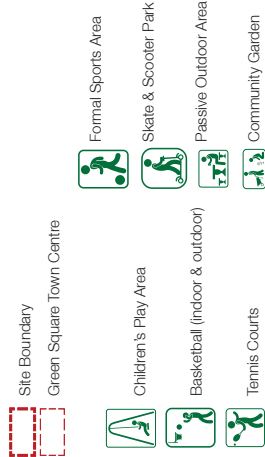
There are a number of open spaces located in an arc that extends from the Tote Park at Victoria Park in the north-east to Perry Park on Bourke Road to the north-west.

Waterloo Park: the contoured Waterloo Park contains an enclosed children's playground and a basketball practice court, beyond which the park is an off-leash area at all times. The floodlit Waterloo Oval features a sporting field suitable for cricket and rugby. The Fernside Skate Park located at the southern section of the oval features a 920 square meter plaza style skate facility.

Tote Park: contains a playground with equipment suitable for children of all ages. The park features a grass lawn, shrub beds and numerous interpretive plaques which relay the history of the precinct from the time of settlement, through to its development as a race course and present day residential use. An automated public toilet is located conveniently close to the playground

Perry Park: features a grass sports field suitable for a wide variety of ball sport training, and a basketball practice court. Ample car parking is available within the reserve. The Alexandria Basketball Association is located on Crown Land adjacent to the park.

Alexandria Park: Alexandria Park is a neighbourhood park with extensive facilities for passive and active recreation. Sports facilities include a floodlit sports oval suitable for cricket, football and team training; two floodlit tennis courts, and a basketball court. The enclosed playground is equipped with a shade sail, synthetic softball, and features equipment for children of all ages including climbing frames, slippery dip, swings and rockers.



01 Public Open Space Diagram

Urban Analysis

Public Open Space, Proposed

The provision of public open space, recreation and leisure uses in the area will change dramatically in the future, as the gap to the south and south-west of the site is filled with a number of major assets within the GSTC.

The Green Square Library will be a major centrepiece for the community, supplemented by formal public parks and plazas, community hubs and a green infrastructure centre. These will be provided along an open space corridor that extends from Joynton Avenue to the site's eastern edge. There is scope to extend this corridor to a new plaza at the corner of O'Riordan Street and Bourke Road.

 Site Boundary

 Green Square Town Centre

 Public Open Space

 Retail-Fronted Street

 Transport Interchange

 Station Entrance

 Retail Precinct

 Cafe & Dining Activity

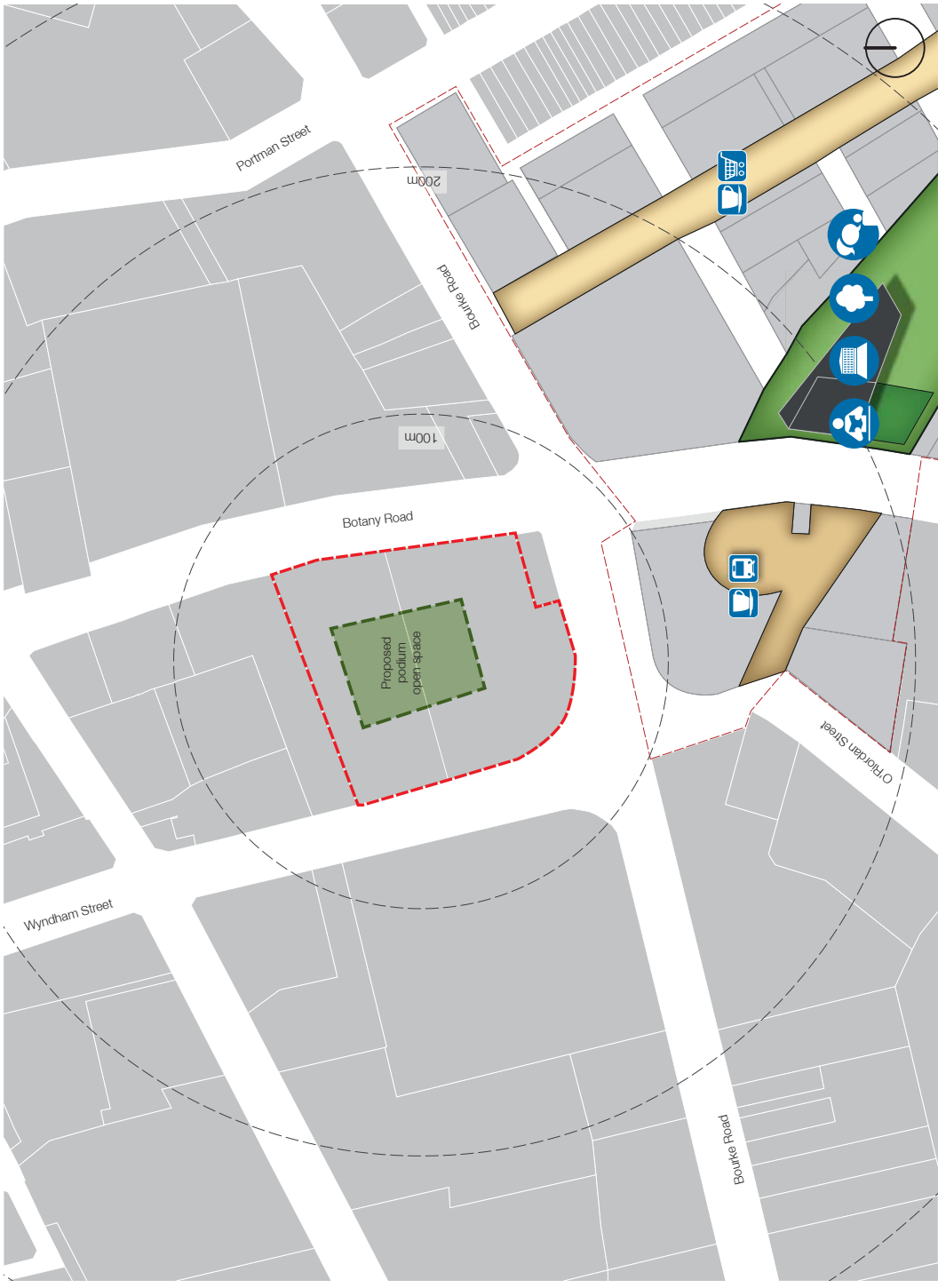
 Library

 Plaza

 Park

 Community Hub

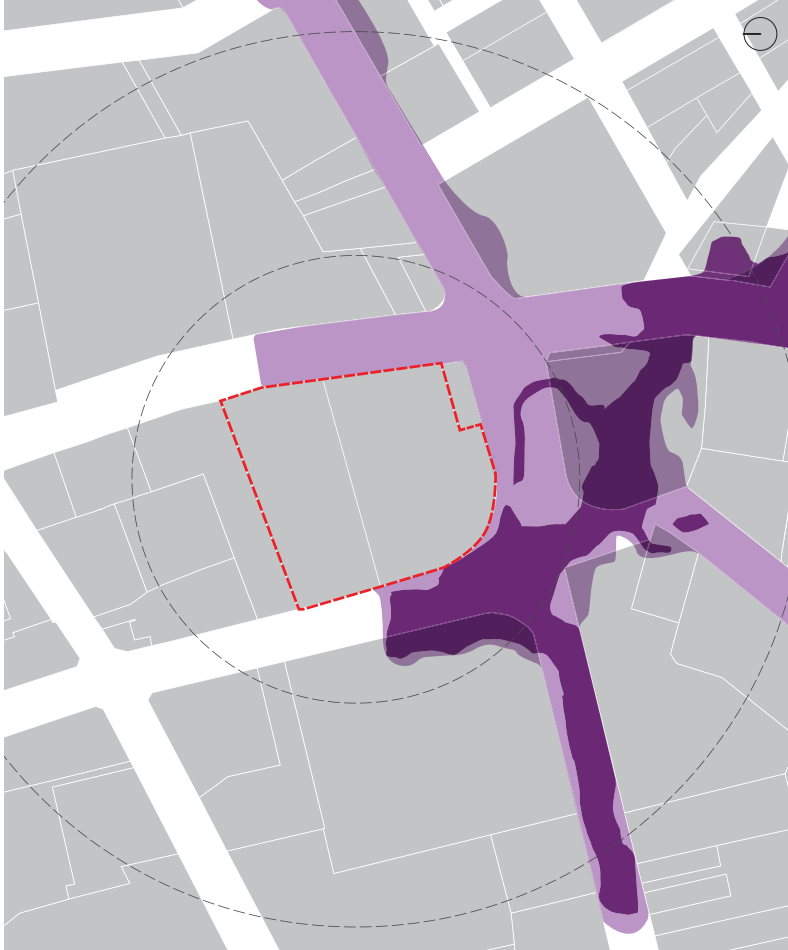
 Green Infrastructure Centre



01 Potential Movement Network - Pedestrians & Public Transport

Urban Analysis

Flooding



Urban Analysis

Frontages



Existing:

Due to the current uses and urban structure there are few active frontages in the area. The majority of street edges are defined by blank and dead frontages with only a few commercial and retail premises breaking the monotony.

- Active Frontage
- Passive Frontage
- Inactive (dead) Frontage



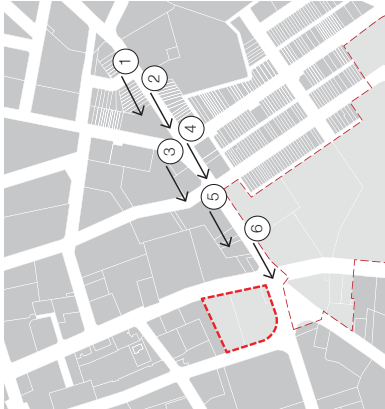
Potential:

The development of the site, GSTC and adjacent sites will introduce a finer grain of retail, commercial and residential development that can bring greater activity and vitality to the streetscape.

- Active Frontage
- Passive Frontage
- Inactive (dead) Frontage

Urban Analysis

Vistas



There are few long views, or vistas, where the site is currently or will be visible as a result of any future development.

The journey south along Bourke Street will gradually reveal a view to the site over the parapet and roof lines of the buildings in the foreground, which front the northern frontage to Bourke Street,.



From 922 Bourke Street



From 930 Bourke Street



From cnr Elizabeth & Bourke Streets (north)



From cnr Elizabeth & Bourke Streets (south)



From 944 Bourke Street



From 956-960 Bourke Street

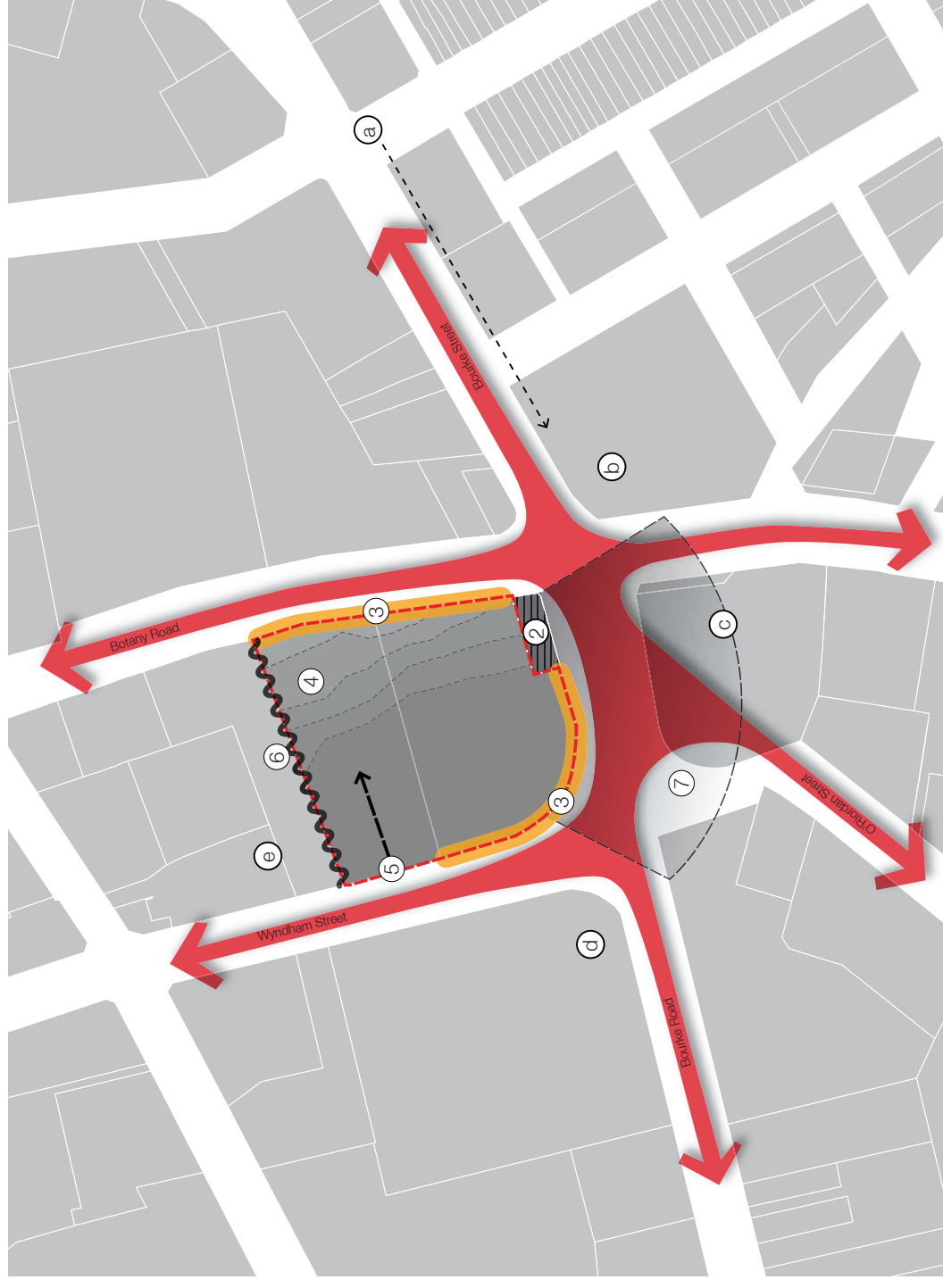
Urban Analysis

Constraints

The existing grain, accessibility, scale, layout, streetscape and regional significance of the Green Square area will determine the setback, scale and layout of future development on the site.

Zones of sensitivity and integration correspond with the various urban constraints acting on the site, and a broad consideration of the proposal. These constraints include:

1. Sensitivity and weakness of key vistas
 - a) Bourke Street journey (north to south)
 - b) Cnr Bourke Street & Botany Road
 - c) Entrance to Green Square Station
 - d) Cnr Bourke Road & Wyndham Street
 - e) From neighbouring residential development
2. Retain 310a Botany Road
3. Activation of key frontages to Botany Road and Wyndham Street
4. Site topography, falling from east to west
5. Maintaining access from Wyndham Street
6. Sensitive edge to north, integration with adjacent residential uses
7. Overshadowing of the spaces to the south



Urban Analysis

Opportunities

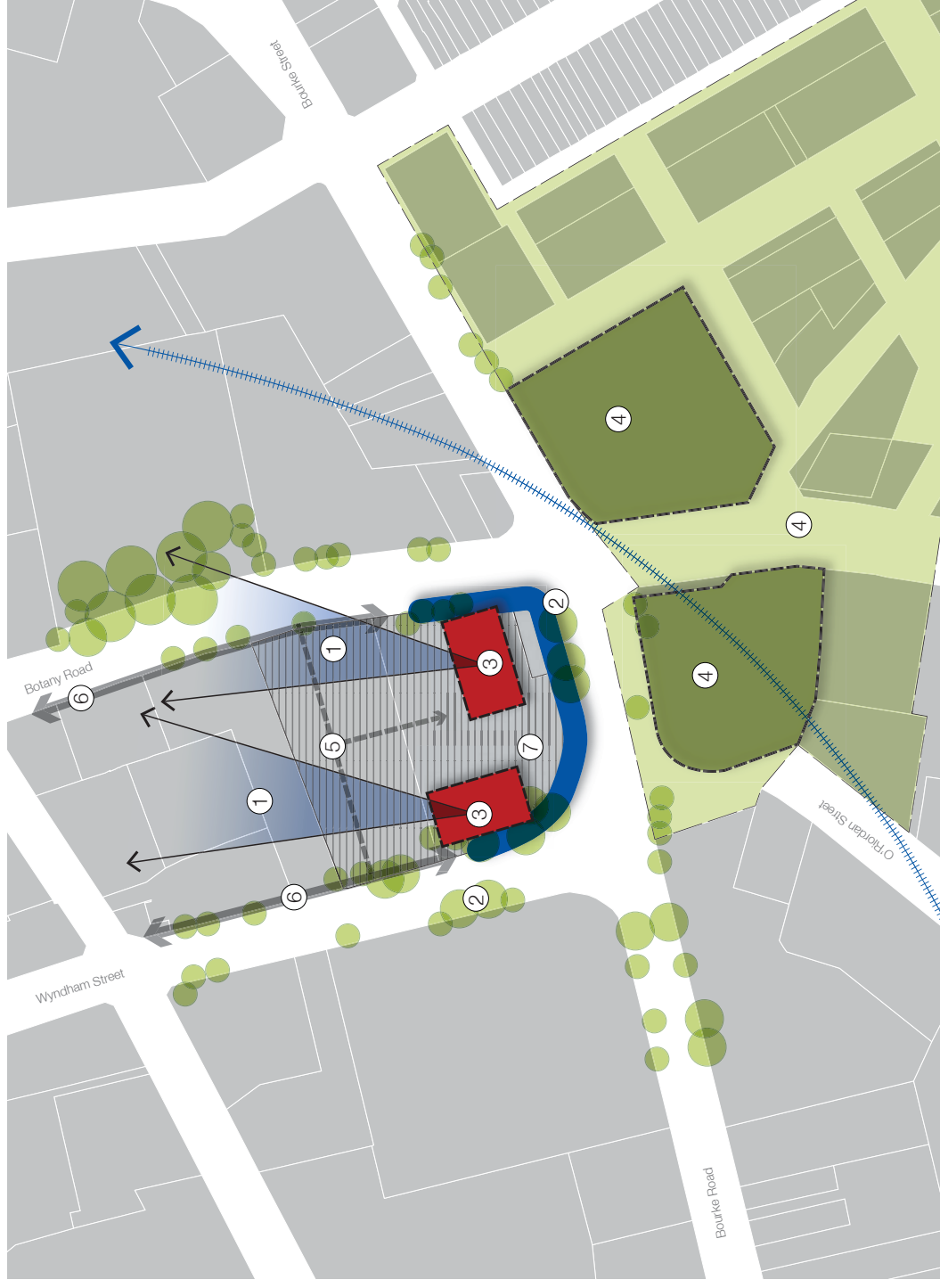
The site occupies an important threshold between a variety of land uses and the Green Square Town Centre, which will transform the nature and role of Sydney's South.

The Bourke Road frontage operates as the 'face' of the site and is best suited to reflect this characteristic and serve as an 'urban marker' for commuters entering and existing the station and vehicles driving north along O'Riordan Street.

Botany Road frontages must respond to the harder & faster urban elements, whilst the mature trees, lower site level and reduced traffic flows along Wyndham Street must be reflected and embraced.

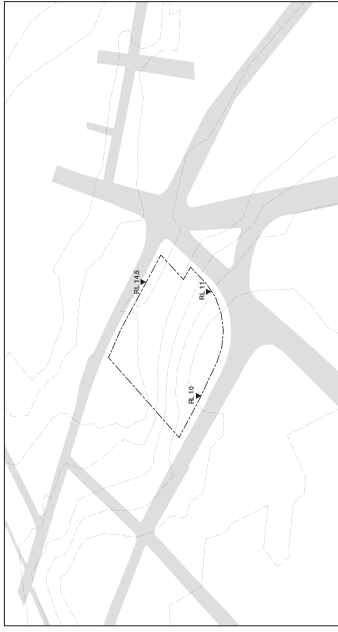
Further to these, the opportunities available to guide the site's development include the following:

1. Embracing views towards the Sydney skyline to the north
2. Retain the existing tree coverage and protection along Wyndham Street and Bourke Road
3. Orientate the residential blocks to maximise their roles as 'urban markers', providing legibility and scale at the northern edge of the Green Square Town Centre
4. Integrate with the scale, type and program of regeneration proposed to the south, as part of the Green Square TC
5. Improve the permeability of the site by creating new thru-site connections, as part of the retail environment
6. Continue the strong built edges to Botany Road and Wyndham Street
7. The current approved podium development application.



Urban Analysis

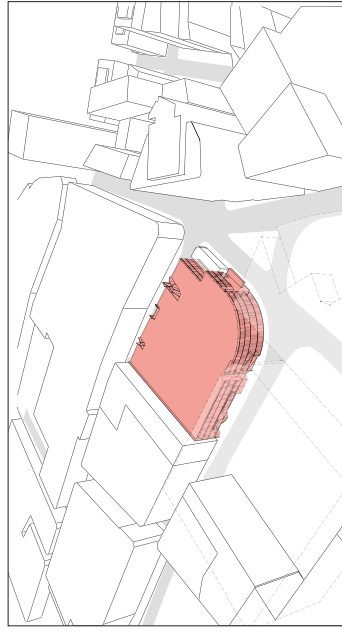
Urban Components



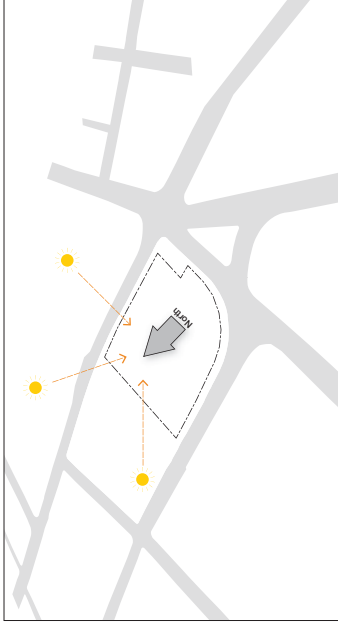
Topography



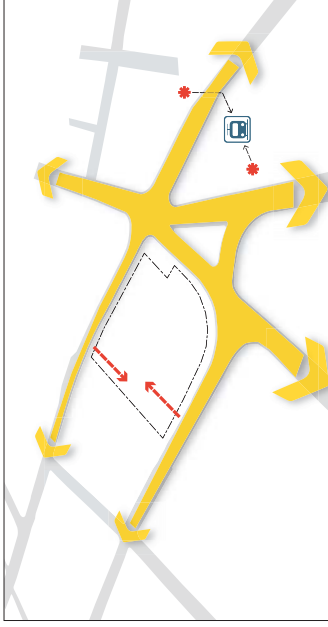
Trees



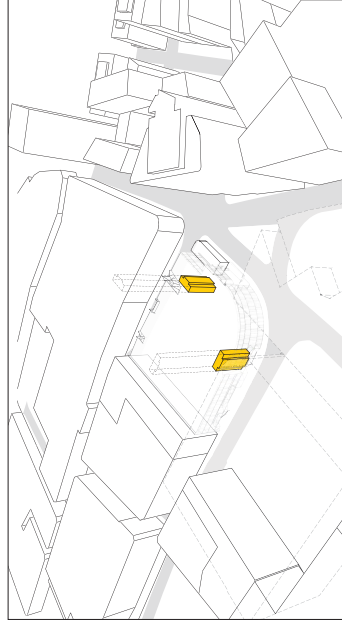
Existing Approval



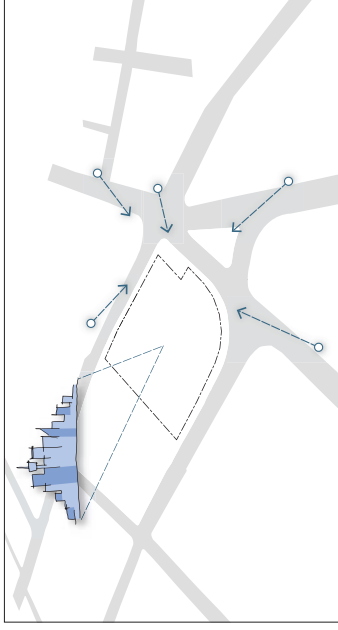
Solar Access (Aspect)



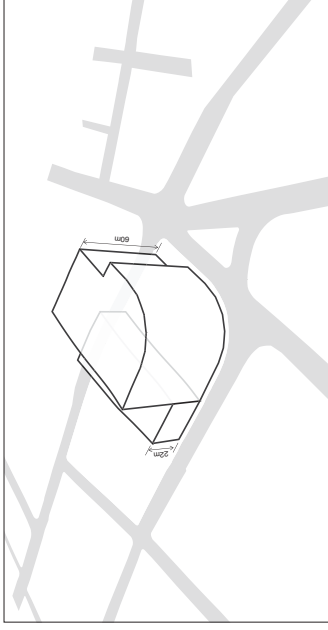
Movement



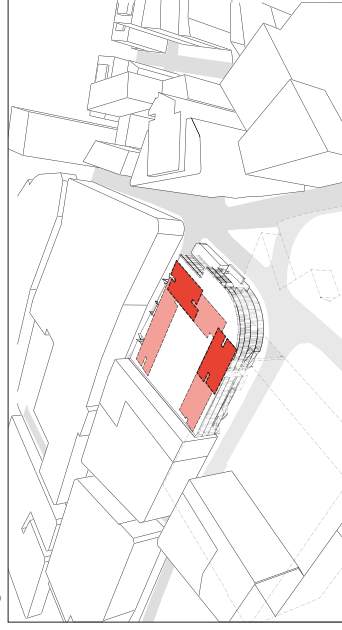
Core Locations



Views



Height Allowances



Tower Footprint Allowances

Option Appraisal



Options Appraisal

Schematic Options 01 - 05

In preparing the approved retail scheme, preliminary work was undertaken on the location and configuration of the residential blocks to ensure the cores servicing the parking, retail and podium levels were properly positioned.

That work was expanded to include the preparation of five options, which have been compared and tested in order to select a preferred approach to the design, location, scale and quantum of residential development on this site.

A number of key decisions have been made to inform the preparation of the options, which will be discussed in greater detail in the accompanying planning report by JBA Planning.

Outlined in this section is a comparison of the five options and appraisal of their respective strengths and weaknesses, and the identification of key characteristics to be reflected in the preferred approach.

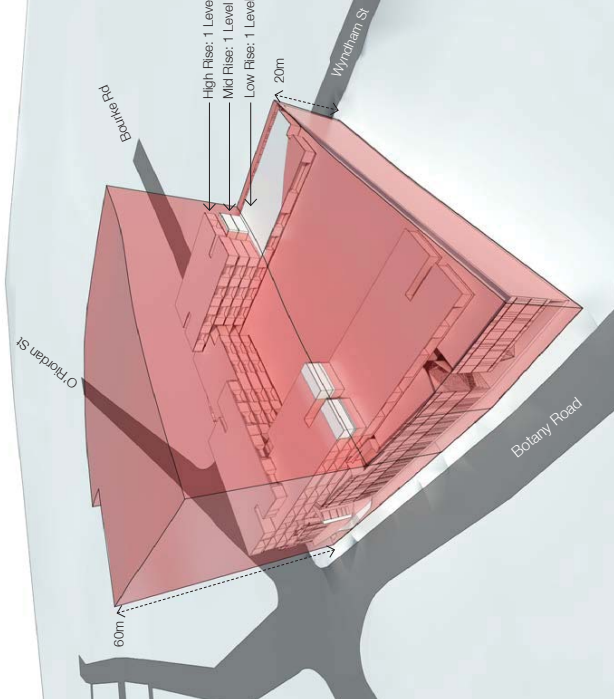
Existing Areas

Site Area:	9,140m ²
Approved GFA:	11,452m ²
FSR: 2:1 =	18,280m ²
FSR: 3.9:1 =	35,631m ²
(Including Bonus)	

Option 1

Option 01 investigates the available GFA (18,280m²) allowed under the existing FSR control of 2:1 only, and excludes the GFA already approved as part of the retail podium. The remaining GFA of 9,019m² is positioned above the approved retail podium to a maximum height of an additional 4-storeys, which sits within the existing heights controls for the two sites - 60m and 22m.

1.Existing approval:	11,452m ²
2.Low-rise residential GFA:	3,415m ²
3.Mid-rise residential GFA:	4,350m ²
4.High-rise residential GFA:	1,254m ²
Total Residential GFA:	18,297m ²



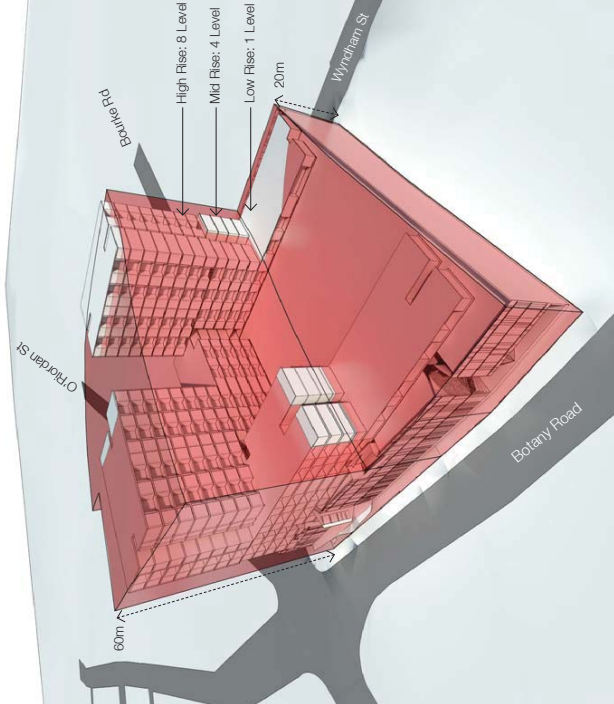
Option 01 : massing within the allowable height envelope

Option 2

Option 2 investigates the design and orientation of the available GFA (35,631m²) from a FSR of 3.9:1, which has been calculated from an average of the Base (2:1 for both sites) and Clause 9 Area Bonus FSR's (1:5 and 2.2:1) for the two sites.

The additional development area is located above the approved retail podium and sits within the existing heights controls for the two sites. The 60m and 22m volume will only deliver 33,594m² of the GFA, which is well the allowable GFA. The residential floorspace is configured across a combination of low, medium and high-rise built form.

1.Existing approval:	11,452m ²
2.Low-rise residential GFA:	3,415m ²
3.Mid-rise residential GFA:	8,700m ²
4.High-rise residential GFA:	10,029m ²
Total Residential GFA:	33,594m ²



Option 02 massing within the allowable height envelope

Options Appraisal

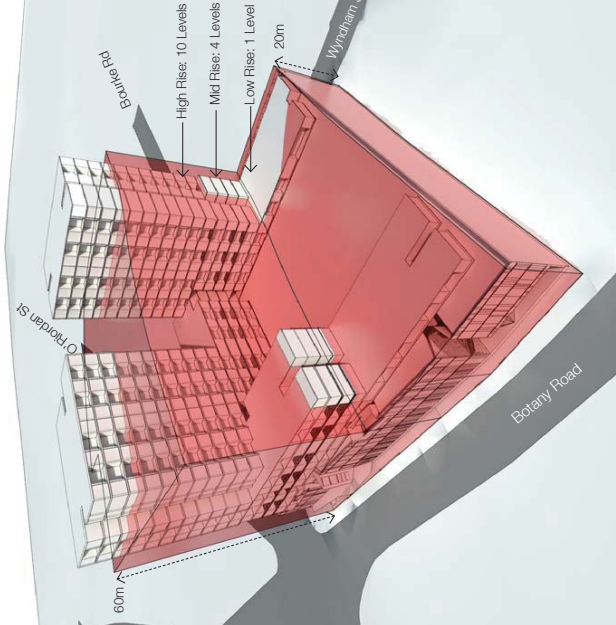
Schematic Options 01 - 05

Option 03 Areas

Option 3 investigates the design and orientation of the available GFA (35,631m²) from an FSR of 3.9:1, which has been calculated from an average of the base and Clause 9 Area Bonus FSR's for the two sites.

This option illustrates the same design approach as Option 2 but shows what height the extent of development required to achieve the allowable GFA. The two towers, break the 60m height limit but 22m height limit remains unaffected.

- 1.Existing approval: 11,452m²
- 2.Low-rise residential GFA: 3,415m²
- 3.Mid-rise residential GFA: 8,700m²
- 4.High-rise residential GFA: 12,064m²
- Total GFA: 35,631m²



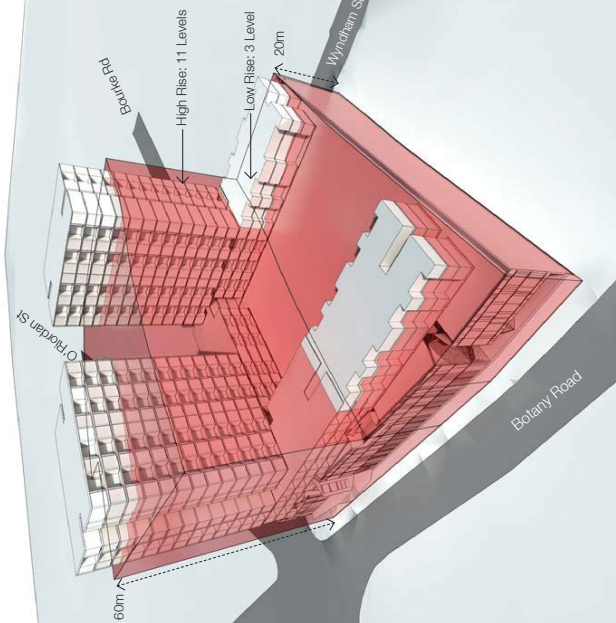
Option 03 missing within the allowable height envelope

SJB Architects

Option 04 Areas

Based on the same approach to heights and FSR presented in Option 3, option 4 looks to redistribute development area at the lower levels, reducing the mid-rise along the southern frontage and increasing the height of the low-rise podium along the eastern and western edges. This approach breaks both the 60m and 22m height limits in order to achieve the proposed GFA of 35,631m².

- 1.Existing approval: 11,452m²
- 2.Low-rise residential GFA: 10,245m²
- 3.High-rise residential GFA: 13,934m²
- Total GFA: 35,631m²



Option 04 missing within the allowable height envelope

Option 05 Areas

Option 5 investigates the outcome where the proposed GFA is assigned proportionately between the two halves of the site. The built form outcome is a single 'U'-shaped 7-storey development that breaks the 22m height limit and falls within the 60m limit. This approach is not preferred and a variation in height and built form across the two sites will lead to a better development, urban outcome.

Site A - 296-298 Botany Road

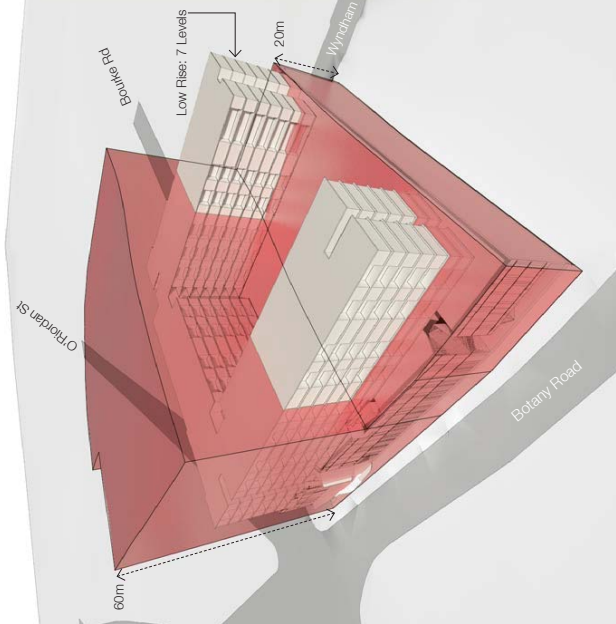
- Site Area: 5,202m²
- FSR 2.0:1.0 = 10,404m²
- FSR (Bonus) 2.2:1.0 = 11,444m²
- Total 21,848m²

- Existing Approval: 7,131.11m²
- Low-rise residential GFA: 15,190m²
- Total: 22,321m²

Site B - 294-300 Wyndham Street

- Site Area: 3938m²
- FSR 2.0:1.0 = 7,876m²
- FSR (Bonus) 1.5:1.0 = 5,907m²
- Total 13,783m²

- Existing Approval: 4,320.89m²
- Low-rise residential GFA: 8,709.82m²
- Total: 13,029.89m²



Option 05 missing within the allowable height envelope

296-298 Botany Road & 294-300 Wyndham Street, Alexandria

Options Appraisal

Massing Study Options 01 - 05

The comparison of the options in this massing study illustrate that two tower elements and lower podium development reflect the scale and form of the proposed development in the Green Square Town Centre to the south. Options 02, 03 and 04 reflect a preferred approach to massing.



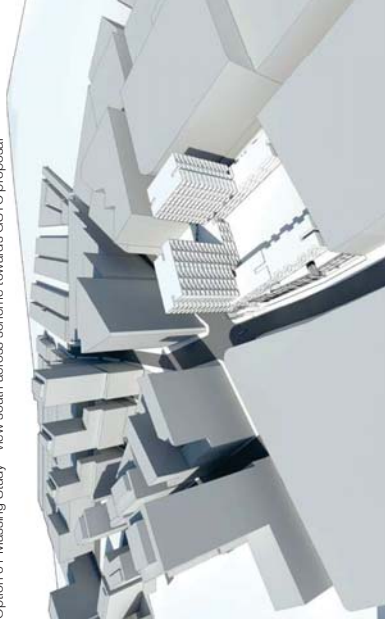
Option 01 Massing Study - view south across scheme towards GSTC proposal



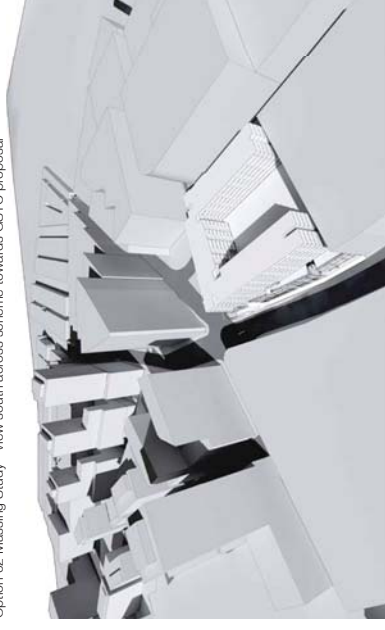
Option 02 Massing Study - view south across scheme towards GSTC proposal



Option 03 Massing Study - view south across scheme towards GSTC proposal



Option 04 Massing Study - view south across scheme towards GSTC proposal

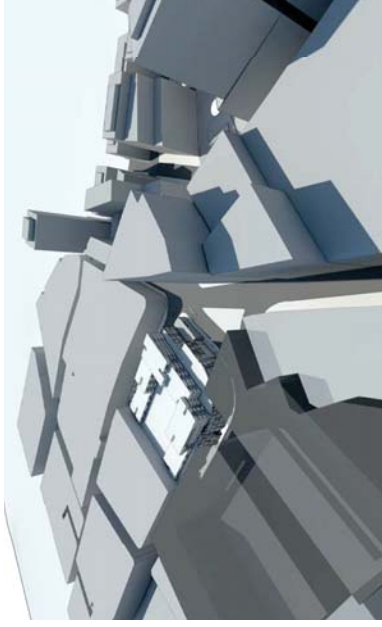


Option 05 Massing Study - view south across scheme towards GSTC proposal

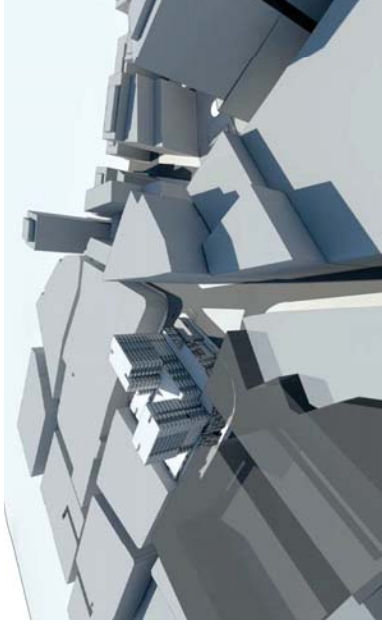
Options Appraisal

Massing Study Options 01 - 05

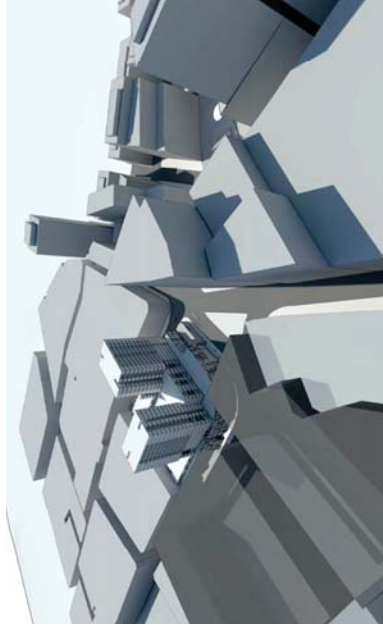
The comparison of the options in this massing study illustrate that two tower elements and lower podium development reflect the scale and form of the proposed development in the Green Square Town Centre to the south. Options 02, 03 and 04 reflect a preferred approach to massing.



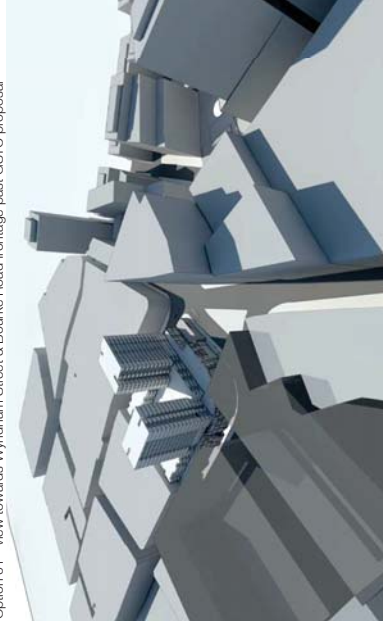
Option 01 - view towards Wyndham Street & Bourke Road frontage past GSTC proposal



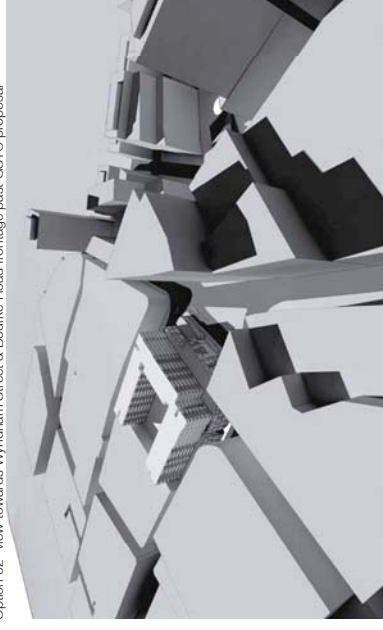
Option 02 - view towards Wyndham Street & Bourke Road frontage past GSTC proposal



Option 03 - view towards Wyndham Street & Bourke Road frontage past GSTC proposal



Option 04 - view towards Wyndham Street & Bourke Road frontage past GSTC proposal



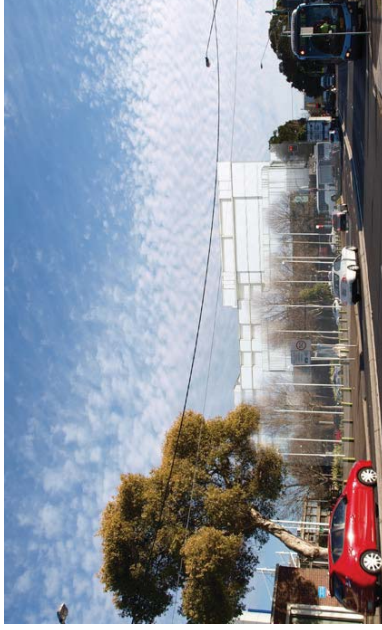
Option 05 - view towards Wyndham Street & Bourke Road frontage past GSTC proposal

Options Appraisal

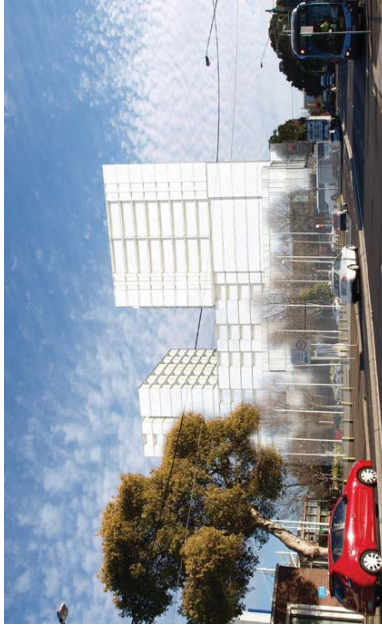
View Analysis Options 01 - 05



Existing View - view north from Botany Road



Option 01 View Analysis - view north from Botany Road



Option 02 View Analysis - view north from Botany Road



Option 03 View Analysis - view north from Botany Road



Option 04 View Analysis - view north from Botany Road



Option 05 View Analysis - view north from Botany Road

The comparison of the options in this view analysis reveals the benefits associated with taller tower forms and lower podium-level development (Option 4), as views through the site can be achieved and the sense of 'street wall' is reduced along the Bourke Road frontage.

Options Appraisal

View Analysis Options 01 - 05



Existing View Analysis - view from O'Riordan Street



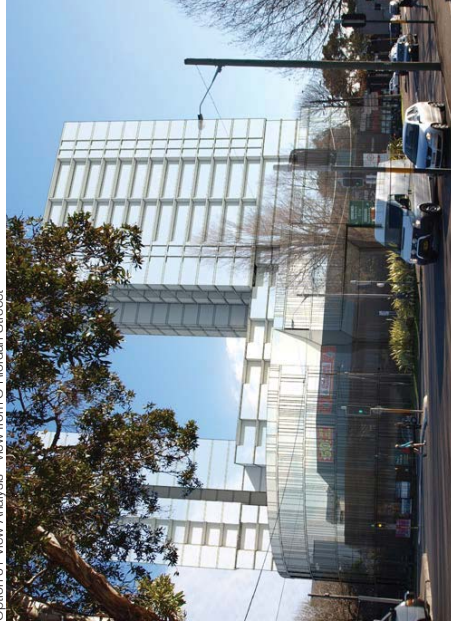
Option 01 View Analysis - view from O'Riordan Street



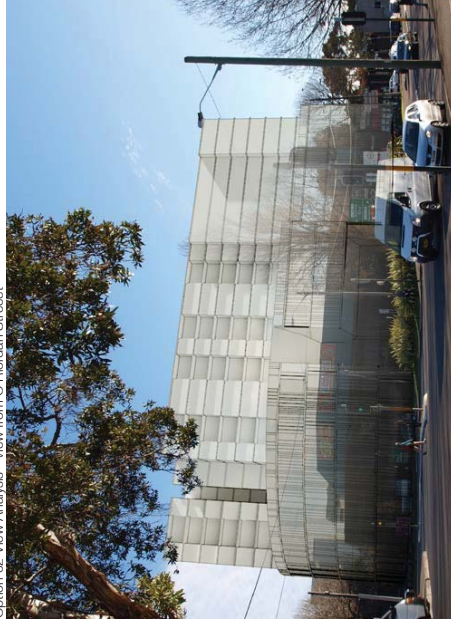
Option 02 View Analysis - view from O'Riordan Street



Option 03 View Analysis - view from O'Riordan Street



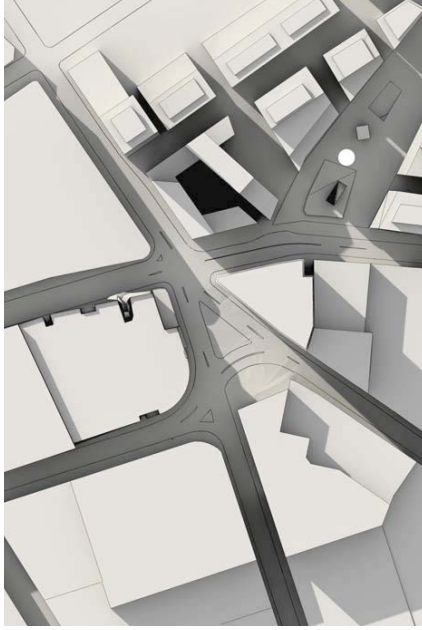
Option 04 View Analysis - view from O'Riordan Street



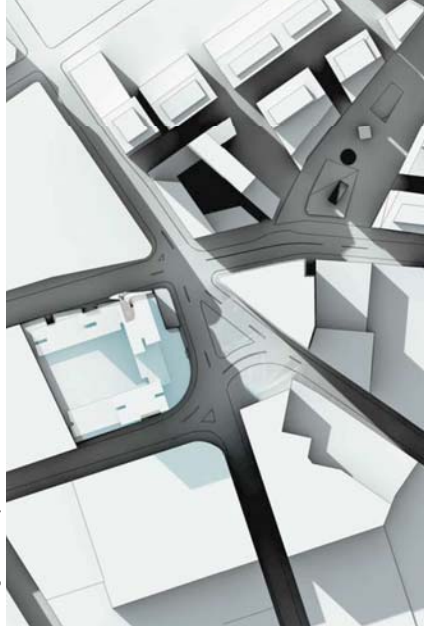
Option 05 View Analysis - view from O'Riordan Street

Options Appraisal

Shadow Analysis 9am

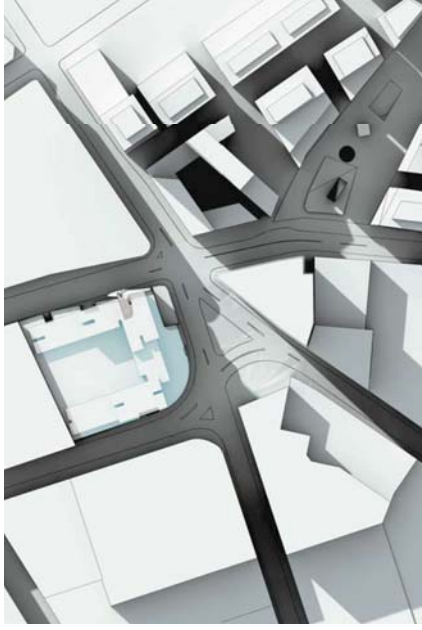


Existing Solar Analysis - Winter Solstice 9am

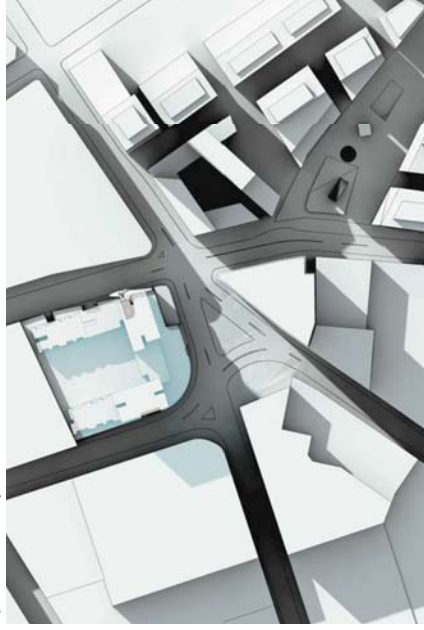


Option 03 Solar Analysis - Winter Solstice 9am

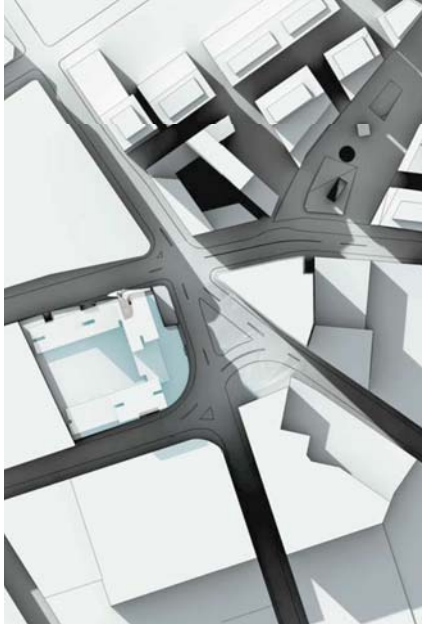
The shadow analysis of the five options identifies an impact from Options 2-4 on the south eastern corner of 179-189 Bourke Road, which is designated for Institutional (Government) uses.



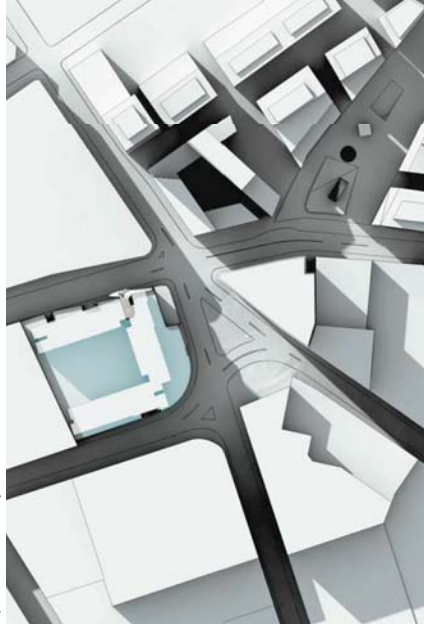
Option 01 Solar Analysis - Winter Solstice 9am



Option 04 Solar Analysis - Winter Solstice 9am



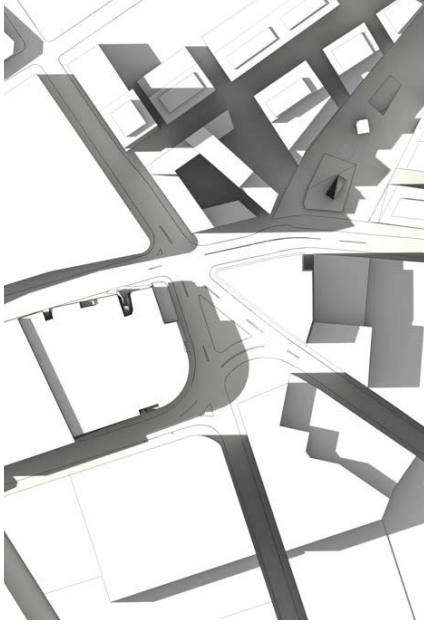
Option 02 Solar Analysis - Winter Solstice 9am



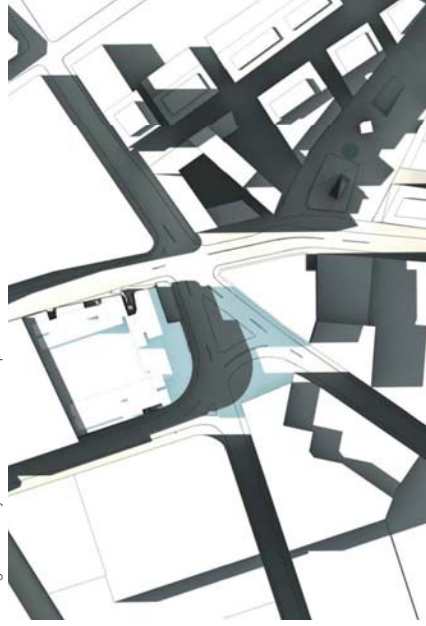
Option 05 Solar Analysis - Winter Solstice 9am

Options Appraisal

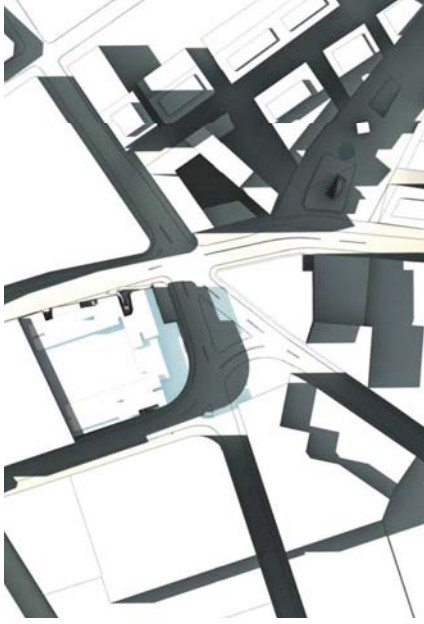
Shadow Analysis 12pm



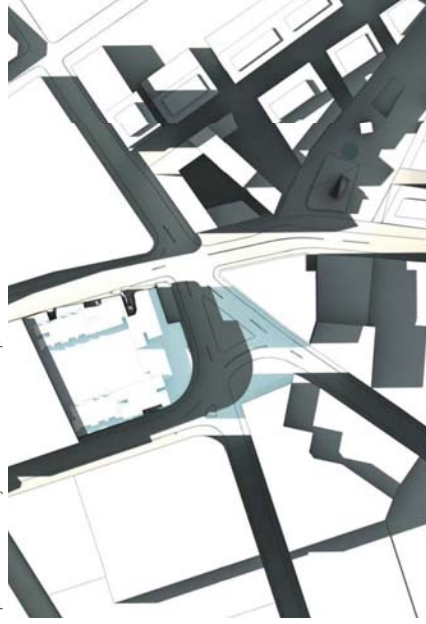
Existing Solar Analysis - Winter Solstice 12pm



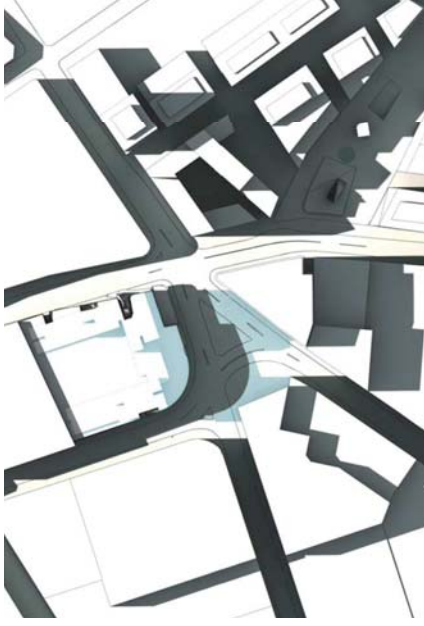
Option 03 Solar Analysis - Winter Solstice 12pm



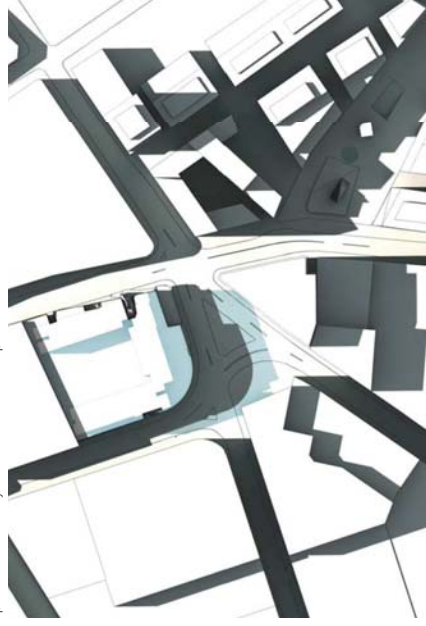
Option 01 Solar Analysis - Winter Solstice 12pm



Option 04 Solar Analysis - Winter Solstice 12pm



Option 02 Solar Analysis - Winter Solstice 12pm

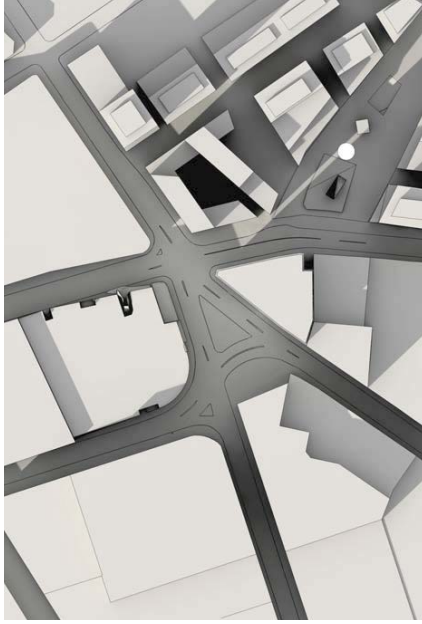


Option 05 Solar Analysis - Winter Solstice 12pm

The shadow analysis of the five options identifies a stepped shadow being cast by options 2-4 over the intersection of Bourke Road, O'Riordan Street and Botany Road.

Options Appraisal

Shadow Analysis 3pm



Existing Solar Analysis - Winter Solstice 3pm



Option 03 Solar Analysis - Winter Solstice 3pm

This shadow analysis reveals the impact of the proposed development parcels within the Green Square Town Centre on the plaza area and library, only a small sliver remains unshaded. Any development above the podium level on the proposal site will impact on this zone of sunlight.



Option 01 Solar Analysis - Winter Solstice 3pm



Option 04 Solar Analysis - Winter Solstice 3pm



Option 02 Solar Analysis - Winter Solstice 3pm



Option 05 Solar Analysis - Winter Solstice 3pm

Options Appraisal

Summary

Based on the preparation and analysis of the five options a number of important considerations have been identified that will inform the design and form of the preferred option.

Regardless of the quantum of development being proposed above the retail podium, the preference is for thinner tower elements as they have the following benefits:

- Thin, fast moving shadows
- More efficient building form
- Reduce visual impact, taking into consideration their orientation,
- Reduced bulk when viewed from the surrounding streets, space and developments, and
- Greater opportunity to design a building or landmark presence and quality.

Some residential development at podium-level is required to frame the communal open space, activate the surrounding streets, provide passive surveillance and to reinforce the form of the retail podium. However, its preferable to limit the height of the podium-level residential development so that its doesn't dominate the retail component, or the surrounding streets.

Two issues that have been looked at in greater detail in the next section is the impact of overshadowing on the Green Square Town Centre and the visual impact.



Preferred Scheme

Preferred Approach

Preferred Option Massing & Areas

For the preferred approach, we have reviewed our existing proposal and have amended it to better respond to the objectives of the Green Square Town Centre.

The internal retail shopping centre has now been replanned into an external retail high street, providing a through site link from Bourke Road to Botany Road. All active edges at the ground plane have been modified to respond to flood levels and to provide better street access to the retail.

The layout of the residential towers above the podium have been modified to address key principles of building on busy roads to mitigate impact of noise, whilst providing natural ventilation to each apartment. Height has been distributed across the site to ensure a transition from the properties to the north of the site towards the town centre, ensuring solar access is maintained to the town centre.

The following FSR assumptions have been made:

- Base FSR = 4:1
- Clause 9 Area Bonus = 1.5:1, and 2.2:1, and
- 10% Bonus to the Base FSR for Design Excellence

A further breakdown of the areas outlined in this option is presented below.

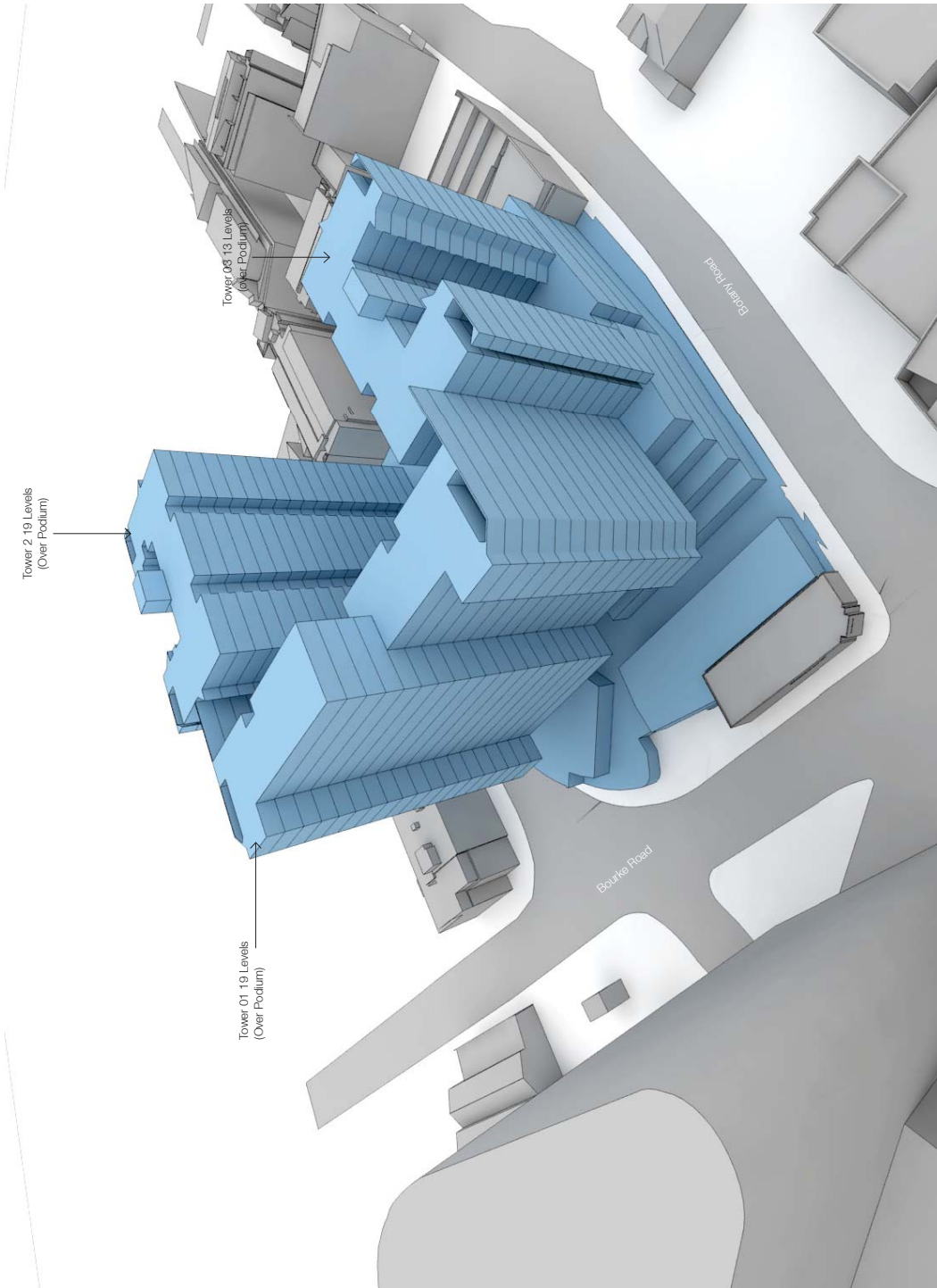
Site Area		
296-298 Botany Rd		3,935m ²
284 Wyndham St		5,200m ²
Total Site Area		9,135m ²

Base FSR		
296-298 Botany Rd	2:1 - 7,870m ²	
284 Wyndham St	2:1 - 10,404m ²	

Additional FSR		
296-298 Botany Rd	1.5:1 - 5,902.5m ²	
284 Wyndham St	2.2:1 - 11,444.4m ²	
Total maximum FSR (m ²)	35,621m ²	
Including 10% Bonus	39,183m ²	

Option Areas

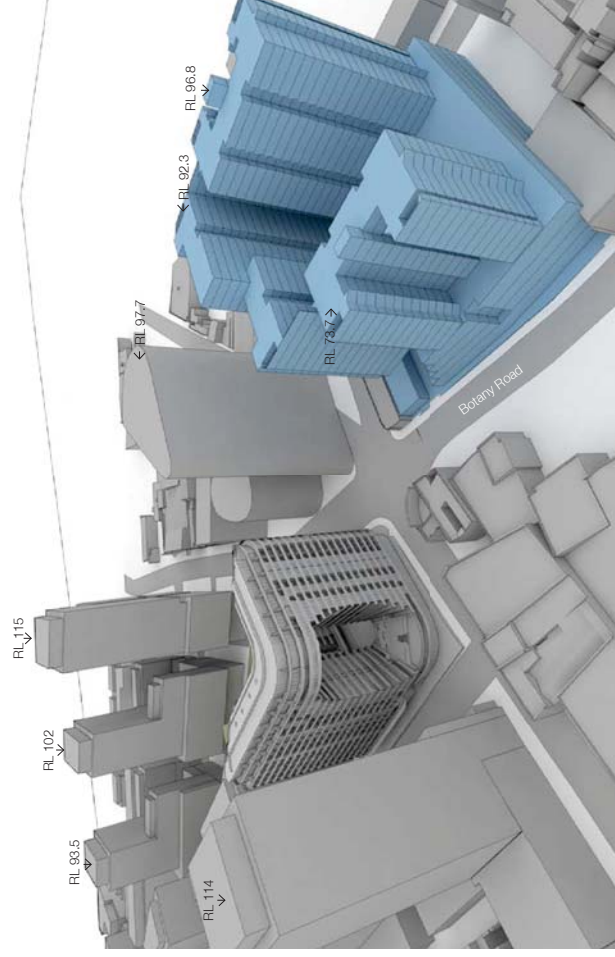
1. Podium: 7,277m²
 2. Towers GFA: 31,906m²
- Total GFA: 39,183m²
SJB Architects



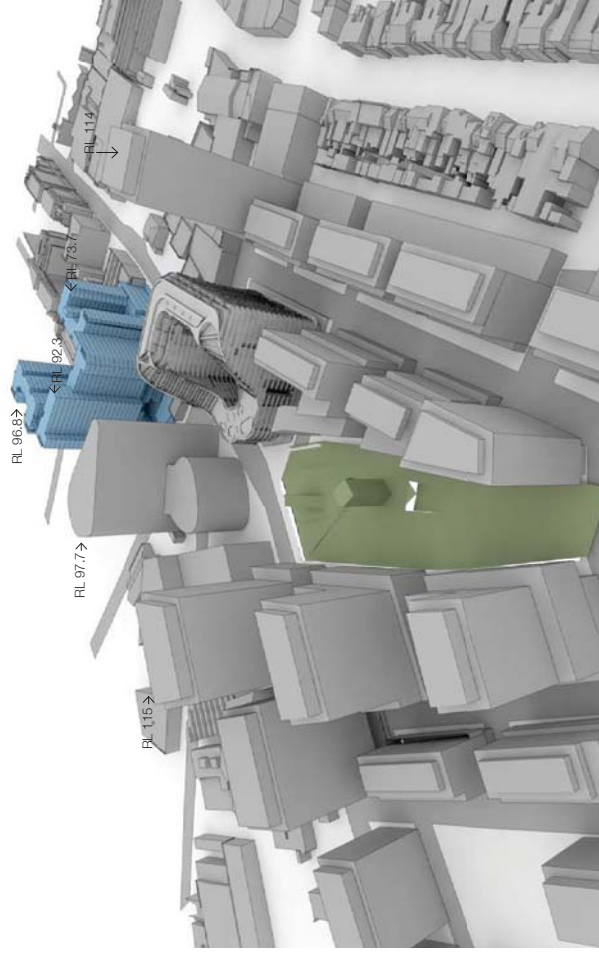
Bonus option massing in relation to the allowable heights plane

Preferred Approach

Context Massing



Massing Study - view south across the site towards GSTC (indicative massing)



Massing Study - view north across GSTC (indicative massing) towards the site

Note: the context massing shown above represents the future desired character of the area as outlined in the Green Square Town Centre Planning Ordinance

Preferred Approach

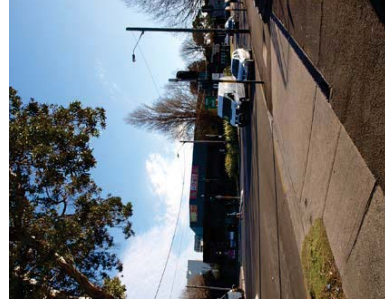
View Analysis

The visual impact of the preferred scheme on the surrounding context and streetscape has been undertaken for seven key views, including View 3, which was outlined as a key vista to the site in the urban and context analysis.

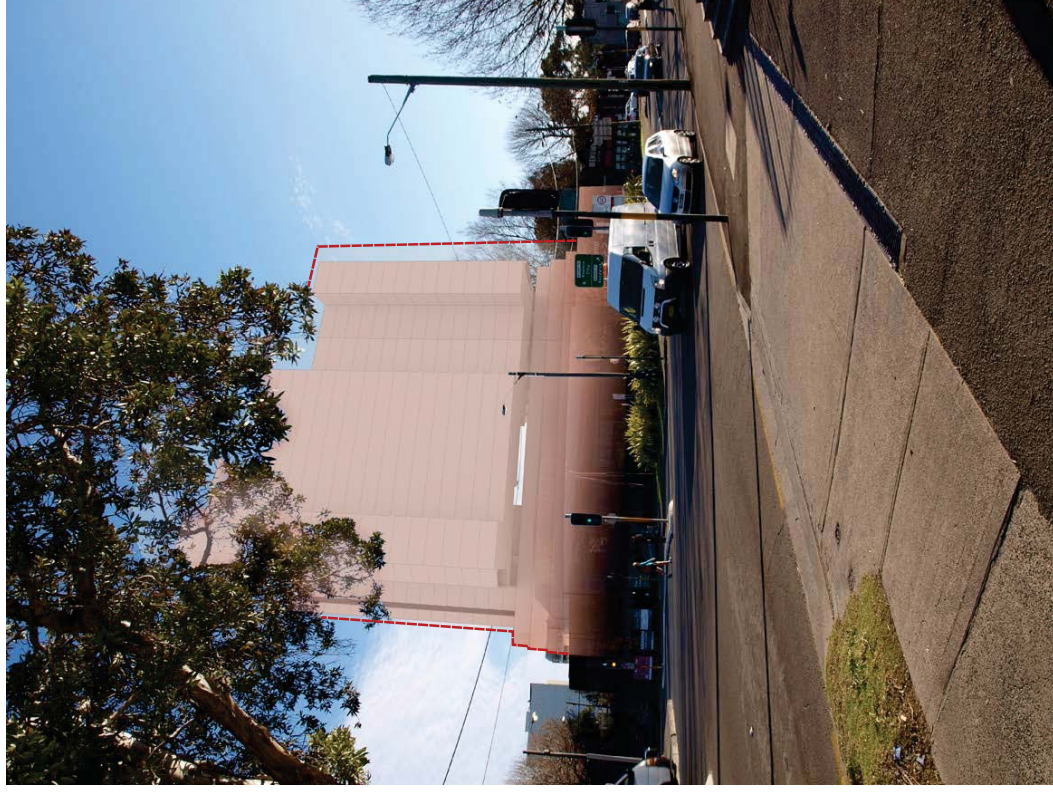
As part of the view analysis the existing trees have been retained in place, and the proposed contribution of development in the Green Square Town Centre has been ignored, but should remain a material consideration when considering the impact of the preferred option.



View analysis location map



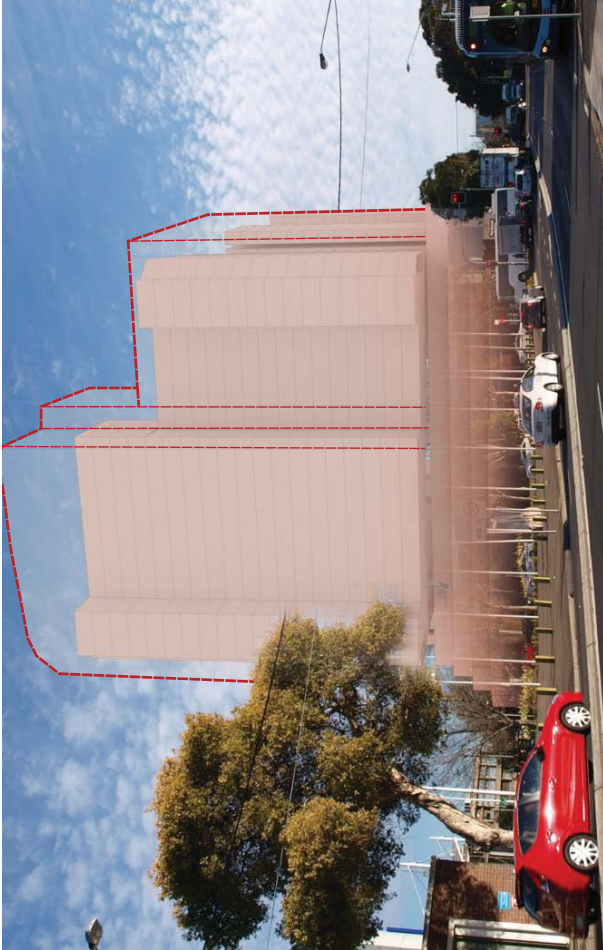
Existing view



01 View Analysis - view from O'Riordan Street

Preferred Approach

View Analysis



02 Preferred View Analysis - view north from Botany Road



Existing view

- Key
- Site Envelope
 - Proposed Built Form



03 Preferred View Analysis - view west from Bourke Road



Existing view

Preferred Approach

View Analysis



04 Preferred View Analysis - view south from Botany Road



- Key
- Site Envelope
 - Proposed Built Form



05 Preferred View Analysis - view east from Bourke Road



Preferred Approach

View Analysis

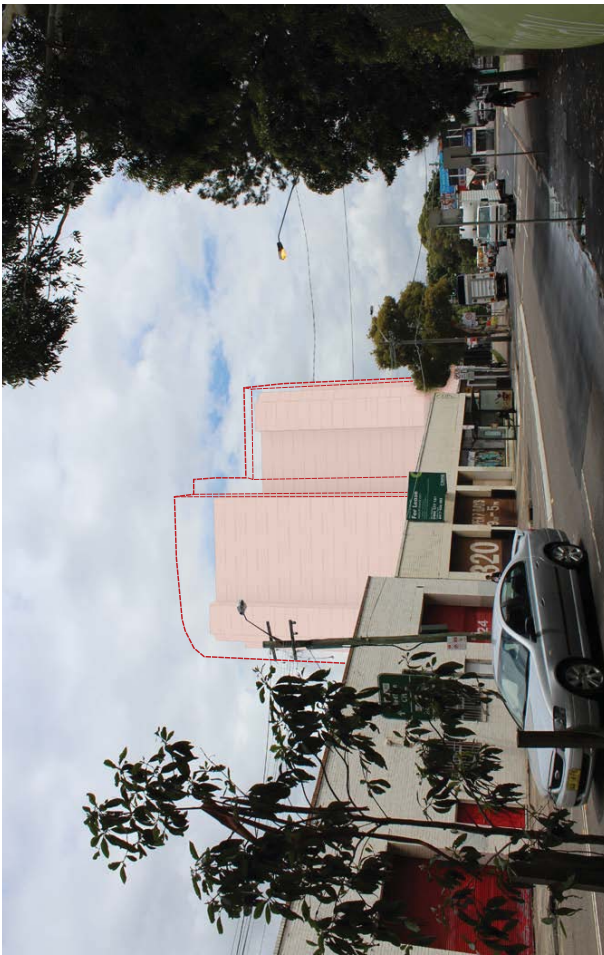


06 Preferred View Analysis - view north from O'Riordan Street



Existing view

- Key
- Site Envelope
 - Proposed Built Form



07 Preferred View Analysis - view north from Botany Road



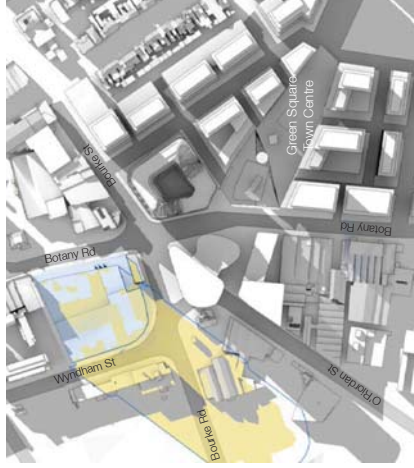
Existing view

Preferred Approach

Shadow Analysis

The study site is located to the north west of the GSTC and careful consideration to building heights has been taken into consideration with the development of the preferred option. The following conclusions can be drawn from hourly shadow analysis.

- In the morning the towers impact the neighbouring industrial and institutional uses to the west
- At Midday the development impacts the commercial development of Site 1A directly over Green Square Station
- In the afternoon the development does not impact the Green Square town centre.



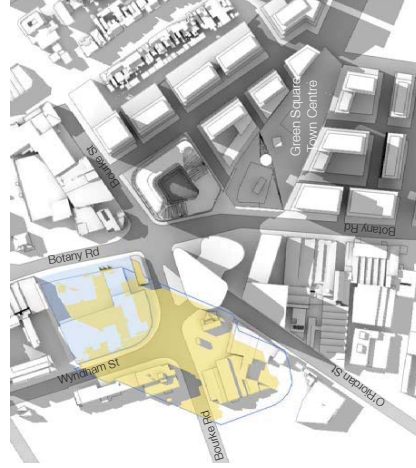
Shadow Analysis - Winter Solstice 9am



Shadow Analysis - Winter Solstice 9:30am



Shadow Analysis - Winter Solstice 10am



Shadow Analysis - Winter Solstice 10:30am



Shadow Analysis - Winter Solstice 11am



Shadow Analysis - Winter Solstice 11:30am

Key
 Site
 Built Form Shadow
 Site Envelope Shadow

Preferred Approach

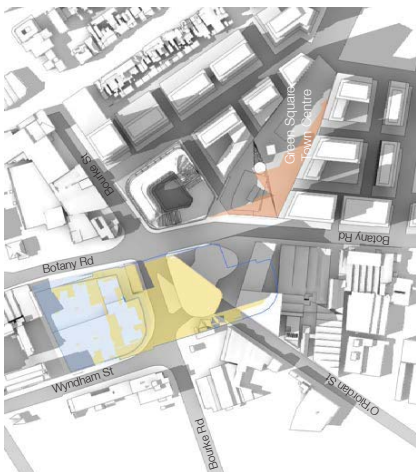
Shadow Analysis



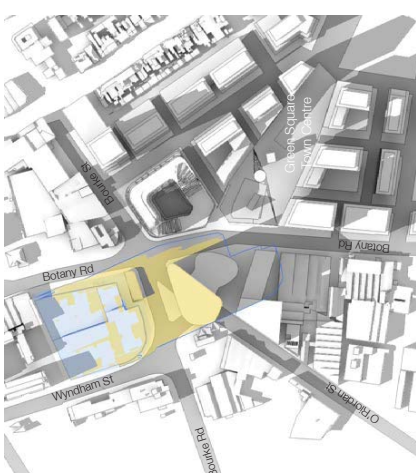
Shadow Analysis - Winter Solstice 12pm



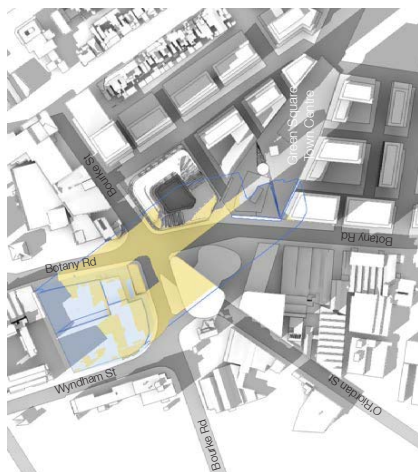
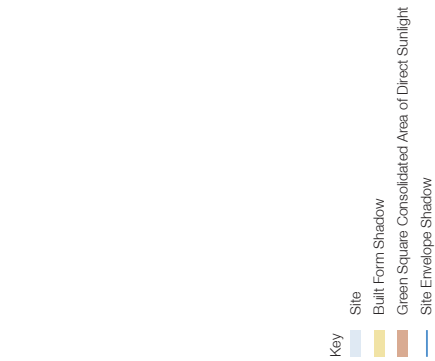
Shadow Analysis - Winter Solstice 12:30pm



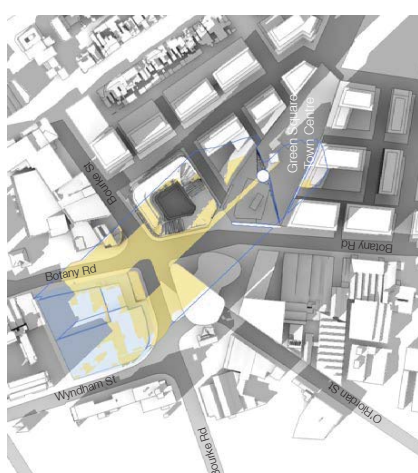
Shadow Analysis - Winter Solstice 1pm



Shadow Analysis - Winter Solstice 1:30pm



Shadow Analysis - Winter Solstice 2:30pm

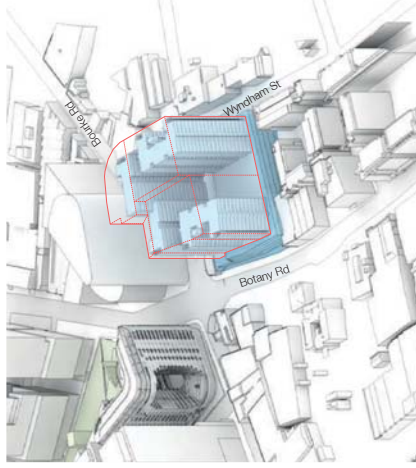


Shadow Analysis - Winter Solstice 3pm

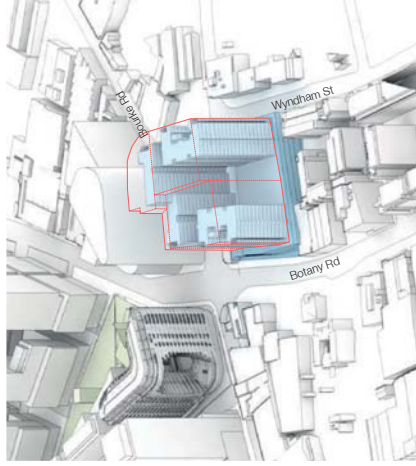
Preferred Approach

View from Sun Position

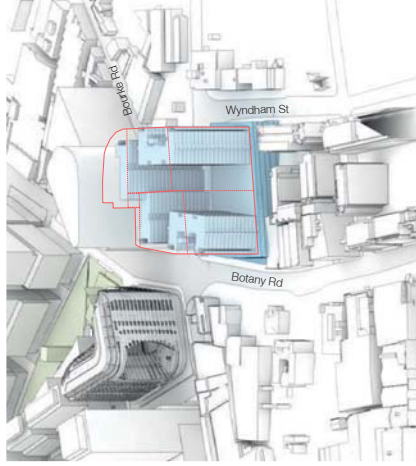
The diagrams above present the site from the view of the sun, everything visible in the three diagrams will receive sunlight for the half hour interval. The diagrams to the right show that the subject site is generally consistent with shadows identified in Figure 3.2 of the Green Square Town Centre Development Control Plan 2012, amended May 2014.



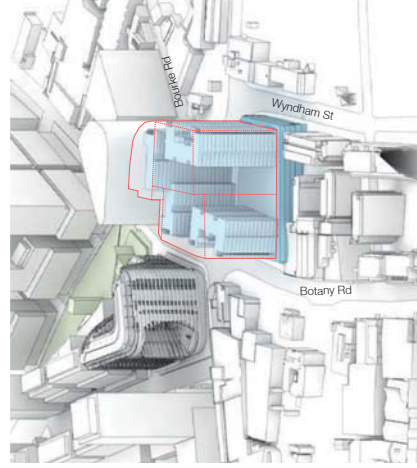
View from Sun Position - Winter Solstice 12pm



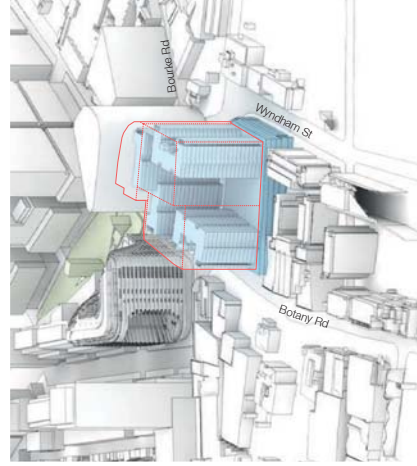
View from Sun Position - Winter Solstice 12.30pm



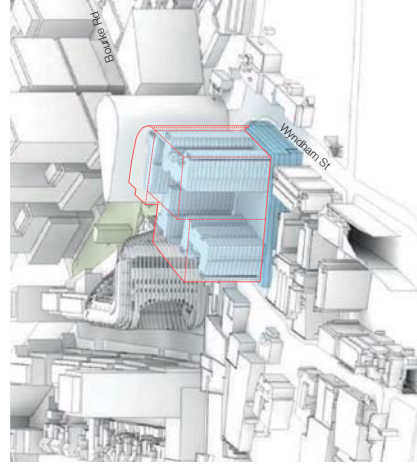
View from Sun Position - Winter Solstice 1pm



View from Sun Position - Winter Solstice 1.30pm



View from Sun Position - Winter Solstice 2pm



View from Sun Position - Winter Solstice 2.30pm

Key
Proposed

