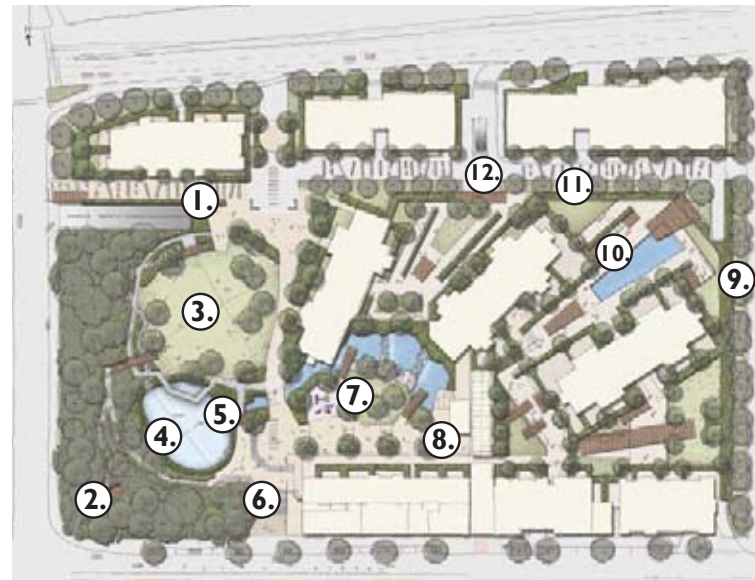


6.0 OPTIONS & DESIGN STRATEGIES



Amended landscape strategy plan indicating intended character for various areas of the site

6.0 OPTIONS & DESIGN STRATEGIES



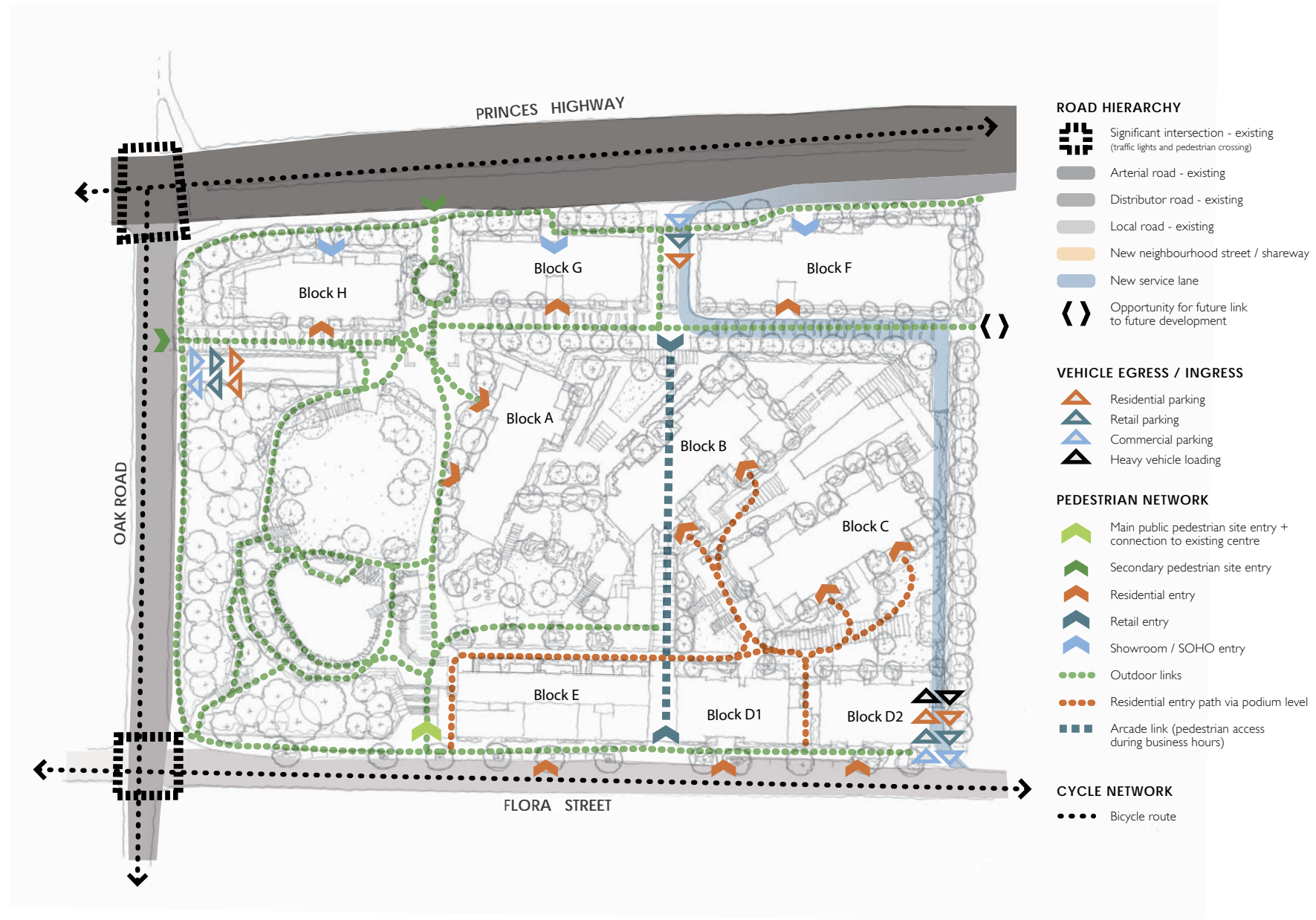
Amended landscape and open space hierarchy

6.0 OPTIONS & DESIGN STRATEGIES

URBAN STRUCTURE AND MOVEMENT NETWORKS:

- The urban structure within the site will be permeable and interconnected, with through-links for pedestrians north-south and east-west via an internal street, links through the park and piazza and along the new street through to the future development to the east.
- The park will have new pedestrian pathways along its eastern edge linking to the Brick Kiln site and east-west restricted shareway as well as to the Highway.
- The east-west restricted shareway defines the park to the north.
- Building footprint proportions are suited to the intended uses allowing for high quality open space and good building separation.
- New development creates an appropriate enclosure, activation and scale to the existing streets and highway.
- The central building forms are orientated to radiate out from the park and entry point on Flora Street, giving strong address and link to the existing centre.
- There are two pedestrian connections from Flora Street - the first is through the park, towards the remnants of the Brick Kiln and then Princes Highway. The second is through the active internal street of the retail arcade. Both pedestrian links also connects with the public piazza to the south and a restricted shareway to the north.
- Vehicular access is via the new shareway accessed from the proposed deceleration lane from Princes Highway to the east. This connects to a vehicle and service street running along the eastern boundary linking to Flora Street. The shareway link connects with retail and commercial parking ingress and provides a bus and taxis drop off area.
- The main pedestrian entries to the site is from Flora Street - both close to the park further down Flora Street on grade. Both link to the public Piazza. This entry is a direct link from the Town centre and railway station.
- The internal street (pedestrian) will be accessible as open to the public Piazza during business hours.
- Pedestrian access to the Brick Pit site, the new park and the northern side of Flora Street from the existing Centre and the Station will be improved to allow safe and regular pedestrian and cycle movement through the future park and the development as well as to the industrial/business uses on Flora Street.
- Cycle linkages are surrounding the site - along Oak Road, Flora Street and Pacific Highway. These routes form part of a network that connects Sutherland in the west with Cronulla in the east and all suburbs between. The network also extends to the Botany Bay cycleway which links to other parts of Sydney. To support this, bicycle parking and facilities will be provided within the proposal in accordance with the Sutherland Development Control Plan and developed in detail when the Project Application is prepared.
- There will be a vehicle entry point from Oak Road with a left in and left out and a left and right in and out on Flora Street. There will be also a parking ingress and egress to commercial, retail and residential parking from Oak Road.
- Vehicle entry points will be located away from the primary pedestrian routes and towards the edges of the site i.e. the deceleration lane access from the Princes Highway, the new northern street and exit to Flora Street to the east.

6.0 OPTIONS & DESIGN STRATEGIES



Amended Concept Plan - vehicle and pedestrian network

6.0 OPTIONS & DESIGN STRATEGIES

BUILT FORM (MASSING, HEIGHT AND SEPARATION):

The scale of the development does not comply with the DCP storey requirements and this is openly acknowledged.

- The proposal suggests the following building heights:
 - 4 storey street wall with setback to 5th floor to Princes Highway at the eastern end and 5 storey street wall with setback 6th level at the western end of the site
 - 5 storey street wall with setback 6th level to Flora Street
 - Three taller forms in the centre of the site:
 1. Building A - 6-14 storeys including podium levels
 2. Building B - 7-11 storeys including podium with upper floors as greatly reduced footprints to articulate the top of the building
 3. Building C - 6 storeys at the eastern boundary rising to 7 storeys to the west.
- The following floor to floor heights are appropriate to allow for flexibility in uses:
 - Buildings to the Princes Highway frontage - 4m maximum
 - Other buildings maximum 4.2m floor to floor height for retail and maximum 3.1m to residential floors.
- The proposal will include a range of unit types to provide for choice and diversity for residents and encourage a range of occupants and lifestyle choices - housing types will include apartments and SOHO facilities with units to include 1, 2 and 3 bed apartment options and some with studies. Dual aspect and two storey apartments will form majority of units.
 4. The height of buildings will be lowest at the edge of site to respond to the existing scale of the neighbouring buildings and to the STIF forest forming the south west corner scale for the site. The tallest building on site will be the 14 storeys to the north west of the site which will act as a gateway or a marker for Kirrawee and provide the interpretive response to the original heritage chimneys, which, according to a recent survey by AWT Survey Pty Ltd, ranged between a maximum height of 12 to 14 storeys.
- The location of edge built form will reinforce the new and existing street alignment and provide excellent passive surveillance with activation to all ground floors by the use of retail tenancies, SOHO residential, commercial areas or commercial / showroom uses.
- The final boundary line to the northern edge along the Princes Highway will be determined once the final design for the deceleration lane and the road dedication is finalized. The proposal will provide a minimum setback to the residential uses for



The built form will respond to its scale and create architectural interest in its articulation and roof elements

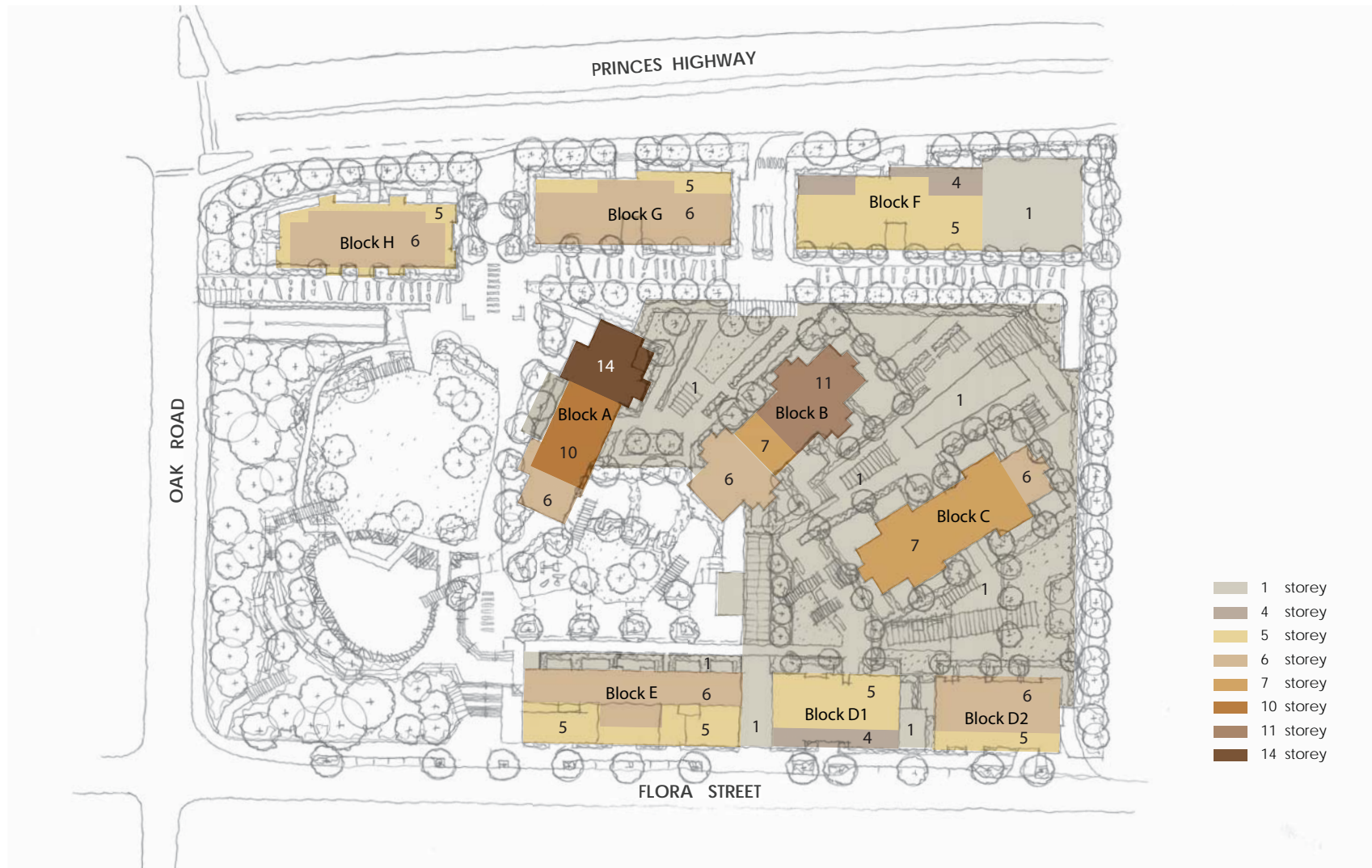


A diversity of housing will be provided including lower scale edge buildings

improved amenity and separation from the highway (building line excluding balconies and private open spaces) in the order of 10 meters from the boundary line which is yet to be determined.

- Flora Street will be activated by residential building entries and small scale retail frontages which provide facilities and services for the adjoining industrial businesses and local residents. The proposed buildings along Flora street have been further articulated to create three distinct building forms and relate better to the grain of the existing uses across the street. This street currently has a very poor amenity and has major safety issues outside business hours. The design and character of this frontage will continue the Village Centre grain and character of the existing Oak Road shops.
- The separation distance between Buildings E and D is approximately 10.3m. The distance between Block D1 and D2 presents a similar condition (10.2m) after the length of Block D was divided into two separate segments in order to provide a better built response to Flora Street. According to the RFDC the required distance between habitable/balcony spaces and non-habitable rooms is 9m for buildings up to 12m. Therefore both of these conditions meet the RFDC's separation requirement. High windows and maintaining north to south outlooks for all units can ensure privacy and outlook requirements are also met. Privacy screening can be used at the end of balcony conditions, if required.
- Access to the retail internal street will be provided from Flora Street centrally as well as from the piazza to activate Flora Street.
- The design of the buildings will greatly enhance the ambiance of Flora Street, Oak Road and the Princes Highway as well as within the site itself. They will set a new benchmark for quality development in the area.

6.0 OPTIONS & DESIGN STRATEGIES



Amended Concept Plan - building heights

6.0 OPTIONS & DESIGN STRATEGIES

ACTIVATION:

- The park frontage will be activated by residential building entries and the cafe/ restaurants which will edge the piazza. The park is the province of Council and may not eventuate early in the life of the development. Therefore, Henroth Investments Pty Ltd seek to provide this facility and activation in the first stage of the redevelopment of Kirrawee to assist in providing a destination and activation to Flora Street from the beginning.
- The Princes Highway frontage may be activated by showroom/commercial/SOHO uses and will provide convenience parking to encourage patronage.
- This frontage will also provide vehicle entry for patrons using the other retail facilities on the site - keeping the area around Flora Street and Oak Road relatively free of traffic in an already congested environment.
- The buildings to the Princes Highway will have a second address to the northern linking street within the site so they will activate both frontages.
- Building envelopes will be oriented to balance the requirement for northerly orientation and the edging and activation of the street and open spaces. The grain of the buildings along Flora Street and Princes Highway will respond to the village character of Kirrawee Centre and provide an intimate scale and appropriate building proportions.
- Building length and separation distances between the building envelopes will comply with and at times exceed the requirements of SEPP 65 and the Residential Flat Design Code to create appropriate communal open spaces, outlooks for all the apartments, a high level of privacy and an appropriate built form rhythm to the streets and open spaces (refer to the Separation Diagram):
- The ground level public domain, the northern linking street and the pedestrian link through the retail areas will all have active edges and frontages onto them from the proposed retail uses, in order to provide a level of surveillance and activation during shopping hours (refer to the activation diagrams). After hours, shops will shed light and provide an interface onto the public domain. These areas will be further overlooked by residential uses above ground level.



Flora Street at the corner to the park will be activated with retail frontages and outdoor dining



The piazza within the development can be activated by seating areas and informal dining

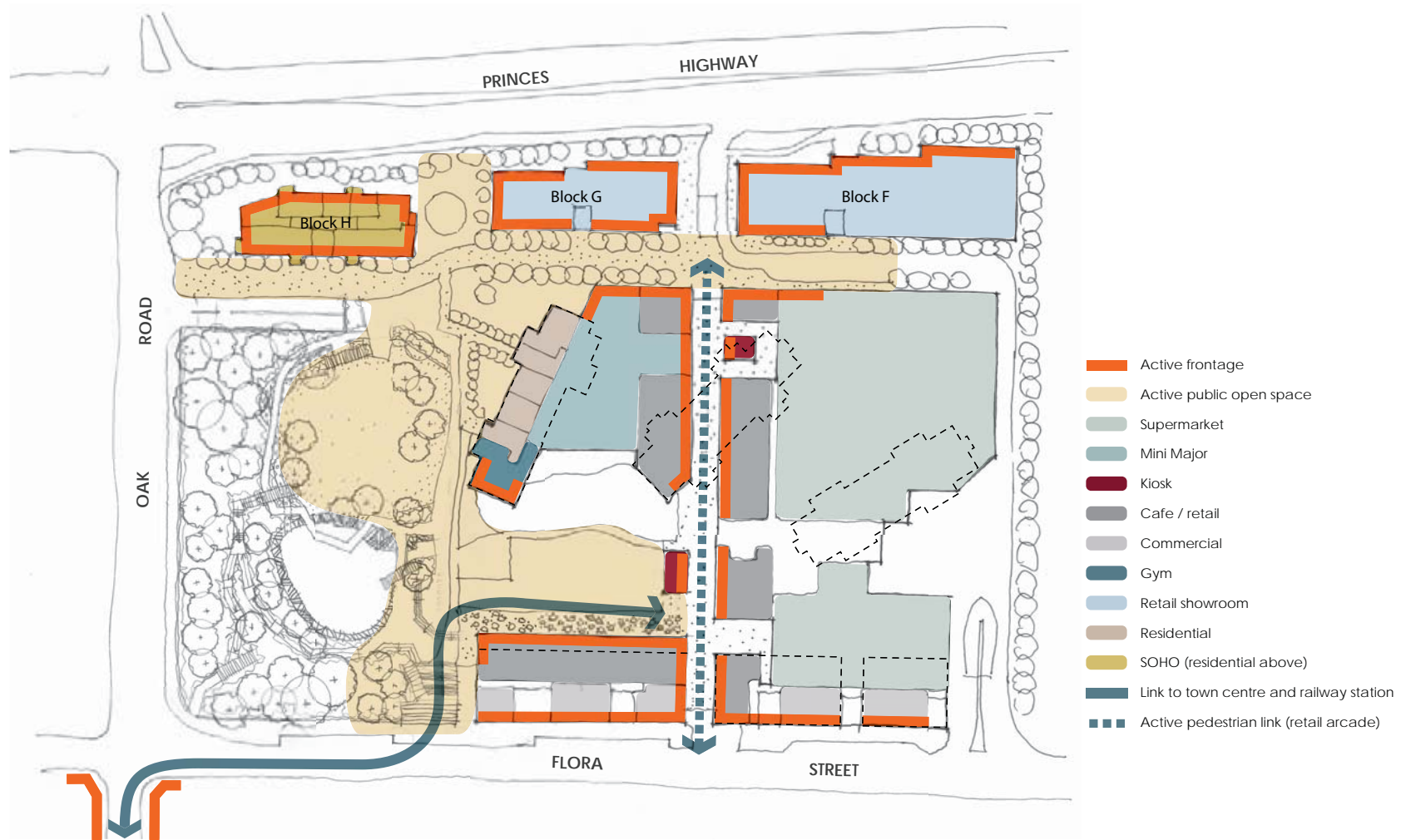
HERITAGE:

- Kiln I is better preserved and will be targeted for conservation, interpretation and display.
- The kiln will be maintained in its current location with connection to the new public park and Princes Highway as part of an integrated art and heritage strategy that will also recognise and celebrate the aboriginal pre - history for the site.
- Residents, visitors and workers alike can enjoy the remnants of the kiln as part of their recreational experience within the park.
- A study by AWF Survey Pty Ltd shows that the heights of the former chimney towers ranged between 35 to 41m for the western tower and between 38 to 48m for the eastern tower. These heights are equivalent to 10-12 storeys and 10-14 storeys respectively. Taller development within the site will attempt to recapture the former gateway status of the site by introducing similar heights.



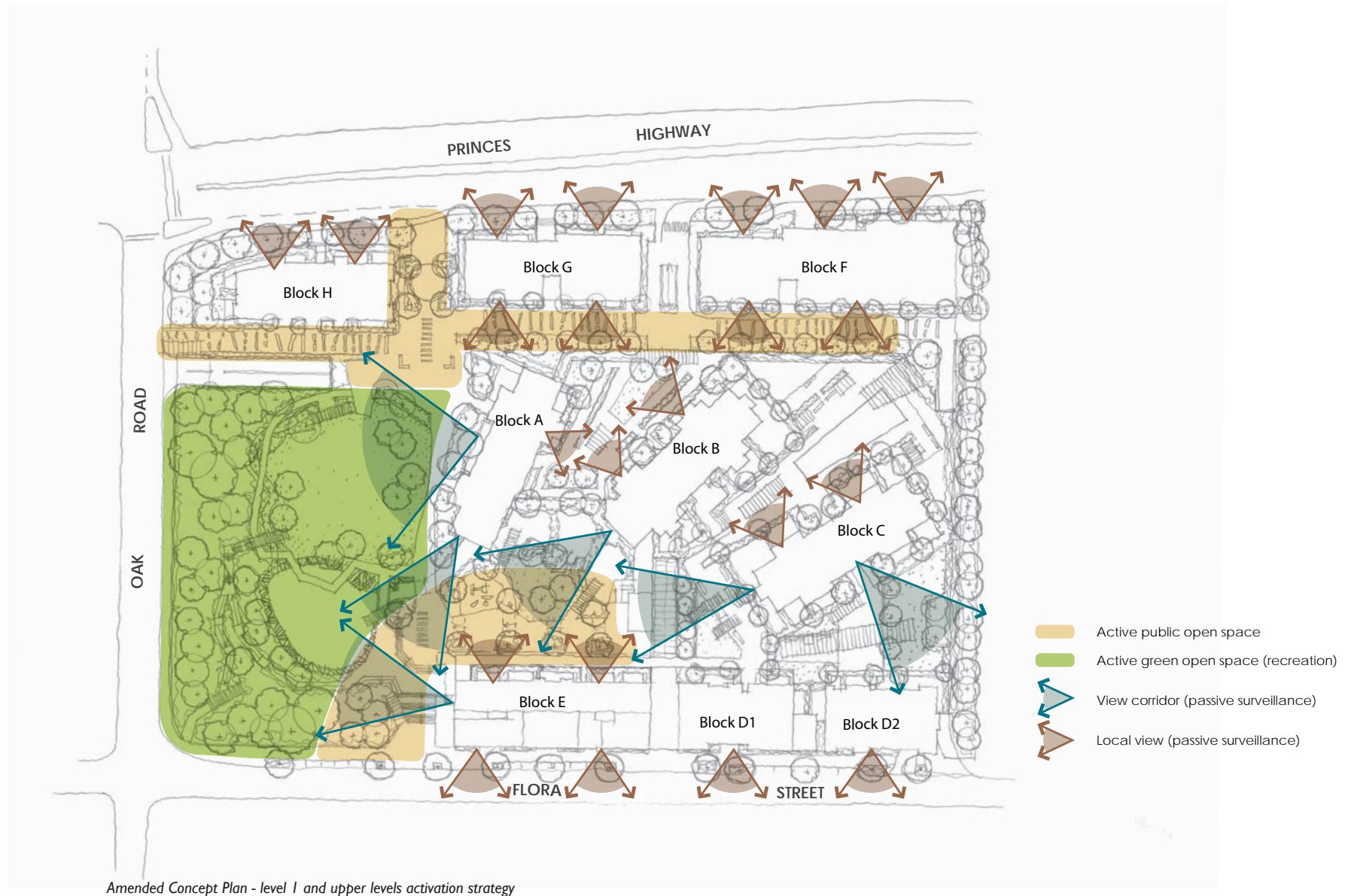
The brick kiln remnants (Kiln I) is being retained and integrated within a pedestrian connection as part of the interpretive strategy for the aboriginal heritage

6.0 OPTIONS & DESIGN STRATEGIES

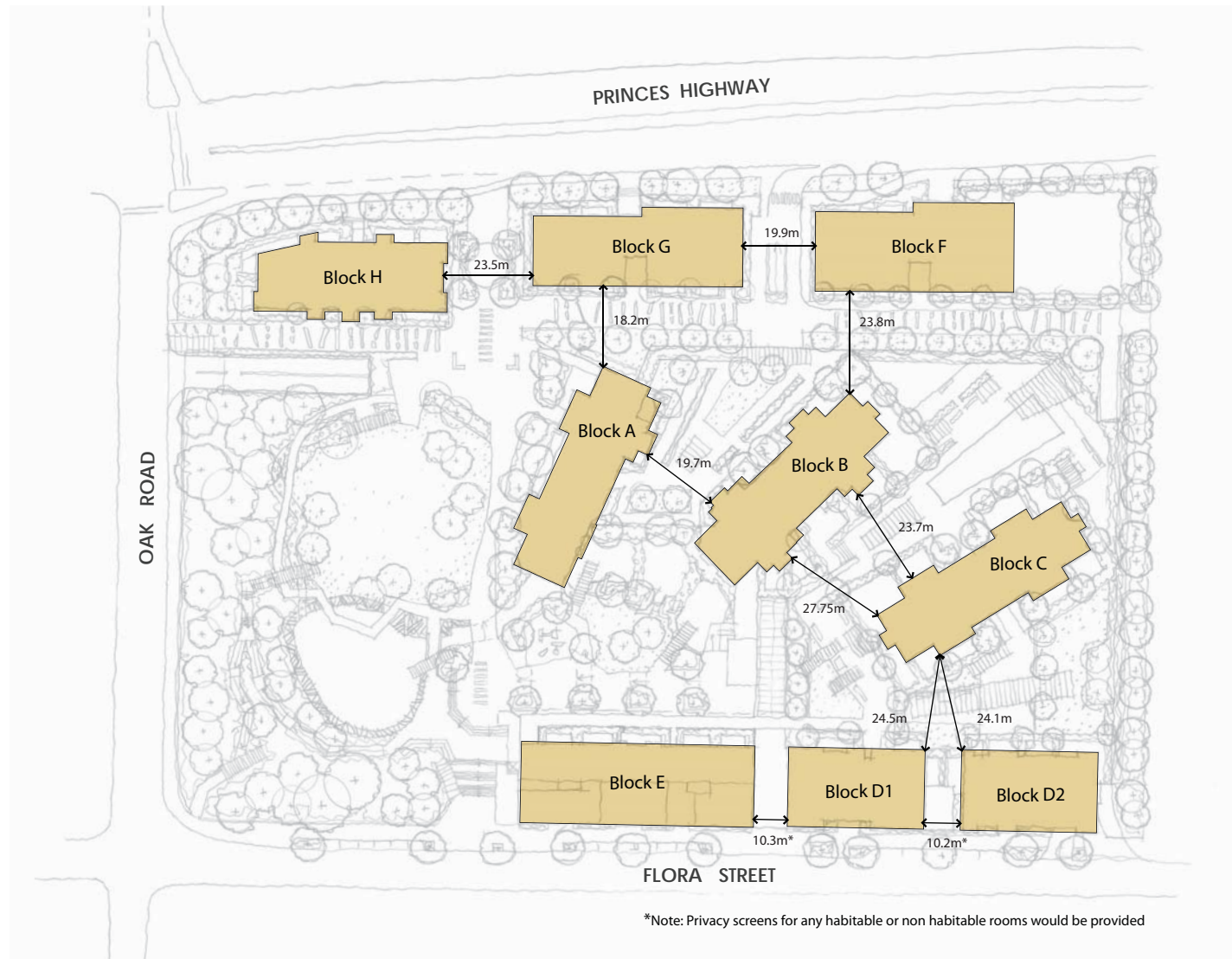


Amended Concept Plan - ground level activation strategy

6.0 OPTIONS & DESIGN STRATEGIES



6.0 OPTIONS & DESIGN STRATEGIES



Amended Concept Plan - building separation

6.0 OPTIONS & DESIGN STRATEGIES

VISUAL IMPACT ANALYSIS

INTRODUCTION

The following view analysis compares of a number of views taken from key points in the vicinity of the site. This section assesses the proposed Concept Plan in terms of the visual impact of its bulk and scale in each of the selected view points. These points include both distance to close proximity views from the surrounding streets to assess if the proposal's view impacts are reasonable and acceptable given the context.

The selected points from nearby key locations such as the view from Sutherland and Kirrawee Railway Stations (Views 1 and 10) as well as from Kirrawee Oval (View no.14) and the National Park (View no.15) looking north have been selected due to their high public usage. Close proximity views such as those from the corner of Princes Highway and Kenneth Avenue (View 4) and the corner of Oak Road and Flora Street (View 11) have been selected due to their role as iconic views and gateway markers for Kirrawee and the site.

The various points have been shown in the adjacent map and numbered in a sequential order. The chosen heights for each of the view points are equivalent to those of the human eye to ensure that the images accurately portray the proposal's visual impact as would be seen at the pedestrian level.

Each of the views has been given a view impact designation based on a low, moderate and high impact. The criteria for each designation is as follows:

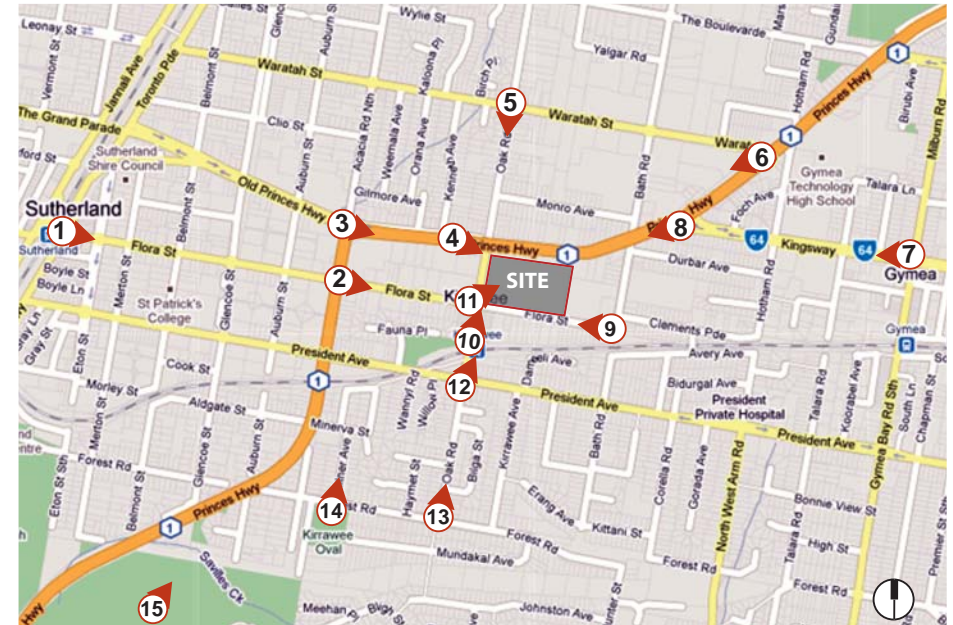
No impact: the proposal is not visible at all within the view frame.

Low impact: The proposal creates little or no discernible impact.

Moderate impact: the proposal is visible from that vantage point, but no significant obstruction of sky or landmarks occurs and the built form blends with the existing surroundings.

High impact: a discernible change occurs within the view frame. Mitigation measures may be suggested unless impact is appropriate as a gateway marker.

The view impact analysis required the reassessment of some of the views amended as part of the PPR. In cases where there has been an improvement in the view impact, suggested mitigation measures have been removed.



Location of photomontages (courtesy: Google Maps)

6.0 OPTIONS & DESIGN STRATEGIES

VISUAL IMPACT ANALYSIS

VIEW 1 IMPACT: NO IMPACT

View 1 from Sutherland Station looking east along Flora Street looks down the small retail precinct adjacent to the Station and beyond the tree canopy of the surrounding residential areas to the east. This point is located approximately 1290 metres away from the north west corner of the site at RL 112.81.

As observed in the before and after images, there are no view impacts from this location. Therefore, the view impact is acceptable.



View no 1 - Sutherland Station looking east along Flora Street

VIEW 2 IMPACT: NO IMPACT

The view from the corner of Flora Street and Acacia Road looking east (View 2) is approximately 420 metres away from the south west corner of the site at RL 104.91. This view is characterised by a tall canopy on both sides of a predominantly residential street. As observed in the adjacent images, there are no view impacts from this location.

View impact is acceptable



View no 2 - Corner of Flora Street and Acacia Road looking east

6.0 OPTIONS & DESIGN STRATEGIES

VIEW 3 IMPACT: NO IMPACT

View 3 is from the corner of Princes Highway and Acacia Road looking due north east which is located approximately 449 metres away from the north west corner of the site. More up-to-date survey information has allowed us to reassess the actual impact of the proposal on this view. As shown in the before and after comparison images, the proposal's lower and taller built forms will be almost imperceptible at the end of Princes Highway. This view impact is therefore considered acceptable.



View no 3 - Corner of Princes Highway and Acacia Road looking east



VIEW4 IMPACT: HIGH

There is a discernible change to the view from the corner of Princes Highway and Kenneth Street and it could be considered significant due to the current vacant state of the site and the presence of existing vegetation along the boundary edge facing the Highway. However this view shows how the lower scale built form generally follows the height of the existing vegetation creating a buffer between the Highway and the taller built forms behind. The lower scale buildings reinforce the built form edge and activate an otherwise vacant and non surveilled streetscape. The scale of the lower buildings is also generally consistent with the heights intended under the LEP and therefore could reasonably be expected even with a compliant proposal.

The taller form creates a definite marker announcing the arrival to Kirrawee and reinterpret the historic role of the chimneys that previously existed on the site.



View no 4 - Corner of Princes Highway and Kenneth Avenue looking south east



6.0 OPTIONS & DESIGN STRATEGIES

VIEW 5 IMPACT: MODERATE

The view from the corner of Waratah Street and Oak Road looking south is located approximately 456 metres north of the north west corner of the site at RL 81.40 which is significantly lower than this corner of the site which sits at RL 99.0. This view shows that the upper levels of Blocks A and B show above the existing retail/commercial development at the corner of Waratah Street and Oak Road. No iconic views or significant extent of sky are obstructed and again the proposal marks the centre of Kirrawee. Further amendments as part of the PPR have reduced the overall height of the towers visible from this vantage point, therefore the impact is considered to be acceptable.



View no 5 - Corner of Waratah Street and Oak Road looking south



VIEW 6 IMPACT: MODERATE TO LOW

View 6 from the corner of Waratah Street and Princes Highway (686 metres to the NE) shows that the profile of the tallest built forms proposed for the site (Block A and B) show above the existing Commercial/retail development along Princes Highway. Further amendments to the buildings' overall height help to ensure that the built form remains significantly below the canopy of the trees. As shown on the pictures there is no discernible change in the quality of the view and the built form does not overpower the view or obstruct any significant amount of sky. Therefore, the impact is acceptable.



View no 6 - Corner of Waratah Street and Princes Highway looking south west



6.0 OPTIONS & DESIGN STRATEGIES

VIEW 7 IMPACT: NO IMPACT

The view from the corner of Kingsway and Gymea Bay Road looking west is dominated by extensive tall tree planting that screens much of the built form giving a green street edge to the road. There is no discernible change to the view, therefore this outcome is acceptable.



View no 7 - Corner of Kingsway and Gymea Bay Road looking west

VIEW 8 IMPACT: HIGH

The view from the corner of Kingsway and Princes Highway looking southwest shows that the proposal will be highly visible at the end of the axis before the road turns to the north west direction. The view shows that the proposal's lower scale edge will form a continuation of the built form along the Highway providing an activated edge to the ground level. The taller built form towards the back forms two distinct tower silhouettes with a considerable extent of the sky still visible around, in between the towers and above the development. This is considered to be a gateway view when approaching from the north east and therefore some impact is expected if the proposal is to reinterpret the tall chimney forms that historically marked Kirrawee.

Further amendments as part of the PPR has resulted in more slender tower forms. This provided a wider gap between the built form exposing a greater extent of sky between the towers thus emphasising their iconic nature.



View no 8 - Corner of Kingsway and Princes Highway looking south west

6.0 OPTIONS & DESIGN STRATEGIES

VIEW 9 IMPACT: LOW

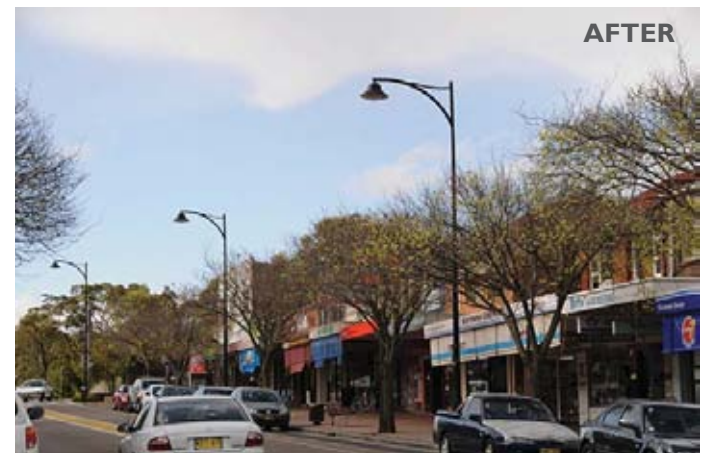
The view from the corner of Bath Road and Flora Street looking west is dominated by tall tree planting that screens much of the built form giving a green street edge to the road. The development creates the built form edge to Flora Street and is also just visible over the top of the industrial sites to the east. This view is likely to be obscured when those sites redevelop. This impact is considered acceptable.



View no 9 - Corner of Bath Road and Flora Street looking west

VIEW 10 IMPACT: NO IMPACT

The view from Kirrawee Station looking north towards the site shows the fine grain retail strip along Oak Road beyond the Station's entrance. None of the proposal's built form is visible from this location therefore there is no impact.



View no 10 - Kirrawee Station looking north towards the site

6.0 OPTIONS & DESIGN STRATEGIES

VIEW 11 IMPACT: MODERATE

The view from the corner of Oak and Flora Street shows how the lower scale built form facing Flora Street defines the edge of the block and its height stays below the height of the existing vegetation along the street. The taller built form (Block A) is visible above the tree canopy of the STIF. This is a prominent view that will be visible upon approach by pedestrians coming from the Railway Station and the retail strip creating a termination point or destination at the opposite end of the Station. The silhouette of the taller built form protrudes above the tree canopy which will help with “way-finding” by creating an iconic marker and an interesting skyline for the site. Therefore, this is considered as an acceptable outcome.



View no 11 - Corner of Oak Road and Flora Street looking into the site

VIEW 12 IMPACT: LOW

The view from the western footpath of Oak Road and President Avenue shows the entrance to the Kirrawee Station to the right of the street and the lower scale fine grain retail Strip along Oak Road beyond the Station.

The view shows no change to the view along the retail strip with only the taller built forms showing to the right hand corner of the view. The extent of built form that is visible is considered reasonable as it marks the ridge and Kirrawee as a Centre and does not obscure any iconic landmarks.



View no 12 - West of President Avenue and Oak Road

6.0 OPTIONS & DESIGN STRATEGIES

VIEW 13 IMPACT: NO IMPACT

There are no apparent view impacts as shown on views 13 from the corner of Oak and Forest Roads. Therefore, this is an acceptable outcome.



View no 13 - Corner of Oak Road and Forest Road looking north



VIEW 14 IMPACT: NO IMPACT

There are no apparent view impacts as shown from the Kirrawee Oval looking north. Therefore, this is an acceptable outcome.



View no 14 - From Kirrawee Oval looking north



6.0 OPTIONS & DESIGN STRATEGIES

VIEW 15 IMPACT: NO IMPACT

There are no apparent view impacts as shown on view 15 from the National Park looking north. Therefore, this is an acceptable outcome.



View no 15 - National Park looking towards the Visitor Centre office

CONCLUSION

The view impact analysis of the Concept Plan analyses the maximum possible massing. Therefore it can be reasonably expected that as the scheme is developed the bulk and scale would reduce as fine scale detail and articulation are introduced. Further amendments as part of the PPR have already achieved a significant reduction in built form, height and mass, thus improving the visual impact on most of the views analysed.

The most significant impacts are shown to occur close to the site mainly along the Princes Highway. This is to be expected and given the concept is to mark the entry to Kirrawee by reinterpreting the historic role of the chimneys, this is considered reasonable. The forms mark the ridge and do not create adverse private view impacts or obscure existing landmarks or water views. More distant views have very minimal impacts where the scheme reads as part of the built form / landscape skyline or has no impact at all. Further amendments to the height and overall building bulk and scale have improved the overall visual impact of the proposal. Therefore the proposed view impacts are considered reasonable.

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kirrawee brick pit **PREFERRED PROJECT REPORT**

7.0 URBAN DESIGN REVIEW

7.0 URBAN DESIGN REVIEW

This section of the report considers the Concept Plan against the objectives of the DCP and the principles of State Environmental Planning Policy 65 (SEPP 65). The Concept Plan has been prepared by Henroth Investment Pty Ltd to maximise the opportunity presented by the site whilst allowing for flexibility in the final uses and internal building design. The design intent is that the development provides a high quality outcome that meets the needs of the local and new residents over time.

The Concept Plan includes:

- A proposed structure plan/site plan showing the disposition of building footprints, streets and open spaces for the entire site
- Maximum building heights, footprints and separation distances
- Indicative layouts and plans for the piazza level retail, loading and parking
- Indicative underground parking layouts for basements.

Given this is a Concept Plan application, it is not possible to provide a detailed assessment. Rather this review considers the potential of the site to meet the objectives and provide a high quality solution for Kirrawee. Further amendments have been made as part of the PPR and they are also discussed throughout this section.

LEP review for Kirrawee:

The clauses covering urban design issues are clauses 48 and 49 within the SSLEP.

CLAUSE 48 – URBAN DESIGN GENERAL:

- The extent to which high quality design and development outcomes for the urban environment of Sutherland Shire have been attained, or will be attained by the proposed development:*

Comment:

The proposal will provide a high quality mixed use development that embodies Council's goals and objectives for the Kirrawee Centre and the Brick Pit site. The quality of the streetscapes, open spaces and new buildings will provide a high quality, contemporary solution that will set a new benchmark for this locality and contribute to the activation and amenity of the area.

Flora Street will be an active retail and residential environment with numerous points of entry for the retail facilities on the ground floor, the commercial terraces on the first floor and the residential uses above. The new water body and piazza will offer a unique experience for residents and visitors and build on the character of the existing Centre, linking the piazza to the town Centre through its entry design adjacent to the park including outdoor dining and a series of wide steps and water features which will link strongly to the Oak Road retail strip and the Kirrawee Railway Station.



The new proposal will offer a unique experience for residents and visitors

7.0 URBAN DESIGN REVIEW

- b. *The extent to which any proposed buildings are designed and will be constructed to:*
- (i) *Strengthen, enhance or integrate into the existing character of distinctive locations, neighbourhoods and streetscapes, and*
 - (ii) *Contribute to the desired future character of the locality concerned,*

Comment:

While the height of the buildings does not comply with the current Council's DCP controls, the massing and scale of the built form ensures that the edges of the development respond to the lower scale and grain of Kirrawee and the STIF canopy height whilst ensuring the street wall height maintained the DCP intent of 4 storeys to Flora Street. Reductions to the length of the buildings along Flora Street have achieved a better relationship to the existing grain across the street. The taller forms concentrated to the centre of the site remain placemarkers for the site without creating negative impacts to the surrounding area.

The built form has the potential to create a high quality design solution that provides an iconic identity for Kirrawee. The Flora Street boundary of the site will be activated by retail uses with residential and commercial development above to improve the amenity, character and safety of the street.

The development will set a benchmark for the desired future character of the area by providing well designed contemporary buildings offering high amenity apartments that will comply with SEPP 65/Residential Flat Design Code and provide a high standard of living. The site will be activated by the new public park, public piazza and new retail facilities.

The proposal will provide a strong sense of address for Kirrawee to the Princes Highway and improve the permeability of the area.

- c. *The extent to which recognition has been given to the public domain in the design of the proposed development and the extent to which that design will facilitate improvements to the public domain,*

Comment:

A Landscape Concept Plan has been prepared that illustrates the public domain improvements proposed on the site. The urban structure of the site provides an east west restricted shareway street and pedestrian network through the park and retail areas that provide strong linkages between the site and the surrounding streets. Public domain areas have clear way finding and vistas through to the open space areas of the site. The streetscapes will be well landscaped in compliance with Council's street tree policy and will provide a high quality amenity.

The site has been designed to maximise the public areas at ground level through the site. The new park will have a natural water body that transitions to a more 'urban' water feature. This is edged by a public piazza open 24hrs/7 days a week.

The internal retail street links the north to south across the site and it will be open during business hours. The site is permeable and will offer a range of play areas for kids, BBQ areas, paths, cycle ways and gym elements to encourage its public use. Please refer to the Landscape plans and report.

- d. *the extent to which the natural environment will be retained or enhanced by the proposed development,*

Comment:

The proposal retains the STIF within the western area of the site. It will be integrated into the new 0.9HA park. Additional planting and landscape is possible within this new park subject to discussion on the VPA with Council. The street trees and proposed landscape strategy also create habitat links across the site. A number of the existing trees including hollow bearing habitat located to the north east corner of the site will also be retained. Native species will be used generally across the site.

- e. *the extent to which the proposed development will respond to the natural land form of the site of the development,*

Comment:

The site has been extensively excavated and there is very little of the site that retains its natural contours. The western, southern and eastern areas have been greatly altered from the original natural landform. The proposal sensibly utilises this excavation to accommodate underground car parking without any above ground impacts in built form or height.

Within the new park (subject to the VPA) a new water body will be established extending up to the piazza in recognition of the former brick pit. The western water body will support and maintain the existing flora and fauna that has developed along the Pit edges due to the introduced water body. The layout preserves the major areas of habitat on the site and will allow retention of existing ground levels within the park where the STIF is located.

The new water bodies reinterpret the brick pit excavation in a sustainable way with better water quality and structural stability.

- f. *the extent to which the proposed development will preserve, enhance or reinforce specific areas of high visual quality, ridgelines and landmark locations, including gateways, nodes, views and vistas,*

7.0 URBAN DESIGN REVIEW

Comment:

A visual impact assessment is provided in the previous section. The proposal exceeds the heights in the DCP but does not impact on outlooks. The taller form reinforces the ridgeline and reinterprets the tall chimneys that historically marked Kirrawee.

Amendments to the overall heights, bulk and scale of the buildings have ensured that their iconic role as a gateway marker is maintained and enhanced, therefore creating new vistas and ameliorating any visual impacts. The proposal allows view corridors into the site from the east, north and south to the new water body and will create new vistas.

The proposal recognizes its role as the gateway to Kirrawee by providing the taller form closer to Oak Road and the Highway but set back behind a lower streetwall. The lower scale buildings facing the Highway and provide a visual and acoustic barrier for the remainder of the development. The design of the proposal intends to provide a series of communal and public spaces that create views and vistas within the development. The location of the park and piazza enhances the visual quality of the site as per the DCP.

CLAUSE 49 – URBAN DESIGN – RESIDENTIAL BUILDINGS

- a. *the extent to which recognition has been given in the design of the development to the needs of the diverse and changing population of Sutherland Shire,*

Comment:

The proposal includes a range of dwelling types and sizes. Dual aspect, corner and through apartments are possible within the designated envelopes including 1, 2 bed, 2 bed plus study and 3 bed apartments. The retail facilities along Flora Street and at the ground level provide significant employment opportunities and meet the localized needs of the employment corridor to the north and east as well as for local residents. Pending the resolution of the VPA, provision of a 9,000sqm park will also satisfy the needs of the local community.

- b. *the extent to which any adverse impacts of the proposed development on adjoining land and open space in terms of overshadowing, overlooking, views, privacy and visual intrusion will be minimised,*

Comment:

The site has 3 street boundaries including the Princes Highway, Flora Street and Oak Road. Only the eastern boundary is shared with an adjoining lot and development. This development is an industrial/business use. The proposal is setback from the eastern boundary to allow for a landscape buffer to the loading and service areas. The eastern edge of the development is created by the new street and the podium structure. The development above the podium is well set back from the boundary and is orientated away from this boundary to ensure it does not adversely impact the adjoining development.

The Concept Plan is unlikely to create any significant adverse impact given the adjoining use and separation distance. Additionally, the full length of the eastern boundary will be landscaped with trees and understory planting to minimize visual impact to and from the adjoining site. The podium edge will also be landscaped.

Overshadowing will extend into the eastern site from approximately 1pm with a long shadow through the afternoon. However the overall extent of shadow is less as discussed under the SEPP65 amenity section. For Flora Street the development shadows will not impact on the southern properties. It maintains a 4 storey street wall height with the 5th level set back to ameliorate any overshadowing impacts.

The taller built form is located towards the centre of the site and will not have any adverse overshadowing on any of the adjacent properties. Reductions to the overall heights have ensured that any potential overshadowing has been further minimised.

- c. *the extent to which the quality of the streetscape concerned will be improved by the development,*

Comment:

Flora Street currently has a very poor amenity and has major safety issues outside business hours. The proposal will provide active retail tenancies and residential entries along the length of Flora Street not occupied by the new park. Amendments to the scheme included an additional residential entrance along Flora Street. This will encourage greater pedestrian movement in a safe environment by the provision of generous footpaths and public domain improvements to the northern side of the street.



The residential buildings will offer a contemporary high quality design outcome with the potential for living areas, balconies and terraces

7.0 URBAN DESIGN REVIEW

New street trees will be provided in between the parking bays along Flora Street and landscape will also be provided above the lower ground floor retail shop fronts to soften and improve the visual ambience of the street. The residential development above will offer a contemporary high quality design outcome with the potential for living areas, balconies and terraces overlooking Flora Street to improve its passive surveillance.

- d. *the extent to which there will be private open space of a sufficient area and dimensions to enable proposed and required activities,*

Comment:

The proposal includes large areas of open public space including communal open space within the Concept Plan. New public areas include 9000 m² of public park plus 3412 m² of public piazza and associated body of water and 7700 m² of communal open space. Every apartment will have the potential for generous balconies or terraces which would meet the DCP and design code in width and allow for passive recreation.

- e. *the extent to which any adverse impacts of the proposed development on adjoining land in terms of size, bulk, height, scale and siting will be minimised,*

Comment:

There are no adverse impacts from size, bulk, height, scale or siting on adjoining land. As mentioned the site has 3 street frontages and shares only one boundary with adjoining development. The land adjacent is industrial/commercial and the new development will have no adverse impacts. Directly adjoining the boundary are single storey commercial/industrial units off a central driveway with a blank wall the length of the site.

The adjoining development is internalized in its layout and does not seek amenity for residential or other uses across the site. The design on the Brick Pit site has been developed assuming redevelopment of the adjoining site in the future. Therefore the separation distance more than meets the requirements of the Residential Flat Design Code as there are only 2 buildings above podium height near that boundary. Building D presents its narrow elevation to the boundary and Building C presents just one corner. In addition the concept proposes landscape buffering along the boundary.

The building forms that edge the site provide a lower scale varying from a 4-5 storey streetwall. This corresponds to the height of the STIF canopy and it is appropriate as an interface to the existing built form.

- f. *the extent to which the residential building concerned integrates with a well-designed landscaped setting,*

Comment:

Refer to the landscape report.

- g. *any opportunities for the provision of affordable housing.*

Comment:

There is no Council requirement for the provision of affordable housing on this site.

REVIEW OF THE PROPOSAL AGAINST THE SSDCP:

Section 5 of this report lists the planning controls that apply to this site in summary. They are contained under a number of key principle statements which apply to both Kirrawee Centre and the Brick Pit itself. Section 6 of this report considers the design strategies that have guided the Concept Plan.

It is not proposed to repeat that discussion here. Rather a brief summary will be given considering how the Concept Plan responds to the key principle statements within the DCP to assist the Department in their consideration of its overall merit despite the adjustments in the urban structure and height for the site.

Centre aims :

1. *Create an Identifiable Character for the Town Centre.*

Comment :

These buildings must exhibit unique, high quality architecture and landscape design to achieve an identifiable marker to the Centre as well as to the site and the suburb of Kirrawee.

The taller cascading envelopes will rise as sculptural elements above the STIF and the lower edge buildings (See discussion under aesthetics in the SEPP65 review section). The Concept Plan for the Brick Pit site includes a retail centre to support and expand the existing Centre. It will also support the northern employment uses. The design of the corner park, new piazza, its entry and the retail frontages to Flora Street will create a unique character for the site and Centre, and extend the core of the Kirrawee Centre along Flora Street as articulated in Council's DCP.

The location of the park captures the high value STIF to the west and south of the site. All these elements help to reinforce the character of the Centre.

7.0 URBAN DESIGN REVIEW

2. *Create a street and block structure that optimizes legibility, permeability and efficiency.*

Comment :

The LEP contains an indicative block form for the site. The proposed Concept Plan captures the objectives of the DCP to achieve its major aims. The proposed pedestrian network will link Oak Road, Flora Street and Princes Highway. A slip road is provided for access from the highway that feeds the retail traffic directly into the basement parking areas.

The Concept Plan proposes an upgrade to the intersection at both Flora and the Princes Highway with Oak Road. The Concept Plan is not a street based scheme. During assessment of the previous DA, the Council did not support a car based network through the site. The Concept Plan, therefore, seeks to take cars underground as quickly as possible via the Princes Highway access and dive structures from Oak Road and Flora Street. Service vehicles are intended to use the Princes Highway access and exit via Flora Street adjacent to the industrial precinct.

The pedestrian network within the site is fully connected. The new northern restricted shareway provides the future link to the east. It is connected to Flora Street via the main servicing and car parking street along the eastern boundary of the site.

The remainder of the site is accessed by the restricted shareway lane which links the North Street to the East Street. It provides a one way system with capacity for passing whilst also prioritising pedestrian movement.

The design of the new streets will indicate their lower order status of restricted shareway and service road. The restricted shareway will be finished in a small paved surface that shows its designation as well as landscaping and tree planting.

The remainder of the site is dedicated to cycle and pedestrian access only to maximise the area of the open space, water body and piazza and minimise car dominance within the site as described by Council. Pedestrian links will be provided along the restricted shareway, through the new park, through the piazza and the internal retail street (see Section 6 - Options and Design Strategies).

3. *Create a network of public open spaces in order to create vegetation corridors and a wide range of recreation spaces, strongly linked to adjacent Shire Parklands and sporting facilities*

Comment:

The Concept Plan enhances the existing tree canopies with new plantings and extends the STIF to the north. Additional trees will also be provided within public and communal open space areas. This maintains the existing vegetation corridor through the site. A range of communal and public open spaces are provided within the development as shown on the Landscape Concept Plan (refer to the landscape report).

Due to the provision of retail facilities and car parking, it difficult to provide deep soil areas over the developed portions of the site; however, deep and wide planters will be provided across the podium in private, communal and public open spaces with semi mature trees and planting. This will provide a strong landscape character to the site.

The public park will subject to a Voluntary Planning Agreement (VPA) between the site owner and Council and it will offer the opportunity for a large recreational space to form the northern node and destination to complement Rotary Park on the opposite end of the retail centre resulting in two large open spaces at opposite ends of the Kirrawee Centre.

4. *Increase and enhance the opportunities for pedestrians and cyclists to access the precinct and to move safely and comfortably within the public domain*

Comment :

All the commercial, retail and residential uses are linked into the pedestrian and open space networks. It is not appropriate for buses to move through the Brick Pit site – they are appropriately accommodated on Oak Road, Flora Street or the Highway. This increases pedestrian activity around the site.



A network of public open spaces, vegetation corridors, a wide range of recreation spaces

7.0 URBAN DESIGN REVIEW

The concentration of vehicular access on the Highway, north Oak Road and east Flora Street minimizes the number of conflicts between vehicles and pedestrians/cyclists accessing the station and town centre as well as for the site itself. The site is in fact dedicated to pedestrian and cycling networks.

The northern road is a restricted shareway which will connect to the east once development of the adjoining industrial states happens in the future. This would provide a future link for pedestrians and cyclists as well as vehicles.

Active frontages are provided to all buildings, which will provide a safe public domain – to Flora Street via a combination of retail tenancies, residential building entries and feature steps into the park and to the piazza through activation such as cafés and restaurants. For the Princes Highway frontage the future design of the buildings will demonstrate activation via appropriate commercial and SOHO uses on the ground floor as well as residential uses above.

Streets and open spaces within the site will be activated at ground level by retail frontages and overlooked and activated by residential apartments above podium levels as well as residential entry points and communal spaces along streets at ground level.

5. *Incorporate ESD principles into all stages of design, including the design of public spaces, block and site layout and built form*

Comment :

The majority of buildings are oriented to maximise solar access whilst managing overshadowing to the public open spaces. The taller forms are aligned so that they radiate from a central common point located near the entry steps into the site; this allows for their longest facade to be oriented generally to the north west. This orientation maximises solar access, cross ventilation and view sharing to most apartments without major impacts to adjoining sites.

Most proposed buildings achieve effective solar access except for Blocks C and D2 along Flora Street which are least favoured by location being subject to overshadowing by the proposed buildings to the north. However, both of these buildings can be designed to achieve a minimum of 70% of apartments with effective winter sun according to the report by Steve King on the proposal's overshadowing and cross ventilation analysis.

The lower scale buildings to Princes Highway face north and have the potential for dual aspect arrangement as well as those facing Flora Street.

The orientation for the proposed building envelopes are as follows:

- Blocks A, B and C have their longitudinal axis generally oriented north east to south west.
- Blocks H, G and F facing Princes Highway have their longitudinal axis oriented east to west so their major elevations face directly north and south.

- Blocks D1, D2 and E along Flora Street have their longitudinal axis generally oriented east to west.

Amendments to the overall bulk and scale of the central taller blocks have seen a reduction from an overall depth of 26m to an average of 14 meters wall to wall. An increase in depth to 21m is introduced in very specific locations around the stair and elevator cores to allow for vertical circulation, but maintaining the same depths as the rest of the units. This in combination with dual aspect and corner units as well as the overall orientation of the buildings would ensure high amenity and adequate solar access and natural ventilation.

The combination of building orientation and types of units which include dual aspect and corner units result in the development having a reduced number of south facing units. According to the architect's revised area schedule, Blocks A and B contain no south facing units and the rest of the blocks range between 7 and 8 percent with a maximum of 9% for Blocks C, F and H only. This is below the 10% maximum requirement as per the RFDC which is a positive outcome.

The solar access to the piazza is excellent throughout the year with percentages ranging between 91-96% for spring and autumn and even reaching 100% percent during the summer months between noon and 2:00pm.

The piazza and park will experience some overshadowing during the winter months, with the most overshadowing happening only during the month of June. This is unavoidable if northerly sun is to be provided to the built form. However, the location, orientation and staggered form of the taller buildings ensures, that at least 32-37% of the piazza would receive sun between noon and 1:00 pm reaching almost 50% by 2:00 pm (see shadow diagrams on the next page).

The area of the plaza dedicated for outdoor seating which comprises approximately of 265m² will receive at least 47-72% of solar access during these same hours in winter creating the opportunity for cafes and restaurants to provide an outdoor dining experience throughout the year.

For residential and commercial buildings water can be conserved by minimising runoff and rainwater harvesting for reuse for toilet flushing (commercial uses) and irrigation throughout the site. Indigenous species that are drought resistant and irrigation systems can be installed to minimise water usage.

The location of the site assists in minimising car use as it has walkable access to bus routes along the Princes Highway and Kirrawee Train Station to the south west of the site along Oak Road. Additionally the retail component of the development expands the existing services and facilities available to residents on site and within Kirrawee as well as for the existing industrial and commercial uses to the north and east of the site. These facilities will make the area more attractive for commercial development and will reduce car use for shopping trips which currently takes residents a considerable distance from the locality.

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The movement network within the site links to the existing street network and provides footpaths to all streets and through the development. The cycle network also has a similar level of permeability through the public open spaces providing cycle access through the site.

The orientation of the central taller blocks (A, B and C) has the potential for excellent daylight access and natural ventilation to most units. Commercial and retail uses (i.e. open air cafe and restaurants facing the piazza) will also have access to natural ventilation which will also assist in reducing the energy usage of the development.

The Concept Plan proposes a range of floor to floor heights, especially to the lower retail levels that can allow for flexible building envelopes. This would give the opportunity for the future stages of the development to adjust to provide the appropriate internal clearance to suit a range of uses, market and ESD requirements in the future.

Recycling can be provided for residential, commercial and retail uses. Energy efficient fixtures and fittings including major services for the retail and commercial components can be selected based on their energy ratings to achieve the best ESD outcomes.

6. *Provide sensitive and high quality architecture and landscape design that contributes positively to the character of the public domain*

Comment:

As mentioned previously this proposal has been inspired by the iconic forms of the Marie Tjibaou Cultural Centre in New Caledonia by the architect Renzo Piano. This iconic concept is within a similar bushland environment and the underlying principals can be translated to the Brick Pit development by the following overarching elements:

- Tower grouped within and growing from a bushland setting
- The existing “STIF” remnant and surrounding bushland generally form a natural datum line to the perimeter built form and the towers rise beyond as a silhouette
- The forms of these towers although designed by different architects should reflect diversity within an overall family of sculptural forms.

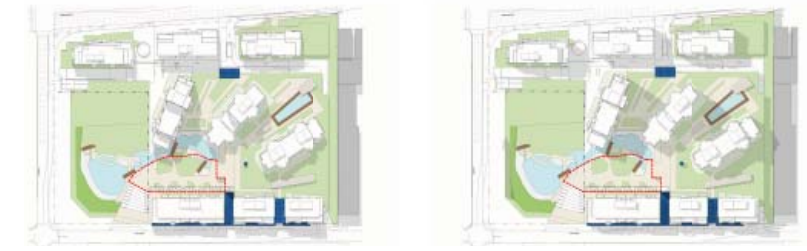
The architectural response for the Brick Pit site hopes to incorporate in its design the unique aspects of the site being the STIF along Oak Road and to reinterpret the water body. The taller forms located at the centre of the site will create a distinct silhouette visible above the canopy of the trees on approach to the entrance at the corner of Flora Street and Oak Road. The key elements will be composed of a fusion of forms and colour palette elements from the site in a hope to evoke the memory of the former brick kiln chimneys. Upon entering the site from this point, the taller forms will be seen projecting over the water body creating a unique experience to the surrounding public open spaces as viewed from the piazza and its outdoor dining areas.



Shadow diagram for summer solstice from 12pm to 2pm (99-100%)



Shadow diagram for autumn equinox from 12pm to 2pm (91-95%)



Shadow diagram for spring equinox from 12pm to 2pm (94-96%)



Shadow diagram for winter solstice from 12pm to 2pm (32% - 49%)

Shadow analysis (courtesy of Woodhead)

7.0 URBAN DESIGN REVIEW

These towers will form iconic way finding devices from outside and within the site, especially as seen upon entering the site and while experiencing the piazza and its outdoor dining areas.

It is also envisaged that landscaping in the form of vines and climbers will be encouraged to grow up the sculptural towers. Such growth will provide an organic ground connection and allow further screening and shading to occur. Deep planter boxes are planned within the balconies on the building facades providing for a substantial amount of vertical planting opportunities including fruiting and flowering trees.

All public and communal spaces will have contemporary landscape design as illustrated on the imagery provided with the Landscape Concept Plan. They are well overlooked and are linked to the surrounding street system and adjacent buildings. They provide a variety of recreational spaces from the public park and piazza to the more intimate sitting and viewing areas around the water body.

For an assessment of the landscape design please refer to the Landscape Concept Plan.

7. *Support opportunities for a diverse community by promoting workplace and housing choice*

Comment :

The concept design suggests a mixed use development that offers employment opportunities through the retail, showroom and commercial uses as well as the potential for future SOHO apartments within the footprints of the buildings, especially to the corner of Princes Highway and Oak Road. A diverse range of apartments will also be provided.

8. *Provide a high level of residential amenity including outdoor spaces as well as within apartments*

Comment :

As a Concept Design the buildings are not yet developed, however the envelopes will be highly articulated and slender in cross section and have the potential to benefit from natural light and air.

Privacy would be provided by separation between envelopes that meets the RFDC distance.

A large extent of communal open space area will be provided between the buildings above the podium level and surrounding areas next to the park, including the site of the former brick kiln facing Princes Highway in addition to the major new park on the corner of Flora Street and Oak Road. The spaces will vary in size and design and offer options for seating and recreation.



The piazza offers an exiting vibrant destination that offers a completely different experience to that offered by the existing centre.

Precinct 2: Brick Pit Precinct:

- *A lively mixed use precinct close to public transport and shops.*

Comment :

The Concept Plan proposes mixed use including residential, commercial, SOHO and retail uses. The site Concept Plan proposes public and communal open spaces activated by retail uses. Flora Street is activated by retail shop fronts linking to the existing Centre. The piazza offers an exiting vibrant destination that offers a completely different experience to that offered by the existing Centre. The public park, water features and piazza have the potential to make a real hub for the area.

- *New streets creating a permeable block structure and connectivity.*

Comment :

The Concept Plan proposes a different approach to the Street System proposed by the DCP. The proposed concept reduces the potential for vehicle / pedestrian conflicts by focusing on dramatic open space and high quality pedestrian networks.

- *Larger barrier type apartment buildings located along the Princes Highway frontage with large landscape setbacks to reduce noise impacts and improve amenity and street address.*

Comment :

Barrier type buildings are proposed along the Princes Highway frontage as required in the DCP. The uses will be either commercial or SOHO at ground level with residential above. If residential is proposed then acoustic treatments will be provided to ensure a high quality amenity. The buildings in this location will have an address to both the Princes Highway and to the new northern restricted shareway street within the development so that they have an identifiable entry point and simple access arrangements.

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- *Mixed employment/residential developments close to existing James Cook Business Park as a transition between existing industrial and future residential development.*

Comment :

The Concept Plan provides a buffer between adjacent development and the new development on the site. The separation consists of buffer tree planting and landscaping and then a service street which will provide access to the loading areas and basement car parking as well as linking to the northern street within the development. The proposed built form presents narrow building elevations to the eastern boundary ensuring minimal amenity impacts for the neighbouring site. It is likely that the future redevelopment of the business park would seek to also provide mixed use residential uses.

- *Mixed employment/residential developments along Princes Highway and Flora Street.*

Comment :

The Concept Plan allows for showroom, commercial and SOHO uses to the ground floor with either commercial or residential uses above along the Princes Highway. Mixed use development with retail/commercial ground floor and residential uses above is proposed for Flora Street.

- *Housing for older people or people with a disability especially high care (nursing home) and low care (hostel) housing, be considered for any residential component on the Brick Pit site.*

Comment :

The upper storeys of the Concept Plan which are intended for residential use which could potentially include apartments suitable for seniors living. Proximity to transport and retail facilities make this site suitable for seniors.

- *Native tree plantation to proposed new streets.*

Comment :

Please refer to the Landscape Concept Plan.

- *Clear car parking spaces in between new street trees.*

Comment :

On street parking between trees will be provided along Flora Street and the new northern restricted shareway street.

- *New pavement and street furniture should be incorporated within development applications, consistent with overall concept of town centre design.*

Comment :

This would be incorporated into the design as the scheme develops.

- *Proposed 0.9HA public open space zoned as park – including an amphitheatre, outdoor café, artificial lake and community toilets. Park will include existing remnants of Sydney Turpentine Ironbark Forest and native flora. The park will be funded by the contributions of the developers within the study area.*

Comment :

This park is the province of Council and has been located to preserve the high value forest on the site. A VPA agreement between Council and Henroth Investments Pty Ltd can potentially resolve the detailed design of the park. Please refer to the Landscape Concept Plan.

- *Proposed a total of 0.135ha public open space as pocket parks.*

Comment:

Communal open spaces on the roof of the retail podium, the piazza and communal open spaces are provided throughout the site. The public open space is approx. 12 800m² including 9 000 m² of the park, and 3 412m² of the piazza and water body and 388 m² near the brick kiln. Although not in the form of a pocket park the scheme allows for generous and unique public open space. Please refer to the landscape master plan for details regarding the design and location of these parks.

- *Shops within the Mixed Use – Kirrawee zone shall not due to their size or intensity create a second town centre. Development of the mixed use zone shall not undermine the function of the Kirrawee Local Centre as the town centre for the locality, meeting the regular shopping and service needs of the local community.*

Comment:

The Concept Plan includes additional retail to that already provided in the existing Centre on Oak Road. Hill PDA have provided a study on the likely impact of the proposed retail on centres in the area and also the existing Kirrawee Centre. Please refer to this report in relation to this objective for greater detail but the conclusion is that the proposed retail will not impact adversely on the existing centre and will in fact potentially increase its patronage.

Regarding the concept design approach the retail component of the scheme is restricted in its location by the requirement to retain the STIF that occupies the south west part of the site which is the corner immediately adjacent to the existing centre on Oak Road. The entry point to the new retail area has been located as close as possible to Oak Road with frontage onto Flora Street to try and achieve as close a relationship as possible. The entry from Flora Street will be an open, cascading grand stair that will be activated with cafes and outdoor seating as well as landscape – the stair will connect Flora Street with the proposed piazza and the internal retail street so that activity and address is oriented towards the existing centre. The intent is that the two retail areas will link around the 'town park' or the public open space that would be created around the STIF. The Flora

7.0 URBAN DESIGN REVIEW

SEPP 65 PRINCIPLES

Principle 1 - Context

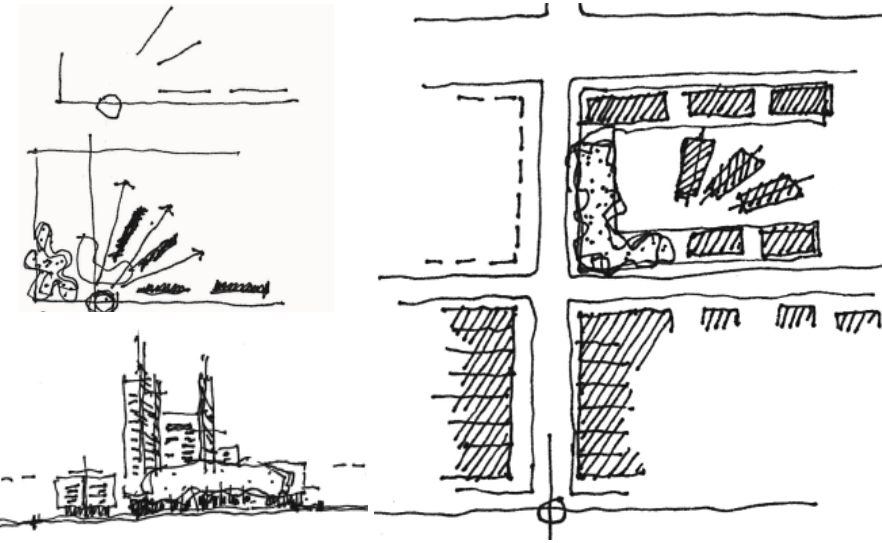
'Good design responds and contributes to its context. Context can be defined as the key natural and built features of an area. Responding to context involves identifying the desirable elements of a location's current character or, in the case of precincts undergoing a transition, the desired future character as stated in planning and design policies. New buildings will thereby contribute to the quality and identity of the area.'

Comment :

The Concept Plan includes the key built form elements for Flora Street, Oak Road and Princes Highway as well as details for the underground parking components to service the site.

The amended Concept Plan also shows the amended overall scale and massing of the proposal and the reduced visual impacts on the surrounding context achieved through the reduction in heights, bulk and scale to the proposed taller forms. As discussed under previous sections of this report, the regional context of Kirrawee and the location, size and ownership of the site offer an important opportunity to take a major step in revitalizing Kirrawee and contributing to the attraction and viability of employment uses for the area to the east and the north.

The proposal seeks to create a taller marker for the area to celebrate Kirrawee while the lower scale edge forms relate to its likely future scale.



Built form concept diagrams

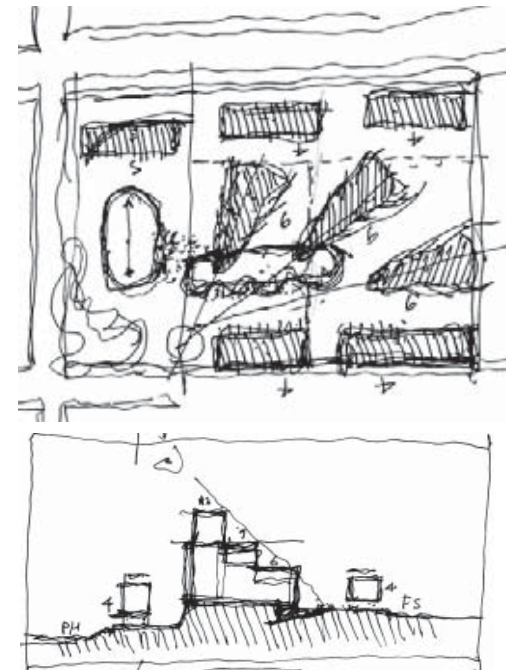
Principle 2 - Scale

'Good design provides an appropriate scale in terms of the bulk and height that suits the scale of the street and the surrounding buildings. Establishing an appropriate scale requires a considered response to the scale of existing development. In precincts undergoing a transition, proposed bulk and height needs to achieve the scale identified for the desired future character of the area.'

Comment :

While the heights of the proposed building envelopes for the centre of the site do not conform to the required heights within the DCP, overall reductions in height have been introduced to ensure that they ameliorate any adverse visual impacts to the surrounding sites, while creating a gateway marker for the Centre and utilising a major development site for additional housing, maximising the use of existing infrastructure. The building blocks located to the edges of the site are lower and will have an appropriate grain and scale to relate to the scale of the surrounding context. Further articulation to the buildings along Flora Street ensure that the scale of the buildings relate better to the scale and grain across the street.

Therefore the proposal has the potential to satisfy this principle.



Concept diagrams - height and scale

7.0 URBAN DESIGN REVIEW

Principle 3 - Built Form

'Good design achieves an appropriate built form for a site and the building's purpose, in terms of building alignments, proportions, building type and the manipulation of building elements. Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook.'

Comment :

As a Concept Plan, the buildings are not designed yet, however the building envelopes have the potential to provide appropriate separation and balance of solid to voids with vertical articulation and good opportunities for private open space. The lower edge buildings reinforce the street enclosure and provide a lower scale edge.

The alignment of the buildings on the boundary to Flora Street reinforces the more commercial/retail character of the street and gives a high level of activation. For the remainder of the development residential building envelopes are setback to mitigate the impacts to adjoining developments.

To the Highway the new building envelopes will provide an acoustic and visual buffer whilst also adding interest and maximising the potential of the exposure to the Highway.

The location of the built form provides view corridors into the park, water body and piazza whilst activating its edges. There are also opportunities for long distance views above the tree canopy. Although not fully designed yet, the blocks have the potential for corner or dual aspect apartments with excellent solar access, outlooks and amenity.

Therefore the proposal has the potential to comply with this principle.



Concept diagram and built form character images

Principle 4 - Density

'Good design has a density appropriate for a site and its context, in terms of floor space yields (or number of units or residents). Appropriate densities are sustainable and consistent with the existing density in an area or, in precincts undergoing a transition, are consistent with the stated desired future density. Sustainable densities respond to the regional context, availability of infrastructure, public transport, community facilities and environmental quality.'

Comment:

As a Concept Plan the development is not fully resolved yet, however the proposal is expected to exceed the Council's requirement for FSR of 1.0:1. The overall Concept Plan estimates an FSR of 1.44:1.

This excess is considered to be justified due to:

- Targets in Metro and Subregional Strategy for the area
- Proximity to upgraded rail services
- A diversity of retail uses to supplement the existing Centre
- Proximity to major employment uses
- Housing affordability and diversity in the area.

Principle 5 - Resource, energy and water efficiency

'Good design makes efficient use of natural resources, energy and water throughout its full life cycle, including construction. Sustainability is integral to the design process. Aspects include demolition of existing structures, recycling of materials, selection of appropriate and sustainable materials, adaptability and reuse of buildings, layouts and built form, passive solar design principles, efficient appliances and mechanical services, soil zones for vegetation and reuse of water.'

Comment:

The residential uses will comply with Basix requirements. The proposal will include initiatives for energy reduction and grey water reuse within the apartments and commercial buildings as well as for irrigation in the open space areas.

Principle 6 - Landscape

'Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in greater aesthetic quality and amenity for both occupants and the adjoining public domain. Landscape design builds on the existing site's natural and cultural features in responsible and creative ways. It enhances the development's natural environmental performance by co-ordinating water and soil management, solar access, micro-climate, tree canopy

7.0 URBAN DESIGN REVIEW

and habitat values. It contributes to the positive image and contextual fit of development through respect for streetscape and neighbourhood character, or desired future character. Landscape design should optimise usability, privacy and social opportunity, equitable access and respect for neighbours' amenity, and provide for practical establishment and long term management.'

Comment:

The Landscape Concept Plan outlines the landscape strategy for the site. The new park will provide a major landscape element for the site and the surrounding locality. There are also a series of public and communal open spaces throughout the development. These



The Landscape Concept Plan



Indicative character images

areas also provide amenity and outlook for the apartment buildings. For further detail please refer to the Landscape Report.

Principle 7 - Amenity

'Good design provides amenity through the physical, spatial and environmental quality of a development. Optimising amenity requires appropriate room dimensions and shapes, access to sunlight, natural ventilation, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas, outlook and ease of access for all age groups and degrees of mobility.'

Comment:

As a Concept Plan, the buildings have not yet been designed, however the envelopes have the potential to maximize their orientation and benefit from northerly aspect and cross ventilation. Taller buildings forms will benefit from a high quality outlook and orientation with district views and vistas to the new park and communal open space.

The apartments have the potential to achieve appropriate visual and acoustic privacy, separation distances and solar access.

The location of the built form seeks to balance solar aspect for both the apartments and the public open space. The piazza enjoys excellent solar access throughout most of the year.

Principle 8 - Safety and Security

'Good design optimises safety and security, both internal to the development and for the public domain. This is achieved by maximising overlooking of public and communal spaces while maintaining internal privacy, avoiding dark and non-visible areas, maximising activity on streets, providing clear, safe access points, providing quality public spaces that cater for desired recreational uses, providing lighting appropriate to the location and desired activities, and clear definition between public and private spaces.'

Comment:

The Concept Plan shows that all built forms have been oriented and positioned to provide for a high level of passive surveillance and activation to existing streets, new streets and new public and communal open spaces.

Flora Street is activated by a combination of entries to the apartments above and commercial suites and fine grain retail tenancies which should improve the safety and activation of the northern side of Flora Street as well as provide overlooking by the apartments. Further amendments to the articulation of blocks D1 and D2 allows for a residential entry point and street address for Blocks B and C increasing the activation of Flora Street.

7.0 URBAN DESIGN REVIEW

A pedestrian and cycle network is provided throughout the site. This encourages a reasonable level of movement and activity throughout the site as well as providing easy access for visitors and the public generally to the park and piazza.

There is clear definition between public and private spaces through the use of podiums, well designed lower level activation and the location of public pathways.

The proposal has the potential to satisfy this principle.

Principle 9 - Social Dimensions

'Good design responds to the social context and needs of the local community in terms of lifestyles, affordability, and access to social facilities. New developments should optimise the provision of housing to suit the social mix and needs in the neighbourhood or, in the case of precincts undergoing transition, provide for the desired future community.'



Indicative character images

Comment:

The proposal includes the potential for a mix of uses and dwelling types ranging from commercial, retail and residential uses. The dwelling types could include 1, 2 and 3 bedroom apartments to support a range of lifestyles and provide choice in living arrangements. The proposal has the potential to satisfy this principle.

Principle 10 - Aesthetics

'Quality aesthetics require the appropriate composition of building elements, textures, materials and colours and reflect the use, internal design and structure of the development. Aesthetics should respond to the environment and context, particularly to desirable elements of the existing streetscape or, in precincts undergoing transition, contribute to the desired future character of the area.'

Comment:

While the following design strategy has been provided by the scheme architects (Woodhead), it is envisioned that the detail design (DA Stage) of each of the building components can be undertaken by different architects providing an individual response and interpretation of the overall design concept for the site. The elements of the overall concept design for the site designed by Woodhead are discussed in the section below.

The site is located on a prominent natural ridge, adjacent a major highway and railway line. It has relevant social history attached to it with retained natural elements. It is the intention of the architectural resolution to sculpt the massing of the site adjacent those edges and roadways to a perimeter block format.

The ridge location is recognized within the site composition by the use of higher character elements that identify the unique historic and landscape qualities of the site.

A perimeter block format is adopted for the frontages of the Princes Highway, Oak Street and Flora Street that identifies with the surrounding tree canopy. This format sets a benchmark for the height, massing and quality of new development surrounding the context. This perimeter block is selected as it maximises light and ventilation admission within the built form whilst also optimising the amount of publicly accessed open space on the site.

Complimenting this perimeter block format is a central section of higher built form. This central section is sculpted with the intention of balancing the priorities of solar access to the apartments with the desire to provide natural light into the public piazza.

In addition with the approach taken to the sculptural towers, the facades and the ground level designs, the built form will be connected on a number of levels with the landscape strategy with the following elements:

7.0 URBAN DESIGN REVIEW

- Provision of an iconic water body visible from within and outside the development.
- Retention of the STIF and use of its presence as an iconic element within the design.
- Provision of a new public piazza enjoying safety, acoustic privacy and adjacency to the new water feature as well as levelled pedestrian connection to Flora Street through the retail link and a scenic connection via the boardwalk and grand steps to the corner of Oak Road.
- An overall integration of high quality landscape design throughout the development.

This overall approach configures a development that celebrates the landscape qualities of the site on both a strategic and intimate level for both the general public and the residents.

The higher central section of built form within the site is identified by a unique iconic design element. These elements known as “sculptural towers” identify the key entry points to each building and are composed as a fusion of the dense landscape elements of the site with the memory of the former brick kiln chimneys. These sculptural towers will be visible from distant views of the site as a means of identification and from within the site as way-finding devices.

In addition the central built forms are configured in a slightly radial format that focuses on the site connection towards the existing business district and railway station as well as on the proposed water features and set down public open space that are reminiscent of the existing quarry and lake. This positioning also optimises distant views at the entry to the site and provides a balance between solar access to the towers and the piazza.

The architecture of both the perimeter block forms and the central built forms are derived from a 4 part palette:

1. As described the entry to each building is identified by sculptural towers. These towers are identifiers and way-finding elements to and within the site. Their height and composition offers a connection to both height of the former brick kiln chimneys and the Sydney Turpentine Ironbark Forest [STIF] on site. It is anticipated that these sculptural towers would feature natural colours to connect with the unique landscape attributes of the site.
2. Solid facade sections are defined by functional requirements and feature a slotted upper level window format with an integrated hood. Planning defines that these walls are largely configured to the east and west walls thus minimizing solar gain. The horizontally slotted windows allow an even admission of light to the interior spaces and the integrated hoods offer solar protection whilst providing sculptural relief to the façade composition. It is anticipated that the colouring of these walls would constitute a light earthen tone.



Indicative North elevation from Princes Highway



Indicative West elevation from Oak Road



Indicative East elevation



Indicative South elevation from Flora Street

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3. Open facades are predominantly glazed with solid connecting balconies adjacent. These glazed facades are located primarily to the north and south of the planning thus maximizing natural light admission into the interiors. Solid balcony forms are used strategically to provide amenity to the interior and shading to these glazed walls. The colour tone of these walls would be of clear colour glazing and white / light balcony solid forms in order to maximise light admission to the interiors.
4. At the base of all built forms is a variety of ground level retail, commercial and public activity. It is anticipated that the architectural response to these ground floor mostly public environments would be colourful, lively, feature tactile materials and be engaging to the visitor and user alike. The use of awnings, colonnades and setbacks under cover would be encouraged to allow the users to enjoy all weather occupation and protection against the elements.

The composition of these elements according to the varied functional configurations offers an architectural solution that is rigorous and logical whilst flexible and organic.

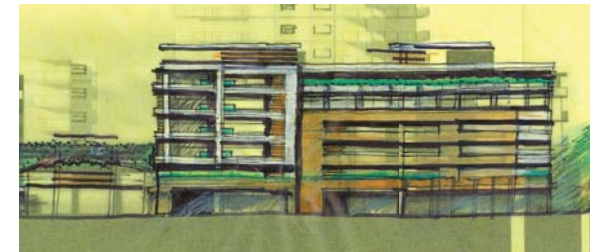
The organic quality of the sculptural towers is based on a blended design borrowing the reference to the height of the former brick pit kilns fused with a random structure and framing format evoking the organic nature of the STIF. These towers will form iconic way finding devices from outside and within the site.

The architecture of the central built forms would be derived from the following principles:

- Stepped tower forms graduating to slender towers for the highest levels
- Palettes of natural materials and finishes evoking the local and organic nature of the STIF
- Protruding balcony forms with significant planter areas.
- Slender roofscape forms at the tower apex.
- A definitive set of design principals would be developed as part of the brief requirements for each tower.

It is anticipated that this approach will provide an environment that highlights the unique qualities of the site and its history with a well designed living commodity.

On the basis that the Concept Design develops to achieve the intent of the design statement the proposal has the potential to satisfy this principle.



Character images - potential elevation treatment and articulation

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8.0 CONCLUSION AND RECOMMENDATIONS

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The amended Concept Plan suggests a connected, safe and well designed solution for the Brick Pit site at Kirrawee, enhancing the amenity of the public domain with the provision of a park, piazza, open spaces, and improved public domain features that celebrate the iconic nature of the Brick Pit site.

While the Concept Plan exceeds some of the requirement of the SSLEP and SSDCP for height and FSR, the proposal responds to the aims and objectives of Council's controls. Further amendments to the bulk and scale of the taller building forms as well as further articulation to break the length of some of the lower edge buildings has ensured that the proposal relates better to the existing context and grain surrounding the site.

It offers employment uses to support State Government's objectives and the uses proposed will serve local needs and support the industrial/commercial uses for the major employment corridor to the north and east of the site. The mix of uses also reinforces the potential for increased public transport patronage, minimising car use.

The location of a mixed use centre in Kirrawee also ensures the long term viability of the existing Kirrawee retail strip as it will provide an anchor for Kirrawee which will increase patronage of the existing shops.

Revisions to the design of the footprints, envelope and detailed building design offers a solution that creates a high internal and external amenity as well as good urban design outcomes. The amended proposal has achieved a number of advantages which include:

- Residential towers as markers for Kirrawee as former chimneys used to do
- Reinterpretation of the existing body of water
- Reduction in length of some of the lower edge buildings to respond better to the existing grain across Flora Street
- Better street address for internal blocks
- A more legible pedestrian network
- Improved public space and amenities, combined with parkland
- Minimum setbacks from the Princes Highway in the order of 10 meters
- Dedicated pedestrian links
- Active frontages around piazza, internal public spaces and surrounding public domain areas
- Increased number of residential entrances along Flora Street
- Dramatic residential built form and slimmed down tower forms
- Maintains potential east-west connection to eastern industrial uses

Due to the number of advantages and improvements to the amended proposal, the overall benefits to the local community and the support to State Government's objectives, the proposal is recommended for Concept Approval.

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