

NORTH PRECINCT

A design that stitches together the bushland hillside neighbourhood with new links and open spaces designed around retained trees and connection to landscape.

The Northern precinct of the Telopea Concept Plan complements a denser mixed use core with a series of two to eight storey residential buildings stepping down the gently sloping Telopea hillside. Key open spaces and public links prioritise tree retention by celebrating Telopea's rich and established landscape. The fragmented landholding provides an opportunity to set the standard for subsequent development in the area, striving to be a good neighbour.



SITE AND CONTEXT ANALYSIS

The northern precinct of the Telopea Masterplan is made up of eight fragmented landholding generally fronting Shortland Street, The Parade, Fig Tree Avenue, Field Place and Marshall Road. For the purposes of this Concept DA, the individual lots have been consolidated into development parcels as follows:

- N1 comprises 14-18 Field Place
- N2 comprises 33-35 Marshall Road
- N3 comprises 7-9 Shortland Street
- N4 comprises 16-20 Marshall Road
- N5 comprises 24-28 Marshall Road, 21-23 The Parade and 17-19 Fig Tree Avenue
- N6/N7 comprises 19-21 Shortland Street, 4-6 and 10-20 Fig Tree Avenue and 1-15 The Parade
- N8/N9 comprises 2-24 The Parade
- N10 comprises 28-32 The Parade

SEPP65 Principle 1: Context and neighbourhood character

Good design responds and contributes to its context. Context is the key natural and built features of an area, their relationship and the character they create when combined. It also includes social, economic, health and environmental conditions.

Responding to context involves identifying the desirable elements of an area's existing or future character. Well designed buildings respond to and enhance the qualities and identity of the area including the adjacent sites, streetscape and neighbourhood.

Consideration of local context is important for all sites, including sites in established areas, those undergoing change or identified for change.



North precinct site plan



LEP Building Heights

Maximum building heights in the northern precinct are defined in the LEP, with buildings increasing in height generally towards the core and the top of the hill.

- Sites fronting Shortland Street have a maximum building height of 28m (assumed 8 storeys),
- Sites fronting Marshall road, Fig Tree Avenue and the west side of The Parade have a maximum building height of 22m (6 storeys), and
- Sites on the east of The Parade have a maximum height of 19m (5 storeys)



Solar Access and Overshadowing

One of the key challenges of the concept masterplan is to maintain solar access and minimise overshadowing on the steeply sloping site as the area is developed over a period of time.

Any proposed development must maintain good solar access to outdoor space and living room windows of existing dwellings, in addition to providing good solar amenity to new development and new open spaces.

EXISTING CHARACTER

Site

The site falls from NW to SE from the light rail on the ridge line down to Evans Road in the valley. The curved streets and established trees give the place a bushland hillside character.

Existing buildings vary throughout the site but are generally mid-late 20th century with densities increase in the blocks closest to the railway station. Fronting Shortland Street, multi-storey brick apartment buildings are set back from the street in open landscaped areas. The secondary streets are populated mainly with freestanding single storey fibro houses.

- Images:
- 1. Fig Tree Avenue Fibro Houses
 - 2. Shortland Street and Fig Tree Avenue
 - 3. Marshall Road and Sturt Street
 - 4. The Parade 'bend' looking South
 - 5. Fig Tree Avenue and The Parade
 - 6. The Parade 'bend' looking North
 - 7. Shortland Street Category AA Trees
 - 8. Shortland Street Looking South



Trees and Open Space

The bushland character of the masterplan area is defined by the high quality and established trees on the site. The diagram below illustrates all of the trees identified by the arborist as "Important trees suitable for retention for more than 10 years and worthy of being a material constraint". Of these, 7 have been categorised as AA and are given the highest priority for retention.



Tree Schedule

Tree	Category	Height	Spread	Categ.	Tree	Category	Height	Spread	Categ.
1	Melaleuca quinquenervia	9	6	A1	118	Casuarina cunninghamiana	16	10	A2
2	Eucalyptus scoparia	9	5	A1	120	Jacaranda mimosifolia	10	10	A1
6	Melaleuca armillaris	8	6	A1	124	Jacaranda mimosifolia	12	8	A1
7	Stenocarpus sinuatus	9	6	A1	127	Fraxinus sp.	8	8	A1
8	Syzigium paniculata	12	10	A1	130	Callistemon sp.	8	8	A1
11	Grevillea robusta	14	9	A1	133	Eucalyptus botryoides	24	20	A2
20	Grevillea robusta	12	8	A1	135	Jacaranda mimosifolia	12	10	A1
24	Liquidambar styraciflua	16	10	A1	136	Liquidambar styraciflua	18	16	A1
28	Eucalyptus sideroxylon	16	10	A1	139	Liquidambar styraciflua	14	9	A1
29	Eucalyptus sideroxylon	16	10	A1	140	Liquidambar styraciflua	14	9	A1
30	Eucalyptus sideroxylon	16	10	A1	141	Pittosporum undulatum	10	8	A1
32	Araucaria heterophylla	16	9	A1	143	Melaleuca quinquenervia	10	9	A1
36	Melaleuca quinquenervia	9	6	A1	145	Araucaria heterophylla	16	9	A1
37	Corymbia maculata	12	9	A1	147	Metasequoia glyptostroboides	10	7	A1
45	Jacaranda mimosifolia	10	9	A1	161	Jacaranda mimosifolia	12	10	A1
47	Jacaranda mimosifolia	9	10	A1	162	Jacaranda mimosifolia	12	10	A1
54	Cedrus deodara	14	12	A1	170	Liquidambar styraciflua	14	10	A1
57	Cedrus deodara	14	12	A1	173	Toona australis	8	6	A1
59	Callistemon sp.	7	7	A1	177	Callistemon sp.	8	7	A1
60	Liquidambar styraciflua	14	12	A1	182	Pyrus sp.	12	9	A1
61	Eucalyptus saligna	28	20	AA1	183	Pyrus sp.	12	9	A1
62	Liquidambar styraciflua	14	10	A1	184	Cedrus deodara	22	18	AA1
65	Jacaranda mimosifolia	16	12	A1	185	Cinnamomum camphora	18	14	A1
66	Jacaranda mimosifolia	16	12	A1	187	Liquidambar styraciflua	16	14	A1
67	Cupressus sp.	12	8	A1	194	Jacaranda mimosifolia	14	12	A1
70	Eucalyptus sideroxylon	24	16	AA1	199	Araucaria colomularis	16	6	A1
71	Eucalyptus robusta	24	20	AA1	200	Araucaria colomularis	14	6	A1
77	Cupressus sp.	16	9	A1	209	Eucalyptus globulus	12	7	A1
78	Eucalyptus paniculata	18	14	A2	220	Cinnamomum camphora	14	12	A1
81	Cedrus deodara	18	14	A1	221	Jacaranda mimosifolia	10	9	A1
84	Cupressus sp.	16	7	A1	237	Melaleuca armillaris	10	7	A1
85	Cupressus sp.	16	7	A1	238	Liquidambar styraciflua	16	14	A1
87	Cupressus sp.	16	7	A1	239	Cinnamomum camphora	10	9	A1
88	Eucalyptus paniculata	22	16	AA1	240	Pittosporum undulatum	8	6	A1
89	Eucalyptus robusta	12	10	A1	241	Cinnamomum camphora	16	12	A1
90	Eucalyptus robusta	20	16	AA1	243	Cedrus deodara	9	5	A1
91	Pinus patula	22	16	A1	253	Melaleuca armillaris	8	8	A1
101	Pittosporum undulatum	10	8	A1	257	Cinnamomum camphora	14	16	A1
103	Cedrus deodara	18	14	A1	261	Cedrus deodara	10	7	A1
107	Jacaranda mimosifolia	14	14	A1	262	Jacaranda mimosifolia	12	9	A1
109	Grevillea robusta	20	14	A1	266	Cinnamomum camphora	12	12	A1
115	Liquidambar styraciflua	14	12	A1	268	Jacaranda mimosifolia	10	9	A1
117	Eucalyptus saligna	24	20	AA1					

Refer Arboricultural Report for further details



BUILT FORM

Defined Development Lots

The eight development lots will largely define the new character of The Parade and Fig Tree Lane, and set the benchmark for future development on Marshall Road.



Tree Retention

The master plan retains all of the 'AA' rated trees to define new landscaped spaces, and retains most of the 'A' rated trees in existing front side and rear setbacks.



SEPP65 Principle 2: Built form and scale

Good design achieves a scale, bulk and height appropriate to the existing or desired future character of the street and surrounding buildings.

Good design also achieves an appropriate built form for a site and the building's purpose in terms of building alignments, proportions, building type, articulation 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.

Through Site Links

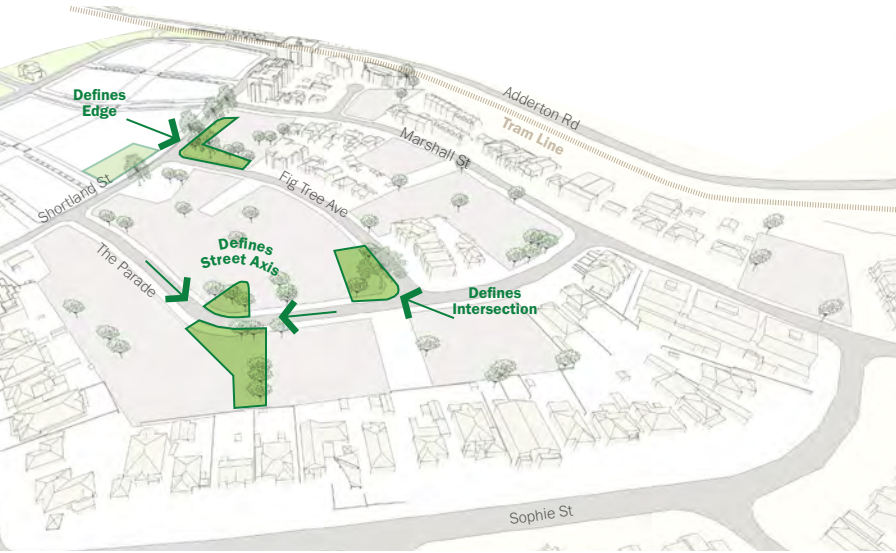
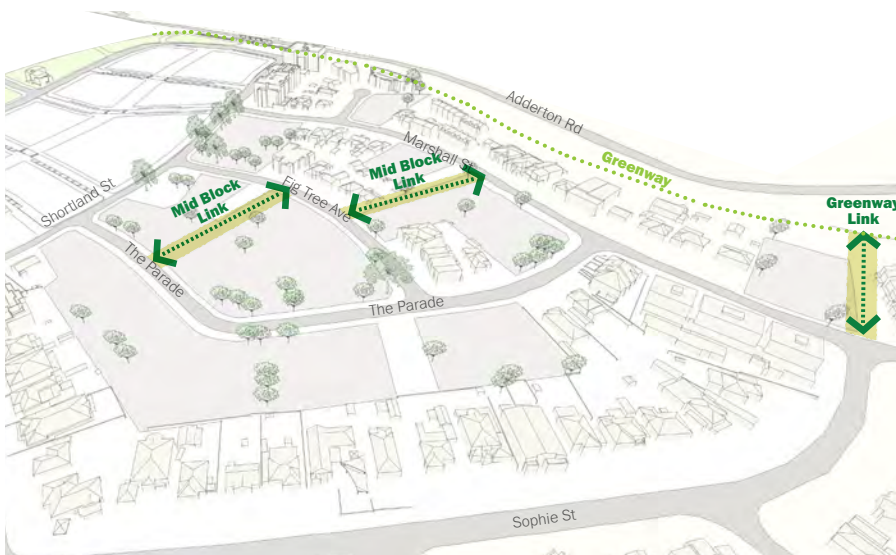
Longer street blocks are made more permeable with three new through site links. N2 provides a pedestrian link connecting Sophie Street to the light rail corridor. N5 and N7 provide mid-block links connecting Fig Tree Avenue to Marshall Road and The Parade respectively.

Publicly Accessible Open Space

New publicly accessible open spaces are proposed around retained trees at important nodes in the masterplan: At the corner of Shortland Street and Fig Tree Avenue; at the corner of Fig Tree Avenue and The Parade; and at the main bend in the Parade.

The Northern Precinct celebrates the sloping hillside and curved existing streets with open spaces and links designed around tree retention and connection to landscape.

The extensive but fragmented landholding sets the standard for future development in the area. 3 storey townhouses and 5-8 storey apartment buildings will step and stagger down the hillside, acting as a good neighbour, maximising solar access and ensuring remnant sites can be easily developed.



Defined Street Frontages

New buildings propose a 3m street setback to maximise the amount of deep soil available at the rear of each site. On lots N3, N5, N6 and N7 this setback is increased to ensure retention of significant trees.

- 0m Side Setback to South of Remnant Sites
- 3m ADG Setback
- 4.5m ADG Setback
- 6m ADG Setback



Courtyard Blocks Define Communal Open Spaces

Within the larger blocks, street wall buildings define central and rear courtyards for communal open space.



SEPP65 Principle 9: Aesthetics

Good design achieves a built form that has good proportions and a balanced composition of elements, reflecting the internal layout and structure. Good design uses a variety of materials, colours and textures.

The visual appearance of a well designed apartment development responds to the existing or future local context, particularly desirable elements and repetitions of the streetscape.

Side and Rear Setbacks

Side and rear setbacks have been provided to comply with ADG building separations and to ensure a minimum of 4m deep soil is provided to all rear boundaries.

There are four locations where envelopes propose zero side setback (i.e. party wall on the boundary). In each instance this is on the south side of an existing neighbour to minimise overshadowing impacts.

- 3m Primary Street Setback
- Street Setbacks Defined by tree retention
- Pedestrian Through Links
- 0m Side Setback to South of Remnant Sites



Height Adjusted for Amenity

Buildings generally rise to the LEP building heights, with massing reduced in key locations to minimise overshadowing of communal open spaces and neighbouring properties..



CONCEPT PLAN



North precinct roof plan

The master plan is designed to celebrate the bushland hillside character of the area with a series of multi-core apartment buildings reconciling existing tree retention and fragmented land ownership as they step down the hillside defining the future character of the area.

The public domain design proposes a series of new publicly accessible open spaces around retained trees and a series of pedestrian through site links improving permeability of the precinct.

Apartment buildings in a range of sizes define street-wall buildings with rear and centralized communal open spaces accommodating retained trees in generous deep soil zones.

The stepped forms and varied roof heights create opportunities for additional communal open spaces at roof level.



Envelopes

Envelopes are loose-fit, allowing flexibility in the resolution of the final building design. They have been set out to ensure significant tree retention and are generally 3m from street frontages, 4m from rear boundaries (for deep soil) and 6m from side boundaries where larger ADG building separations are required.

SEPP65 Principle 3: Density

Good design achieves a high level of amenity for residents and each apartment, resulting in a density appropriate to the site and its context.

Appropriate densities are consistent with the area's existing or projected population. Appropriate densities can be sustained by existing or proposed infrastructure, public transport, access to jobs, community facilities and the environment.



Building Separation

All proposed building separation distances comply with the requirements set out in the SEPP65 Apartment Design Guide.

There are four locations where envelopes propose zero side setback (i.e. party wall on the boundary). In each instance this is on the south side of an existing neighbour to minimise overshadowing impacts.



GROUND LEVEL



North precinct ground level plan

Apartment buildings are arranged with multiple cores and regular entries to maximise street activation and passive surveillance. Most buildings propose 2-storey duplex apartments facing the street, while terraces are proposed on lot N7 fronting the through site link.

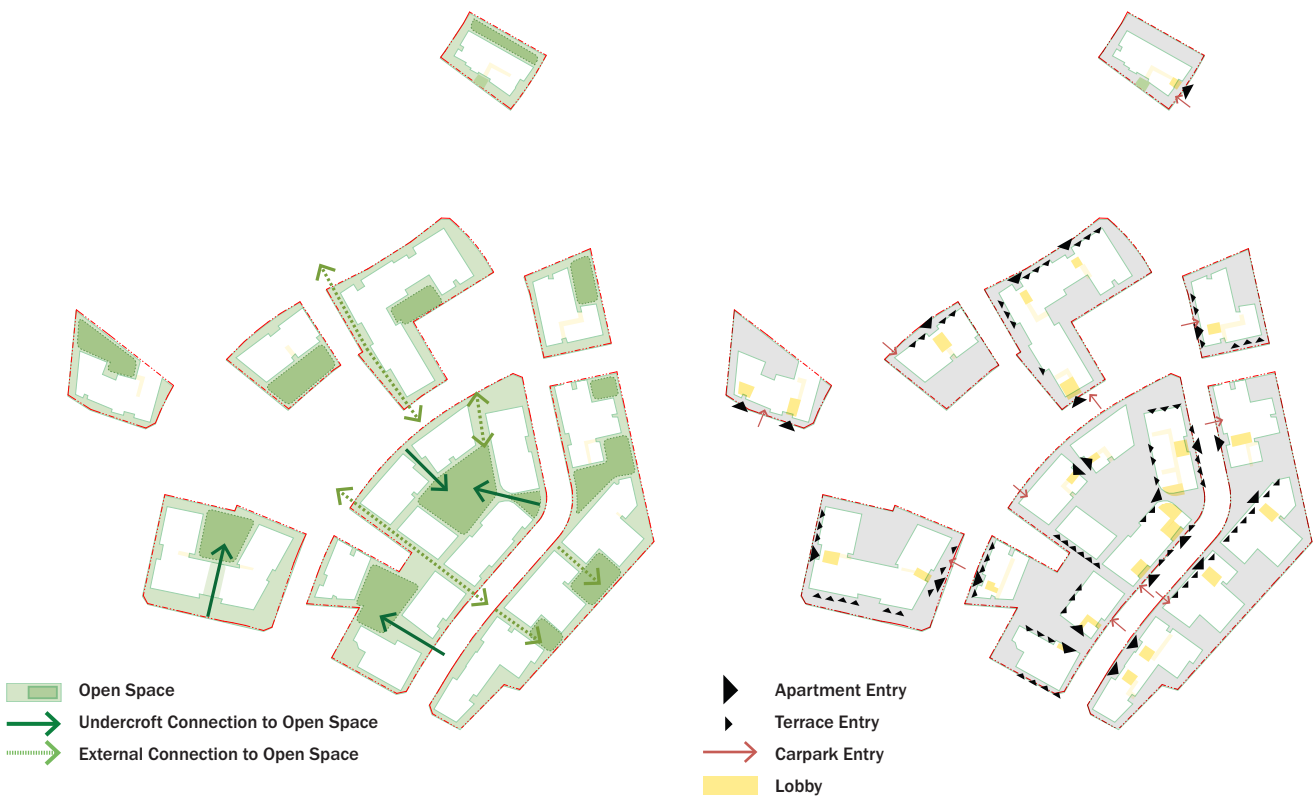
Lobbies are provided as dual entry gateways providing a visual connection from the street to the centralised communal courtyards, reinforcing the site's connection to landscape.

To minimise pedestrian conflicts, driveways and crossovers are kept to a minimum with only one carpark entry per lot, per tenure.

SEPP65 Principle 7: Safety

Good design optimises safety and security within the development and the public domain. It provides for quality public and private spaces that are clearly defined and fit for the intended purpose. Opportunities to maximise passive surveillance of public and communal areas promote safety.

A positive relationship between public and private spaces is achieved through clearly defined secure access points and well lit and visible areas that are easily maintained and appropriate to the location and purpose.



Connection to Open Space

Multi-core buildings propose external lobby links as the primary entrance. Gated for security, the links provide an open-air connection and strong visual link to the centralized landscaped communal open space.

Street Activation

The street interface has been developed to maximise ground level activation with multi-core apartment buildings providing several small entries per lot and a range of townhouse typologies providing regular front doors and front gardens overlooking the street.

A new mid block link connects Fig Tree Avenue to the Parade, offering a stepped series of townhouses which activate the pedestrian priority shareway.



TYPICAL LEVEL



North precinct typical level plan

The northern precinct proposes a range of residential buildings defining a consistent streetwall with landscaped courtyards behind.

Buildings are arranged in 21m deep side-core bars, with regular lift and stair cores ensuring good solar access and cross ventilation, consistent with the SEPP65 Apartment Design Guide (ADG).

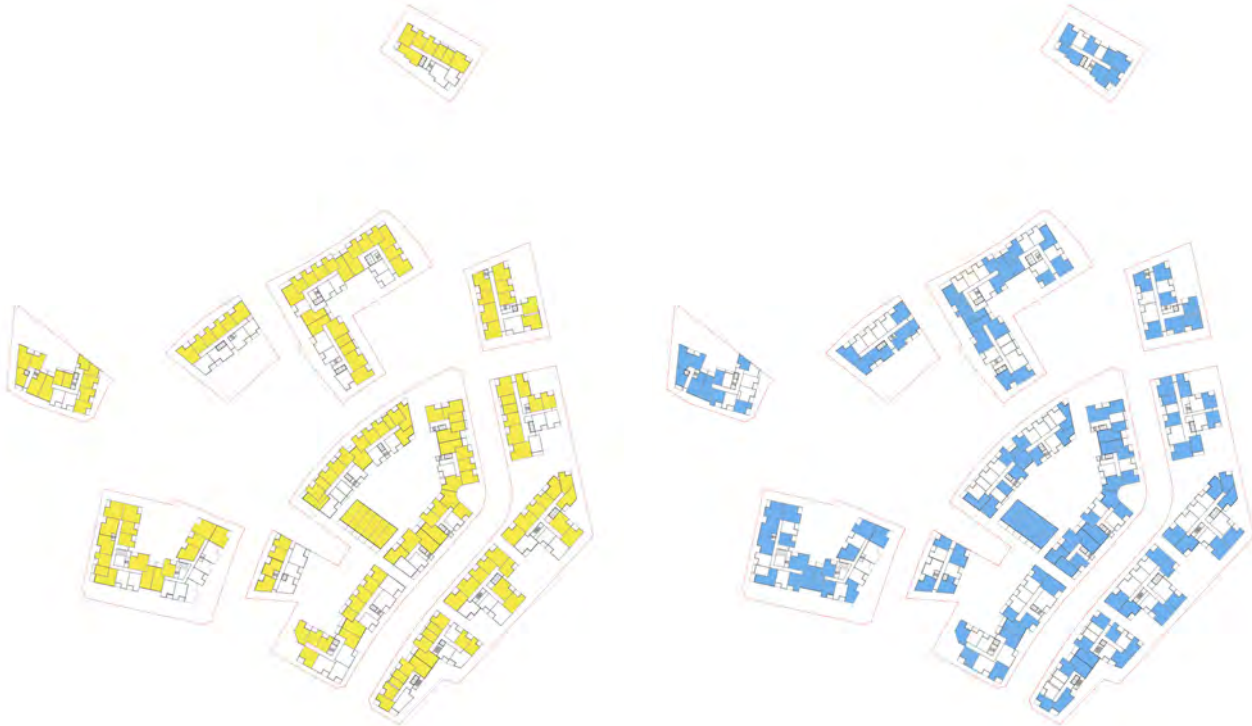
Tenures are mixed throughout the precinct, with Social housing proposed in N1, N7.2 and N8.

While the indicative design scheme shows initial building layouts and core arrangements, these will be further developed during development of the Detailed Development Applications.

SEPP65 Principle 6: Amenity

Good design positively influences internal and external amenity for residents and neighbours. Achieving good amenity contributes to positive living environments and resident well being.

Good amenity combines appropriate room dimensions and shapes, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas and ease of access for all age groups and degrees of mobility.



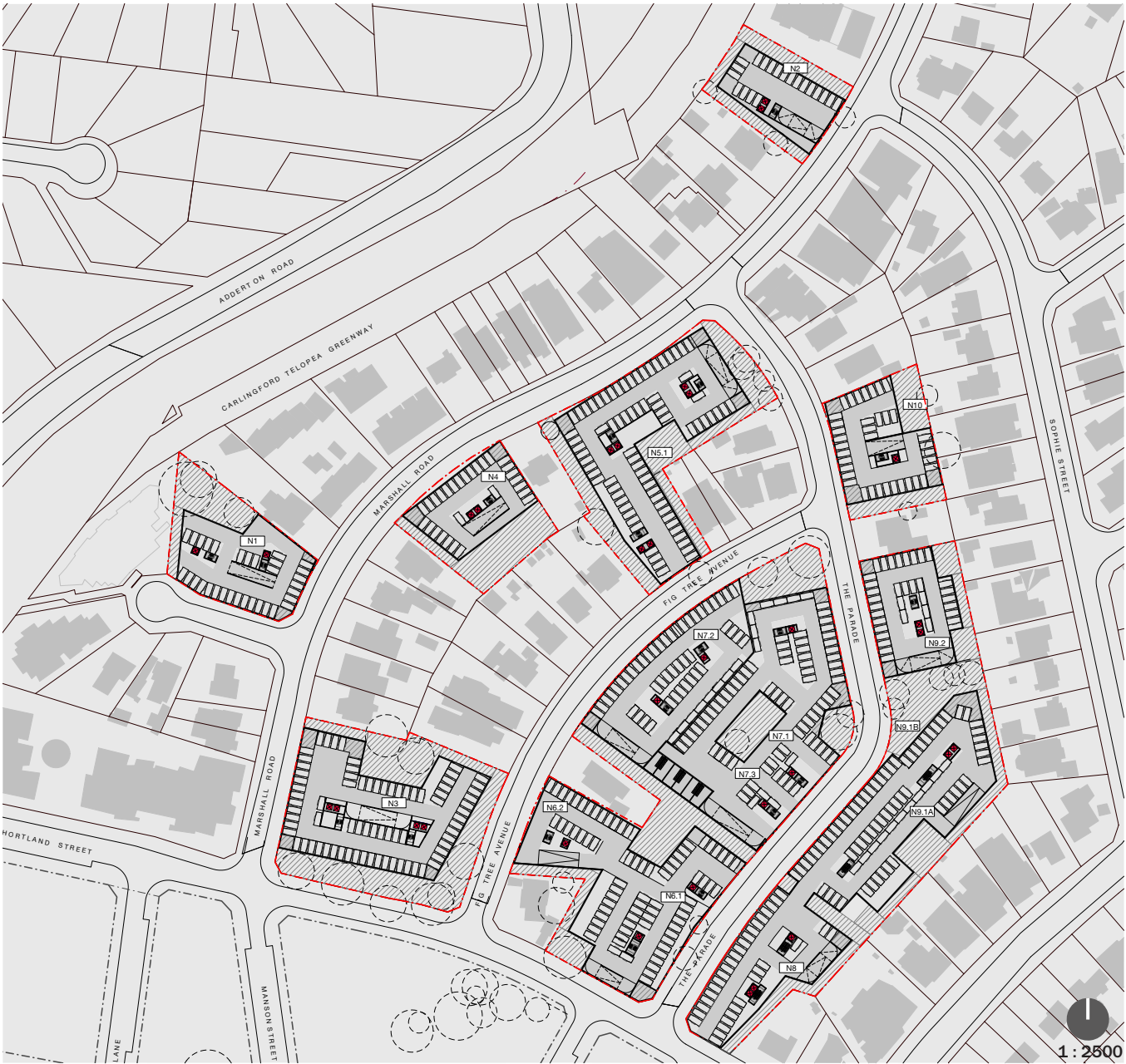
Solar Access

Buildings have been arranged to maximise opportunities for solar access. This diagram illustrates typical floor apartments which will receive at least 2 hours solar access to living rooms and balconies. Appendix D provides comprehensive solar access and overshadowing analysis which demonstrates that the reference design will deliver 74% of dwellings receiving two hours sun and 10% of dwellings with no sun between 9am and 3pm on the winter solstice.

Natural Ventilation

The multi-core approach to apartment buildings ensures that greater than 60% of apartments will have dual or corner aspect and be naturally cross-ventilated.

BASEMENTS



Basements have been arranged to avoid any conflicts with tree retention and maximise opportunity for deep soil zones, particularly at the rear of sites. Final parking number and depth of basements will be confirmed at detailed development application stage.



Tree Retention

The basement has been arranged to ensure that the layout does not encroach more than 10% into the tree protection zone of any of the significant trees.

Deep Soil Zones

Consistent with the draft DCP, the northern precinct proposes 21.5% of deep soil area with a dimension of greater than 6m and 26.6% of deep soil area with a minimum dimension of 4m. This exceeds the DCP minima of 7% and 23% respectively.



PUBLIC DOMAIN AND LANDSCAPE

The north precinct will become an integrated neighbourhood where built form frames upgraded streets comprising planted verges and footpaths. Communal rooftop spaces will provide attractive settings from which to take in the rolling landscape setting.



OPEN SPACE



North precinct open space plan

Open space has been arranged to provide a mix of public and communal open space at both ground and at roof level. Consistent with the requirements of SEPP65 and ADG, each site provides >25% of the site area as communal open space.

Retained trees are in deep soil zones in a mix of public open spaces, front setbacks, rear setbacks and central courtyards.

SEPP65 Principle 6: Landscape

Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in attractive developments with good amenity. A positive image and contextual fit of well designed developments is achieved by contributing to the landscape character of the streetscape and neighbourhood.

Good landscape design enhances the development's environmental performance by retaining positive natural features which contribute to the local context, co-ordinating water and soil management, solar access, micro-climate, tree canopy, habitat values and preserving green networks.

Good landscape design optimises useability, privacy and opportunities for social interaction, equitable access, respect for neighbours' amenity and provides for practical establishment and long term management.

Winter Solstice
9-3pm



Open Space Solar Access

Buildings and envelopes have been arranged to maximise opportunities for solar access to open space and deep soil zones, reducing height in specific locations to reduce impact to Southern neighbours and provide high quality amenity throughout the year.

Autumn and Spring Equinox
9-3pm



Open Space Schedule

Lot	Site	Open Space Roof	Open Space Ground	Open Space Total	Percentage
N1	2,232	112	446	558	25%
N2	1,676	422		422	25%
N3	4,894	556	667	1,223	25%
N4	2,055		657	657	32%
N5	4,679	645	525	1,170	25%
N6	4,085	151	887	1,038	25%
N7	8,359	1,263	1,020	2,283	27%
N8	2,276		570	570	25%
N9	6,664	925	781	1,706	26%
N10	2,004	214	310	524	26%

North Sub Total 38924 4288 5863 10151

STREETSCAPES

Telopea's existing streets are revitalised into a network of connected, walkable and environmentally friendly places.

- Tranquil and immersive
- Versatile and multifunctional
- Garden gatherings
- Connect with nature

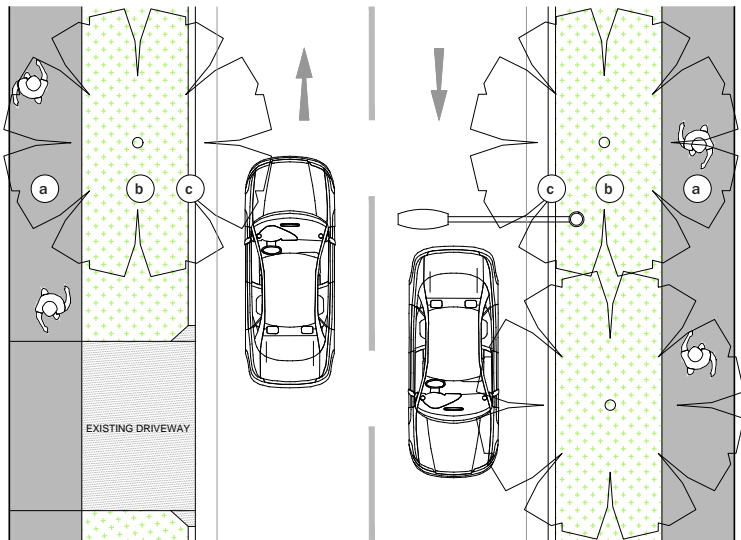
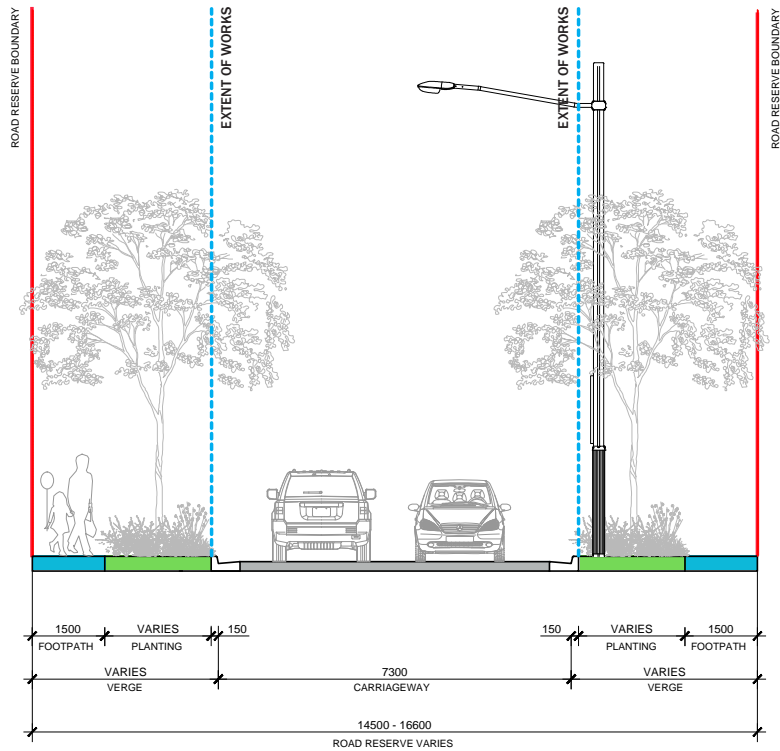
The fragmented network of footpaths in the North Precinct are connected via a continuous network of footpaths. Footpaths link across existing driveways while allowing for existing access routes.

Trees and groundcover planting, consistent with City of Parramatta Council Street Tree Guide are planted in verges to support local biodiversity while ameliorating the urban heat island effect.

Existing overhead powerlines removed, allowing for large street trees on both street sides.

The project will investigate the opportunity to include a black water treatment plant that can irrigate the landscaped spaces and precinct streets trees. This approach will enable the repaired and reconnected biodiversity corridor and green infrastructure will be resilient to the changing climate.

- Key elements**
- a. New 1.5m footpaths adjacent road reserve boundary
 - b. Planted verges of street trees and groundcovers
 - c. Existing kerb and carriageways retained



THROUGH SITE LINKS

Through site links are an extension of private open spaces into shared, pedestrian-prioritised spaces where people are able to interact and children can play safely within the confines of their local home environment.

Through site links are shared neighbourhood spaces, allowing for limited, low speed vehicle movement, parking for residential visitors, trees and landscaped areas.

This space will have flush kerb lines, with landscape and paving delineating different areas for vehicular movement and parking.

- Functional and legible
- Green connectors
- Outdoor recreation
- Connection to nature



Images:
1. Edmondson Park, Sydney, Australia
2. St Andrews Bromlet By Bow, London, UK
3. Severn Place, Cambridge, UK



COMMUNAL SPACE

A shared backyard for residents, a multifunctional space where people can come together in nature.

- Tranquil and immersive
- Versatile and multifunctional
- Garden gatherings
- Connect with nature

Telopea's communal open spaces gardens support connections between people and revitalised ecosystems, while providing residents access to nature's respite.

These outdoor spaces include a mix of community, edible and ornamental gardens as well as orchard style planting.

Gardens and lawns support local biodiversity and create dynamic places to connect with nature.

- Key elements
- a. Incidental play elements
 - b. Retained existing trees
 - c. Multi-functional lawns for picnics, gatherings and informal sports
 - d. Quiet places to sit amongst nature



Images:
1. Eve Street Apartments, Sydney, Australia
2. M Central, Sydney, Australia



SOUTH PRECINCT

A design that sets the standard for future development in the area with open spaces, setbacks and lobby links designed around retained trees and connection to landscape.



SITE AND CONTEXT ANALYSIS

The southern precinct of the Telopea Masterplan is made up of eight consolidated landholdings generally fronting Chestnut Avenue, Cunningham Street and Burke Street. For the purposes of this Concept DA, the individual lots have been consolidated into development parcels Of between three and five lots as follows:

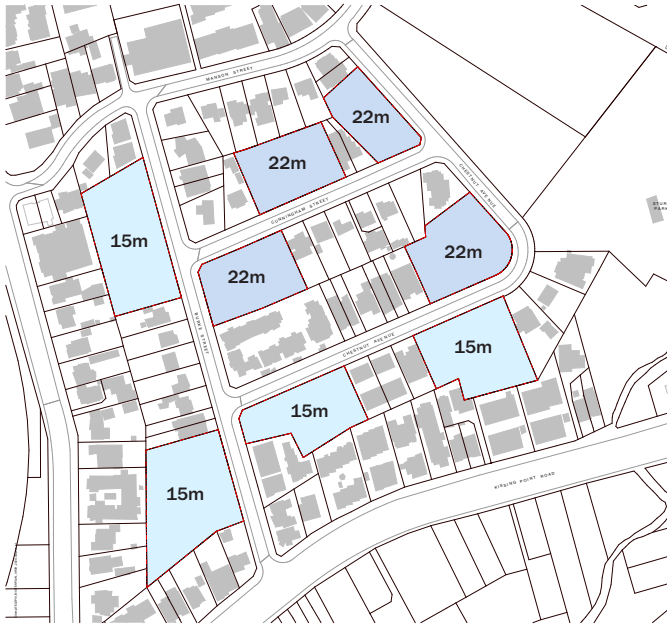
- S1 comprises 25-29 Chestnut Avenue
- S2 comprises 3-9 Cunningham Street
- S3 comprises 15-21 Chestnut Avenue
- S4 comprises 2-4 Cunningham Street and 10-12 Burke Street
- S5 comprises 14-20 Chestnut Avenue
- S6 comprises 2-6 Chestnut Avenue and 4 Burke Street
- S7 comprises 21-31 Burke Street
- S8 comprises 1-7 Burke Street

SEPP65 Principle 1: Context and neighbourhood character

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Responding to context involves identifying the desirable elements of an area's existing or future character. Well designed buildings respond to and enhance the qualities and identity of the area including the adjacent sites, streetscape and neighbourhood.

Consideration of local context is important for all sites, including sites in established areas, those undergoing change or identified for change.



LEP Building Heights

Maximum building heights in the northern precinct are defined in the LEP, with buildings increasing in height generally towards the core and the top of the hill.

Sites fronting Cunningham Street, the northern side of Chestnut Avenue and the east side of Burke Street have a maximum building height of 22m (assumed 6 storeys).

Sites to the west of Burke Street and the south of Chestnut Avenue have a maximum building height of 15m (4 storeys)

Solar Access and Overshadowing

One of the key challenges of the concept masterplan is to maintain solar access and minimise overshadowing on the steeply sloping site while the area is undergoing an increase in density.

Any proposed development must maintain good solar access to outdoor space and living room windows of existing dwellings, in addition to providing good solar amenity to new development and new open spaces.

EXISTING CHARACTER

Site

The site falls approximately 25m from Manson Street to the north down to Kissing Point Road in the valley. East/ west streets are relatively flat while North/south streets fall noticeably to the south.

Existing buildings vary throughout the site but are generally mid-late 20th century fibro cottages and more recent freestanding houses. A few more recent residential flat buildings set the expectation for increasing density.

Large front setbacks often without front fences combine with intermittent footpaths, overhead powerlines and inconsistent streets to create an informal suburban character focused on vehicles and the private domain.

Trees and Open Space

The bushland character of the area is defined by the high quality and established trees on the site. The diagram below illustrates all of the trees identified by the arborist as "Important trees suitable for retention for more than 10 years and worthy of being a material constraint". The majority of these have been prioritised for retention. T479 and T506, located in the front gardens of existing dwellings, have specifically informed the proposed apartment building envelopes.



Tree Schedule

Tree	Category	Height	Spread	Categ.	Tree	Category	Height	Spread	Categ.
319	Cedrus deodara	12	10	A1	372	Melaleuca armillaris	12	9	A1
321	Lophostemon confertus	14	14	A1	378	Corymbia tessellaris	14	10	A1
322	Cedrus deodara	10	10	A1	380	Photinia glabra	8	8	A1
330	Cedrus deodara	16	14	A1	392	Cedrus deodara	16	14	A1
332	Melaleuca quinquenervia	12	12	A1	395	Araucaria heterophylla	18	9	A1
333	Melaleuca quinquenervia	12	9	A1	399	Eucalyptus saligna	12	7	A1
334	Eucalyptus sideroxylon	16	9	A1	405	Eucalyptus saligna	20	14	AA1
335	Melaleuca quinquenervia	14	12	A1	410	Araucaria heterophylla	16	12	A1
336	Araucaria heterophylla	14	9	A1	413	Eucalyptus botryoides	12	10	A2
337	Melaleuca quinquenervia	14	12	A1	426	Cedrus deodara	12	6	A1
338	Jacaranda mimosifolia	10	10	A1	430	Melaleuca linariifolia	7	5	A1
339	Castanospermum australe	10	9	A1	431	Melaleuca linariifolia	7	5	A1
340	Cinnamomum camphora	16	14	A1	432	Pinus patula	14	12	A1
346	Melaleuca quinquenervia	16	12	A1	433	Jacaranda mimosifolia	14	12	A1
347	Phoenix canariensis	7	4	A1	436	Callistemon sp.	7	6	A1
348	Melaleuca quinquenervia	16	14	AA1	437	Lagerstroemia indica	8	7	A1
350	Gordinia axillaris	7	6	A1	441	Callistemon sp.	6	6	A1
351	Gordinia axillaris	7	6	A1	442	Stenocarpus sinuatus	9	6	A1
352	Ficus hillii	16	14	A1	446	Cinnamomum camphora	16	16	A1
354	Bauhinia sp.	10	8	A1	451	Callistemon sp.	8	7	A1
357	Cedrus deodara	14	12	A1	452	Callistemon sp.	8	7	A1
363	Jacaranda mimosifolia	14	14	A1	453	Callistemon sp.	8	7	A1
364	Jacaranda mimosifolia	14	12	A1	454	Callistemon sp.	8	7	A1
366	Quercus robur	14	14	A1	455	Cedrus deodara	14	12	A1

Tree	Category	Height	Spread	Categ.
458	Eucalyptus saligna	16	14	A1
459	Jacaranda mimosifolia	14	14	A1
460	Jacaranda mimosifolia	14	10	A1
461	Angophora costata	12	9	A1
462	Ulmus parvifolia	12	12	A1
463	Jacaranda mimosifolia	12	12	A1
470	Jacaranda mimosifolia	10	9	A1
472	Jacaranda mimosifolia	10	10	A1
473	Jacaranda mimosifolia	10	10	A1
475	Araucaria heterophylla	18	9	A1
476	Eucalyptus piperita	18	18	A1
478	Cinnamomum camphora	16	16	A1
479	Eucalyptus tessalatus	18	16	AA1
480	Cedrus deodara	14	10	A1
482	Jacaranda mimosifolia	14	16	A1
485	Liquidambar styraciflua	18	14	A1
497	Jacaranda mimosifolia	16	14	A1
498	Cinnamomum camphora	14	10	A1
502	Jacaranda mimosifolia	9	9	A1
503	Stenocarpus sinuatus	10	7	A1
506	Syzygium paniculata	16	14	AA1
512	Melaleuca armillaris	8	8	A1
518	Livistona australis	12	4	A1

Images:

1. Burke Street looking North
2. Fibro Dwellings Stepping down the hill
3. Chestnut Avenue 1-2 storey dwellings
4. Brick dwellings set on contours
5. Sweeping contours, Chestnut Avenue and Cunningham Street intersection
6. Cunningham Street looking West
7. Chestnut Avenue Category AA Lilypily (T506)
8. Burke Street Category AA Eucalyptus (T405)
9. Chestnut Avenue Category AA Eucalyptus (T479)

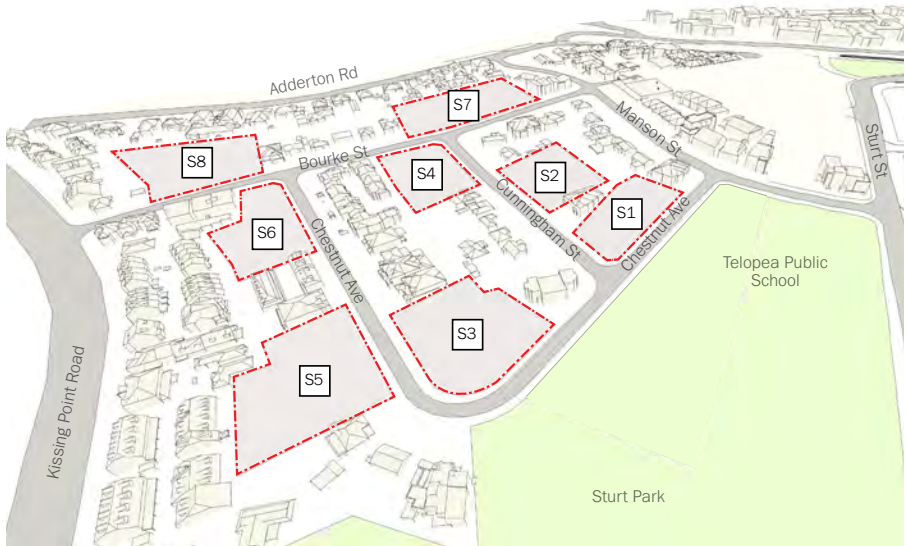
Refer Arboricultural Report for further details



BUILT FORM

Defined Development Lots

The eight development lots will set the standard for the rezoned precinct, defining a denser suburban character on over half the streetscape on Chestnut Avenue, Cunningham Street and Burke Street.



Tree Retention in Open Space

The Concept application proposes retention of three quarters of the 'AA' rated trees in addition to most of the 'A' rated trees in existing front side and rear setbacks.



SEPP65 Principle 2: Built form and scale

Good design achieves a scale, bulk and height appropriate to the existing or desired future character of the street and surrounding buildings.

Good design also achieves an appropriate built form for a site and the building's purpose in terms of building alignments, proportions, building type, articulation 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.

Defined Street Frontages

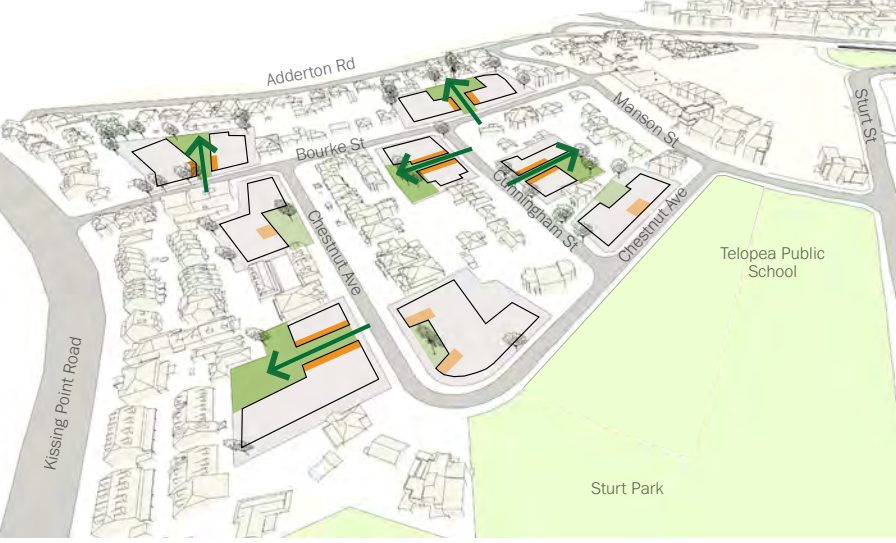
New buildings propose a 3m street setback to maximise the amount of deep soil available at the rear of each site. On lots S3 and S6 a larger front garden is provided to ensure retention of significant trees.

The master plan is designed to celebrate the bushland hillside character of the area with a series of multi-core apartment buildings prioritizing existing tree retention in the consolidated landholding. The southern precinct master plan proposes open spaces, setbacks and lobby links designed around tree retention and connection to landscape.



Lobby Links Open Views to Landscape

Long street frontages are broken with external lobby links which provide physical and visual connection to the established landscape and retained trees in communal courtyards.



SEPP65 Principle 9: Aesthetics

Good design achieves a built form that has good proportions and a balanced composition of elements, reflecting the internal layout and structure. Good design uses a variety of materials, colours and textures.

The visual appearance of a well designed apartment development responds to the existing or future local context, particularly desirable elements and repetitions of the streetscape.

The aggregated development lots sets the standard for future development in the area. 4-6 storey apartment buildings will step and stagger down the hillside, acting as a good neighbour and maximising solar access.

Side and Rear Setbacks

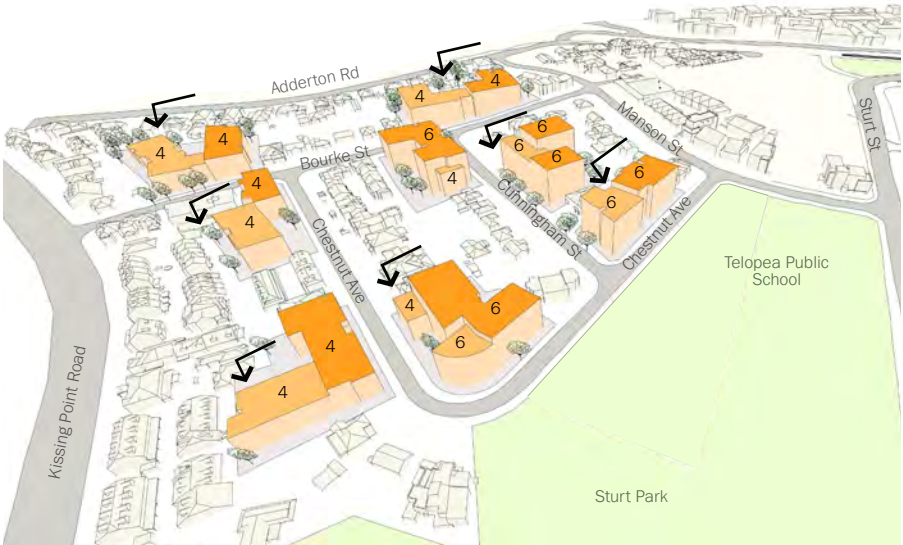
Side and rear setbacks have been provided to comply with ADG building separations and to ensure a minimum of 4m deep soil is provided to most rear boundaries.

- 3m ADG Minimum Setback
- 4.5m ADG Minimum Setback
- 6m ADG Minimum Setback



Heights Step Down The Hill

Buildings generally rise to the LEP building heights, with massing stepping down to provide rooftop communal areas.



CONCEPT PLAN



South precinct roof plan

Apartment buildings in a range of sizes define street-wall buildings with rear and centralized communal open spaces accommodating retained trees in generous deep soil zones. Lots S3 and S6 have stepped front setbacks to ensure retention of significant trees in their front gardens.

The stepped forms and varied roof heights creates opportunities for additional communal open spaces at roof level.

SEPP65 Principle 3: Density

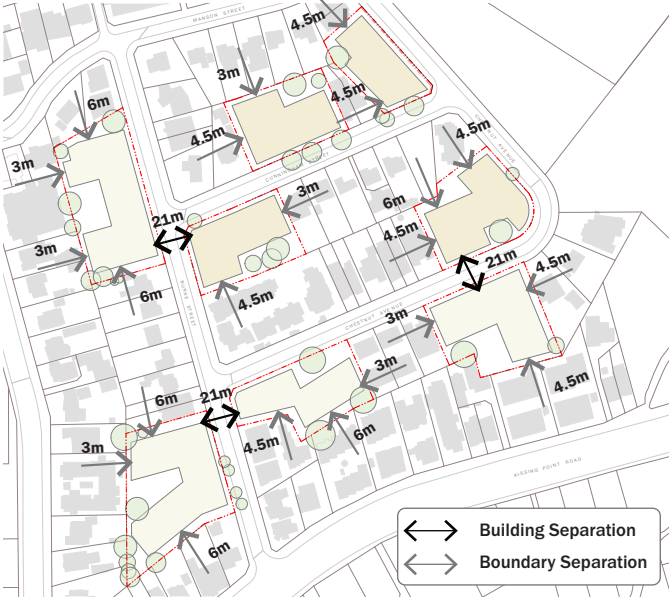
Good design achieves a high level of amenity for residents and each apartment, resulting in a density appropriate to the site and its context.

Appropriate densities are consistent with the area's existing or projected population. Appropriate densities can be sustained by existing or proposed infrastructure, public transport, access to jobs, community facilities and the environment.



Envelopes

Envelopes are loose-fit, allowing flexibility in the resolution of the final building design. They have been set out to ensure significant tree retention and are generally 3m from street frontages, 3m from rear boundaries and 6m from side boundaries where larger ADG building separations are required



Building Separation

All proposed building separation distances comply with the requirements set out in the SEPP65 Apartment Design Guide.

GROUND LEVEL



South precinct ground level plan

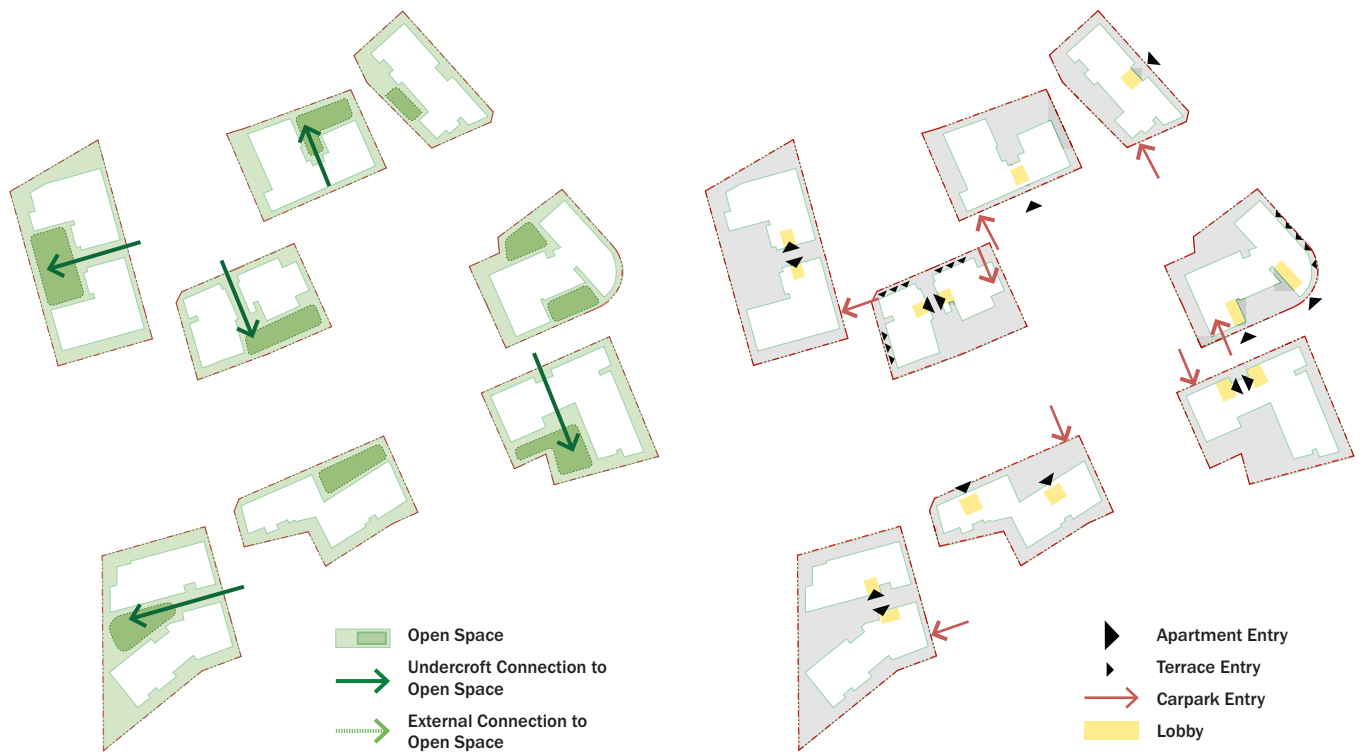
Apartment buildings are arranged with multiple cores and regular entries to maximise street activation and passive surveillance. Most buildings propose 2-storey duplex apartments facing the street.

Lobbies are provided as dual entry gateways providing a visual connection from the street to the centralised communal courtyards, reinforcing the site's connection to landscape. To minimise pedestrian conflicts, driveways and crossovers are kept to a minimum with only one carpark entry per lot.

SEPP65 Principle 7: Safety

Good design optimises safety and security within the development and the public domain. It provides for quality public and private spaces that are clearly defined and fit for the intended purpose. Opportunities to maximise passive surveillance of public and communal areas promote safety.

A positive relationship between public and private spaces is achieved through clearly defined secure access points and well lit and visible areas that are easily maintained and appropriate to the location and purpose.



Connection to open space

Multi-core buildings on S4, S5, S7 and S8 propose external lobby links as the primary entrance. Gated for security, the links provide an open-air connection and strong visual link to the centralized landscaped communal open space

Street activation

The street interface has been developed to maximise ground level activation. Where external lobby links can't be provided, multi-core apartment buildings providing several lobbies per lot and a range of townhouse typologies with regular front doors and front gardens overlooking the street.

TYPICAL LEVEL



South precinct ground level plan

The southern precinct proposes a range of multi-core low-rise residential buildings which define street walls and landscaped courtyards behind.

Buildings are arranged in 21m deep side-core bars, with regular lift and stair cores ensuring good solar access and cross ventilation, consistent with the SEPP65 Apartment Design Guide (ADG).

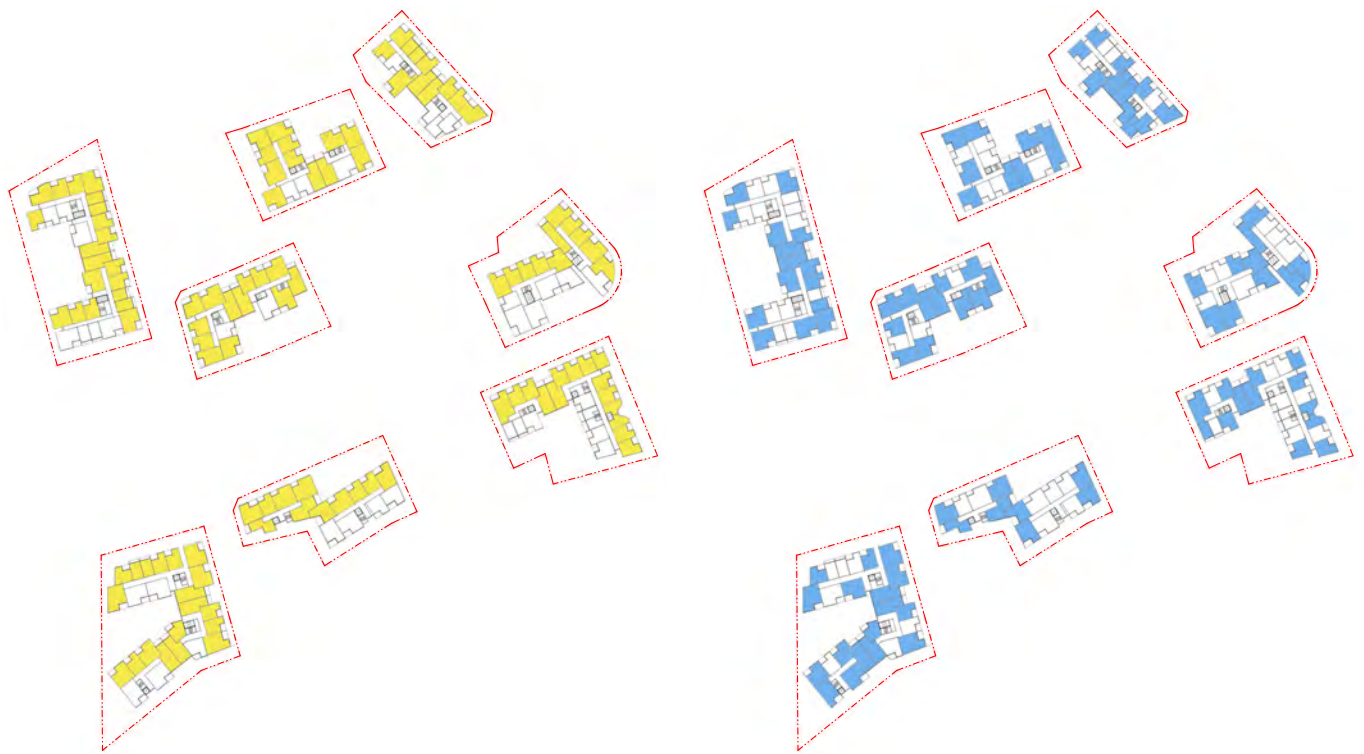
Tenures are mixed throughout the precinct, with Social housing proposed on lot S1 and affordable housing on S5.

While the indicative design scheme shows initial building layouts and core arrangements, these will be further developed during development of the Detailed Development Applications.

SEPP65 Principle 6: Amenity

Good design positively influences internal and external amenity for residents and neighbours. Achieving good amenity contributes to positive living environments and resident well being.

Good amenity combines appropriate room dimensions and shapes, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas and ease of access for all age groups and degrees of mobility.



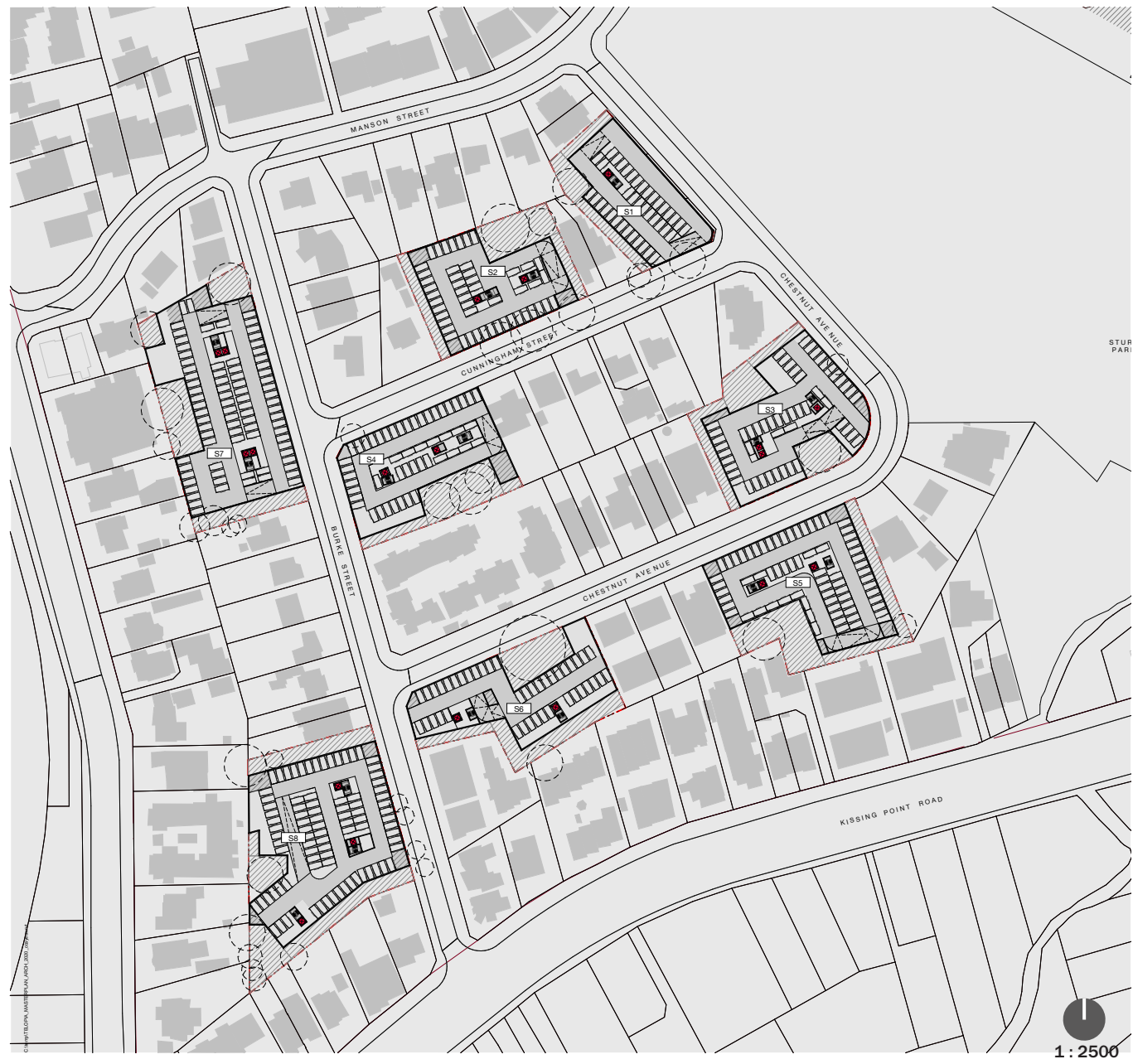
Solar Access

Buildings have been arranged to maximise opportunities for solar access. This diagram illustrates typical floor apartments which will receive at least 2 hours solar access to living rooms and balconies. Appendix D provides comprehensive solar access and overshadowing analysis which demonstrates that the reference design will deliver 75% of dwellings receiving two hours sun and 12% of dwellings with no sun between 9am and 3pm on the winter solstice.

Cross ventilation

The multi-core approach to apartment buildings ensures that greater than 60% of apartments will have dual or corner aspect and be naturally cross-ventilated.

BASEMENTS



South precinct typical basement plan

Basements have been arranged to avoid any conflicts with tree retention and maximise opportunity for deep soil zones, particularly at the rear of sites and near retained trees. Final parking numbers and depth of basements will be confirmed at detailed development application stage.



Tree Retention

The basements and associated deep soil zones have been arranged to ensure they do not encroach more than 10% into the tree protection zone of any of the significant trees.

Deep Soil Zones

Consistent with the draft DCP, the southern precinct proposes 17.5% of deep soil area with a dimension of greater than 6m and 24.9% of deep soil area with a minimum dimension of 4m. This exceeds the DCP minima of 7% and 23% respectively.

PUBLIC DOMAIN AND LANDSCAPE

Regeneration of the south precinct will be enhanced by attractive garden settings surrounding the new apartment buildings. New street tree planting and footpath upgrades will continue the garden setting to the street edge.



OPEN SPACE



South precinct open space plan

Open space has been arranged to provide a mix of public and communal open space at both ground and at roof level. Consistent with the requirements of SEPP65 and ADG, each site provides >25% of the site area as communal open space.

Retained trees are in deep soil zones in a mix of front setbacks, rear setbacks and central courtyards.

SEPP65 Principle 6: Landscape

Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in attractive developments with good amenity. A positive image and contextual fit of well designed developments is achieved by contributing to the landscape character of the streetscape and neighbourhood.

Good landscape design enhances the development's environmental performance by retaining positive natural features which contribute to the local context, co-ordinating water and soil management, solar access, micro-climate, tree canopy, habitat values and preserving green networks.

Good landscape design optimises useability, privacy and opportunities for social interaction, equitable access, respect for neighbours' amenity and provides for practical establishment and long term management.

Winter Solstice
9-3pm



Autumn and Spring Equinox
9-3pm



Open Space Solar Access

Buildings and envelopes have been arranged to maximise opportunities for solar access to open space and deep soil zones, reducing height in specific locations to reduce impact to southern neighbours and provide high quality amenity throughout the year.

Open Space Schedule

Lot	Site	Open Space Roof	Open Space Ground	Open Space Total	Percentage
S1	2,099	356	170	526	25%
S2	2,744	304	382	686	25%
S3	3,168	299	493	792	25%
S4	2,782	179	518	697	25%
S5	3,471	194	676	870	25%
S6	2,877	352	375	727	25%

STREETSCAPES

Teloepa's existing streets are revitalised into a network of connected, walkable and environmentally friendly places.

- Tranquil and immersive
- Versatile and multifunctional
- Garden gatherings
- Connect with nature

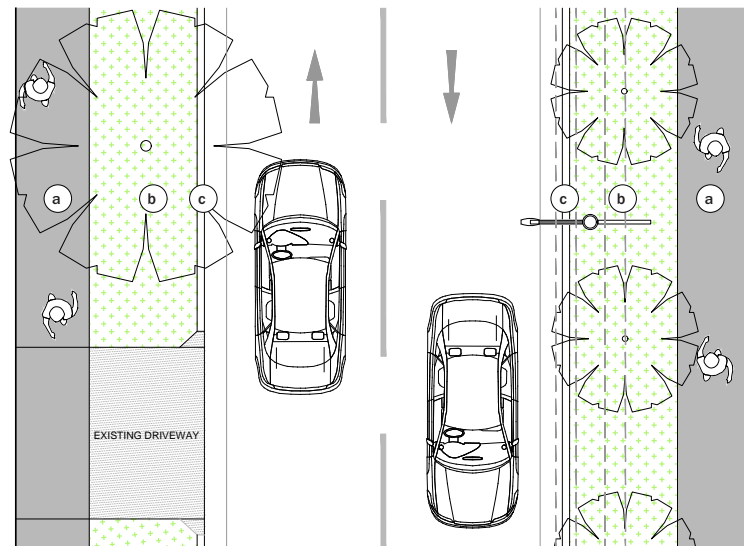
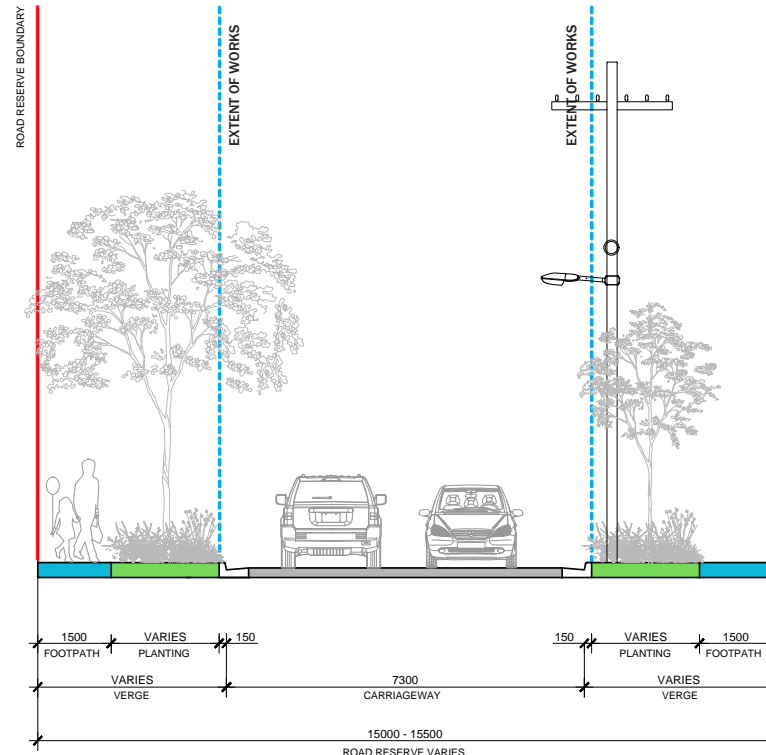
The fragmented network of footpaths in the North Precinct are connected via a continuous network of footpaths. Footpaths link across existing driveways while allowing for existing access routes.

Trees and groundcover planting, consistent with City of Parramatta Council Street Tree Guide are planted in verges to support local biodiversity while ameliorating the urban heat island effect.

Small street trees are planted below existing overhead power-lines, while taller trees are planted where there are no existing obstructions.

The project will investigate the opportunity to include a black water treatment plant that can irrigate the landscaped spaces and precinct street trees. This approach will enable the repaired and reconnected biodiversity corridor and green infrastructure to be resilient to the changing climate.

- Key elements**
- a. New 1.5m footpaths adjacent road reserve boundary
 - b. Planted verges of street trees and groundcovers
 - c. Existing kerb and carriageways retained



COMMUNAL SPACE

A shared backyard for residents, a multifunctional space where people can come together in nature.

- Tranquil and immersive
- Versatile and multifunctional
- Garden gatherings
- Connect with nature

Teloepa's communal open spaces gardens support connections between people and revitalised ecosystems, while providing residents access to nature's respite.

These outdoor spaces include a mix of community, edible and ornamental gardens as well as orchard style planting.

Gardens and lawns support local biodiversity and create dynamic places to connect with nature.

- Key elements**
- a. Incidental play elements
 - b. Retained existing trees
 - c. Multi-functional lawns for picnics, gatherings and informal sports
 - d. Quiet places to sit amongst nature



Images:

- 1. Eve Street Apartments, Sydney, Australia
- 2. M Central, Sydney, Australia
- 3. Cleveland Rooftop, Sydney, Australia



APPENDICES



APPENDIX A: SUSTAINABILITY

The four key sustainability commitments for Telopea are:

- 1. 5 star GreenStar buildings
- 2. 6 Star GreenStar Communities
- 3. Carbon Neutral Integrated Infrastructure Solution
- 4. Silver WELL Communities Certification

Sustainability is about more than the environment. It's about creating communities and places that help real people live, play, shop and work in better ways. It's about being resilient and responsible, creating diverse opportunities and communities that genuinely serve the needs of residents - as well as the planet. It's about minimising our environmental impact in everything we do, and maximising the social and economic benefits for all.



5 Star Green Star Buildings

As part of Telopea Sustainability commitment 1 the following initiatives will be delivered to improve occupant health and comfort and reduce operational costs:

- BASIX Energy 30 and Water 40 (on average) for all residential buildings
- NatHERS 7-Star minimum (on average)
- NABERS 6-star Energy and NABERS 5-Star Water for all non-residential uses
- Inclusion of an integrated infrastructure solution (Real Utilities)
- Efficient building systems and Carbon Neutrality in operations



6 Star Green Star Communities

As part of Sustainability commitment 2 the following community health and wellbeing initiatives will be delivered to provide an environment, infrastructure and proactive support framework to strengthen the community at Telopea:

- Healthy public domain encouraging active living
- Biophilic buildings and places that connect people to nature and place
- Provide alternatives to private car ownership through target initiatives such as: provision of car share spaces; a connected and permeable site to encourage active transport and use of public transport; at least one bicycle parking space to be provided for each dwelling; and at least 300 bicycle parking spaces provided for visitors

- Development reduces average living costs for households, and average operating costs for businesses, compared with business as usual justified through CCAP Precinct report modelling
- Adopted Frasers Reconciliation Action Plan to engage with Indigenous Australians and Traditional Owners
- 300 hours per annum dedicated local staff volunteer hours to the establishment of the Telopea Community Program until development completion.

3

Carbon Neutral Integrated Infrastructure Solution

As part of Telopea’s Sustainability Benchmark 3 we will provide an optimised integrated infrastructure solution incorporating the following initiatives:

Private wire electricity supply

Real Utilities will establish the precinct with one or more private wire networks by installing gate meters. These private networks allow for:

- The purchase of grid electricity at bulk, with savings passed on to the residents and businesses
- The optimal integration of renewable energy generation on site
- Implementation of energy efficiency measures at scale
- 100% of power supplied by Real Utilities will be NCOS carbon neutral certified
- Continued Government concessions and subsidies to Social housing residents by Real Utilities

Smart metering and energy monitoring

Without charge to any of the precincts residents, Frasers Property and Real Utilities will install the latest smart meter technology which will give residents access to time of use energy tariffs and energy consumption data.

On-site renewable energy

Ensure that on-site renewable energy generation from Solar PV is maximised wherever possible.

Based on the current site density and restricted roof space available, this is estimated to be near 2.6 MW, which will be increased wherever feasible

100% Carbon Neutral power

Without charge to any of the precinct’s residents, Real Utilities will supply 100% certified carbon neutral power certified under the Australian Government’s National Carbon Offset Standard.

Affordability

Real Utilities will provide all residents with electricity cost savings, at tariffs which better those of the 3 major electricity retailers in the area. Real Utilities will provide affordable heating to the social housing residents via a radiant heating system and will be provided at a nominal to zero cost

Centralised hot water

Frasers Property will provide residents with centralised hot water. The energy component of hot water will be invoiced Real Utilities, while the water component of the hot water will be invoiced by the water provider. Hot water tariffs will set at below standard tariffs.

Electric/ induction cooktops

Frasers Property will provide electric / induction cooktops for residents. Electric cooktops are preferred by Frasers Property’s social housing partner.

Energy efficient cooling and heating

Frasers Property will procure energy efficient split air-conditioning systems for the non-Social housing dwellings. The base solution for Social housing residents is ceiling fans and provisions for future spilt system air conditioners.

Heating will be provided to social housing residents via a radiant heating system, which will be provided at a nominal to zero cost

4

Silver WELL Communities Certification

An initial Pre-Certification process covering the whole precinct, and individual final Certifications for each development phase will be pursued as follows:

- Stage 1 – Core, Stage 1A and Eastern Phase;
- Stage 2 – Southern Precinct Phase; and
- Stage 3 – Northern Precinct Phase.

The WELL Communities certification will encompass baseline initiatives such as: eating a more compact, connected and active community;

The project will certify one building under the WELL Buildings rating;

Air

Employing strategies for the reduction of ambient air pollution;

Water

Providing healthy drinking water without high pollutants concentrations or risk factors for bacteria;

Nourishment

Improving community nutritional status by enabling equitable access to grocery stores and supermarkets;

Light

Promoting an overarching plan for light across the whole community prior to development, in order to determine appropriate limitations on planned or existing lighting that may not be easily changed;

Movement

Encouraging a high degree of and proximity to mixed-uses with the goal of creating a more compact, connected and active community;

Thermal Comfort

Protecting community members against indoor and outdoor impacts of extreme temperatures by communicating extreme weather warnings and health-relevant advice in a timely manner;

Sound

Prioritising the assessment and management of environmental noise in project planning and design development;

Materials

Supporting waste management and sanitation practices that consider hazardous waste streams and reduce the risk of environmental contamination and health hazards;

Mind

Improving availability of and access to community-based mental health support and care; and

Community

Collaboratively develop a shared vision, measurements and activities for community design and development.

APPENDIX B: STAGING

The proposed staging plan is arranged to maximise the amount of public domain delivered in the first stage of development.

The staging strategy maintains a consistent tenure split between social and market dwellings and to ensure that the necessary infrastructure comes online to service the relevant stages. Multi-core buildings ensure that different tenures can coexist within the same tenure-blind buildings.

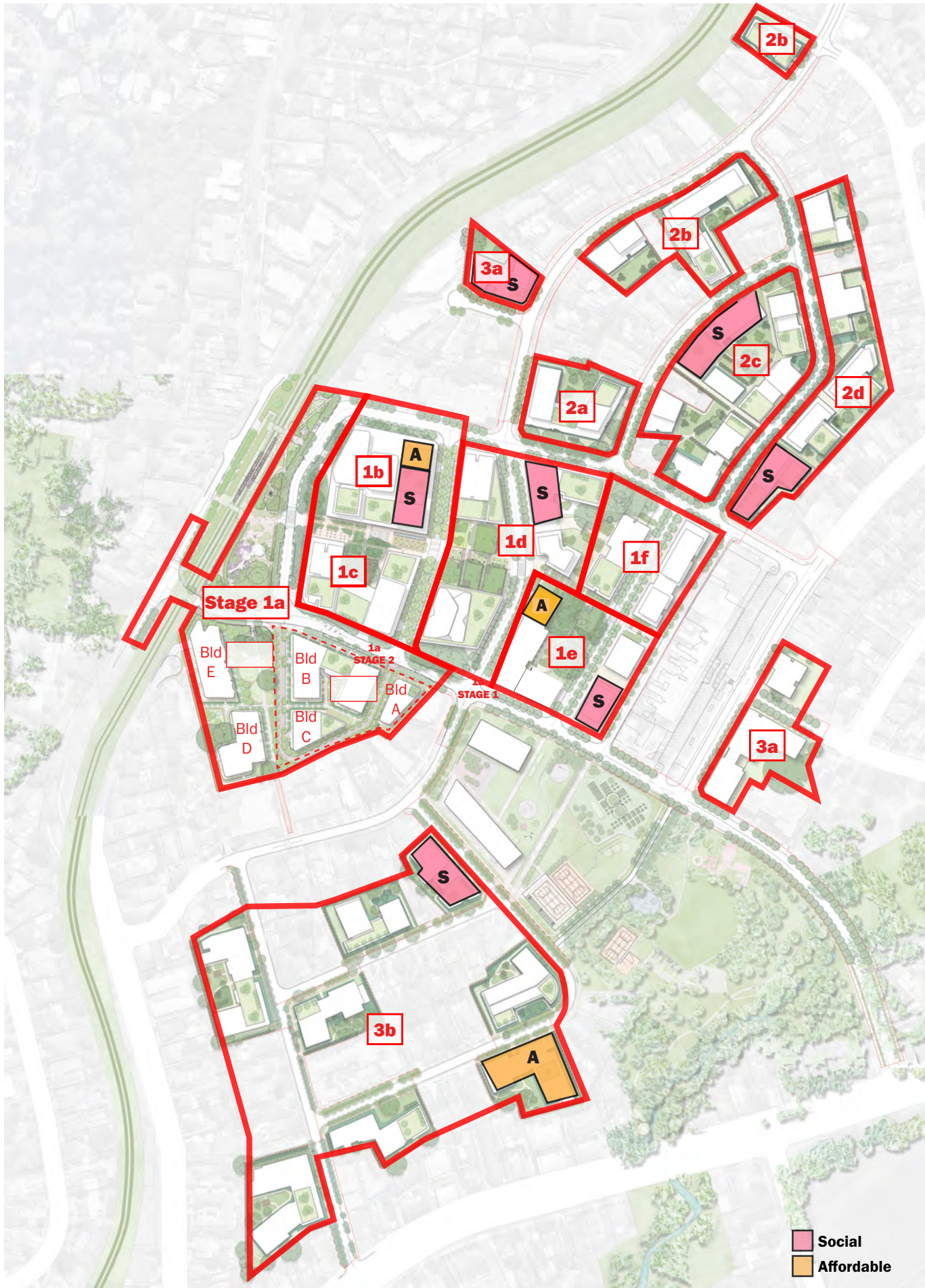
Development will commence at the top of the hill, with Stage 1A including the station plaza, the new rail crossing, existing road upgrades and redevelopment of the Polding Place site. The remainder of the core will then be progressively developed moving down the hill in stages 1B to 1F. The northern precinct will then be developed iteratively in stages 2A to 2D. Stage 3A includes lot S1, E1 and E2. The final stage 3B includes all of the southern precinct sites.

SEPP65 Principle 8: Housing diversity and social interaction

Good design achieves a mix of apartment sizes, providing housing choice for different demographics, living needs and household budgets.

Well designed apartment developments respond to social context by providing housing and facilities to suit the existing and future social mix.

Good design involves practical and flexible features, including different types of communal spaces for a broad range of people and providing opportunities for social interaction among residents.



Staging plan

APPENDIX C:


APPROVAL

DRAWINGS

No.	Title	Latest Revision
DA00.001	Drawing List	2
DA01.MP.100	Core & East Precints - Existing Condition & Demolition Plan	2
DA01.MP.110	Core & East Precincts - Lot Subdivision plan	2
DA01.MP.120	Core & East Precincts - Deep Soil Areas	2
DA01.MP.130	Core & East Precincts - Envelope Control Plan	2
DA01.MP.200	North Precinct - Existing Condition & Demolition Plan	1
DA01.MP.210	North Precinct - Lot Subdivision Plan	1
DA01.MP.220	North Precinct - Deep Soil Areas	2
DA01.MP.230	North Precinct - Envelope Control Plan	2
DA01.MP.300	South Precinct - Existing Condition & Demolition Plan	1
DA01.MP.310	South Precinct - Lot Subdivision Plan	1
DA01.MP.320	South Precinct - Deep Soil Areas	1
DA01.MP.330	South Precinct - Envelope Control Plan	1



Key:

- Consolidated lot boundaries
-  Existing lot boundaries
-  Currently LAHC owned land to be dedicated to Council
-  Currently Council owned land to be dedicated to LAHC

Rev	Date	Description	CC	WM	MA
2	02.07.21	Response to SDAP Feedback		WM	MA
1	27.10.20	Stage 1 SDA Drawings		CC	WM

Telopea Masterplan

Masterplan
Core & East Precincts - Lot
Subdivision plan

Status	For Information		
Scale	1 : 750	@ A1	
Drawn	CC	Checked	WM
Project No.	S12226		
Plot Date	06/07/2021 2:44:39 PM		
BIM			

DA01.MP.1102

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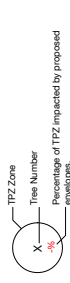
Check all dimensions and site conditions prior to commencement of any work, the purchase or ordering of any materials, fittings, plant, services or equipment and the preparation of shop drawings and/or the fabrication of any components.

Do not scale drawings - refer to figured dimensions only. Any discrepancies shall immediately be referred to the architect for clarification.



Key:

- Lot Boundaries
- Proposed Deep Soil Zone
- Land to be dedicated to council, unencumbered by easements. Extent of this area is shown on the subject's plan and is subject to detailed design.
- Note A: Deep Soil Zone can be repositioned within site boundaries to achieve the same



Sum of deep soil areas:

A. Core Precinct

1. Deep Soil areas located on LAHC land: 12,374m² (22.9% of LAHC owned land)
2. Deep Soil areas located on LAHC owned land & dedicated Council land: 23,431m² (36.1% of the sum of LAHC owned land & Dedicated Council Land excluding proposed new streets)

B. East Precinct

1. Deep soil areas with a minimum dimension of 4 m:
1.737m² (30.4%)
2. Deep soil areas with a minimum dimension of 6 m:
1.402m² (24.5%)

Ref	Date	Description	Initial	Checked
2 nd Notes/Drawings intended for presentation, subject to detailed IIA				
Revision 2/24/2012/Issue # 3 SIDA Drawings				
			CC	VMA

Telopea Masterplan

Masterplan
Core & East Precincts - Deep Soil
Areas

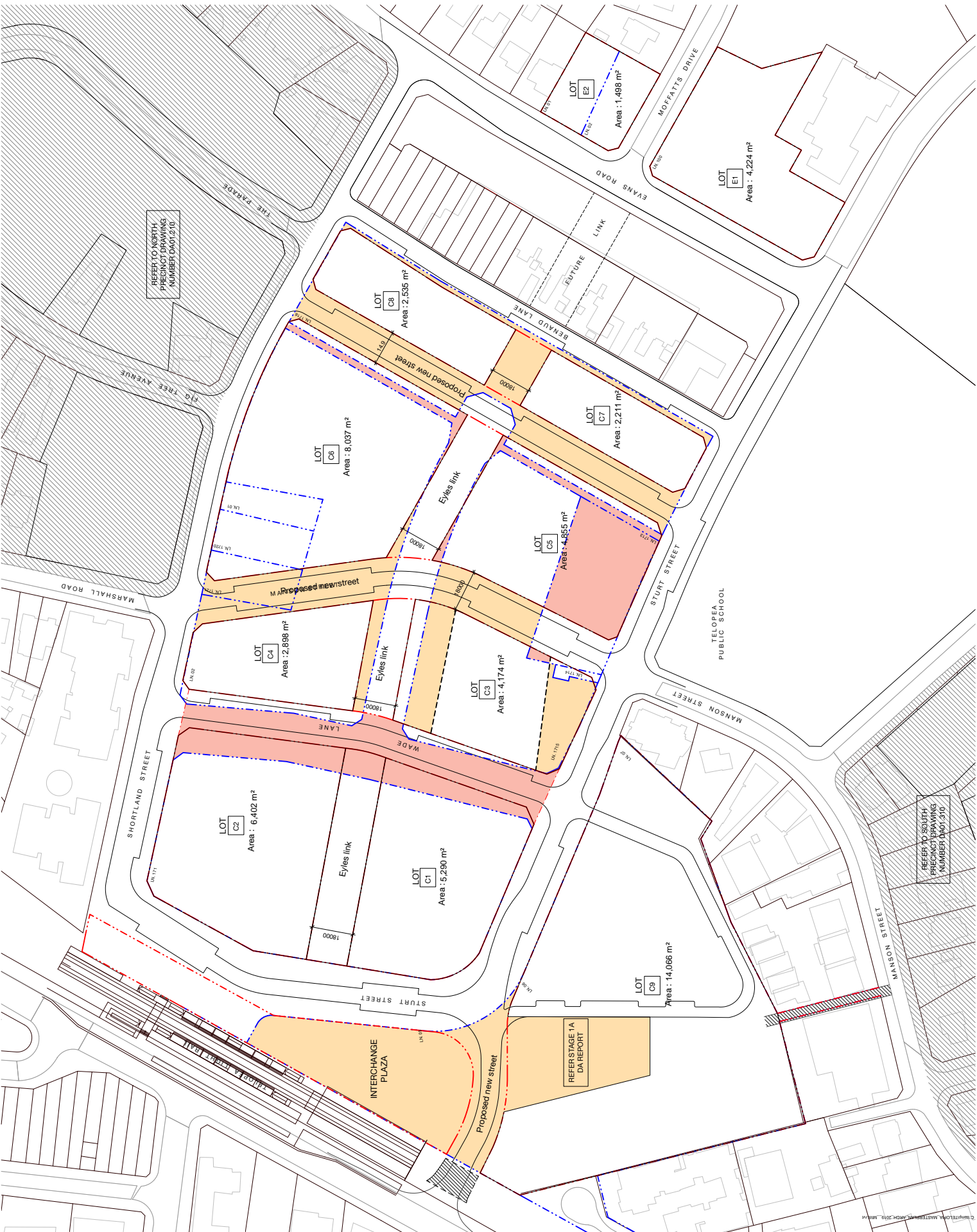
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Plot Date	1907/2021 11:05:10AM	
WM		

Drawing no.: **DA01.MP.1202**
 Revision:

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NOTE A: 8.5m wide articulation & ground floor
NOTE B: 8/12m wide building break. Position
within block may vary

1	02/10/21	Revised to reflect feedback	CC	WM	CM
2	02/10/21	Revised to reflect feedback	CC	WM	CM
Rev	Date	Description	CC	WM	CM

Telopea Masterplan



Masterplan
Precincts - Envelope
Control Plan

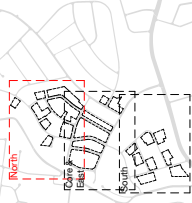
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Rev		

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Melbourne 1 Nicholson Street
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http://www.batesmart.com.au
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BATESMART



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Site Boundaries	Existing Buildings to be demolished by others under separate application	Roads to be removed	Trees intended for retention	Trees intended for removal
Site Boundaries	Existing Buildings to be demolished by others under separate application	Roads to be removed	Trees intended for retention	Trees intended for removal

1	27/10/21	Revised to reflect feedback	CC	WM	CM
2	27/10/21	Revised to reflect feedback	CC	WM	CM
Rev	Date	Description	CC	WM	CM

Telopea Masterplan



Masterplan
Precincts - Existing Condition
& Demolition Plan

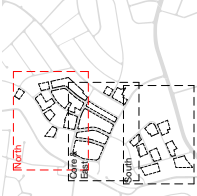
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File Name	S12226_11.02.04.dwg	
Rev		

DA01.MP.2001
Drawing No.
Revision
Melbourne 1 Nicholson Street
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email mel@batesmart.com.au
http://www.batesmart.com.au
Bates Smart Pty, Ltd ABN 70 004 998 400

BATESMART



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- Key:**
- Consolidated lot boundaries
 - Existing lot boundaries
 - Currently LABC owned land to be dedicated to Council
 - Currently Council owned land to be dedicated to LABC

1:27,000 Scale 1:5000 Drawing
Date: Description
Scale: 1:750
Drawn: CC
Project No: S12226
File Name: 17032021 15:02:14 PM
BIM

Teloepa Masterplan

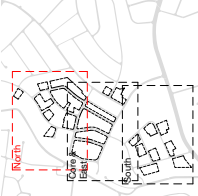
Masterplan
North Precinct - Lot Subdivision
Plan

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Drawn	CC	Checked VM
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File Name	17032021 15:02:14 PM	
BIM		
Drawing No.	Revision	
DA01.MP.2101		
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- Key:**
- Lot Boundaries
 - Proposed Deep Soil Zone
 - Land to be dedicated to Council
 - Previous and Impervious Surfaces subject to detailed design
 - Note A: Deep Soil zone can be repositioned to achieve the same amount of deep soil area

1:27,000 Scale 1:5000 Drawing
Date: Description
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Drawn: CC
Project No: S12226
File Name: 17032021 15:02:14 PM
BIM

Teloepa Masterplan

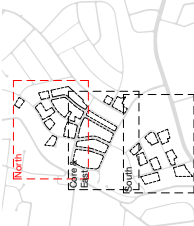
Masterplan
North Precinct - Deep Soil Areas
Plan

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File Name	17032021 15:02:14 PM	
BIM		
Drawing No.	Revision	
DA01.MP.2202		
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NOTE A: 8.5m wide articulation & ground floor
NOTE B: 8/12m wide building break. Position
within block may vary

Rev	Date	Description	Rev	By	Check
1	02/12/21	Referencing to other standards	CC	WM	CC

Teloopa Masterplan

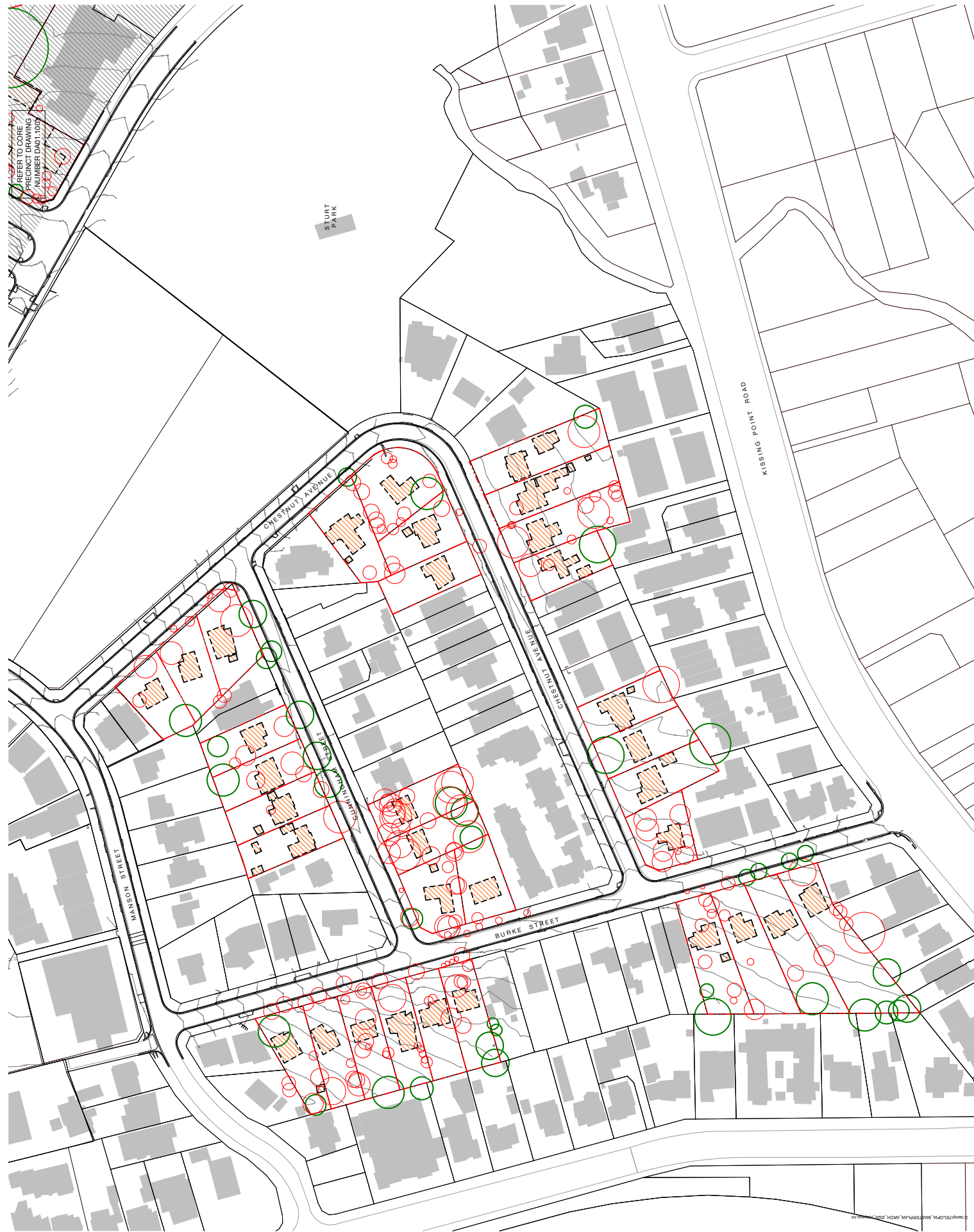


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Rev	BM	

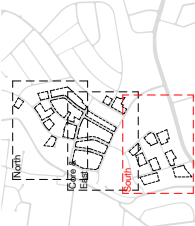
DA01.MP.2302
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0 5 10 20 30 40 50 60 70m



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Project No.	S12226	
File Name	8070261 1-01-11-PA	
Rev	BM	

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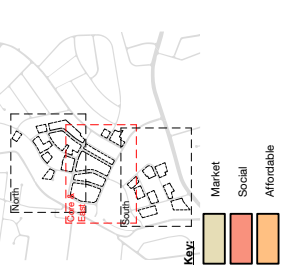




APPENDIX D: INDICATIVE DESIGN SCHEME DRAWINGS

DA02.MP.000	Telopea - Key Plan	2
DA02.MP.100	Core & East Precincts - Public Domain Plan	2
DA02.MP.110	Core & East Precincts - Low-rise Typical Floor Plan	2
DA02.MP.111	Core & East Precincts - Mid-rise Typical Floor Plan	2
DA02.MP.112	Core & East Precincts - High-rise Typical Floor Plan	2
DA02.MP.120	Core & East Precincts - Roof Plan	2
DA02.MP.130	Core & East Precinct Basement Parking	2
DA02.MP.140	Core & East Precincts - Open Space	2
DA02.MP.190	Lower Ground Manson St Non-Resi	2
DA02.MP.191	Lower Ground Non-Resi	2
DA02.MP.192	Upper Ground Non-Resi	2
DA02.MP.193	Level 01	2
DA02.MP.200	North Precinct - Ground Floor Plan	1
DA02.MP.211	North Precinct - Typical Floor Plan	1
DA02.MP.220	North Precinct - Roof Plan	1
DA02.MP.230	North Precinct - Basement	2
DA02.MP.240	North Precinct - Open Space	1
DA02.MP.300	South Precinct - Ground Floor Plan	1
DA02.MP.310	South Precinct - Typical Floor Plan	1
DA02.MP.320	South Precinct - Roof Plan	1
DA02.MP.330	South Precinct - Basement	1
DA02.MP.340	South Precinct - Open Space	1
DA03.MP.100	Street Elevations A	2
DA03.MP.101	Street Elevations B	2
DA03.MP.102	Street Elevations C	2
DA03.MP.103	Street Elevations D	2
DA03.MP.104	Street Elevations E	2
DA03.MP.105	Street Elevations F	2
DA03.MP.200	Street Elevations G	1
DA03.MP.201	Street Elevations H	1
DA03.MP.202	Street Elevations I	1
DA03.MP.203	Street Elevations J	1
DA03.MP.300	Street Elevations K	1
DA03.MP.301	Street Elevations L	1
DA03.MP.400	Street Elevations M	1

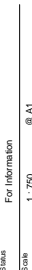
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1	02/02/21	Revised to reflect feedback	MM	MM	MM
Rev	Date	Description	CC	WM	Check

Teloepa Masterplan

Indicative Scheme
Core Elements - Low-rise
Typical Floor Plan



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Scale	1 : 750	Checked
Drawn	CC	WM
Project No.	S12226	
File Date	10/03/2021 11:02:24 AM	
BM		

DA02.MP.1102

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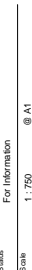
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1	02/02/21	Revised to reflect feedback	MM	MM	MM
Rev	Date	Description	CC	WM	Check

Teloepa Masterplan

Indicative Scheme
Core Elements - Mid-rise
Typical Floor Plan



Scale	For information	@ A1
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Drawn	CC	WM
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File Date	10/03/2021 11:02:24 AM	
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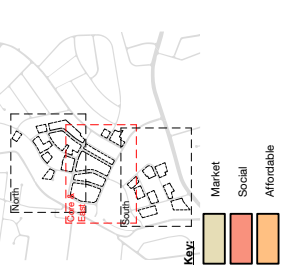
DA02.MP.1112

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1	02/12/21	Revised to reflect feedback	MM	MM	MM
Rev	Date	Description	By	Check	Check

Teloepa Masterplan

Indicative Scheme
Core East Precincts - High-rise
Typical Floor Plan



Scale	For information	@ A1
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Project No.	S12226	
File Name	10010011107464M	
BM		

DA02.MP.1122

Revision

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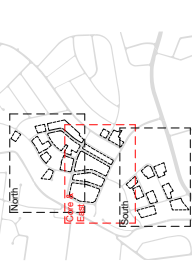
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1	02/12/21	Revised to reflect feedback	MM	MM	MM
Rev	Date	Description	By	Check	Check

Teloepa Masterplan

Indicative Scheme
Core & East Precincts - Roof Plan



Scale	For information	@ A1
Scale	1 : 750	Ground
Drawn	CC	WM
Project No.	S12226	
File Name	10010011107464M	
BM		

DA02.MP.1202

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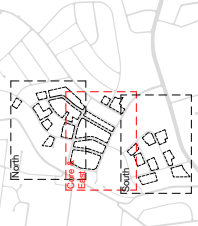
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2	02/02/21	Representative masterplan	2	WM	WM

Teloepa Masterplan



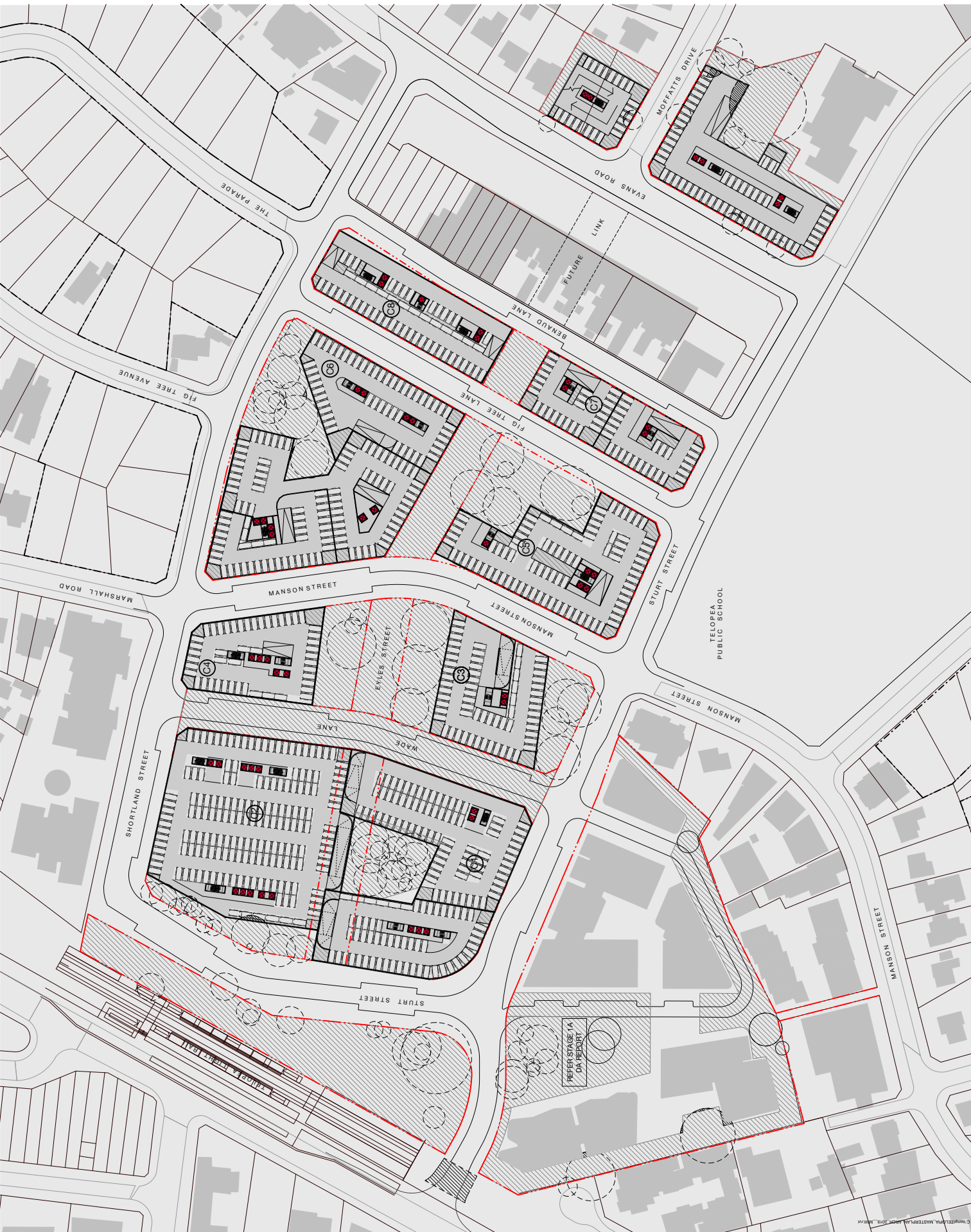
Indicative Scheme
Public & East Precinct Basement
Parking

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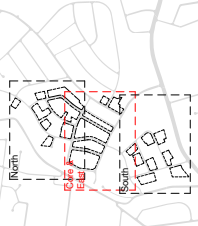
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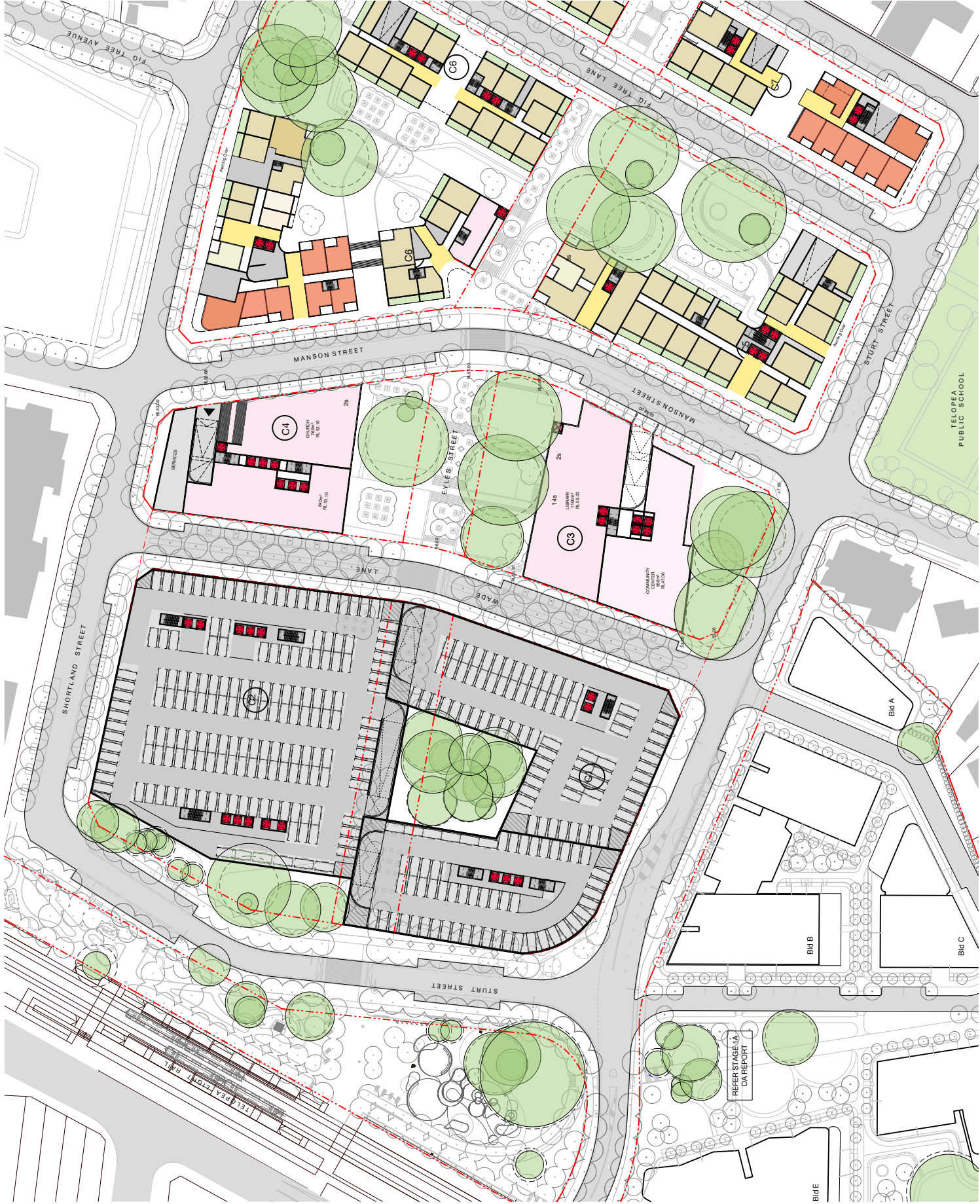
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1	02/02/20	Revised to reflect feedback	1	1	1
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			WM	WM	WM

Telopea Masterplan

Indicative Scheme
Lower Ground Non-Resi

Scale: For information
1:500 @ A1

Drawn: CC
Checked: WM

Project No: S12226

File Name: 19010001110244.MXD

BM

Drawing No: DA02.MP.1902

Revision

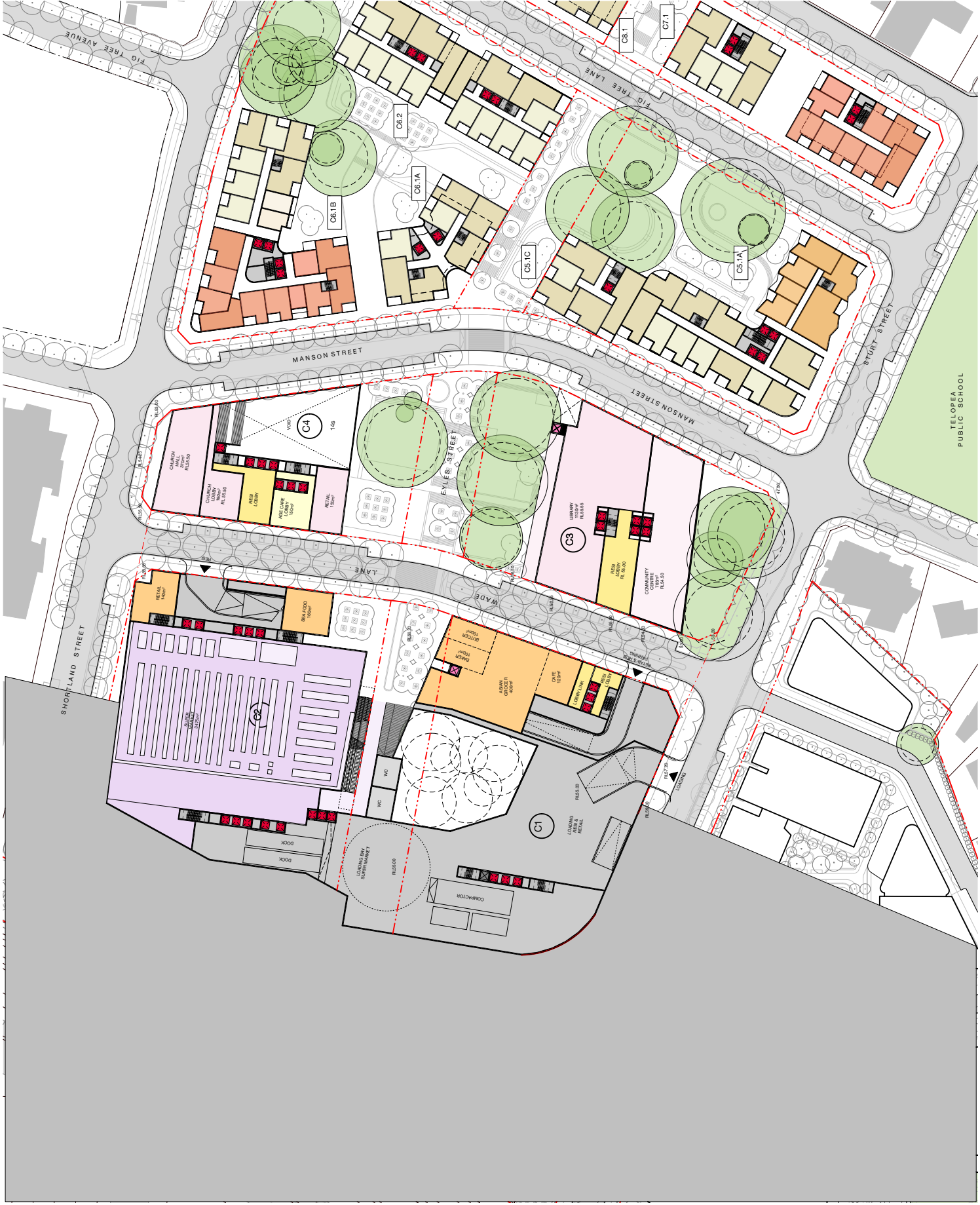
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Rev	Date	Description	Rev	Rev	Rev
1	02/02/20	Revised to reflect feedback	1	1	1
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			WM	WM	WM

Telopea Masterplan

Indicative Scheme
Lower Ground Non-Resi

Scale: For information
1:500 @ A1

Drawn: CC
Checked: WM

Project No: S12226

File Name: 19010001110244.MXD

BM

Drawing No: DA02.MP.1912

Revision

DA02.MP.1912

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	02.07.21	Response to SDRP Feedback	WIM	MA
	27.10.20	Stage 1 SODA Drawings	CC	WIM
2				
1				

Telopea Masterplan

Indicative Scheme
Upper Ground Non-Resi



Status	For Information

Drawn	CC	Checked	W/M

Project No.	S12226
Print Date	15/07/2021 11:11:18 AM

Drawing no.	Revision

DA02.MP.1922

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Row	Date	Description	Initial	QC	WM	MA
2	02-07-21	Response to SDRP Feedback			WM	MA
1	27-10-20	Stage 1 SDA Drawings		CC	WM	

Telopea Masterplan

Indicative Scheme
Level 01

Status

For Information

Drawn	CC	Checked	W/M

STZZ26	15/07/2021 11:12:03 AM
Post Date	

Drawing no.	Revision
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DA02.MP.1932

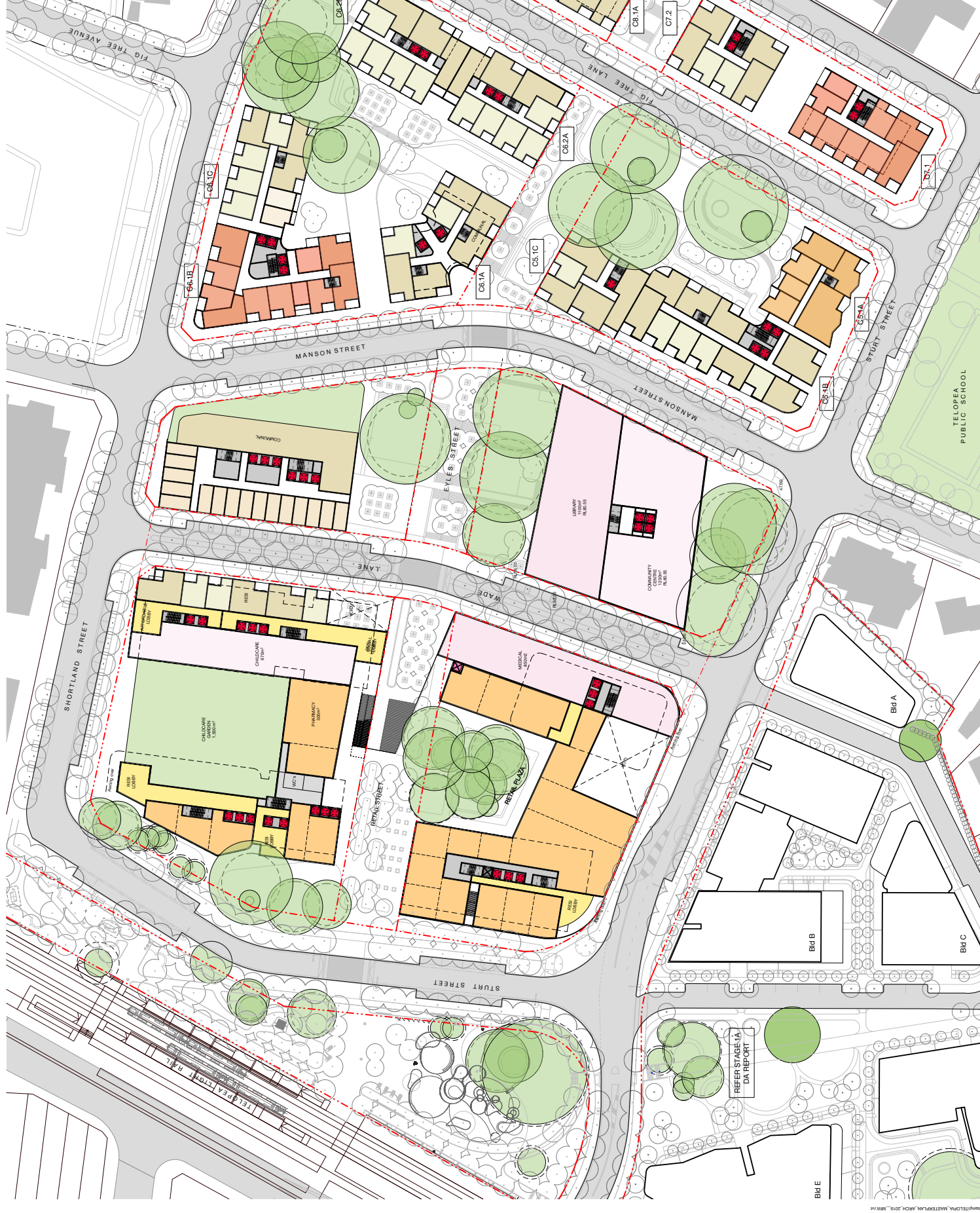
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T 02 8354 9100 F 02 8354 9199
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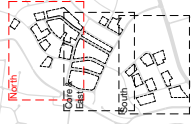
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Key:

- Market
- Social
- Affordable

27.03.2011 Stage 3 SDA Drawing
Rev: CC Initial Checked: VM
Date: Design team

Scale: 1:750 @ A1

Drawn: CC Checked: VM

Project No: S12226

Plot Date: 17/03/2011 11:50:07 PM

BM

DA02.MP.200.1

Revision

DA02.MP.200.1

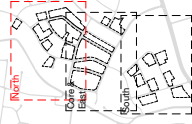
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Key:

- Market
- Social
- Affordable

27.03.2011 Stage 3 SDA Drawing
Rev: CC Initial Checked: VM
Date: Design team

Scale: 1:750 @ A1

Drawn: CC Checked: VM

Project No: S12226

Plot Date: 17/03/2011 11:50:07 PM

BM

DA02.MP.211.1

Revision

DA02.MP.211.1

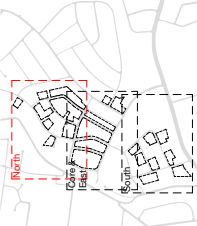
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27/10/2024 11:16:29 AM
Date: 27/10/2024
Drawn: CC
Checked: WM
Status: For Information

Teloepa Masterplan
Indicative Scheme
North Precinct - Roof Plan

Scale: 1:750
Drawing No: S12226
Project No: S12226
Revision: 1
Drawing No: S12226
Project No: S12226
Revision: 1

DA02.MP.2201
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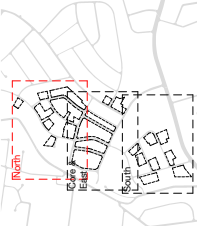
Teloepa Masterplan
Indicative Scheme
North Precinct - Basement

Scale: 1:750
Drawing No: S12226
Project No: S12226
Revision: 1
Drawing No: S12226
Project No: S12226
Revision: 1

DA02.MP.2302
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- Key**
- Lot Boundaries
 - Ground Communal Open Space
 - Roof Communal Open Space
 - Public Open Space
 - Pedestrian Through Site Links
 - Childcare Garden

27/10/20 Scale: 1:500 Drawing
Rev Date Description
CC Initial Comment

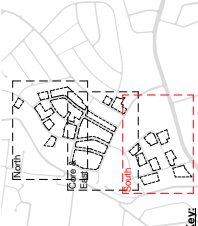
Teloopa Masterplan

Indicative Scheme
North Precinct - Open Space

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File Date	17/03/2021 11:16:15 PM
BM	
Drawing No.	
Revision	
DA02.MP.2401	
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- Key**
- Market
 - Social
 - Affordable

27/10/20 Scale: 1:500 Drawing
Rev Date Description
CC Initial Comment

Teloopa Masterplan

Indicative Scheme
South Precinct - Ground Floor Plan

Status	For Information
Scale	1: 750 @ A1
Drawn	CC
Project No.	S12226
File Date	17/03/2021 11:16:15 PM
BM	
Drawing No.	
Revision	
DA02.MP.3001	
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27/10/20, Stage 1, SDA Drawing
Rev Date Description CC WM Initial Checked

Teloepa Masterplan

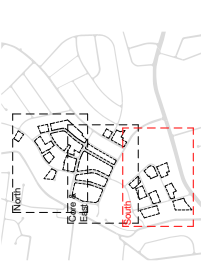
Indicative Scheme South Precinct - Typical Floor Plan

Scale	For Information	@ A1
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Drawn	CC	
Project No.	S12226	
File Date	17/03/2017 10:41 PM	
BM		

Drawing No. Revision
DA02.MP.3101
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Rev Date Description CC WM Initial Checked

Teloepa Masterplan

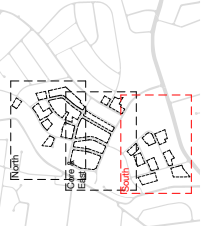
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Drawing No. Revision
DA02.MP.3201
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1:27,000 Scale 1:27,000 Scale
Date: 27/03/2019
Drawn: CC
Checked: WM
Scale: 1:27,000
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File Name: 17032019 12:02 PM
BIM

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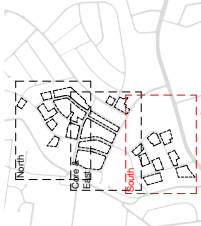
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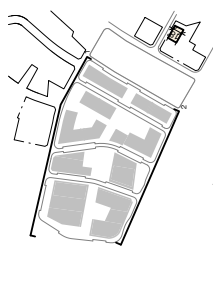
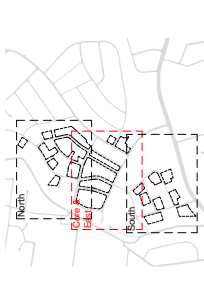
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Key:

- | | |
|---------------------------|-----------------|
| Site boundary | Proposed ground |
| LEP height limit | Existing ground |
| Envelope height | |
| LEP height limit (beyond) | |

Rev	Date	Description	Initial	Grade
1	27-10-20	Stage 1 SDA Drawings	CC	WM
2	02.07.21	Response to SDGP Feedback	WM	MA

Telopea Masterplan

Street Elevations
Street Elevations A

Status	For Information		
Scale	As indicated	@ A1	
Drawn	CC	Checked	WM
Project No.	S12226		
Plot Date	6/07/2011 2:26:36 PM		
RAM			

DA03.MP.1002

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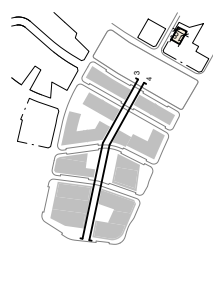
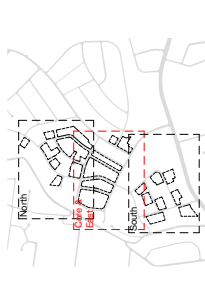
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Key:

- | | |
|---------------------------|-----------------|
| Site boundary | Proposed ground |
| LEP height limit | Existing ground |
| Envelope height | |
| LEP height limit (beyond) | |

Ref	Date	Description	Initial	WM CC	MA WM	Checked
2	02.07.21	Response to SOAP Feedback				
1	27.10.20	Stage 1 SODA Drawings				

Telopea Masterplan

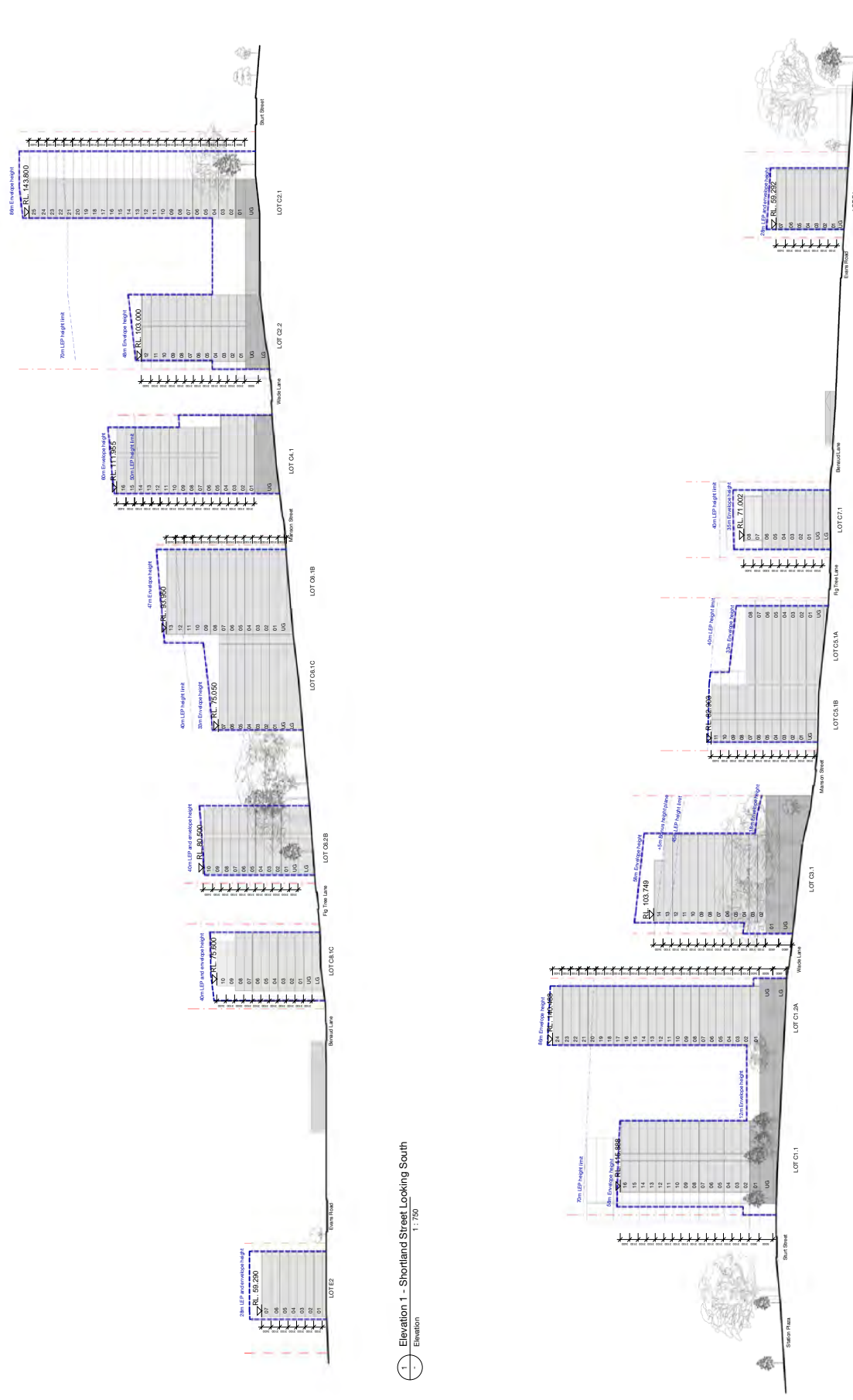
Street Elevations
Street Elevations B

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Plot Date	03/07/2017 2:38:45 PM		
Sheet #	01 of 4		

Drawing no. DA03.MP.101 2 Rev

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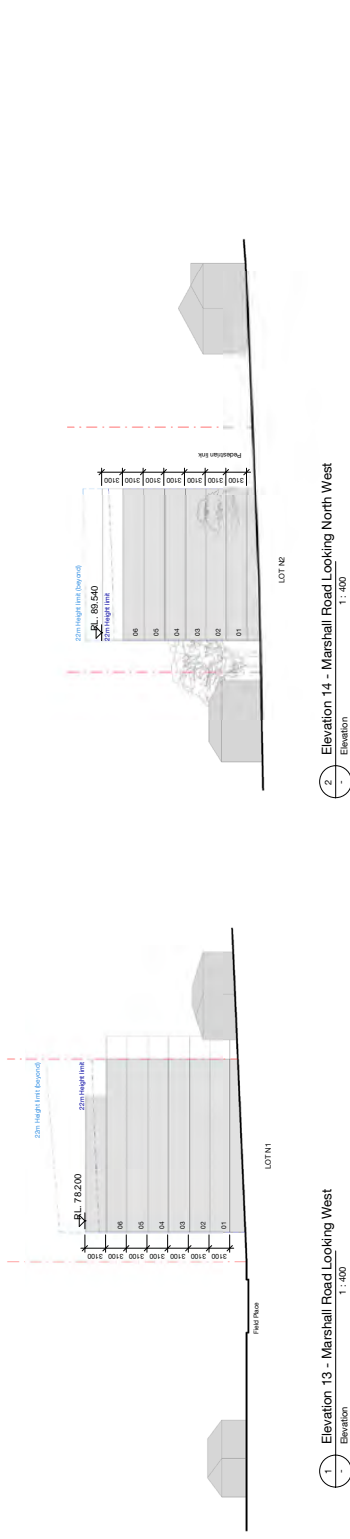
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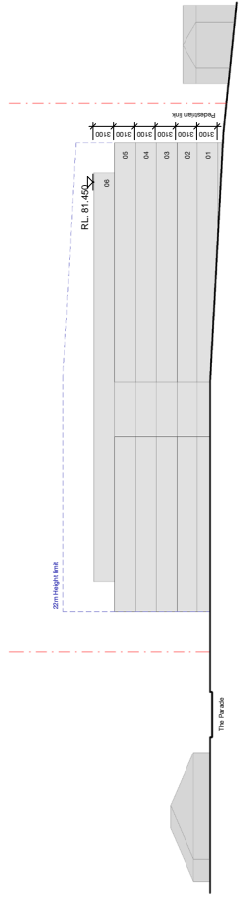
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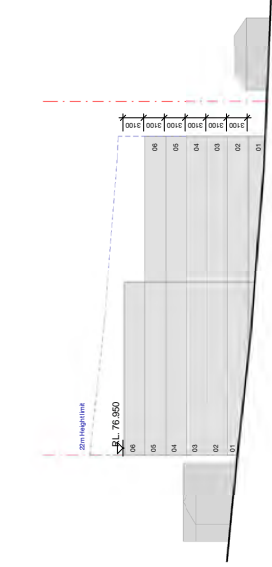


1 Elevation 13 - Marshall Road Looking West
- Elevation 1 : 400

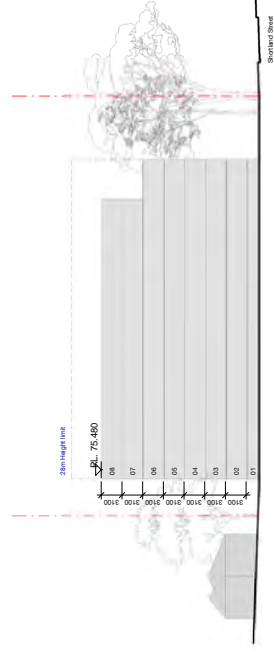
2 Elevation 14 - Marshall Road Looking North West
- Elevation 1 : 400



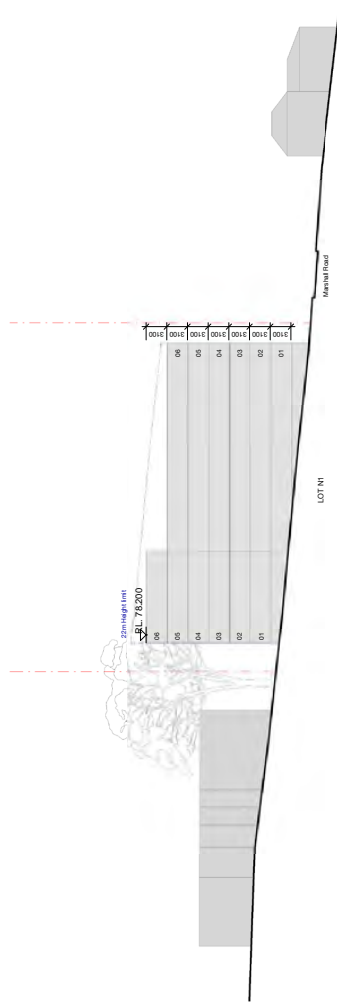
3 - Elevation 15 - Marshall Road Looking South East
Elevation 1 : 400



4 - Elevation 16 - Marshall Road Looking South East
Elevation 1 : 400



5 Elevation 17 - Marshall Road Looking East
- Elevation 1 : 400



6 Elevation 18 - Field Place Looking North
Blevation 1:400

Telopea Masterplan

Street Elevations
Street Elevations G

Status	For Information		
Scale	As indicated	@ A1	
Drawn	CC	Checked	WM
Project No.	S12226		
Plot Date	11/03/2021 4:26:01 PM		
SSM			

Drawing no. DA03.MP.2001

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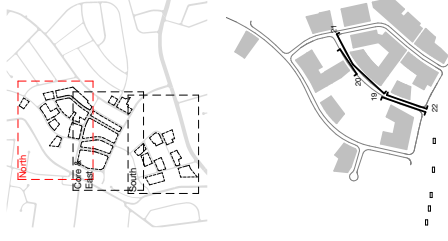
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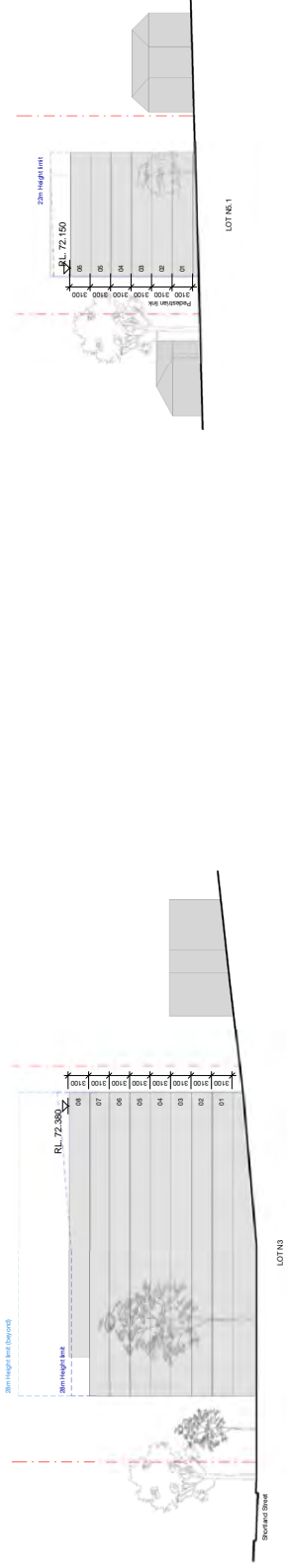
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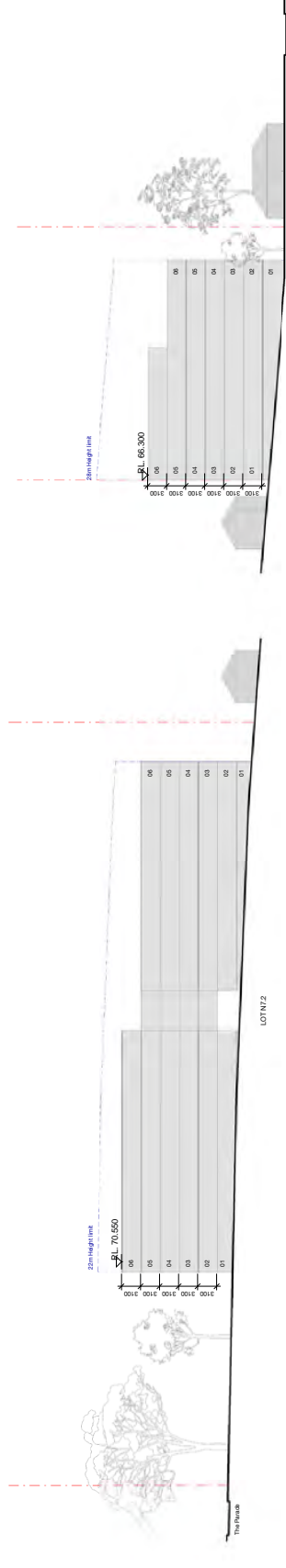
Key:

- - - Site boundary
- - - Envelope height limit
- - - Envelope height limit (beyond)
- Proposed ground
- - - Existing ground



1 Elevation 19 - Fig Tree Avenue Looking West
Elevation 1 : 400

2 Elevation 20 - Fig Tree Avenue Looking North West
Bivation 1 : 400



3 Elevation 21 - Fig Tree Avenue Looking South East

4 Elevation 22 - Fig Tree Ave Looking South East
Elevation 1 : 400

Telopea Masterplan

Street Elevations
Street Elevations H

Status	For Information		
Scale	As indicated	@ A1	
Drawn	CC	Checked	WM
Project No.	S12226		
Plot Date	1/10/2021 4:26:41 PM		
Sheet			

Drawing no. DA03.MP.2011

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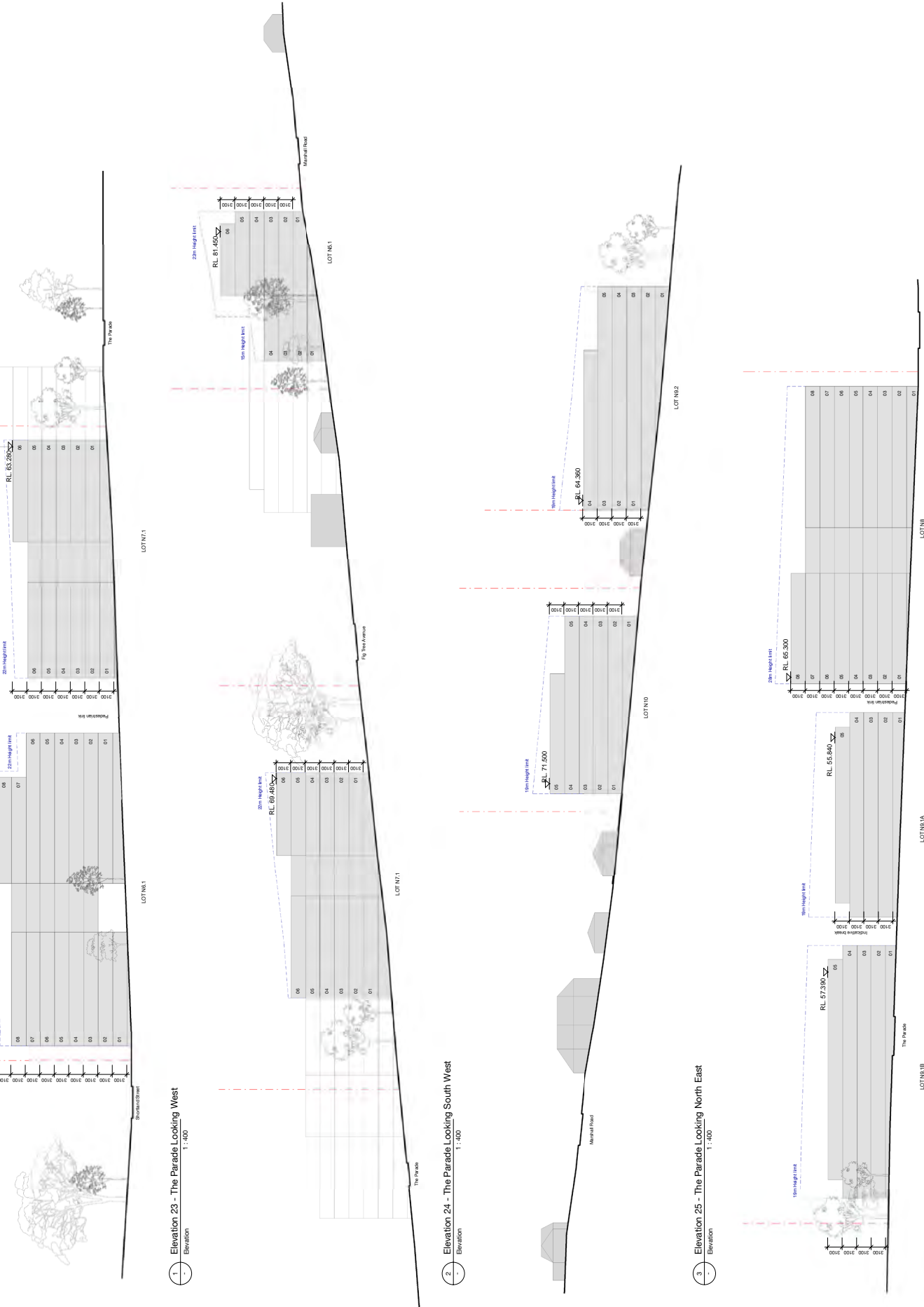
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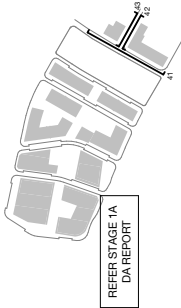
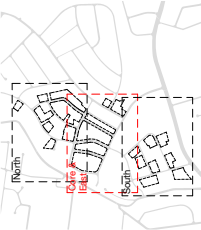
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- KEY:**
- Site boundary
 - Envelope height limit
 - Envelope height limit (beyond)
 - Proposed ground
 - Existing ground

Rev	Date	Description	CC	WM	Checked
1	27/03/20	Stage 1 DA Report			

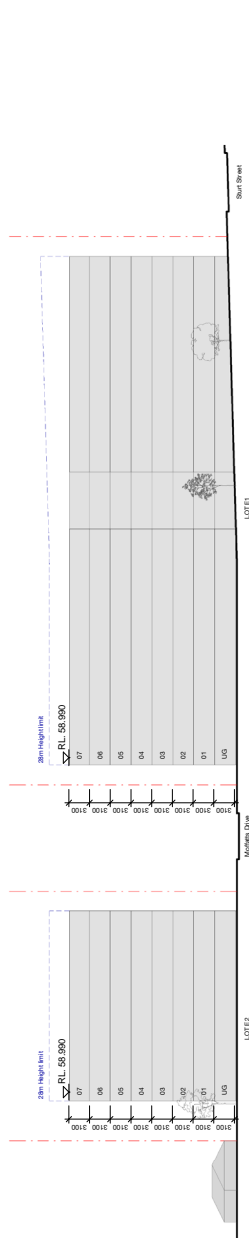
Telopea Masterplan

Street Elevations

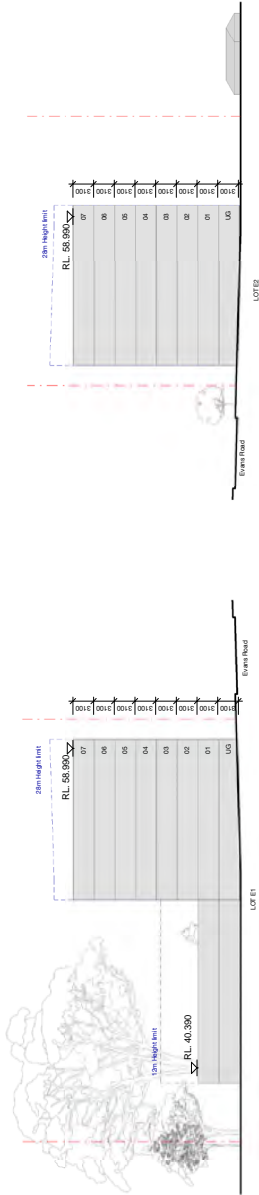
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Drawn	CC
Project No.	S12228
File Name	17032021-1-30-10-PM
BLM	

Drawing No.	Revision
DA03.MP.400.1	
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1. Elevation 41 - Evans Road Looking East
Elevation 1:400



2. Elevation 42 - Morfatts Drive Looking South
Elevation 1:400

3. Elevation 43 - Morfatts Drive Looking North
Elevation 1:400

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APPENDIX E: SOLAR ACCESS AND SHADOW ANALYSIS

Overview

We have adopted a highly accurate parametric process to assess the solar access performance of the indicative reference scheme. The process has formed a vital tool in developing the masterplan design by allowing us to test the solar performance of numerous building configurations quickly while achieving accurate results which are able to be presented and understood in a very straightforward visual format.

The process involves the use of a parametric grasshopper script in conjunction with Rhinoceros 3D CAD software which calculates the number of hours a particular horizontal or vertical surface will receive solar access during a specified time window on a particular date and at a prescribed location. The results are then displayed both graphically and numerically.

Methodology

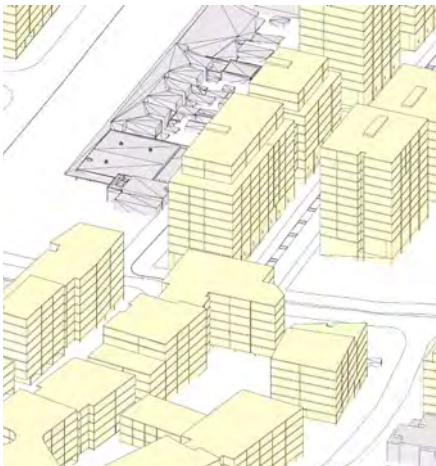
The adjacent images illustrate the steps undertaken to assess whether 70% of apartments within the indicative reference scheme achieve a minimum of 2 hours of solar access to their living room and private open spaces between 9am and 3pm on 21st June in accordance with ADG requirements.



3D Model and Context in SketchUp

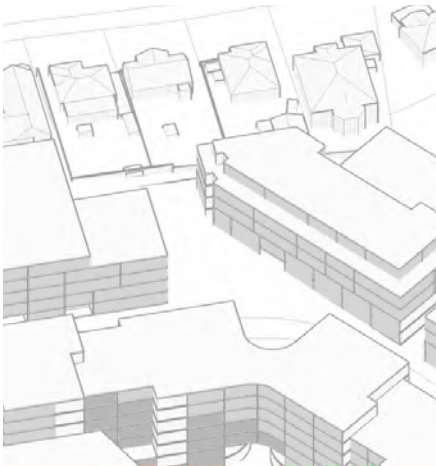
A 3D aerial survey of the site and context area was inserted into the context model using the inbuilt Geolocate function within Sketchup and cross referenced against 2D survey data to confirm the orientation of True North.

Settings for Sydney on 21st June are applied within the parametric tool to simulate solar access on the winter solstice between the hours of 9am and 3pm, the window specified within the ADG during which compliance is to be assessed.



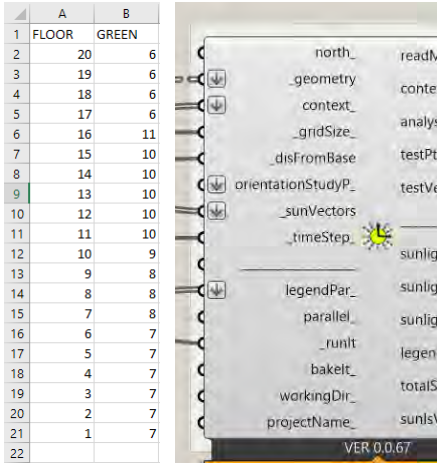
Block Massing

The indicative design scheme has then been modelled based off the proposed floor plans and inserted into the site context file. Apartment locations including party walls are positioned accurately to assess compliance on an individual apartment level.



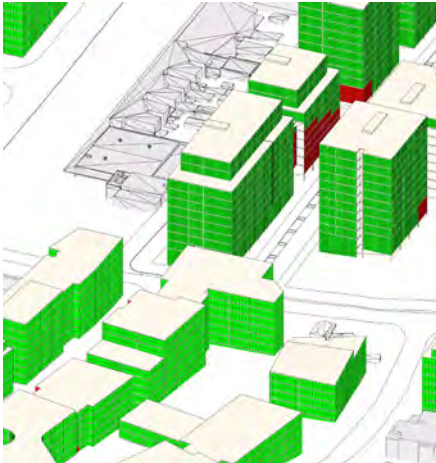
Grid Applied

The 3d model is the imported into Rhinoceros 3D where a .5m by .5m grid is applied to individual apartment areas to assess compliance for individual apartments accurately.



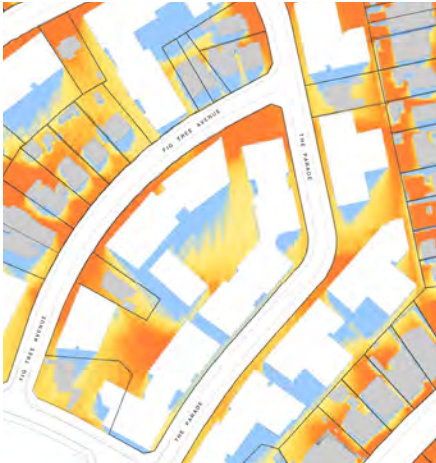
Compliance Analysis

The grid surfaces are then tested between 9am and 3pm in mid winter to assess compliance, storing numerical data for us to analyse. If more than 2 square metres of façade area achieves 2 hours of consecutive daylight – the outcome will report a positive reading, with the numerical data exportable as an xcel file.



Visual Results

Graphic settings are applied which link to the parametric analysis. Green cells report a positive reading of individual apartments which receive greater than 2 hours of consecutive sun in mid winter. Red cells report a reading when an apartment receives between 0 and 2 hours of sun. Compliance is then cross-checked with the proposed design schedules on a level by level basis, reporting both individual building compliance and super lot compliance.



Measurement of Ground Plane Solar Access

The same process has been adopted to determine the level of solar access received on the groundplane within the public domain. Squares are mapped onto the groundplane and the parametric tool rerun. The output is displayed graphically, with colours identified in the key below reflecting the amount of sunlight received in each location between 0 and 6 hours.

Studies for the entire master plan are contained on the following pages and have been taken on the 21st June, the winter solstice.

SOLAR ACCESS SUMMARY

Summary

Buildings have been arranged to maximise opportunities for solar access to comply with the minimum requirements set out in the Apartment Design Guide.

Compliance has been assessed on a building by building and lot by lot basis.

2 hours sun 75%
No sun 7%

Sub Totals	Units	Solar	%	No sun	%
Core Precinct	2,121	1,607	76%	94	4%
Stage 1a (C9)	-	-	#DIV/0!	-	#DIV/0!
North Precinct	1,140	845	74%	110	10%
East Precinct	203	151	74%	-	0%
South Precinct	701	523	75%	87	12%

Grand Total	Units	Solar	%	No sun	%
	4,165	3,126	75.1%	291	7.0%

Core

Lot	Units	2 hours Sun		No Sun	
		%	Lot Totals	%	Lot Totals
C1.0					
C1.1	194	175 90.2%	75.9%	16 8.2%	3.9%
C1.2	216	136 63.0%		- 0.0%	
C2.0					
C2.1a	84	65 77.4%		17 20.2%	6.2%
C2.1b	189	189 100.0%	93.0%	- 0.0%	
C2.2a	137	126 92.0%		- 0.0%	0.0%
C2.2b	62	43 69.4%	84.9%	- 0.0%	
C3.0					
C3.1	125	113 90.4%		13 10.4%	
C4.0					
C4.1	97				
C4.2	96	96 100.0%		- 0.0%	
C5.1a	48	33 68.8%		16 33.3%	
C5.1b	110	85 77.3%	74.1%	8 7.3%	12.7%
C5.1c	31	22 71.0%		- 0.0%	
C6.1a	61	27 44.3%		- 0.0%	
C6.1b	161	135 83.9%	71.2%	6 3.7%	8.1%
C6.1c	73	48 65.8%		18 24.7%	
C6.2a	65	36 55.4%	72.5%	- 0.0%	0.0%
C6.2b	77	67 87.0%		- 0.0%	
C7.1	73	51 69.9%	71.5%	- 0.0%	0.0%
C7.2	71	52 73.2%		- 0.0%	
C8.1a	45	18 40.0%		- 0.0%	
C8.1b	30	23 76.7%	71.5%	- 0.0%	0.0%
C8.1c	76	67 88.2%		- 0.0%	

South Precinct

Lot	Units	2 hours Sun		No Sun	
		%	Lot Totals	%	Lot Totals
S1	77	58 75.3%		6 7.8%	
S2	91	64 70.3%		16 17.6%	
S3	96	71 74.0%		14 14.6%	
S4	88	68 77.3%		5 5.7%	
S5	96	67 69.8%		8 8.3%	
S6	62	44 71.0%		8 12.9%	
S7a	47	40 85.1%	81.8%	6 12.8%	15.2%
S7b	52	41 78.8%		9 17.3%	
S8	92	70 76.1%		15 16.3%	

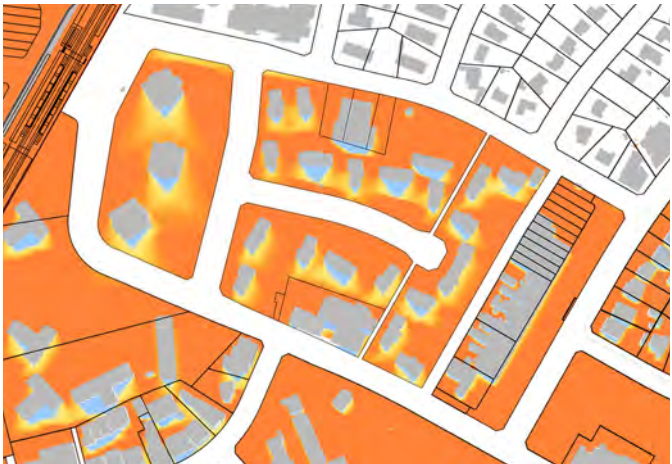
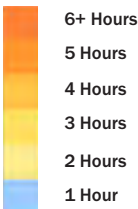
East Precinct

Lot	Units	2 hours Sun		No Sun	
		%	Lot Totals	%	Lot Totals
E1	147	109 74.1%		- 0.0%	
E2	56	42 75.0%		- 0.0%	

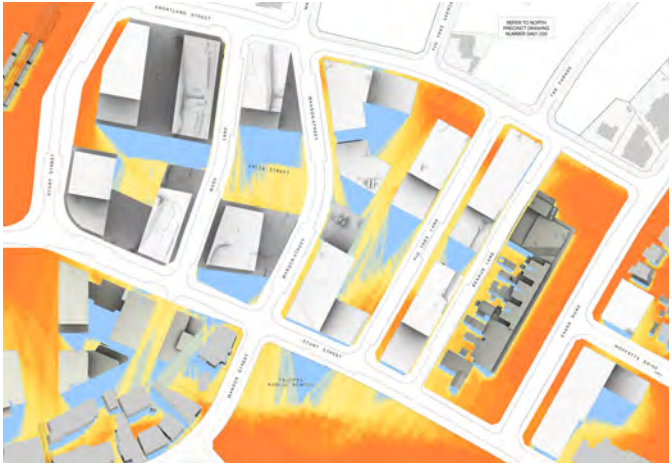
SOLAR ACCESS: CORE PUBLIC DOMAIN

Winter Solstice - June 21

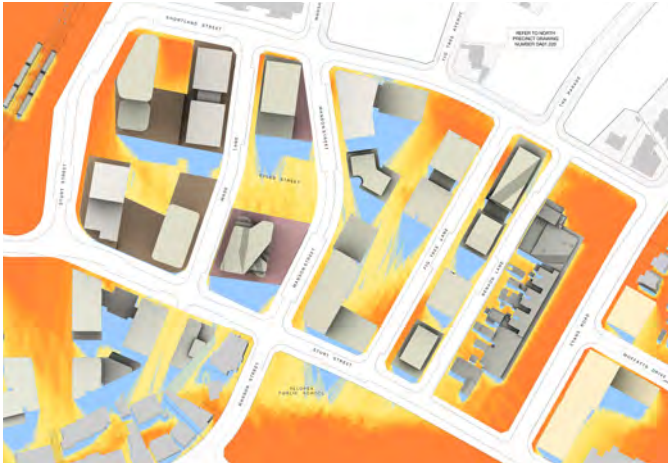
9am - 3pm



Existing



Envelopes



Indicative Design Scheme

SOLAR ACCESS: CORE RESIDENTIAL

Winter Solstice - June 21

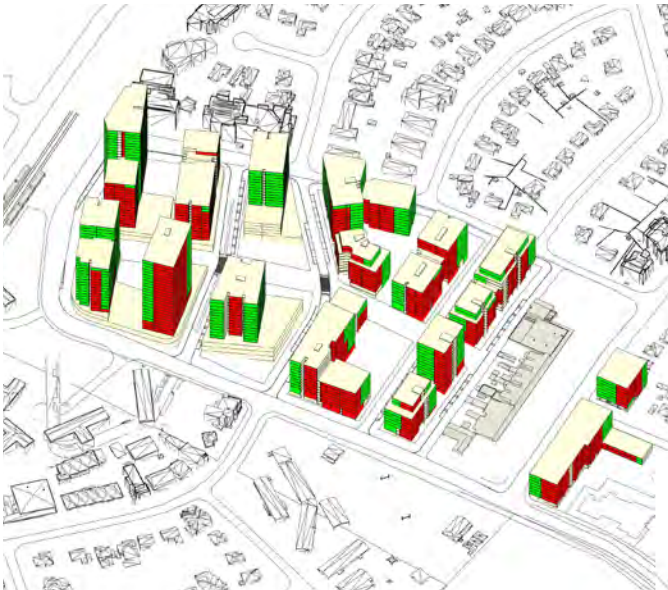
■ Greater than 2 hours of consecutive solar access
■ Less than 2 hours of consecutive solar access



North



East



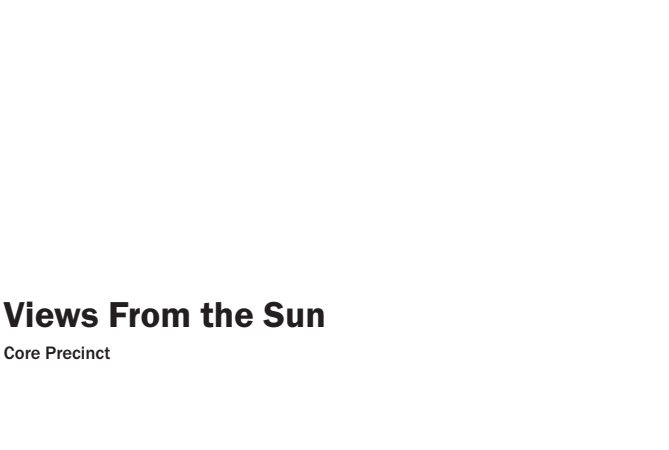
South



West

Views From the Sun

Core Precinct



2pm

3pm

SOLAR ACCESS: CORE SHADOW DIAGRAMS

Winter Solstice - June 21

- Key
- Shadow Cast by Existing Building
 - Shadow Cast by Indicative Design Scheme
 - Shadow Cast by Proposed Envelope
 - Indicative Design Scheme Building Massing
 - LEP Height Plane



9am



10am



11am



12pm



1pm



2pm



3pm

SOLAR ACCESS: NORTH RESIDENTIAL

Winter Solstice - June 21

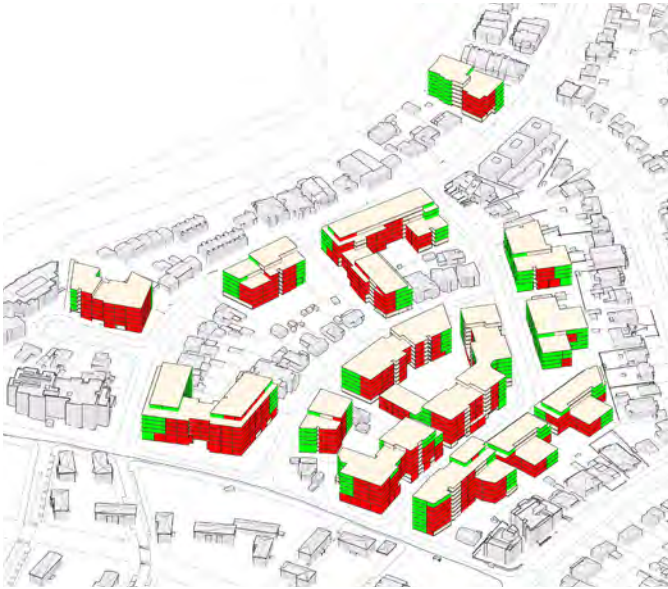
Greater than 2 hours of consecutive solar access
Less than 2 hours of consecutive solar access



North



East



South



West

Views From the Sun

North Precinct



10am



12pm



2pm



9am



11am



1pm



3pm

SOLAR ACCESS: NORTH SHADOW DIAGRAMS

Winter Solstice - June 21

- Key
- Shadow Cast by Existing Building
 - Shadow Cast by Indicative Design Scheme
 - Shadow Cast by Proposed Envelope
 - Indicative Design Scheme Building Massing



9am



10am



11am



12pm



1pm



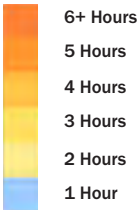
2pm



3pm

SOLAR ACCESS: NORTH PUBLIC DOMAIN

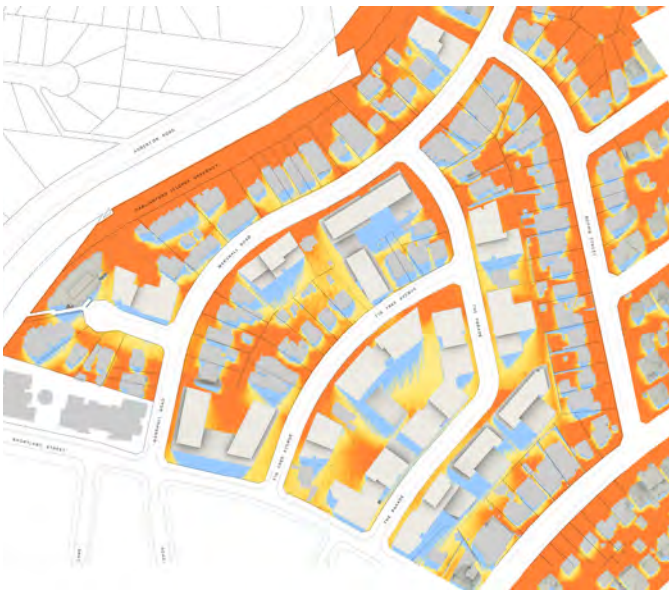
Winter Solstice - June 21
9am - 3pm



Existing



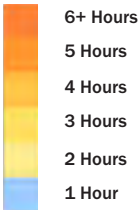
Envelopes



Indicative Design Scheme

SOLAR ACCESS: SOUTH PUBLIC DOMAIN

Winter Solstice - June 21
9am - 3pm



Existing



Envelopes



Indicative Design Scheme

SOLAR ACCESS: SOUTH RESIDENTIAL

Winter Solstice - June 21

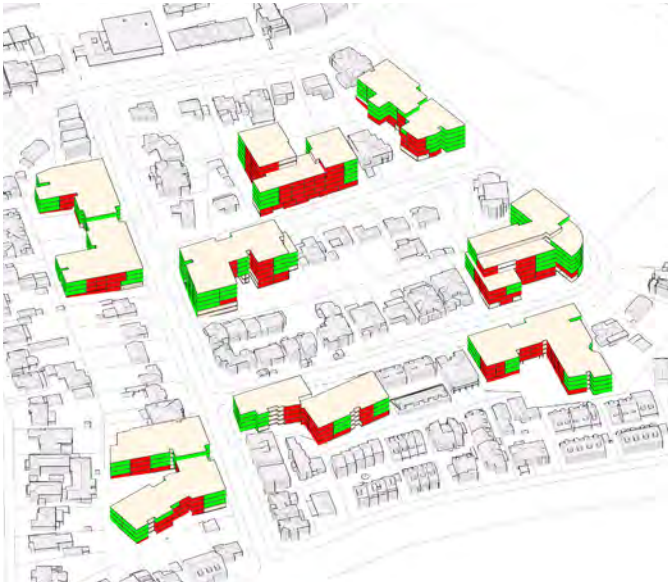
- Greater than 2 hours of consecutive solar access
- Less than 2 hours of consecutive solar access



North



East



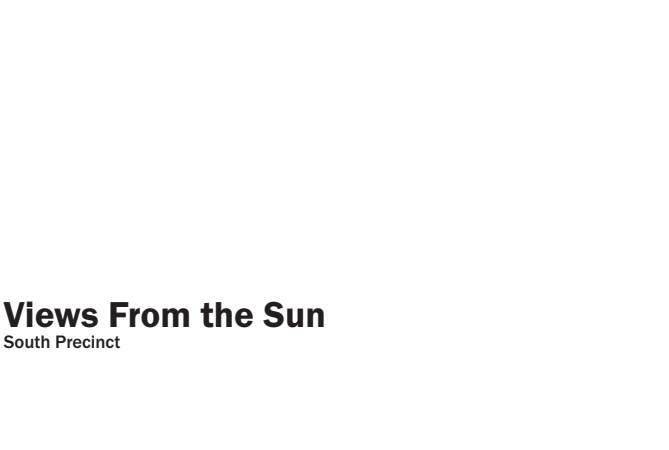
South



West

Views From the Sun

South Precinct



9am



10am



11am



12pm



1pm



2pm



3pm

SOLAR ACCESS: SOUTH SHADOW DIAGRAMS

Winter Solstice - June 21

- Key
- Shadow Cast by Existing Building
 - Shadow Cast by Indicative Design Scheme
 - Shadow Cast by Proposed Envelope
 - Indicative Design Scheme Building Massing



9am



10am



11am



12pm



1pm



2pm



3pm

APPENDIX F:

ADG COMPLIANCE

ADG Ref.	Item Description	Notes	Compliance
PART3 SITING THE DEVELOPMENT			
3A SITE ANALYSIS			
3A-1 p47	Objective: Site Analysis illustrates that design decisions have been based on opportunities & constraints of the site conditions & their relationship to the surrounding context.		✓
DESIGN GUIDANCE			CONSIDERED
	Each element in the Site Analysis Checklist is addressed.	-	YES
3B ORIENTATION			
3B-1 p49	Objective: Building types & layouts respond to the streetscape & site while optimising solar access within the development		✓
Design Guidance			CONSIDERED
	Buildings along the street frontage define the street by facing it & incorporating direct access from the street	-	YES
	Where the street frontage is to the east or west, rear buildings are orientated to the north	-	N/A
	Where the street frontage is to the north or south, overshadowing to the south is minimised & buildings behind the street frontage are orientated east & west	-	N/A
3B-2 p49	Objective: Overshadowing of neighbouring properties is minimised during mid winter.		✓
Design Guidance			CONSIDERED
	Living areas, private open space & communal open space receive solar access in accordance with section 3D Communal & Public Open Space and section 4A Solar & Daylight Access	Capable of complying.	YES
	Solar access to living rooms, balconies & private open spaces of neighbours are considered	Refer to appended Solar access assessment	YES
	Where an adjoining property does not currently receive the required hours of solar access, the proposed building ensures solar access to neighbouring properties is not reduced by more than 20%	Refer to appended Solar access assessment	N/A
	If the proposal will reduce the solar access of neighbours, building separation is increased beyond minimums contained in 3F Visual Privacy	Refer to appended Solar access assessment	N/A
	Overshadowing is minimised to the south or downhill by increased upper level setbacks	Refer to appended Solar access assessment	YES
	Buildings are orientated at 90 deg to the boundary with neighbourings to minimise overshadowing & privacy impacts, particularly where minimum setbacks are used & buildings are higher than the adjoining development	-	N/A
	A minimum of 4 hours of solar access is retained to solar collectors on neighbouring buildings	Refer to appended Solar access assessment	YES
3C PUBLIC DOMAIN INTERFACE			
3C-1 p51	Objective: Transition between private & public domain is achieved without compromising safety & security.		✓
Design Guidance			CONSIDERED
	Terraces, balconies and courtyard apartments have direct street entry, where appropriate	-	YES
	Changes in level between private terraces, front gardens & dwelling entries above the street level provide surveillance & improve visual privacy for ground level dwellings	Capable of complying.	YES

ADG Ref.	Item Description	Notes	Compliance
	Upper level balconies & windows overlook the public domain	Capable of complying.	YES
	Front fences & walls along street frontages use visually permeable materials & treatments. Height of solid fences or walls is limited to 1m	Capable of complying.	YES
	Length of solid walls is limited along street frontages	Capable of complying.	YES
	Opportunities for casual interaction between residents & the public domain is provided for. Design solutions may include seating at building entries, near letter boxes & in private courtyards adjacent to streets	Capable of complying.	YES
	In developments with multiple buildings and/or entries, pedestrian entries & spaces associated with individual buildings/entries are differentiated to improve legibility for residents, using the following design solutions: Architectural detailing; Changes in materials; Plant Species; Colours; Opportunities for people to be concealed are minimised	Capable of complying.	YES
3C-2 p53	Objective: Amenity of the public domain is retained & enhanced.		✓
Design Guidance			CONSIDERED
	Planting is used to soften the edges of any raised terraces to the street, for example above sub-basement car parking	Capable of complying.	YES
	Mail boxes are located in lobbies, perpendicular to the street alignment or integrated into front fences where individual street entries are provided	Capable of complying.	YES
	The visual prominence of underground car park vents is minimised & located at a low level where possible	Capable of complying.	YES
	Substations, pump rooms, garbage storage areas & other service requirements are located in basement car parks or out of view	Capable of complying.	YES
	Ramping for accessibility is minimised by building entry location & setting ground floor levels in relation to footpath levels	Capable of complying.	YES
	Durable, graffiti resistant & easily cleanable materials are used	Capable of complying.	YES
	Where development adjoins public parks, open space or bushland, the design positively addresses this interface & uses the following design solutions: Street access, pedestrian paths & building entries are clearly defined; Paths, low fences & planting are clearly delineate between communal/private open space & the adjoining public open space; Minimal use of blank walls, fences & ground level parking	Capable of complying.	YES
	On sloping sites protrusion of car parking above ground level is minimised by using split levels to step underground car parking	Capable of complying.	YES
3D COMMUNAL & PUBLIC OPEN SPACE			
3D-1 p55	Objective: An adequate area of communal open space is provided to enhance residential amenity & to provide opportunities for landscaping.		✓
Design Criteria			
1	Communal open space has a minimum area equal to 25% of the site	Communal open space is to be assessed lot by lot during stage 2 DAs. The IDS proposes ground and rooftop communal open space greater than 25% of the overall site area.	YES ✓
2	Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June (mid winter)	Capable of complying.	✓
Design Guidance			CONSIDERED
	Communal open space is consolidated into a well designed & usable area	Capable of complying.	YES
	Communal open space have a minimum dimension of 3m. Larger developments should consider greater dimensions	Capable of complying.	YES
	Communal open space are co-located with deep soil areas	Capable of complying.	YES
	Direct, equitable access are provided to communal open space areas from common circulation areas, entries & lobbies	Capable of complying.	YES
	Where communal open space cannot be provided at ground level, it is provided on a podium or roof	Capable of complying.	YES
	Where developments are unable to achieve the design criteria, such as on small lots, sites within business zones, or in a dense urban area, they need to Provide alternative options for residents	Capable of complying.	YES

ADG Ref.	Item Description	Notes	Compliance										
3D-2 p57	Objective: Communal open space is designed to allow for a range of activities, respond to site conditions & be attractive and inviting		✓										
	Design Guidance		CONSIDERED										
	Facilities are provided within communal open spaces & common spaces for a range of age groups (see 4F Common Circulation & Spaces), incorporating the following: Seating for individuals or groups; Barbeque areas; Play equipment or play areas; Swimming pools, gyms, tennis courts or common rooms	Capable of complying.	YES										
	Location of facilities responds to microclimate & site conditions with access to sun in winter, shade in summer & shelter from strong winds & down drafts	Capable of complying.	YES										
	Visual impacts of services are minimised, including location of ventilation duct outlets from basement car parks, electrical substations & detention tanks	Capable of complying.	YES										
3D-3 p57	Objective: Communal open space is designed to maximise safety.		✓										
	Design Guidance		CONSIDERED										
	Communal open space & public domain should be readily visible from habitable rooms & private open space areas while maintaining visual privacy. Design solutions include: Bay windows; Corner windows; Balconies	Capable of complying.	YES										
	Communal open space is well lit	Capable of complying.	YES										
	Communal open space/facilities that are provided for children & young people are safe and contained	Capable of complying.	YES										
3D-4 p59	Objective: Public open space, where provided, responds to the existing pattern & uses of the neighbourhood.		✓										
	Design Guidance		CONSIDERED										
	Public open space is well connected with public streets along at least one edge		YES										
	POS is connected with nearby parks & other landscape elements		YES										
	POS is linked through view lines, pedestrian desire paths, termination points & the wider street grid		YES										
	Solar access is provided year round along with protection from strong winds		YES										
	Opportunities for a range of recreational activities is provided for all ages		YES										
	Positive street address & active street frontages are provided adjacent to POS		YES										
	Boundaries are clearly defined between POS & private areas		YES										
3E	DEEP SOIL ZONES												
3E-1 p61	Objective: Deep soil zones are suitable for healthy plant & tree growth, improve residential amenity and promote management of water and air quality.		✓										
	Design Criteria												
1	Deep soil zones are to meet the following minimum requirements:	Consistent with the DCP, greater than 15% of the site area is provided as deep soil with a minimum dimension >6m, and greater than 23% of the site area is provided as deep soil with a minimum dimension of 4m.	✓										
	<table><tr><th>Site Area (sqm)</th><th>Minimum Dim (m)</th><th>Deep Soil Zone (% of site area)</th></tr><tr><td>less than 650</td><td>-</td><td rowspan="3">7</td></tr><tr><td>650-1500</td><td>3</td></tr><tr><td>greater than 1500</td><td>6</td></tr></table>			Site Area (sqm)	Minimum Dim (m)	Deep Soil Zone (% of site area)	less than 650	-	7	650-1500	3	greater than 1500	6
Site Area (sqm)	Minimum Dim (m)			Deep Soil Zone (% of site area)									
less than 650	-			7									
650-1500	3												
greater than 1500	6												
	Design Guidance		CONSIDERED										
	On some sites it may be possible to provide larger deep soil zones, depending on the site area & context: 10% of the site as deep soil on sites with an area of 650sqm - 1,500sqm; 15% of the site as deep soil on sites greater than 1,500sqm		YES										
	Deep soil zones are located to retain existing significant trees & to allow for the development of healthy root systems, providing anchorage & stability for mature trees. Design solutions may include: Basement & sub-basement car park design that is consolidated beneath building footprints; Use of increased front & side setbacks; Adequate clearance around trees to ensure long term health; Co-location with other deep soil areas on adjacent sites to create larger contiguous areas of deep soil		YES										

ADG Ref.	Item Description	Notes	Compliance												
	Achieving the design criteria may not be possible on some sites including where: location & building typology have limited or no space for deep soil at ground level (e.g. central business district, constrained sites, high density areas, or in centres); there is 100% site coverage or non-residential uses at ground floor level.		N/A												
3F	VISUAL PRIVACY														
3F-1 p63	Objective: Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external & internal visual privacy.		✓												
	Design Criteria														
1	Separation between windows & balconies is provided to ensure visual privacy is achieved. Minimum required separation distances from buildings to the side & rear boundaries are as follows:	Indicative reference design demonstrates scheme is capable of complying.	YES ✓												
	<table><tr><th>Building Height (m)</th><th>Habitable Rooms & Balconies. (m)</th><th>Non-Habitable Rooms (m)</th></tr><tr><td>up to 12 4 storeys)</td><td>6</td><td>3</td></tr><tr><td>up to 25 (5-8 storeys)</td><td>9</td><td>4.5</td></tr><tr><td>over 25 (9+ storeys)</td><td>12</td><td>6</td></tr></table>	Building Height (m)	Habitable Rooms & Balconies. (m)	Non-Habitable Rooms (m)	up to 12 4 storeys)	6	3	up to 25 (5-8 storeys)	9	4.5	over 25 (9+ storeys)	12	6		
Building Height (m)	Habitable Rooms & Balconies. (m)	Non-Habitable Rooms (m)													
up to 12 4 storeys)	6	3													
up to 25 (5-8 storeys)	9	4.5													
over 25 (9+ storeys)	12	6													
	Note: Separation distances between buildings on the same site should combine required building separations depending on the type of room. Gallery access circulation should be treated as habitable space when measuring privacy separation distances between neighbouring properties.														
	Design Guidance		CONSIDERED												
	Generally as the height increases, one step in the built form is desirable due to building separations. Any additional steps do not cause a 'ziggurat' appearance	-	N/A												
	For residential buildings next to commercial buildings, separation distances are measured as follows: Retail, office spaces & commercial balconies use the habitable room distances; Service & plant areas use the non-habitable room distances	-	N/A												
	New development are located & oriented to maximise visual privacy between buildings on site & for neighbouring buildings. Design solutions include: site layout & building are orientated to minimise privacy impacts (see 3B Orientation); on sloping sites, apartments on different levels have appropriate visual separation distances (see pg 63 figure 3F.4)	Capable of complying.	YES												
	Apartment buildings have an increased separation distance of 3m (in addition to 3F-1 Design Criteria) when adjacent to a different zone that permits lower density residential development, to provide for a transition in scale & increased landscaping (pg 63 figure 3F.5)	-	N/A												
	Direct lines of sight are avoided for windows & balconies across corners	Capable of complying.	YES												
	No separation is required between blank walls	Adopted in 4 locations in the northern precinct	YES												
3F-2 p65	Objective: Site & building design elements increase privacy without compromising access to light & air and balance outlook & views from habitable rooms & private open space.		✓												
	Design Guidance		CONSIDERED												
	Communal open space, common areas & access paths are separated from private open space & windows to apartments, particularly habitable room windows. Design solutions include: setbacks; solid or partially solid balustrades on balconies at lower levels; fencing and/or trees and vegetation to separate spaces; screening devices; bay windows or pop out windows to provide privacy in one direction & outlook in another; raising apartments or private open space above the public domain or communal open space; planter boxes incorporated into walls & balustrades to increase visual separation; pergolas or shading devices to limit overlooking of lower apartments or private open space; on constrained sites where it can be demonstrated that building layout opportunities are limited, fixed louvres or screen panels on windows and/or balconies	Capable of complying.	YES												
	Bedrooms, living spaces & other habitable rooms are separated from gallery access & other open circulation space by the apartment's service areas	Capable of complying.	YES												

Appendix F

ADG Ref.	Item Description	Notes	Compliance
	Balconies & private terraces are located in front of living rooms to increase internal privacy	Capable of complying.	YES
	Windows are offset from the windows of adjacent buildings	Capable of complying.	YES
	Recessed balconies and/or vertical fins are used between adjacent balconies	Capable of complying.	YES
3G	PEDESTRIAN ACCESS & ENTRIES		
3G-1 p67	Objective: Building entries & pedestrian access connects to and addresses the public domain.		✓
	Design Guidance		CONSIDERED
	Multiple entries (including communal building entries & individual ground floor entries) activate the street edge	Capable of complying.	YES
	Entry locations relate to the street & subdivision pattern, and the existing pedestrian network	Capable of complying.	YES
	Building entries are clearly identifiable. Communal entries are clearly distinguishable from private entries	Capable of complying.	YES
	Where street frontage is limited, a primary street address should be provided with clear sight lines and pathways to secondary building entries	Capable of complying.	YES
3G-2 p67	Objective: Access, entries & pathways are accessible & easy to identify.		✓
	Design Guidance		CONSIDERED
	Building access areas including lift lobbies, stairwells & hallways are clearly visible from the public domain & communal spaces	Capable of complying.	YES
	The design of ground floors & underground car parks minimise level changes along pathways & entries	Capable of complying.	YES
	Steps & ramps are integrated into the overall building & landscape design	Capable of complying.	YES
	For large developments 'way finding' maps are provided to assist visitors & residents	Capable of complying.	YES
	For large developments electronic access & audio/video intercom are provided to manage access	Capable of complying.	YES
3G-3 p67	Objective: Large sites provide pedestrian links for access to streets & connection to destinations.		✓
	Design Guidance		CONSIDERED
	Pedestrian links through sites facilitate direct connections to open space, main streets, centres & public transport	Proposed in several locations.	YES
	Pedestrian links are direct, have clear sight lines, are overlooked by habitable rooms or private open spaces of dwellings, are well lit & contain active uses, where appropriate	Capable of complying.	YES
3H	VEHICLE ACCESS		
3H-1 p69	Objective: Vehicle access points are designed & located to achieve safety, minimise conflicts between pedestrians & vehicles and create high quality streetscapes.		✓
	Design Guidance		CONSIDERED
	Car park access is integrated with the building's overall facade. Design solutions include: materials & colour palette minimise visibility from street; security doors/gates minimise voids in the facade; where doors are not provided, visible interiors reflect facade design, and building services, pipes & ducts are concealed	Capable of complying.	YES
	Car park entries are located behind the building line	Capable of complying.	YES
	Vehicle entries are located at the lowest point of the site, minimising ramp lengths, excavation & impacts on the building form and layout	Capable of complying.	YES
	Car park entry & access are located on secondary streets or lanes where available	Complies except where tree retention is given priority	NO
	Vehicle standing areas that increase driveway width & encroach into setbacks are avoided	Capable of complying.	YES
	Access point is located to avoid headlight glare to habitable rooms	Capable of complying.	YES
	Adequate separation distances are provided between vehicle entries & street intersections	Capable of complying.	YES
	The width & number of vehicle access points are limited to the minimum	Capable of complying.	YES

SEPP65 ADG COMPLIANCE ANALYSIS

ADG Ref.	Item Description	Notes	Compliance
	Visual impact of long driveways is minimised through changing alignments & screen planting	Capable of complying.	YES
	The need for large vehicles to enter or turn around within the site is avoided	In the core, most buildings will be serviced from below ground loading areas	NO
	Garbage collection, loading & servicing areas are screened	Capable of complying.	YES
	Clear sight lines are provided at pedestrian & vehicle crossings	Capable of complying.	YES
	Traffic calming devices, such as changes in paving material or textures, are used where appropriate	Capable of complying.	YES
	Pedestrian & vehicle access are separated & distinguishable. Design solutions include: Changes in surface materials; Level changes; Landscaping for separation	Capable of complying.	YES
3J	BICYCLE & CAR PARKING		
3J-1 p71	Objective: Car parking is provided based on proximity to public transport in metropolitan Sydney & centres in regional areas.		✓
	Design Criteria		
	1 For development in the following locations: on sites that are within 800m of a railway station or light rail stop in the Sydney Metropolitan Area; or on land zoned, and sites within 400m of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre the minimum car parking requirement for residents & visitors is set out in the Guide to Traffic Generating Developments, or the car parking requirement prescribed by the relevant council, whichever is less.	Parking is provided in accordance with DCP rates.	✓
	The car parking needs for a development must be provided off street.		
	Design Guidance		CONSIDERED
	Where a car share scheme operates locally, car share parking spaces are provided within the development.		YES
	Where less car parking is provided in a development, council do not provide on street resident parking permits		N/A
3J-2 p71	Objective: Parking & facilities are provided for other modes of transport.		✓
	Design Guidance		CONSIDERED
	Conveniently located & sufficient numbers of parking spaces are provided for motorbikes & scooters	Capable of complying.	YES
	Secure undercover bicycle parking is provided & easily accessible from both public domain & common areas	Capable of complying.	YES
	Conveniently located charging stations are provided for electric vehicles, where desirable	Capable of complying.	YES
3J-3 p73	Objective: Car park design & access is safe and secure.		✓
	Design Guidance		CONSIDERED
	Supporting facilities within car parks, including garbage, plant & switch rooms, storage areas & car wash bays can be accessed without crossing car parking spaces	Capable of complying.	YES
	Direct, clearly visible & well lit access is provided into common circulation areas	Capable of complying.	YES
	Clearly defined & visible lobby or waiting area is provided to lifts & stairs	Capable of complying.	YES
	For larger car parks, safe pedestrian access is clearly defined & circulation areas have good lighting, colour, line marking and/or bollards	Capable of complying.	YES
3J-4 p73	Objective: Visual & environmental impacts of underground car parking are minimised.		✓
	Design Guidance		CONSIDERED
	Excavation minimised through efficient car park layouts & ramp design	Capable of complying.	YES
	Car parking layout is well organised, using a logical, efficient structural grid & double loaded aisles	Capable of complying.	YES
	Protrusion of car parks do not exceed 1m above ground level. Solution include stepping car park levels or using split levels on sloping sites		N/A
	Natural ventilation is provided to basement & sub-basement car parking		NO

Appendix F

ADG Ref.	Item Description	Notes	Compliance	
	Ventilation grills or screening devices for car parking openings are integrated into the facade & landscape design		N/A	
3J-5 p75	Objective: Visual & environmental impacts of on-grade car parking are minimised.		N/A	
	-			
3J-6 p75	Objective: Visual & environmental impacts of above ground enclosed car parking are minimised.		N/A	
	-			
PART4	DESIGNING THE BUILDING			
4A	SOLAR & DAYLIGHT ACCESS			
4A-1 p79	Objective: To optimise number of apartments receiving sunlight to habitable rooms, primary windows & private open space.		✓	
	DESIGN CRITERIA			
1	Living rooms & private open spaces of at least 70% of apartments in a building receive a minimum of 2 hrs direct sunlight between 9am - 3pm at mid winter in Sydney Metropolitan Area and in Newcastle and Wollongong local government areas	Indicative design demonstrates scheme is capable of complying.	YES	✓
2	In all other areas, living rooms & private open spaces of at least 70% of apartments in a building receive a minimum of 3 hrs direct sunlight between 9 am - 3 pm at mid winter		N/A	
3	A maximum of 15% of apartments in a building receive no direct sunlight between 9 am - 3 pm at mid winter	Indicative design demonstrates scheme is capable of complying.	YES	✓
	Design Guidance		CONSIDERED	
	The design maximises north aspect. The number of single aspect south facing apartments is minimised	-	YES	
	Single aspect, single storey apartments have a northerly or easterly aspect	Indicative design includes apartments oriented south and west	NO	
	Living areas are located to the north and service areas to the south & west of apartments	-	N/A	
	To optimise direct sunlight to habitable rooms & balconies a number of the following design features are used: Dual aspect apartments, Shallow apartment layouts, Two storey & mezzanine level apartments, Bay windows	Indicative reference design demonstrates scheme is capable of complying.	YES	
	To maximise the benefit to residents of direct sunlight within living rooms & private open spaces, a minimum of 1sqm of direct sunlight, measured at 1m above floor level, is achieved for at least 15 minutes	Capable of complying.	YES	
	Achieving the design criteria may not be possible where: greater residential amenity can be achieved along a busy road or rail line by orientating the living rooms away from the noise source; on south facing sloping sites; significant views are oriented away from the desired aspect for direct sunlight	-	N/A	
	Design drawings need to demonstrate how site constraints & orientation preclude meeting Design Criteria & how the development meets the objective.			
4A-2 p81	Objective: Daylight access is maximised where sunlight is limited.		✓	
	Design Guidance		CONSIDERED	
	Courtyards, skylights & high level windows (with sills of 1,500mm or greater) are used only as a secondary light source in habitable rooms	-	N/A	
	Where courtyards are used: Use is restricted to kitchens, bathrooms & service areas; Services are concealed with appropriate detailing & materials to visible walls; Courtyards are fully open to the sky; Access is provided to the light well from communal area for cleaning & maintenance; Acoustic privacy, fire safety & minimum privacy separation distances (see 3F Visual Privacy) are achieved	-	N/A	
	Opportunities for reflected light into apartments are optimised through: Reflective exterior surfaces on buildings opposite south facing windows; Positioning windows to face other buildings or surfaces (on neighbouring sites or within site) that will reflect light; Integrating light shelves into the design; Light coloured internal finishes	Capable of complying.	YES	
4A-3 p81	Objective: Design incorporates shading & glare control, particularly for warmer months.		✓	

SEPP65 ADG COMPLIANCE ANALYSIS

ADG Ref.	Item Description	Notes	Compliance	
	Design Guidance		CONSIDERED	
	A number of the following design features are used: Balconies or sun shading that extend far enough to shade summer sun, but allow winter sun to penetrate living areas; Shading devices such as eaves, awnings, balconies, pergolas, external louvres & planting; Horizontal shading to north facing windows; Vertical shading to east & particularly west facing windows; Operable shading to allow adjustment & choice; High performance glass that minimises external glare off windows, with consideration given to reduce tint glass or glass with a reflectance level below 20% (reflective films are avoided)	Capable of complying.	YES	
4B	NATURAL VENTILATION			
4B-1 p83	Objective: All habitable rooms are naturally ventilated.		✓	
	Design Guidance		CONSIDERED	
	The building's orientation maximises capture & use of prevailing breezes for natural ventilation in habitable rooms	Capable of complying.	YES	
	Depths of habitable rooms support natural ventilation	Capable of complying.	YES	
	The area of unobstructed window openings should be equal to at least 5% of the floor area served	Capable of complying.	YES	
	Light wells are not the primary air source for habitable rooms	Capable of complying.	YES	
	Doors & openable windows maximise natural ventilation opportunities by using the following design solutions: Adjustable windows with large effective openable areas; Variety of window types that provide safety & flexibility such as awnings & louvres; Windows that occupants can reconfigure to funnel breezes into apartment, such as vertical louvres, casement windows & externally opening doors	Capable of complying.	YES	
4B-2 p83	Objective: The layout & design of single aspect apartments maximises natural ventilation.		✓	
	Design Guidance		CONSIDERED	
	Apartment depths limited to maximise ventilation & airflow	Capable of complying.	YES	
	Natural ventilation to single aspect apartments is achieved with the following design solutions: Primary windows are augmented with plenums and light wells (generally not suitable for cross ventilation); Stack effect ventilation, solar chimneys or similar used to naturally ventilate internal building areas or rooms such as bathrooms & laundries; Courtyards or building indentations have a width to depth ratio of 2:1 or 3:1 to ensure effective air circulation & avoid trapped smells	Capable of complying.	YES	
4B-3 p85	Objective: Number of apartments with natural cross vent is maximised to create comfortable indoor environments for residents.		✓	
	Design Criteria			
1	At least 60% of apartments are naturally cross ventilated in the first nine storeys of the building. Apartments at ten storeys or greater are deemed to be cross ventilated only if any enclosure of the balconies at these levels allows adequate natural ventilation and cannot be fully enclosed	Indicative reference design demonstrates scheme is capable of complying.	YES	✓
2	Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line	Capable of complying.	YES	✓
	Design Guidance		CONSIDERED	
	The building includes dual aspect apartments, cross through apartments & corner apartments, and limited apartment depths	Capable of complying.	YES	
	In cross-through apartments, external window & door opening sizes/areas on one side of an apartment (inlet side) are approximately equal to the external window & door opening sizes/areas on the other side of the apartment (outlet side)	Capable of complying.	YES	
	Apartments are designed to minimise the number of corners, doors & rooms that might obstruct airflow	Capable of complying.	YES	
	Apartment depths, combined with appropriate ceiling heights, maximise cross ventilation & airflow	Capable of complying.	YES	

ADG Ref.	Item Description	Notes	Compliance												
4C CEILING HEIGHTS															
4C-1 p87	Objective: Ceiling height achieves sufficient natural ventilation & daylight access.		✓												
Design Criteria															
1	Measured from finished floor level to finished ceiling level, minimum ceiling heights are:	Capable of complying.	YES ✓												
<table><tr><td colspan="2">Minimum Ceiling Height for apt and mixed-used buildings (m)</td></tr><tr><td>Habitable rooms</td><td>2.7</td></tr><tr><td>Non-habitable rooms</td><td>2.4</td></tr><tr><td>For 2 storey apts</td><td>2.7 for main living area floor 2.4 for second floor, where its area does not exceed 50% of the apt area</td></tr><tr><td>Attic spaces</td><td>1.8 at edge of room with 30deg minimum ceiling slope</td></tr><tr><td>If located in mixed-used areas</td><td>3.3 for ground and first floor to promote future flexibility of use</td></tr></table>				Minimum Ceiling Height for apt and mixed-used buildings (m)		Habitable rooms	2.7	Non-habitable rooms	2.4	For 2 storey apts	2.7 for main living area floor 2.4 for second floor, where its area does not exceed 50% of the apt area	Attic spaces	1.8 at edge of room with 30deg minimum ceiling slope	If located in mixed-used areas	3.3 for ground and first floor to promote future flexibility of use
Minimum Ceiling Height for apt and mixed-used buildings (m)															
Habitable rooms	2.7														
Non-habitable rooms	2.4														
For 2 storey apts	2.7 for main living area floor 2.4 for second floor, where its area does not exceed 50% of the apt area														
Attic spaces	1.8 at edge of room with 30deg minimum ceiling slope														
If located in mixed-used areas	3.3 for ground and first floor to promote future flexibility of use														
These minimums do not preclude higher ceilings if desired															
Design Guidance			CONSIDERED												
Ceiling height accommodates use of ceiling fans for cooling & heat distribution		Capable of complying.	YES												
4C-2 p87	Objective: Ceiling height increases the sense of space in apartments & provides for well proportioned rooms.		✓												
Design Guidance			CONSIDERED												
A number of the following design solutions are used: Hierarchy of rooms in apartment is defined using changes in ceiling heights & alternatives such as raked or curved ceilings, or double height spaces; Well proportioned rooms are provided, for example, smaller rooms feel larger & more spacious with higher ceilings; Ceiling heights are maximised in habitable rooms by ensuring that bulkheads do not intrude. The stacking of service rooms from floor to floor & coordination of bulkhead location above non-habitable areas, such as robes or storage, can assist		Capable of complying.	YES												
4C-3 p87	Objective: Ceiling heights contribute to the flexibility of building use over the life of the building.														
Design Guidance			CONSIDERED												
Ceiling heights of lower level apartments should be greater than the minimum required by Design Criteria allowing flexibility & conversion to non-residential uses			NO												
4D APARTMENT SIZE & LAYOUT															
4D-1 p89	Objective: The layout of rooms within apartment is functional, well organised & provides a high standard of amenity.														
Design Criteria															
1	Apartments have the following minimum internal areas:	Capable of complying.	YES ✓												
<table><tr><td>Apartment Type</td><td>Minimum Internal Area (sqm)</td></tr><tr><td>Studio</td><td>35</td></tr><tr><td>1 Bedroom</td><td>50</td></tr><tr><td>2 Bedroom</td><td>70</td></tr><tr><td>3 Bedroom</td><td>90</td></tr></table>				Apartment Type	Minimum Internal Area (sqm)	Studio	35	1 Bedroom	50	2 Bedroom	70	3 Bedroom	90		
Apartment Type	Minimum Internal Area (sqm)														
Studio	35														
1 Bedroom	50														
2 Bedroom	70														
3 Bedroom	90														
The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5sqm each.															
A fourth bedroom & further additional bedrooms increase the minimum internal area by 12sqm each															
2	Every habitable room has a window in an external wall with a total minimum glass area of not less than 10% of the floor area of the room. Daylight & air is not borrowed from other rooms	Capable of complying.	YES ✓												

ADG Ref.	Item Description	Notes	Compliance
	Design Guidance		
	Kitchens is not located as part of the main circulation space in larger apartments (such as hallway or entry space)	Capable of complying.	YES
	A window is visible from any point in a habitable room	Capable of complying.	YES
	Where minimum areas or room dimensions are not met, apartments demonstrate that they are well designed and demonstrate the usability & functionality of the space with realistically scaled furniture layouts & circulation areas.		N/A
4D-2 p89	Objective: Environmental performance of the apartment is maximised.		✓
	Design Criteria		
1	Habitable room depths are limited to a maximum of 2.5 x the ceiling height	Capable of complying.	YES ✓
2	In open plan layouts (living, dining & kitchen are combined) maximum habitable room depth is 8m from a window	Capable of complying.	YES ✓
	Design Guidance		
	Greater than minimum ceiling heights allow for proportional increases in room depth up to the permitted max depths		N/A
	All living areas & bedrooms are located on the external face of building	Capable of complying.	YES
	Where possible: bathrooms & laundries have external openable window; main living spaces are oriented toward the primary outlook & aspect and away from noise sources	Capable of complying.	YES
4D-3 p91	Objective: Apartment layouts are designed to accommodate a variety of household activities & needs.		✓
	Design Criteria		
1	Master bedrooms have a minimum area of 10sqm & other bedrooms 9sqm (excluding wardrobe space)	Capable of complying.	YES ✓
2	Bedrooms have a minimum dimension of 3m (excluding wardrobe space)	Capable of complying.	YES ✓
3	Living rooms or combined living/dining rooms have a minimum width of: – 3.6m for studio & 1 bedroom apartments – 4m for 2 & 3 bedroom apartments	Capable of complying.	YES ✓
4	The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts	Capable of complying.	YES ✓
	Design Guidance		
	Access to bedrooms, bathrooms & laundries is separated from living areas minimising direct openings between living & service areas	Capable of complying.	YES
	All bedrooms allow a minimum length of 1.5m for robes	Capable of complying.	YES
	Main bedroom of apartment or studio apartment is provided with a wardrobe of minimum 1.8m L x 0.6m D x 2.1m H	Capable of complying.	YES
	Apartment layouts allow flexibility over time, design solutions include: Dimensions that facilitate a variety of furniture arrangements & removal; Spaces for a range of activities & privacy levels between different spaces within the apartment; Dual master apartments; Dual key apartments (Note: dual key apartments which are separate but on the same title are regarded as two sole occupancy units for the purposes of the BCA & for calculating mix of apartments); Room sizes & proportions or open plans (rectangular spaces 2:3 are more easily furnished than square spaces 1:1); Efficient planning of circulation by stairs, corridors & through rooms to maximise the amount of usable floor space in rooms	Capable of complying.	YES

Appendix F

ADG Ref.	Item Description	Notes	Compliance															
40E	PRIVATE OPEN SPACE & BALCONIES																	
4E-1 p93	Objective: Apartments provide appropriately sized private open space & balconies to enhance residential amenity.		✓															
	Design Criteria																	
1	All apartments are required to have primary balconies as follows:	Capable of complying.	YES ✓															
	<table><tr><th>Apartment Type</th><th>Minimum Area (sqm)</th><th>Minimum Depth (m)</th></tr><tr><td>Studio</td><td>4</td><td>-</td></tr><tr><td>1 Bedroom</td><td>8</td><td>2</td></tr><tr><td>2 Bedroom</td><td>10</td><td>2</td></tr><tr><td>3+ Bedroom</td><td>12</td><td>2.4</td></tr></table>	Apartment Type	Minimum Area (sqm)	Minimum Depth (m)	Studio	4	-	1 Bedroom	8	2	2 Bedroom	10	2	3+ Bedroom	12	2.4		
Apartment Type	Minimum Area (sqm)	Minimum Depth (m)																
Studio	4	-																
1 Bedroom	8	2																
2 Bedroom	10	2																
3+ Bedroom	12	2.4																
	The minimum balcony depth to be counted as contributing to the balcony area is 1m																	
2	For apartments at ground level or on podium or similar, a private open space is provided instead of a balcony. It must have minimum area of 15sqm & minimum depth of 3m	Capable of complying.	YES ✓															
	Design Guidance		CONSIDERED															
	Increased communal open space are provided where the number or size of balconies are reduced		N/A															
	Storage areas on balconies is additional to the minimum balcony size	Capable of complying.	YES															
	Balcony use may be limited in some proposals where:consistently high wind speeds at 10 storeys & above; close proximity to road, rail or other noise sources; exposure to significant levels of aircraft noise; heritage & adaptive reuse of existing buildings	Capable of complying.	YES															
	In these situations juliet balconies, operable walls, enclosed wintergardens, and bay windows are appropriate. Other amenity benefits for occupants are provided in the apartments or in the development or both. Natural ventilation is also demonstrated																	
4E-2 p93	Objective: Primary private open space & balconies are appropriately located to enhance liveability for residents		✓															
	Design Guidance		CONSIDERED															
	Primary open space & balconies are located adjacent to the living room, dining room or kitchen to extend the living space	Capable of complying.	YES															
	POS & balconies predominantly face north, east or west	Capable of complying.	YES															
	POS & balconies are orientated with the longer side facing outwards or be open to the sky to optimise daylight access into adjacent rooms	Capable of complying.	YES															
4E-3 p95	Objective: Private open space & balcony design is integrated into & contributes to the overall architectural form & detail of the building		✓															
	Design Guidance		CONSIDERED															
	Solid, partially solid or transparent fences & balustrades are selected to respond to the location. They are designed to allow views & passive surveillance of the street while maintaining visual privacy & allowing for a range of uses on the balcony. Solid & partially solid balustrades are preferred	Capable of complying.	YES															
	Full width full height glass balustrades alone are generally not desirable	Capable of complying.	YES															
	Projecting balconies are integrated into the building design. The design of soffits are considered	Capable of complying.	YES															
	Operable screens, shutters, hoods & pergolas control sunlight & wind	Capable of complying.	YES															
	Balustrades are set back from the building or balcony edge where overlooking or where safety is an issue	Capable of complying.	YES															
	Downpipes & balcony drainage are integrated with the overall facade & building design	Capable of complying.	YES															
	Air-conditioning units are located on roofs, in basements, or fully integrated into the building design	Capable of complying.	YES															
	Where clothes drying, storage or air conditioning units are located on balconies, they are screened & integrated in the building design	Capable of complying.	YES															
	Ceilings of apartments below terraces are insulated to avoid heat loss	Capable of complying.	YES															

SEPP65 ADG COMPLIANCE ANALYSIS

ADG Ref.	Item Description	Notes	Compliance
	Water & gas outlets are provided for primary balconies & private open space	Capable of complying.	YES
4E-4 p95	Objective: Private open space & balcony design maximises safety		✓
	Design Guidance		CONSIDERED
	Changes in ground levels or landscaping are minimised	Capable of complying.	YES
	Balcony design & detailing avoids opportunities for climbing & falling	Capable of complying.	YES
4F	COMMON CIRCULATION & SPACES		
4F-1 p97	Objective: Common circulation spaces achieve good amenity & properly service the number of apartments		✓
	Design Criteria		
1	The maximum number of apartments off a circulation core on a single level is eight	On high rise levels some buildings provide up to 12 apartments per circulation core.	NO
2	For buildings of 10 storeys & over, the maximum number of apartments sharing a single lift is 40	Capable of complying.	YES ✓
	Design Guidance		CONSIDERED
	Greater than minimum requirements for corridor widths and/or ceiling heights allow comfortable movement & access particularly in entry lobbies, outside lifts & at apartment entry doors	Capable of complying.	YES
	Daylight & natural ventilation are provided to all common circulation spaces that are above ground	Capable of complying.	YES
	Windows are provided in common circulation spaces & are adjacent to the stair or lift core or at the ends of corridors	Capable of complying.	YES
	Longer corridors greater than 12m in length from the lift core are articulated. Design solutions include: Series of foyer areas with windows & spaces for seating; Wider areas at apartment entry doors & varied ceiling heights	Capable of complying.	YES
	Common circulation spaces maximise opportunities for dual aspect apartments, including multiple core apartment buildings & cross over apartments	Capable of complying.	YES
	Achieving Design Criteria for the number of apartments off a circulation core may not be possible. Where development is unable to achieve this, a high level of amenity for common lobbies, corridors & apartments is demonstrated, including: Sunlight & natural cross ventilation in apartments; Access to ample daylight & natural ventilation in common circulation spaces; Common areas for seating & gathering; Generous corridors with greater than minimum ceiling heights; Other innovative design solutions that provide high levels of amenity	Capable of complying. The indicative reference scheme shows that multiple sources of daylight, natural ventilation, and amenity through views out can be achieved in floorplates with up to 12 apartments per floor.	YES
	Where Design Criteria 1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level	Capable of complying.	YES
	Primary living room or bedroom windows do not open directly onto common circulation spaces, open or enclosed. Visual & acoustic privacy from common circulation spaces to any other rooms are carefully controlled	Capable of complying.	YES
4F-2 p99	Objective: Common circulation spaces promote safety & provide for social interaction between residents		✓
	Design Guidance		CONSIDERED
	Direct & legible access are provided between vertical circulation points & apartment entries by minimising corridor or gallery length to give short, straight, clear sight lines	Capable of complying.	YES
	Tight corners & spaces are avoided	Capable of complying.	YES
	Circulation spaces are well lit at night	Capable of complying.	YES
	Legible signage are provided for apartment numbers, common areas & general wayfinding	Capable of complying.	YES
	Incidental spaces, eg space for seating in a corridor, at a stair landing, or near a window are provided	Capable of complying.	YES
	In larger developments, community rooms for activities such as owners corporation meetings or resident use, are provided & are co-located with communal open space	Capable of complying.	YES

ADG Ref.	Item Description	Notes	Compliance										
4G	STORAGE												
4G-1 p101	Objective: Adequate, well designed storage is provided in each apartment		✓										
	Design Criteria												
1	In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided:	Capable of complying.	YES ✓										
	<table><tr><th>Apartment Type</th><th>Storage Size Volume (cubic m)</th></tr><tr><td>Studio</td><td>4</td></tr><tr><td>1 Bedroom</td><td>6</td></tr><tr><td>2 Bedroom</td><td>8</td></tr><tr><td>3+ Bedroom</td><td>10</td></tr></table>	Apartment Type	Storage Size Volume (cubic m)	Studio	4	1 Bedroom	6	2 Bedroom	8	3+ Bedroom	10		
Apartment Type	Storage Size Volume (cubic m)												
Studio	4												
1 Bedroom	6												
2 Bedroom	8												
3+ Bedroom	10												
	At least 50% of the required storage is to be located within the apartment												
	Design Guidance		CONSIDERED										
	Storage is accessible from either circulation or living areas	Capable of complying.	YES										
	Storage provided on balconies (in addition to the minimum balcony size) is integrated into the balcony design, weather proofed & screened from view from the street	Capable of complying.	YES										
	Left over space such as under stairs is used for storage	Capable of complying.	YES										
4G-2 p101	Objective: Additional storage is conveniently located, accessible & nominated for individual apartments		✓										
	Design Guidance		CONSIDERED										
	Storage not located in apartments is secure and clearly allocated to specific apartments	Capable of complying.	YES										
	Storage is provided for larger & less frequently accessed items	Capable of complying.	YES										
	Storage space in internal or basement car parks is provided at the rear or side of car spaces or in cages, such that allocated car parking remains accessible	Capable of complying.	YES										
	If communal storage rooms are provided they are accessible from common circulation areas of the building	Capable of complying.	YES										
	Storage not located in apartment is integrated into the overall building design & not visible from public domain	Capable of complying.	YES										
4H	ACOUSTIC PRIVACY												
4H-1 p103	Objective: Noise transfer is minimised through the siting of buildings & building layout		✓										
	Design Guidance		CONSIDERED										
	Adequate building separation is provided within the development & from neighbouring buildings/adjacent uses (see 2F Building Separation & 3F Visual Privacy)	Indicative reference design demonstrates scheme is capable of complying.	YES										
	Window & door openings are orientated away from noise sources	Capable of complying.	YES										
	Noisy areas within buildings including building entries & corridors are located next to or above each other while quieter areas are located next to or above quieter areas	Capable of complying.	YES										
	Storage, circulation areas & non-habitable rooms are located to buffer noise from external sources	Capable of complying.	YES										
	The number of party walls (shared with other apartments) are limited & are appropriately insulated	Capable of complying.	YES										
	Noise sources such as garage doors, driveways, service areas, plant rooms, building services, mechanical equipment, active communal open spaces & circulation areas should be located at least 3m away from bedrooms	Capable of complying.	YES										
4H-2 p103	Objective: Noise impacts are mitigated within apartments through layout & acoustic treatments		✓										
	Design Guidance		CONSIDERED										
	Internal apartment layout separates noisy spaces from quiet spaces, using a number of the following design solutions: Rooms with similar noise requirements are grouped together; Doors separate different use zones; Wardrobes in bedrooms are co-located to act as sound buffers	Capable of complying.	YES										

ADG Ref.	Item Description	Notes	Compliance
	Where physical separation cannot be achieved, noise conflicts are resolved using the following design solutions: Double or acoustic glazing; Acoustic seals; Use of materials with low noise penetration properties; Continuous walls to ground level courtyards where they do not conflict with streetscape or other amenity requirements	Capable of complying.	YES
4J	NOISE & POLLUTION		
4J-1 p105	Objective: In noisy or hostile environments impacts of external noise & pollution are minimised through careful siting & layout		✓
	Design Guidance		CONSIDERED
	To minimise impacts the following design solutions are used: Physical separation between buildings & the noise or pollution source; Residential uses are located perpendicular to the noise source & where possible buffered by other uses; Non-residential buildings are sited to be parallel with the noise source to provide a continuous building that shields residential uses & communal open spaces; Non-residential uses are located at lower levels vertically separating residential component from noise or pollution source. Setbacks to the underside of residential floor levels are increased, relative to traffic volumes & other noise sources; Buildings respond to both solar access & noise. Where solar access is away from noise source, non-habitable rooms will provide a buffer; Where solar access is in the same direction as the noise source, dual aspect apartments with shallow building depths are preferred; Landscape design reduces the perception of noise & acts as a filter for air pollution generated by traffic & industry	Capable of complying.	YES
	Where developments are unable to achieve Design Criteria, alternatives are considered in the following areas: Solar & daylight access, Private open space & balconies, Natural cross ventilation		YES
4J-2 p105	Objective: Appropriate noise shielding or attenuation techniques for building design, construction & choice of materials are used to mitigate noise transmission		✓
	Design Guidance		CONSIDERED
	Design solutions to mitigate noise include: Limiting the number & size of openings facing noise sources, Providing seals to prevent noise transfer through gaps, Using double or acoustic glazing, acoustic louvres or enclosed balconies (wintergardens), Using materials with mass and/or sound insulation or absorption properties eg solid balcony balustrades, external screens & soffits	Capable of complying.	YES
4K	APARTMENT MIX		
4K-1 p107	Objective: A range of apartment types & sizes is provided to cater for different household types now & into the future		✓
	Design Guidance		CONSIDERED
	A variety of apartment types is provided	Capable of complying.	YES
	The apartment mix is appropriate, taking into consideration: Distance to public transport, employment & education centres, Current market demands & projected future demographic trends, Demand for social & affordable housing, Different cultural & socioeconomic groups	Capable of complying.	YES
	Flexible apartment configurations are provided to support diverse household types & stages of life including single person households, families, multi-generational families & group households	Capable of complying.	YES
4K-2 p107	Objective: The apartment mix is distributed to suitable locations within the building		✓
	Design Guidance		CONSIDERED
	Different apartment types are located to achieve successful facade composition & to optimise solar access	Capable of complying.	YES
	Larger apartment types are located on ground or roof level where there is potential for more open space, and on corners where more building frontage is available	Capable of complying.	YES
4L	GROUND FLOOR APARTMENTS		
4L-1 p109	Objective: Street frontage activity is maximised where ground floor apartments are located		✓
	Design Guidance		CONSIDERED
	Direct street access are provided to ground floor apartments	Capable of complying.	YES

Appendix F

ADG Ref.	Item Description	Notes	Compliance
	Activity is achieved through front gardens, terraces & the facade of the building. Design solutions include: Both street, foyer & other common internal circulation entrances to ground floor apartments, Private open space is next to the street, Doors & windows face the street	Capable of complying.	YES
	Retail or home office spaces are located along street frontages	Ground floor frontages are generally residential dwellings activated with direct street entries.	NO
	Ground floor apartment layouts support SOHO use & provide opportunities for future conversion into commercial or retail areas. In these cases higher floor to ceiling heights & easy conversion to ground floor amenities are provided.	Higher floor to ceilings are proposed in the mixed use zone where non-residential uses are proposed at ground level.	NO
4L-2 p109	Objective: Design of ground floor apartments delivers amenity & safety for residents		✓
	Design Guidance		CONSIDERED
	Privacy & safety are provided without obstructing casual surveillance. Design solutions include: Elevating private gardens & terraces above the street level by 1-1.5m (see pg 109 Figure 4L.4), Landscaping & private courtyards, Window sill heights minimise sight lines into apartments, Integrating balustrades, safety bars or screens with exterior design	Capable of complying.	YES
	Solar access is maximised through: High ceilings & tall windows, Trees & shrubs allow solar access in winter & shade in summer	Capable of complying.	YES
4M	FACADES		
4M-1 p111	Objective: Building facades provide visual interest along the street while respecting the character of the local area		✓
	Design Guidance		CONSIDERED
	Design solutions for front building facades include: Composition of varied building elements, Defined base, middle & top of buildings, Revealing & concealing certain elements	Capable of complying.	YES
	Building services are integrated within the overall facade	Capable of complying.	YES
	Building facades are well resolved with appropriate scale & proportion to streetscape & with consideration of human scale. Solutions include: Well composed horizontal & vertical elements, Variation in floor heights to enhance the human scale, Elements that are proportional & arranged in patterns, Public artwork or treatments to exterior blank walls, Grouping of floors or elements such as balconies & windows on taller buildings	Capable of complying.	YES
	Building facades relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights	Capable of complying.	YES
	Shadow is created on the facade throughout the day with building articulation, balconies & deeper window reveals	Capable of complying.	YES
4M-2 p111	Objective: Building functions are expressed by the facade		✓
	Design Guidance		CONSIDERED
	Building entries are clearly defined	Capable of complying.	YES
	Important corners are given visual prominence through change in articulation, materials or colour, roof expression or changes in height	Capable of complying.	YES
	Apartment layout is expressed externally through facade features such as party walls & floor slabs	Capable of complying.	YES
4N	ROOF DESIGN		
4N-1 p113	Objective: Roof treatments are integrated into the building design & positively respond to the street		✓
	Design Guidance		CONSIDERED
	Roof design relates to the street. Design solutions include: Special roof features & strong corners, Use of skillion or very low pitch hipped roofs, Breaking down the massing of the roof by using smaller elements to avoid bulk, Using materials or pitched form complementary to adjacent buildings	Capable of complying.	YES

SEPP65 ADG COMPLIANCE ANALYSIS

ADG Ref.	Item Description	Notes	Compliance
	Roof treatments are integrated with the building design. Design solutions include: Roof design is in proportion to the overall building size, scale & form, Roof materials complement the building, Service elements are integrated	Capable of complying.	YES
4N-2 p113	Objective: Opportunities to use roof space for residential accommodation & open space are maximised		✓
	Design Guidance		CONSIDERED
	Habitable roof space are provided with good levels of amenity. Design solutions include: Penthouse apartments, Dormer or clerestory windows, Openable skylights	Capable of complying.	YES
	Open space is provided on roof tops subject to acceptable visual & acoustic privacy, comfort levels, safety & security considerations	Landscaped roof terraces are provided on some buildings where required to achieve communal open space requirements.	YES
4N-3 p113	Objective: Roof design incorporates sustainability features		✓
	Design Guidance		CONSIDERED
	Roof design maximises solar access to apartments during winter & provides shade during summer. Design solutions include: Roof lifts to the north, Eaves & overhangs shade walls & windows from summer sun	Capable of complying.	YES
	Skylights & ventilation systems are integrated into the roof design	Capable of complying.	YES
4O	LANDSCAPE DESIGN		
4O-1 p115	Objective: Landscape design is viable & sustainable		✓
	Design Guidance		CONSIDERED
	Landscape design is environmentally sustainable & can enhance environmental performance by incorporating: Diverse & appropriate planting, Bio-filtration gardens, Appropriately planted shading trees, Areas for residents to plant vegetables & herbs, Composting, Green roofs or walls	Capable of complying.	YES
	Ongoing maintenance plans are prepared	Capable of complying.	YES
	Microclimate is enhanced by: Appropriately scaled trees near the eastern & western elevations for shade, Balance of evergreen & deciduous trees to provide shading in summer & sunlight access in winter, Shade structures such as pergolas for balconies & courtyards	Capable of complying.	YES
	Tree & shrub selection considers size at maturity & the potential for roots to compete.	Capable of complying.	YES
4O-2 p115	Objective: Landscape design contributes to streetscape & amenity		✓
	Design Guidance		CONSIDERED
	Landscape design responds to the existing site conditions including: Changes of levels, Views, Significant landscape features including trees & rock outcrops	Capable of complying. Refer to indicative reference landscape design.	YES
	Significant landscape features are protected by: Tree protection zones, Appropriate signage & fencing during construction	Refer to accompanying Arborist report.	YES
	Plants selected are endemic to region & reflect local ecology	Capable of complying. Refer to indicative reference landscape design.	YES
4P	PLANTING ON STRUCTURES		
4P-1 p117	Objective: Appropriate soil profiles are provided		✓
	Design Guidance		CONSIDERED
	Structures are reinforced for additional saturated soil weight	Capable of complying.	YES
	Soil volume is appropriate for plant growth, including: Modifying depths & widths according to planting mix & irrigation frequency, Free draining & long soil life span, Tree anchorage	Capable of complying.	YES

Appendix F

ADG Ref.	Item Description	Notes	Compliance								
	Minimum soil standards for plant sizes should be provided in accordance with:	Capable of complying.	YES								
	<table><tr><th>Site Area (sqm)</th><th>Recommended Tree Planting</th></tr><tr><td>Up to 850</td><td>1 medium tree per 50sqm of deep soil zone</td></tr><tr><td>850 - 1,500</td><td>1 large tree or 2 medium trees per 90sqm of deep soil zone</td></tr><tr><td>Greater than 1,500</td><td>1 large tree or 2 medium trees per 80sqm of deep soil zone</td></tr></table>	Site Area (sqm)	Recommended Tree Planting	Up to 850	1 medium tree per 50sqm of deep soil zone	850 - 1,500	1 large tree or 2 medium trees per 90sqm of deep soil zone	Greater than 1,500	1 large tree or 2 medium trees per 80sqm of deep soil zone		
Site Area (sqm)	Recommended Tree Planting										
Up to 850	1 medium tree per 50sqm of deep soil zone										
850 - 1,500	1 large tree or 2 medium trees per 90sqm of deep soil zone										
Greater than 1,500	1 large tree or 2 medium trees per 80sqm of deep soil zone										
4P-2 p117	Objective: Plant growth is optimised with appropriate selection & maintenance		✓								
	Design Guidance		CONSIDERED								
	Plants are suited to site conditions, considerations include:Drought & wind tolerance, Seasonal changes in solar access, Modified substrate depths for a diverse range of plants, Plant longevity	Capable of complying.	YES								
	A landscape maintenance plan is prepared	Capable of complying.	YES								
	Irrigation & drainage systems respond to: Changing site conditions, Soil profile & planting regime, Whether rainwater, stormwater or recycled grey water is used	Capable of complying.	YES								
4P-3 p117	Objective: Planting on structures contributes to the quality & amenity of communal & public open spaces		✓								
	Design Guidance		CONSIDERED								
	Building design incorporates opportunities for planting on structures. Design solutions include: Green walls with specialised lighting for indoor green walls, Wall design that incorporates planting, Green roofs, particularly where roofs are visible from the public domain, Planter boxes	Capable of complying.	YES								
	Note: structures designed to accommodate green walls should be integrated into the building facade & consider the ability of the facade to change over time										
4Q	UNIVERSAL DESIGN										
4Q-1 p119	Objective: Universal design features are included in apartment design to promote flexible housing for all community members		✓								
	Design Guidance		CONSIDERED								
	Developments achieve a benchmark of 15% of the total apartments incorporating the Livable Housing Guideline's silver level universal design features	5% of market housing will be Adaptable in accordance with AS4299. 10% of social housing will be LH gold level and the remaining 90% will be LH silver level.	YES								
4Q-2 p119	Objective: A variety of apartments with adaptable designs are provided		✓								
	Design Guidance		CONSIDERED								
	Adaptable housing should be provided in accordance with the relevant council policy	Capable of complying.	YES								
	Design solutions for adaptable apartments include: Convenient access to communal & public areas, High level of solar access, Minimal structural change & residential amenity loss when adapted, Larger car parking spaces for accessibility, Parking titled separately from apartments or shared car parking arrangements	Capable of complying.	YES								
4Q-3 p119	Objective: Apartment layouts are flexible & accommodate a range of lifestyle needs		✓								
	Design Guidance		CONSIDERED								
	Flexible design solutions include:Rooms with multiple functions, Dual master bedroom apartments with separate bathrooms, Larger apartments with various living space options, Open plan 'loft' style apartments with only a fixed kitchen, laundry & bathroom	Capable of complying.	YES								

SEPP65 ADG COMPLIANCE ANALYSIS

ADG Ref.	Item Description	Notes	Compliance
4R	ADAPTIVE REUSE		
4R-1 p121	Objective: New additions to existing buildings are contemporary, complementary & enhance area's identity & sense of place		N/A
	-		
4R-2 p121	Objective: Adapted buildings provide residential amenity but does not precluding future adaptive reuse		N/A
	-		
4S	MIXED USE		
4S-1 p123	Objective: Mixed use developments are provided in appropriate locations & provide active street frontages that encourage pedestrian movement.		✓
	Design Guidance	CONSIDERED	
	Mixed use development are concentrated around public transport & centres	Non residential uses are located in the upper core alongside the light rail station	YES
	Mixed use developments positively contribute to the public domain. Design solutions include: Development addresses the street, Active frontages provided, Diverse activities & uses, Avoiding blank walls at the ground level, Live/work apartments on the ground floor level, rather than commercial	Capable of complying.	YES
4S-2 p123	Objective: Residential levels of the building are integrated within the development. Safety & amenity is maximised.		✓
	Design Guidance	CONSIDERED	
	Residential circulation areas are clearly defined. Solutions include:Residential entries separated from commercial entries & directly accessible from the street, Commercial service areas separated from residential components, Residential car parking & communal facilities separated or secured, Security at entries & safe pedestrian routes are provided, Concealment opportunities are avoided	Capable of complying.	YES
	Landscaped communal open space are provided at podium or roof		YES
4T	AWNING & SIGNAGE		
4T-1 p125	Objective: Awnings are well located and complement & integrate with the building design.		✓
	Design Guidance	CONSIDERED	
	Awnings are located along streets with high pedestrian activity & active frontages	Capable of complying.	YES
	A number of the following design solutions are used: Continuous awnings are maintained & provided in areas with an existing pattern, Height, depth, material & form complements existing street character, Protection from sun & rain is provided, Awnings are wrapped around secondary frontages of corner sites, Awnings are retractable in areas without an established pattern	Capable of complying.	YES
	Awnings are located over building entries for address & public domain amenity	Capable of complying.	YES
	Awnings relate to residential windows, balconies, street tree planting, power poles & street infrastructure	Capable of complying.	YES
	Gutters & down pipes are integrated and concealed	Capable of complying.	YES
	Lighting under awnings is provided for pedestrian safety	Capable of complying.	YES
4T-2 p125	Objective: Signage responds to context & desired streetscape character.		✓
	Design Guidance	CONSIDERED	
	Signage is integrated into building design & respond to scale, proportion & detailing of the development	Capable of complying.	YES
	Legible & discrete way finding is provided for larger developments	Capable of complying.	YES
	Signage is limited to being on & below awnings, and single facade sign on primary street frontages	Capable of complying.	YES
4U	ENERGY EFFICIENCY		
4U-1 p127	Objective: Development incorporates passive environmental design.		✓
	Design Guidance	CONSIDERED	
	Adequate natural light is provided to habitable rooms	Capable of complying.	YES

Appendix F

ADG Ref.	Item Description	Notes	Compliance
	Well located, screened outdoor areas are provided for clothes drying	Capable of complying.	YES
4U-2 p127	Objective: Passive solar design is incorporated to optimise heat storage in winter & reduce heat transfer in summer.		✓
	Design Guidance		CONSIDERED
	A number of the following design solutions are used: Use of smart glass or other on north & west elevations, Thermal mass maximised in floors & walls of north facing rooms, Polished concrete floors, tiles or timber rather than carpet, Insulated roofs, walls & floors. Seals on window & door openings, Overhangs & shading devices such as awnings, blinds & screens	Capable of complying.	YES
	Provision of consolidated heating & cooling infrastructure is located in a centralised location (eg basement)	Capable of complying.	YES
4U-3 p127	Objective: Adequate natural ventilation to minimise the need for mechanical ventilation.		✓
	Design Guidance		CONSIDERED
	A number of the following design solutions are used:;Rooms with similar usage are grouped together, Natural cross ventilation for apartments is optimised, Natural ventilation is provided to all habitable rooms & as many non-habitable rooms, common areas & circulation spaces as possible	Capable of complying.	YES
4V	WATER MANAGEMENT & CONSERVATION		
4V-1 p129	Objective: Potable water use is minimised.		✓
	Design Guidance		CONSIDERED
	Water efficient fittings, appliances & wastewater reuse are incorporated	Capable of complying.	YES
	Apartments are individually metered	Capable of complying.	YES
	Rainwater is collected, stored & reused on site	Capable of complying.	YES
	Drought tolerant, low water use plants are used within landscaped areas	Capable of complying.	YES
4V-2 p129	Objective: Urban stormwater is treated on site before being discharged to receiving waters.		✓
	Design Guidance		CONSIDERED
	Water sensitive urban design systems are designed by a suitably qualified professional	Capable of complying.	YES
	A number of the following design solutions are used:; Runoff is collected from roofs & balconies in water tanks and plumbed into toilets, laundry & irrigation, Porous & open paving materials is maximised, On site stormwater & infiltration, including bio-retention systems such as rain gardens or street tree pits	Capable of complying.	YES
4V-3 p129	Objective: Flood management systems are integrated into site.		✓
	Design Guidance		CONSIDERED
	Detention tanks are located under paved areas, driveways or in basements	Capable of complying.	YES
	On large sites, parks or open spaces are designed to provide temporary on site detention basins	Capable of complying.	YES
4W	WASTE MANAGEMENT		
4W-1 p131	Objective: Waste storage facilities are designed to minimise impacts on streetscape, building entry & amenity of residents.		✓
	Design Guidance		CONSIDERED
	Adequately sized storage areas for rubbish bins are located discreetly away from the front of the development or in basement car park	Capable of complying.	YES
	Waste & recycling storage areas are well ventilated	Capable of complying.	YES
	Circulation design allows bins to be easily manoeuvred between storage & collection points	Capable of complying.	YES
	Temporary storage are provided for large bulk items such as mattresses	Capable of complying.	YES
	Waste management plan is prepared	Capable of complying.	YES
4W-2 p131	Objective: Domestic waste is minimised by providing safe & convenient source separation & recycling.		✓
	Design Guidance		CONSIDERED

SEPP65 ADG COMPLIANCE ANALYSIS

ADG Ref.	Item Description	Notes	Compliance
	All dwellings have a waste & recycling cupboard or temporary storage area of sufficient size to hold two days worth of waste & recycling	Capable of complying.	YES
	Communal waste & recycling rooms are in convenient & accessible locations related to each vertical core	Capable of complying.	YES
	For mixed use developments, residential waste & recycling storage areas & access is separate & secure from other uses	Capable of complying.	YES
	Alternative waste disposal methods such as composting is provided	Capable of complying.	YES
4X	BUILDING MAINTENANCE		
4X-1 p133	Objective: Building design detail provides protection from weathering.		✓
	Design Guidance		CONSIDERED
	A number of the following design solutions are used:;Roof overhangs to protect walls, Hoods over windows & doors to protect openings, Detailing horizontal edges with drip lines to avoid staining surfaces, Methods to eliminate or reduce planter box leaching, Appropriate design & material selection for hostile locations	Capable of complying.	YES
4X-2 p133	Objective: Systems & access enable ease of maintenance.		✓
	Design Guidance		CONSIDERED
	Window design enables cleaning from the inside of the building	Capable of complying.	YES
	Building maintenance systems are incorporated & integrated into the design of the building form, roof & facade	Capable of complying.	YES
	Design does not require external scaffolding for maintenance access	Capable of complying.	YES
	Manually operated systems such as blinds, sunshades & curtains are used in preference to mechanical systems	Capable of complying.	YES
	Centralised maintenance, services & storage are provided for communal open space areas within the building	Capable of complying.	YES
4X-3 p133	Objective: Material selection reduces ongoing maintenance costs.		✓
	Design Guidance		CONSIDERED
	A number of the following design solutions are used: Sensors to control artificial lighting in common circulation & spaces, Natural materials that weather well & improve with time, such as face brickwork, Easily cleaned surfaces that are graffiti resistant, Robust & durable materials & finishes in locations which receive heavy wear & tear such as common circulation areas & lift interiors	Capable of complying.	YES

APPENDIX G:

CONSISTENCY WITH

'BETTER PLACED' DESIGN

POLICY

The Government Architect's 'Better Placed' design policy provides seven distinct objectives which define the key considerations for designing the built environment. Each of these have influenced our design approach for the Telopea Urban Renewal Project.

Better Fit
Contextual, Local, Of its Place

The proposed scheme builds on the principles established by LAHC and Parramatta Council in 'A Vision for Telopea – Masterplan Report' and is consistent with the massing and densities set out as the desired future character for the renewal area.

The concept masterplan builds on these principles, drawing on several elements of the existing context to propose a masterplan that is genuinely of its place:

/significant existing trees are retained throughout the precinct;

/the existing topography helps define the block pattern, with new streets extensions of existing, traversing the hillside along existing contours

/the existing bushland landscape character is interpreted into the new design in the streets and open spaces

Better Performance
Sustainable, adaptable and durable

Our sustainability strategy includes a comprehensive approach to:

a. Climate change resilience – with design centric responses including a mix of passive and active design solutions to ensure high performance outcomes against NatHERS and BASIX, as well as an integrated biophilic design solution to connect people to place and create a public realm that will mitigate the effects of a changing climate

b. Urban connectivity with a focus the future of mobility – including provision shared vehicles such as GoGet cars to Lime scooters, e-mobility solutions, travel demand management applications, electric vehicle charging infrastructure, and support for active transport; all connected to the new light rail

c. Urban Systems innovation – A commitment to Green Star Certification and our Real Utilities service which underpins our on-site renewable energy optimisation and our water recycling initiatives that will provide a reliable source of irrigation to maintain a truly green urban environment.

Our sustainability commitments for this project are:

/ Carbon Neutral Integrated Infrastructure Solution

/ Achieve Green Star Certification for buildings and community

/ Community Health and Wellbeing outcomes for all residents.

Better For Community
Inclusive, connected and diverse

The proposed scheme proposes genuine diversity, with a range of community and retail uses proposed alongside the light rail station in the new centre. The upper core includes community centre, library, childcare, health centre, church, and aged care facility along with restaurants, supermarket and specialty retail.

The proposed housing offers a range of types from high rise apartment towers to 3-storey terraces. The scheme includes a mix of social, affordable and market housing, staged to ensure a stable mix of tenures for the duration of the development program.

Better For People
Safe, comfortable and livable

The proposed masterplan is built around access to sunlight – to both apartments and to public space. Taller building forms are oriented north-south so that streets and spaces receive good midday sun, and that the majority of building facades receive sun on the winter solstice.

Key open spaces have been designed to support safety and livability, with a broad range of spaces available to support the local community in different ways.

Better Working
Functional, efficient and fit for purpose

The masterplan has been developed with a simple underlying structure based on well-understood apartment building typologies arranged in a clear urban framework. This simple structure has been tailored to the specific requirements of place but retains sufficient flexibility to adapt and evolve over the 20 year lifespan of the project.

Better Value
Creating and Adding Value

The project presents a once in a generation opportunity to transform an established but neglected suburb into a thriving local centre. By aligning investment in social and affordable housing with community and retail place creation, a shared value of place creates value for government, society and developer.

The masterplan creates additional value for government by leveraging existing investment in light rail to provide a new local centre of residential, shopping and community facilities within easy reach of Parramatta

Better Look and Feel
Engaging, inviting and attractive

Our masterplan design strategy of three collaborating architects seeks to provide a varied built form which is coherent but genuinely diverse.

The built form has taken on its identity from the existing curvilinear streets and stepped and staggered forms throughout Telopea, giving the masterplan a visual character that is of its place.

APPENDIX H:

CONSISTENCY WITH

'GREENER PLACES'

DESIGN POLICY

The Government Architect's 'Greener Places' framework makes a case for the importance of green space,how integration is essential and how greener thinking can make our cities healthier and more successful places. Four principles direct how greener places can be realised.

Integration

Combine green infrastructure with urban development and grey infrastructure

Teloepa's green places - its streets, parks, plazas and links - combine to create a network of green infrastructure that has formed the basis of the concept plan. Buildings have been designed to frame these spaces - to provide a public interface where community can come together.

The more traditional infrastructure of streets and light rail corridors has been informed by Teloepa's best assets - its mature trees, which form a green canopy over its undulating landscape.

Infrastructure assets throughout Teloepa are united via green streets, plazas and places by:

/ Aligning open spaces to light rail

/ Providing tree planting and improved pathways along existing streets that connect to Teloepa's centre

/ Networking Teloepa's social and community infrastructure into a cohesive system

/ Providing safe cycle corridors that provide active transport links to key destinations such as the neighbourhood centre and light rail stop.

Connectivity

Create an interconnected network of open space

Green places are at the heart of Teloepa. Creation of new and distinct open space responds directly to local, district and regional contextual influences - specifically to:

/ Help connect two regionally significant systems of remnant bushland in The Ponds Creek and Vineyard Creek

/ Retain mature trees as a key driver of the concept plan structure; each cluster providing a focus for open space, activity and surrounding built form

/ Allow the significant topography and vegetation to be retained throughout a stepped series of public spaces; a very Sydney response to the relationship of built form to landscape

/ Create a networked response to the existing neighbourhood, where landscaped pedestrian links provide accessibility to schools, local centre and surrounding streets

/ Provide a universally accessible route up Teloepa's steep topography to the light rail and bus interchange and celebrated through the Station Plaza.

Multifunctionality

Deliver multiple ecosystem services simultaneously

Creating a loved and distinct public space is core to Teloepa's design approach. A range of spaces are proposed that create a hierarchy of destinations for the community. In this way, a multi functional neighbourhood will result, community can thrive.

The design concept for Teloepa achieves multi-functionality by:

/ Fostering community interaction by activating public spaces with retail and community uses, and where planned and unplanned activities can take place

/ Offering alternative public spaces to Teloepa's existing park and active sports network; in this case, an urban plaza with retail and cafe activation, a community green where terraced platforms allow neighbourly interactions and quieter garden spaces where residents can dwell and relax

/ Open space is located to reinforce desire lines, ensuring it will be used by the broader community regularly, both as a destination in and of itself, and a movement path to shops, light rail, library and church.

Participation

Involve stakeholders in development and implementation

Teloepa's concept plan has been borne out of consideration for a multitude of users. Green places are therefore designed for both the young and the young at heart.

Improved neighbourhood access is provided to existing infrastructure such as the school.

New open space provides an alternative pedestrian path to the Station Plaza and light rail / bus interchange - where places to dwell and pause are intermingled with a universally accessible route negotiating the steep topography.

The community is encouraged to use open space on a daily basis, with buildings and program designed to unite movement with experience of a high quality public realm.

APPENDIX I:

CONSISTENCY WITH

'GREENER PLACES'

DESIGN GUIDE (DRAFT)

The Draft Greener Places Design Guide framework provides information on how to design, plan, and implement green infrastructure in urban areas throughout NSW. The draft guide provides a consistent methodology to help State and local government, and industry create a network of green infrastructure.

Open Space for Recreation

Telopea's existing neighbourhood already has a range of open spaces for recreation - schools with play space and community facilities, traditional parks with playgrounds, skate parks and kicking fields and creek corridors containing remnant bush vegetation and important habitat.

At Telopea, the approach to design has been to increase the diversity of public spaces on offer for recreation. Rather than duplicating existing functions already well provided, new open space will offer new experiences for the community - a range of hard and soft scapes providing intimate distinction from the broadness of parks and playing fields.

/ Accessibility and connectivity: All new dwellings have direct access to both public open space and communal open space across a variety of types - rooftops, grounded courtyards, plazas and gardens. Active playing fields are within a 5 minute walk of all dwellings.

/ Distribution: Telopea will increase in density to a high density neighbourhood. All dwellings will be within 400 metres of a local park, and many will be within a 200 metre walk of community oriented spaces associated with the Eyles Link.

/ Size and Shape: A variety of open space types and sizes is provided across the Telopea project area. These combine to create a network of distinct places, complementing the existing parkscape of the suburb.

/ Quantity: The additional open space provided at Telopea is in direct response to the needs of the future population. The high density neighbourhood will require access to a range of types, which the development provides.

/ Quality: Plazas, gardens and universal access are integrated with existing vegetation and built form. The design proposal is of high quality, serving a range of future user types. Materials are of a high quality and combine to create a distinct sense of place.

/ Diversity: A range of new space types are provided by Telopea's urban renewal - the Station Plaza, Telopea Square, Community Gardens and the Courtyards - each with a distinct character, but united by materials, planting and and pathways to neighbourhood destinations.

Canopy

To contribute towards tree canopy targets, the proposed development at Telopea offers a strategy of retained mature vegetation and new plantings to existing street corridors. Extensive canopy and ground plantings will occur to strengthen Telopea's existing coverage.

As a medium to high density neighbourhood, Telopea has a target of 25% or greater. Of the total development area, tree canopy cover will increase over time as a result of existing and newly planted vegetation. The project is designed to reach a canopy coverage of 49,000 sqm.

Furthermore, the canopy cover will be achieved by:

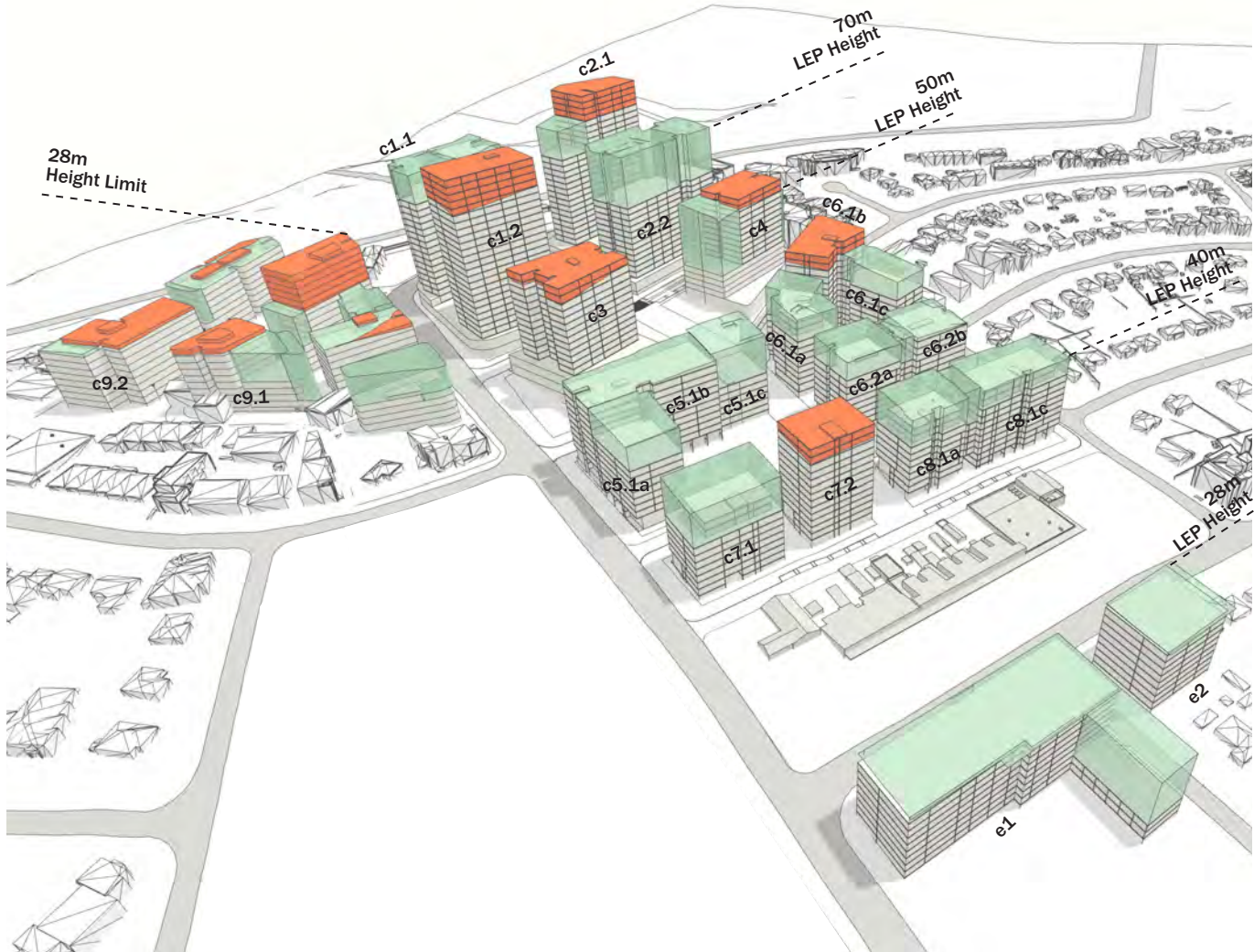
/ Retaining existing mature tree vegetation throughout the core, north and south precincts;

/ Interplanting existing vegetation with new street trees, plaza spaces and ground cover.

APPENDIX J: HEIGHTS SUMMARY

The adjacent diagrams are to be read in conjunction with the indicative design scheme drawings and identifies areas where the proposed massing forms have varied in height relative to the proposed envelopes and LEP height plane.

- Indicative Design Scheme below LEP Height Plane
- Indicative Design Scheme above LEP Height Plane



Core



South Precinct



North Precinct

APPENDIX K: DESIGN GUIDELINES

Introduction

These Design Guidelines support a Concept Development Application for the Telopea Masterplan, a State Significant Development (SSD) submitted to the Department of Planning, Industry and Environment (DPIE) pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act). They have been prepared by Bates Smart Architects for Frasers Property Australia on behalf of NSW Land and Housing Corporation.

The purpose of the design guidelines is to guide the future development of the Telopea Concept Plan Area) and the land to which they apply. The guidelines reference 'core' and 'non-core' areas as identified in Figure 1.

Vision

Through its renewal and revitalisation, Telopea will become a place of enhanced wellbeing: where natural systems are relinked and rehabilitated, where communities connect, and where people have access to a range of activities, opportunities and pathways. Like its floral namesake, Telopea will become a place of beauty and balance.

At the core of Telopea will be a mixed-use local centre, providing the foundation for a growing population and capitalising on government public transport investment in the Parramatta Light Rail project.

The concept plan is designed to celebrate the site's sloping bushland hillside character through streets and building forms built along the contours and arranged to retain the sites most significant trees. New neighbourhood parks and residential buildings are nestled around existing Eucalyptus stands which step down the hillside.

Outside the core, the extensive but fragmented landholding sets the standard for future development in the area. 3 storey townhouses and 5-8 storey apartment buildings will step and stagger down the hillside, acting as a good neighbour, maximising solar access and ensuring remnant sites can be easily developed.

Contents

1. Built Form

- Building Setbacks, Massing and Articulation
- Ground Level Interface
- Pedestrian and Vehicular Entry Locations
- Rooftops
- Facade & materials
- Adaptable and Universal Design

2. Public Domain, Open Space and Trees

- Pedestrian links
- Public and Communal Open Space
- Deep Soil Zones
- Trees

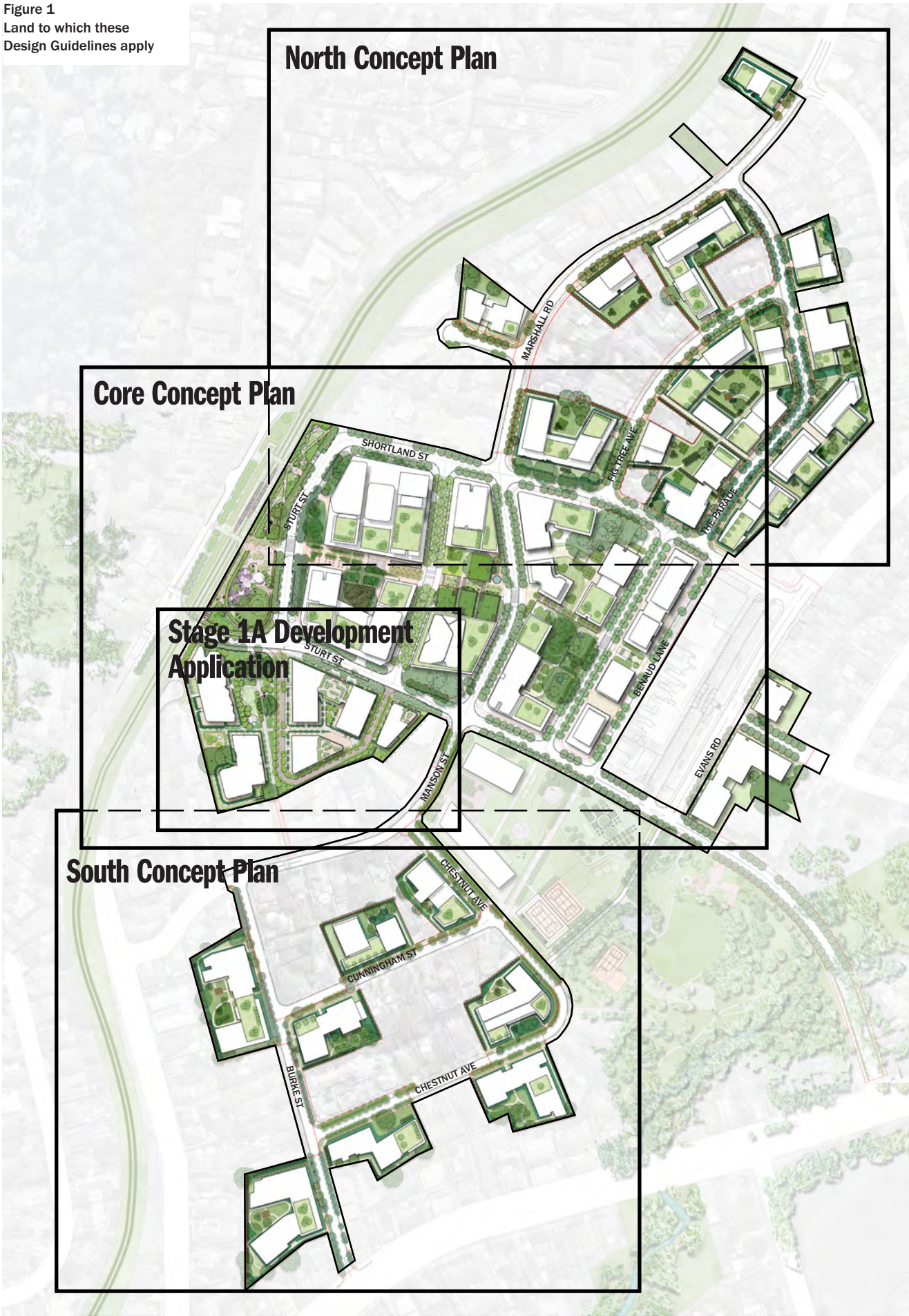
3. Transport and Parking

4. Sustainability

Figures

- Figure 1 Land to which these Design Guidelines apply
- Figure 2 Podium and Tower blocks
- Figure 3 Setbacks – Non-residential
- Figure 4 Setbacks – Residential
- Figure 5 Setbacks – non-core area
- Figure 6 Pedestrian connections
- Figure 7 Design Competition sites
- Table 1 Telopea Precinct Parking Rates

Figure 1
Land to which these
Design Guidelines apply



1. BUILT FORM

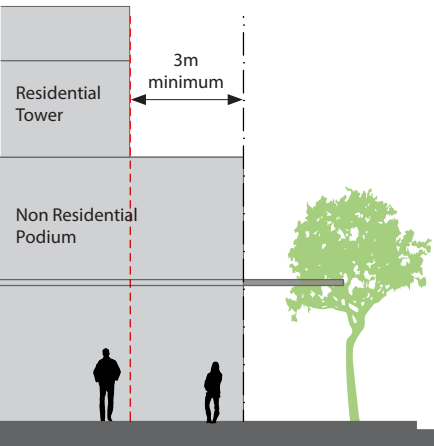


Figure 2
Podium and Tower blocks

1.1 Building Setbacks, Massing and Articulation

Objectives

- A. To encourage an urban form which works with the topography, addresses streets, maximises solar access and creation of views.
- B. To ensure that the built form enables a healthy environment for landscaping and street trees.
- C. To provide buildings that positively contribute to the physical definition of the public domain

Provisions

- 1. Where the length of a building exceeds 45m, it is to be broken into two or more components each with different architectural characters to the street or public domain. Building breaks should be a minimum of 3m deep and 3m wide and include a change of level at the parapet.
- 2. In the upper core area bounded by Sturt Street, Shortland Street and Manson Street, buildings should generally adopt a podium and tower typology with a street wall of 2-5 storeys and a tower which is generally set back a minimum of 3m (Figure 2).

- 3. In the lower core and non-core areas, buildings should adopt a perimeter block typology.
- 4. Street setbacks within the Core Area should be as follows:
 - Between 0 metres to 3 metres for activated street frontage with retail, community or commercial uses (figure 3); or
 - Between 3 metres and 6 metres (or greater) where residential uses are at ground level to allow for landscaping and the protection of significant trees (figure 4), except in Stage 1a where street setbacks can be reduced to no less than 2.7m
 - The setbacks are measured to the face of the building.
- 5. Street setbacks within the non-core areas should be between 3 and 6 metres. The setback must demonstrate that it adequately considers: Site levels; existing vegetation; topography; surrounding built form; and footpaths and boundaries.
- 6. In the non-core areas, Developments should provide a minimum side setback of 2 metres to the side boundaries for up to 18 metres along the boundary and, then a 6 metres wide side setback to the side boundary for the remaining portion of the site. Zero side boundary setbacks can be provided if it provides a better

amenity outcome to neighbouring sites (refer to Figure 5).

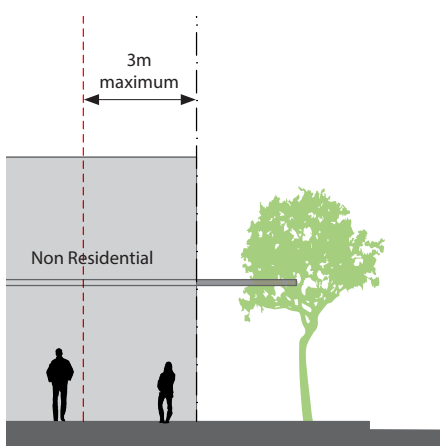


Figure 3
Setbacks - Non Residential

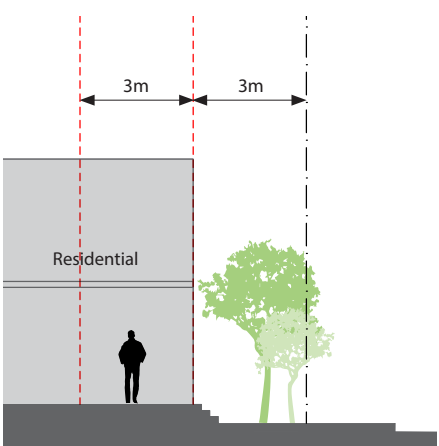


Figure 4
Setbacks - Residential

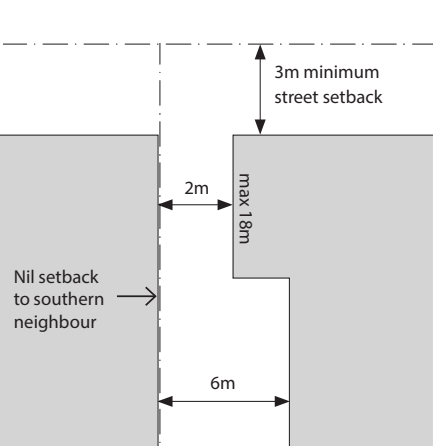


Figure 5
Setbacks - Non Core area

1.2 Ground Level Interface

Objectives

- A. To transition between private and public domain without compromising safety and security.
- B. To maximise the amenity of new streets and public open spaces.
- C. To retain and enhance the amenity of Public open spaces.

Provisions

- 1. Buildings must address all streets and pedestrian links to ensure passive surveillance of the public domain.
- 2. The ground floor of buildings used for retail and/or commercial use are to have a minimum floor to ceiling height of 3.6 metres. All retail and commercial floors above the ground floor are to have a minimum floor to ceiling height of 3.3 metres.
- 3. Apartments, balconies and courtyards fronting Public Open Spaces should be provided with a landscaped buffer on common title to separately define public and private space but maintain passive surveillance.
- 4. Community and retail uses should provide active frontages to adjacent public open spaces.

- 5. Communal open space should be clearly defined and separate from the public domain.
- 6. Apartments can be located below the street level in the following situations:
 - the distance of the apartment front wall is a minimum of 5 metres from the street boundary or adequate privacy screening and landscaping is demonstrated;
 - the FFL of the lowest apartment is not more than 1500mm below the level of the street; and
 - the floor to floor height is 3.1metres and the head height of the windows is not less than 300mm from the underside of the slab above
- 7. Front boundary fences are to be open, permeable and balance privacy with views to any landscaped area.
- 8. Front setbacks shall be landscaped. Due to topographical constraints, basements may extend into the front setback to avoid raising from ground at the rear and/ or extending into the rear set-back. Where trees are located in the front setback above basement the soil depth is to be 1 metre above drainage on the slab.

1.3 Pedestrian and Vehicular Entry Locations

Objectives

- A. To provide building entries and pedestrian access that connects to and addresses the public domain.
- B. To provide accessible and easily identifiable building entries and pathways.
- C. To minimise conflicts between vehicles and pedestrians
- D. To create high quality streetscapes

Provisions

- 1. Primary building entries should address the street and/or be clearly visible from the public domain
- 2. Driveways should be:
 - Set back from any road.
 - Designed so that vehicles can enter and leave in a forward direction
 - Separated and clearly distinguished from pedestrian access.
 - Located at least 2 metres from the side boundary with any public domain area, street, lanes or parks, with the setback to be landscaped.

- 3. Access to basement parking or service areas should be located in combined and consolidated entries to minimise impacts on pedestrians.
- 4. Ensure loading docks are capable of accommodating vehicles for both garbage collection and removalists.
- 5. Where internal dedicated loading docks are not possible, on-street loading zones will be discretely located near building entries.

1.4 Rooftops

Objectives

- F. To maximise opportunities to use roof space for residential accommodation and open space.
- G. To incorporate sustainability features into the roof design.
- H. To minimise the visual impact of roof plant.

Provisions

- 1. Private and communal roof terraces should be provided where possible.
- 2. Roofs that are overlooked by other buildings should provide either communal open space or landscape planting.
- 3. Plant areas should be screened from view.
- 4. Upper level roofs should accommodate solar panels.

1.5 Facade & Materials

Objectives

- A. To define and reinforce a distinctive character within the precinct.
- B. To express building functions.
- C. To create buildings which will improve with age.

Provisions

- 1. The lower levels of residential buildings should use high quality, durable materials such as brick, concrete and glass as the predominant facade material.
- 2. Painted precast or render should be avoided as a primary facade material.
- 3. Façade materials should be self-finished, durable and low maintenance.
- 4. Use of colour in building façades should focus on naturally occurring hues.
- 5. Where buildings project over the street reserve they should be designed in conjunction with the public domain to avoid any compromise of street tree planting

1.6 Adaptable and Universal Design

Objectives

- A. Universal design features are included in apartment design to promote flexible housing for all community members.
- B. A variety of apartments with adaptable housing designs are provided.

Provisions

- 1. 90% of social dwellings should incorporate the Liveable Housing Guideline's silver level universal design features, with the remaining 10% of all social housing dwellings incorporating the Liveable Housing Guidelines' Gold level universal design features.
- 2. 5% of market dwellings should incorporate the adaptable housing requirements of AS4299 Class C.

2. LANDSCAPE AND OPEN SPACE



Figure 6
Pedestrian Links

2.1 Pedestrian Links

Objectives

- A. To improve access to streets and connection to destinations within large sites.
- B. To provide additional connections to the light rail active transport corridor
- C. To provide a publicly accessible, pedestrian friendly and level access route from Evans Road to the light rail station as an alternative to steeply sloping Sturt and Shortland Streets

Provisions

- 1. Provide publicly accessible through-site connections in accordance with figure 6.
- 2. The width of the Eyles Street link will be a minimum of 18m to provide for tree retention, open spaces, ramps and stair landings.
- 3. Eyles Street primary access route should have clear sight lines and be no less than 6m wide.
- 4. Basement parking shall not extend below any areas proposed for dedication to council.

- 5. Any mechanical transportation (lift and/or escalator and/or travelator) required for public circulation is to be publicly accessible 24 hours 7 days a week.
- 6. Eyles Street access route should be activated by a mix of retail frontages, community facilities, open spaces, residential entrances to individual properties, residential lobbies and residential communal facilities.
- 7. In residential areas, pedestrian links should be direct, have clear sight lines, be overlooked by habitable rooms or private open spaces of dwellings, be well lit and contain active uses, where appropriate.

2.2 Public and Communal Open Space

Objectives

- A. To provide high quality public domain, including landscape design which celebrates retained trees, contributes to the streetscape and residential amenity
- B. To retain and enhance the existing publicly accessible open space along the rail corridor.
- C. To connect new public spaces to the existing open space network.
- D. To provide an adequate area of communal open space to enhance residential amenity and to provide opportunities for landscaping.

Provisions

- 1. All public open space dedicated to Council must be deep soil with no underground car parking.
- 2. Incorporate passive recreational facilities to complement those already provided in Sturt Park and other nearby Council public open spaces, as appropriate

- 3. Provide safe opportunities and points of interest for the community to gather / meet, walk, engage in physical activity and children’s play.
- 4. Maximise solar access to public open space during winter months and shade during summer months.
- 5. A Public Domain Plan is to be provided for all new developments over 6 storeys. The Public Domain Plan is to detail upgrades to the surrounding public domain network, including foot paving, street tree planting, street furniture, street lighting and the like.
- 6. Communal open space is to be provided in a mixture of ground level, podium and rooftop locations.

2.3 Deep Soil Zones

Objectives

- G. To retain existing mature trees and to support healthy tree growth.
- H. To provide passive recreation opportunities.
- I. To promote management of water and air quality.

Provisions

- 1. Deep soil zones should generally be provided in accordance with the Concept Development Application drawings which provides 30% of the site area in a mix of private development lots and land to be dedicated to Council.
- 2. Building setbacks and public domain should maximise deep soil zones to accommodate existing and newly planted large trees.

2.4 Trees

Objectives

- A. To ensure development maximises opportunities for future planting of trees and retention of existing significant trees within the public and private domain.

Provisions

- 1. Street layout and building location and design should demonstrate retention of highly significant trees, with a preference for retention of clusters of significant trees.
- 2. Detailed development applications will include a landscape plan that will outline the existing tree retention and additional trees to be planted.
- 3. Tree protection measures including root management works should be implemented to ensure the survival of mature trees proposed to be retained.
- 4. New street trees should be planted to maximise and enhance tree canopy cover and provide opportunities for wildlife corridors
- 5. New trees should be specified to consider a succession planning strategy to retain the existing character of the site into the future.

3. TRANSPORT AND PARKING

Objectives

- A. To encourage walking and cycling and public transport use in order to reduce the number of motor vehicles travelling to and from the precinct.
- B. Development shall provide adequate parking and encourage sustainable and active transport usage by residents and visitors.
- C. Provision of car parking with an appropriate level and balance of on-site and on-street parking provision.

Provisions

- 1. If development includes car and bicycle parking in connection with non-residential and residential uses, the development must provide car parking spaces in accordance with Table 1.
- 2. Car parking will be generally be incorporated into basement (for apartments, shopping centres and community facilities) and utilised by occupants or long-stay visitors.

Table 1: Telopea Precinct Parking Rates

Type	Rate	
RESIDENTIAL FLAT BUILDINGS, SHOP TOP HOUSING OR MIXED USE DEVELOPMENT WITH A RESIDENTIAL ACCOMMODATION COMPONENT		
Studios, 1, 2, and 3+ bedroom apartments	Maximum Car Parking rate: Studio: 0.6 spaces, 1-bed: 0.6 spaces, 2-bed: 0.9 spaces, 3-bed: 1.4 spaces. Car parking can be averaged across the residential component of the development	
Visitors parking	Maximum 1 space per 10 dwellings, including any on street parking available.	
Car share spaces	A minimum of 1 space is to be allocated to car share for developments with 50 or more dwellings. Any car share spaces should be located on street where practical, if not practical car share spaces can be provided in basements.	
AFFORDABLE AND SOCIAL HOUSING PARKING		
Studios, 1, 2, and 3+ bedroom apartments	Car parking rates as per the State Environmental Planning Policy (Affordable Rental Housing) 2009	
NON-RESIDENTIAL USES PARKING		
Supermarket and Specialty Shops	1 space per 30m ² of Gross Floor Area, Assessed on merits	
Commercial (including medical and professional consulting)	1 space per 50m ² of Gross Floor Area, Assessed on merits	
Community Uses including childcare centres on public land	Assessed on merits, will take into account integration of retail/ community uses and ability to share car parking as it would facilitate multi-stop facilities	
Place of public worship	Assessed on merits, will take into account integration of retail/ community uses and ability to share car parking as it would facilitate multi-stop facilities	
Recreation facility	Assessed on merits, will take into account integration of retail/ community uses and ability to share car parking as it would facilitate multi-stop facilities	
BICYCLE PARKING AREAS		
Land Use	Residents	Visitors
Residential accommodation	Minimum 1 bicycle storage space per dwelling in a mix of individual storage cages and shared bike parking areas	Minimum 1 bicycle storage space per 15 dwellings.

4. SUSTAINABILITY

Objectives

- A. To ensure buildings meet sustainable design principles with a focus on energy and water saving, but also considering sunlight, natural ventilation, wind, reflectivity, visual and acoustic privacy, safety and security and resource, energy and water efficiency.
- B. To ensure the community meets sustainable design principals considering governance, liveability, economic prosperity, environment and innovation, along with creating a community that promotes health and wellbeing;
- C. The development to be carbon neutral in operational energy
- D. To use third party certification to verify the sustainability initiatives have been achieved;

Provisions

- 1. Achieve 5 Star Green Star Design & As Built v1.2 minimum for all residential buildings including provisions such as:
 - BASIX Energy 30 (on average)
 - BASIX Water 40 (on average) *If recycled water becomes available to connect to, BASIX water 45 (on average) will be provided. - agreed
 - NatHERS 7-star (on average)
 - NABERS 6 star energy and 5 star water (where applicable)
- 2. Achieve 6 Star Green Star Communities v1.1 for the precinct, including provisions such as:
 - Provision for and adoption of recommendations as a result of undertaking a climate adaptation and resilience plan
 - Incorporation of Water Sensitive Urban Design
 - Dedicated community development manager for community building and development
 - Reduction of the urban heat island effect by the balance of roof space (after PV prioritisation) being green roof and open space
 - provision of alternatives to private car ownership through target initiatives such as car share, bicycle parking for each dwelling and at least 300 visitor bicycle parking spaces

- 3. Achieve a carbon neutral integrated infrastructure solution, including provisions such as:
 - Embedded electricity network
 - Embedded hot water network
 - Zero gas to residential
 - Smart metering and energy monitoring
 - On-site renewable energy
 - 100% Carbon Neutral power
- 4. Achieve a minimum Silver level WELL rated community, encompassing provisions to comply with the following WELL Pre-conditions:
 - AQU: Fundamental Air Quality
 - WQT: Drinking Water Quality
 - SUP: Supermarket Access
 - LMP: Lighting Master Plan
 - MIX: Mixed-use Development
 - EXT: Extreme Weather Warnings
 - SOU: Sound Planning
 - HWM: Hazardous Waste Management
 - AMH: Access to Mental Health Services
 - VIS: Community Visioning
 - GND: Green Rating Systems

5. DESIGN EXCELLENCE

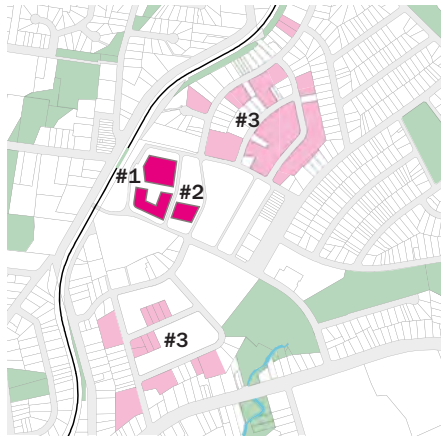


Figure 7
Design Competition sites

Objectives

- A. To ensure architectural diversity is achieved.
- B. To achieve a high standard of architectural and urban design, materials and detailing appropriate to the building type and location.
- C. To ensure the form and external appearance of the buildings improve the quality and amenity of the public domain.
- D. To deliver excellence and integration of landscape design.

Provisions

- 1. Design Teams will be allocated across the Telopea Concept Plan Area to encourage design diversity and create visual interest.
- 2. Architects should be selected from the NSW Government Architect’s Pre-qualification Scheme for Strategy and Design Excellence.
- 3. The nominated Design Team will be retained throughout the design process for each respective stage.

- 4. In addition to preparing the relevant Development Application documentation, the Design Team will be expected to:
 - retain lead roles over the relevant design decisions in the preparation of the design drawings for a construction certificate for the preferred design;
 - retain lead roles over design decisions in the preparation of the design drawings for the contract documentation; and
 - maintain continuity during the construction phases to the completion of the project.

Design Competitions

- A total of three architectural design competitions are to be held (refer Figure 7), including:
 - Competition #1 – Buildings C1 and C2 and Telopea Square
 - Competition #2 – Building C3
 - Competition #3 – Other within North or South Precinct (location to be determined)
- The competitions will be managed by Frasers Property Australia.
- Each competition brief will be prepared by Frasers Property Australia and provided to the NSW Government Architect for comment prior to finalisation.

- Each competition will have a minimum of three architects competing.
- In order to achieve a diversity of architecture within the Core Precinct, Competition #1 will have a minimum of two architects and one landscape architect per competing team.
- The competition Jury will comprise the following:
 - NSW Government Architect nominated representative;
 - Frasers Property Australia nominated Architect; and
 - Frasers Property Australia nominated development representative.
- The Jury for Competition #2 will also include a Parramatta City Council nominated representative.
- The NSW Department of Planning, Industry and Environment will be invited as an observer for all competitions.

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APPENDIX L:

PUBLIC DOMAIN EXTENTS

DRAWINGS



[H]	1	REVISION	DATE	SCALE	CLIENT	PROJECT NAME	DRAWING NUMBER
		[A, For Information]	[07-August 2020]	[2000@A3]	Fraser Property Australia	Telopea Concept Plan	Core Precinct

Indicative layout only - not for construction.

NORTH PRECINCT

- Legend
- Precinct Extents

Lot Boundaries/ Road Reserve

Communal Open Space

- Ground Level

- Rooftop Extents



H



REVISION	DATE	SCALE	CLIENT	PROJECT NAME	DRAWING NUMBER
[A, For Information]	[07-August 2020]	[2000@A3]	Fraser's Property Australia	Telopea Concept Plan	North Precinct

Indicative layout only - not for construction.

SOUTH PRECINCT

- Legend
- Precinct Extents

Lot Boundaries/ Road Reserve

Communal Open Space

- Ground Level

- Rooftop Extents



H



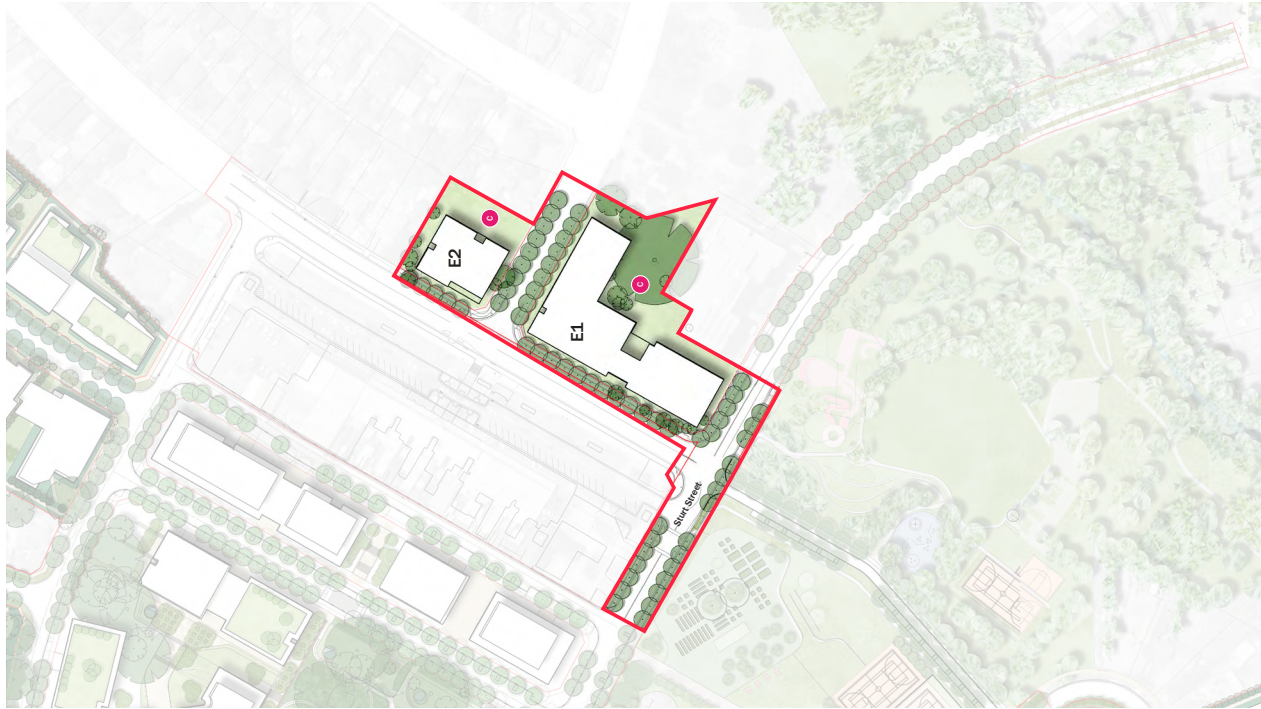
REVISION	DATE	SCALE	CLIENT	PROJECT NAME	DRAWING NUMBER
[A, For Information]	[07-August 2020]	[2000@A3]	Fraser's Property Australia	Telopea Concept Plan	South Precinct


Indicative layout only - not for construction.

EAST PRECINCT

Legend

- Precinct Extents**
Lot Boundaries/ Road Reserve
Communal Open Space
- Ground Level



	REVISION [A, For Information]	DATE [1-July-2020]	SCALE [2000:8A3]	CLIENT Fraser Property Australia	PROJECT NAME Telopea Concept Plan	DRAWING NUMBER Irrigation Extents Plan E8A1 Product
	Indicative layout only - not for construction.					

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