

SEPP 65 + ADJOINING LANDS IMPACT REPORT FOR A MIXED USE DEVELOPMENT 181 JAMES RUSE DRIVE CAMMELLIA

FOR STATEWIDE PLANNING
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1 INTRODUCTION

We are the Architects and Masterplanners for the site at 181 James Ruse Drive, Camellia and have been commissioned by Statewide Planning Pty Ltd to prepare a report that seeks to address the Alteration of Gateway Determination, in particular point 8 + 9 of the amended determination outlined below:

8. *Demonstrate that the design concept will be able to achieve compliance with the provisions of Environmental Planning Policy No. 65 - Design Quality of Residential Apartment Development.*
9. *Ensure that the supporting urban design studies and masterplan proposal incorporates measures that minimise any potential amenity implications of the design concept on adjoining land to promote an optimal renewal outcome for the wider precinct.*

The design concept for the site (Appendix A) provides a framework for the development of future development applications. While it is not practical to apply many of the provisions of SEPP 65 at this stage, each of the nine key principles will be discussed to identify compliance or whether the design concept is capable of complying. Particular emphasies will be given to the key principles relating to built form and scale, sustainability and amenity.

The urban design report and masterplan have been updated to incorporate additional studies that focus on whether the design concept (Appendix A) has any adverse amenity impacts to adjoining land, and if so, how to minimise the impacts to ensure an optimal renewal outcome for the wider precinct. Extracts from these studies will be included in this report.

2 SEPP 65 PRINCIPLES

This section relates to Alteration of Gateway Determination, point 8.

The SEPP 65 design quality principles are useful as they act as a link between the provisions of SEPP 65 and the more detailed design guidance contained in the Apartment Design Guide. While it is not practical to apply many of the provisions of SEPP 65 at this stage, given the design concept only defines building envelopes and a public domain framework, it is possible to identify areas of compliance and whether the design concept is capable of complying.

The planning proposal provides for a design jury process to achieve design excellence. While it is not practical to confirm compliance with the Apartment Design Guide, the process of achieving design excellence will provide that future development applications demonstrate compliance.

An overshadowing impact analysis (Appendix C) has been prepared for the site and indicate a need to refinement the public domain masterplan, in particular the location of the square. Subsequently, the square has been relocated to the north, with a frontage to Foreshore Drive. Shadow diagrams for the revised scheme, illustrate the increased solar access to the foreshore square (Appendix H). It is important that the RE1 public recreation land and the foreshore square receive a minimum of 50% solar access at mid-winter between 12am and 2pm. The original masterplan does not meet this criteria and has led to the relocation of the foreshore square. The RE1 public recreation land has a northern aspect and receives 100% solar access all year round.

The benefits of solar access to the foreshore square at the winter solstice are summarised below:

Time (Winter Solstice)	Original Masterplan (Option D)	Amended Masterplan (Option E)
9am	0%	4%
10am	13%	47%
11am	35%	70%
12pm (min 50% required)	43%	81%
1pm (min 50% required)	26%	78%
2pm (min 50% required)	5%	71%
3pm	6%	29%

The following SEPP 65 principles statement is based upon the Amended Masterplan (Option E) (Appendix A).

2.1 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.

- The site has an area of approximately 68,166m² and is approximately 250m wide to the north, 270m to the east, 190m to the south and 285m to the west, with a long handle providing a narrow frontage to Grand Avenue North.
- The site is currently vacant and in transition, from heavy industrial land use to a mix of uses including high-density residential development, retail and commercial uses.
- The vision for the site is to create an interactive, urban living environment within a rehabilitated river setting. It will be framed by an extensive and permeable public domain comprising new wide streets, foreshore square, forum, foreshore park and building forms of various heights orientated to optimise views, breezes and sun. It will evolve into a focal point within the wider precinct with active uses at ground level.
- Buildings will be located on the site to enable through-site linkages and public access to the river foreshore. The orientation and layout of future development will activate pedestrian edges to the foreshore, street frontages and through site links, as well as maximising opportunities for passive surveillance.
- The design concept (Appendix A) is consistent with the Camellia Precinct - Land Use and Infrastructure Strategy (Appendix D) prepared by NSW Planning and Environment and Parramatta City Council which identifies the site as having a mixed use/ residential zoning, a public recreation zone along the foreshore and is adjacent to a future town centre supported by a public transport corridor with connections to Carlingford/ Macquarie Park and the Parramatta CBD.
- The design concept (Appendix A) provides a riverfront promenade that will allow for a future green link to the Parramatta CBD and Sydney Olympic Park. It also provides a future walking/ cycling link across the Parramatta River to connect the Western Sydney University to the future town centre.
- The design concept (Appendix A) provides a physical and visual connection to adjoining sites to the south and visual connections to the adjoining site to the east.



2.2 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.

- The design concept (Appendix A) will visually dominate the adjoining lands until they are redeveloped as the precinct is in transition from heavy industrial land use to a mix of uses including high-density residential development, retail and commercial uses.
- Building height will grade from the foreshore to the Railway with a taller building, an urban marker, in the south western corner of the site. Building articulation and modulation will ensure that buildings suitably address both the street frontages and define an appropriate human scale to streets.
- The design of buildings will ensure that a suitable level of amenity is achieved for future occupants within the context of high amenity, high density city living.
- Buildings have an address to the street and pedestrian pathways. Buildings along the foreshore also have a frontage to the river foreshore.
- Proposed buildings envelopes are capable of being articulated using an appropriate mix of design elements to provide visual interest and high quality building design including clearly defined edges and corners, and architectural treatments that are interesting and relate to the design and human scale of built form.
- Continuous awnings are to be provided to all streets and pedestrian/ cycle lanes at a height of 3.6m - 4.2m
- Ground level floor plates ensure appropriate public domain interface and taking into consideration flooding, including the need to allow for overland flow paths between and around buildings, containment cells as well as commercial/ retail floor space demand in this locality and the types of uses likely to occupy the spaces.
- Typical tower floor plates are a maximum of 1,000sqm including articulation, generally with 24m building depths max.
- The design concept (Appendix A) avoids podium forms, instead placing emphasis on the first 4 storeys of each building with a material change to define the street and provide a human scale. The lowest 4 storeys must contain more glass and be more open to the street than the levels above.
- Above ground level, there is a minimum of 24m building separation between all built forms (except building K1 + K2) to enable strong visual connections from buildings to the river and CBD.
- Building K1 + K2 have a separation of 12m above ground and is considered as one building with aerial bridges.
- At ground level building separation is reduced to 10m between building G + H and 18m between building H + J.



2.3 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.

- The design concept (Appendix A) provides for approximately 15,600m² GFA x retail/ commercial, 300,000m² GFA x residential floor space and will allow for approximately 3,200 residential dwellings.
- All buildings will have active non-residential uses at ground level (shops, cafes, restaurants etc) with residential accommodation above.
- The design concept (Appendix A) includes a 8,166m² foreshore park (RE1 zoned land) and a variety of publically accessible spaces including a foreshore square and green streets. 30,125m² (44%) of the total site area is proposed to be publically accessible open space to cater to the proposed density on the site. 38,710m² (56%) of the total site area is proposed as landscaped open space including RE1 zoned land and publically accessible open space.
- All car parking is not visible from the street.
- Flood planning levels on the site prohibit residential development at ground level.
- The proposed gross density (gross floor area/ total site area) is 5.3:1.
- The proposed net density figure (gross floor area/ total site area minus new private streets and RE1 zoned land) is 8.95:1.
- Unit sizes will comply with the Apartment Design Guide. Unit sizes will vary including compact apartments and larger apartments with the following areas:

Studio	35m ² - 49m ²
1 Bed	50m ² - 69m ²
2 Bed	70m ² - 89m ²
3 Bed	90m ² +



2.4 PRINCIPLE 4: SUSTAINABILITY

Good design combines positive environmental, social and economic outcomes.

Good sustainable design includes use of natural cross ventilation and sunlight for the amenity and liveability of residents and passive thermal design for ventilation, heating and cooling reducing reliance on technology and operation costs. Other elements include recycling and reuse of materials and waste, use of sustainable materials and deep soil zones for groundwater recharge and vegetation.

- Water Sensitive Urban Design principles are capable of being implemented within the public domain areas as required by the masterplan.
- Building envelopes are capable of incorporating multiple cores to create corner-apartments and deep recesses can be introduced to create slender building forms and achieve 60% cross-ventilation.
- The massing and orientation of building forms has been organised to provide good natural day lighting and solar access into the primary living spaces and private open spaces.
- Energy efficient appliances and water efficient devices can be specified to minimise water consumption of resources and is required by BASIX. BASIX certificates for each building will be prepared as part of a Development Application submission.
- Future buildings are capable of The design concept (Appendix A) is capable of including tanks for the retention of stormwater to be re-used for irrigation.
- The design concept (Appendix A) will exceed the minimum of 7% deep soil planting as required by the Apartment Design Guide. The RE1 zoned land alone represents 12% of the total site area. Additional deep soil is capable of being provided within setbacks zones between buildings and through-site pedestrian link.



2.5 PRINCIPLE 5: 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.

- The design concept (Appendix A) and public provides public open space and publically accessible space including a foreshore park, forum, foreshore square, green streets and plazas to provide areas for active as well as passive recreational use. The foreshore square will develop as a focal point for the local community.
- A publicly accessible green link along the riverfront will provide the ability to extend to sites to the east and west.
- Street tree planting and wide footpaths along new streets to provides a high quality pedestrian environment.
- A 25m foreshore building setback is provided.
- Heritage mangroves within the riparian zone may need to be removed in order to decontaminate the foreshore in accordance with a remediation action plan for the site.
- A legible pattern of new streets, lanes and pedestrian links respond to key connections within the site as well as the wider context.
- Mature trees to streets will provide a human scale for pedestrians.
- Pedestrian movement is prioritised with appropriate crossings, footpath designs, street furniture, and parking layouts.
- Public access to the foreshore between buildings north of Foreshore Drive is maintained.
- Main streets provide a visual axis to the foreshore.
- Loading bays and service vehicle areas, building service/plant areas, and building services (such as substation) will be adequately screened from any public domain areas, including the street, through site links and the river foreshore.



2.6 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.

- Indicative floor plans for Building G + H (Appendix B) demonstrate that building envelopes are capable of containing apartments with a high degree of cross-ventilation. 60% of apartments are capable of being cross-ventilated. All apartments layouts will be subject to a design excellence jury process and will be required to comply with the Apartment Design Guide.
- Building envelopes are oriented east-west and above ground level have a minimum of 24m building separation between all built forms (except building K1 and K2) are capable of containing apartments with a high degree of solar access. Building K1 + K2 have a separation of 12m above ground and is considered as one building with aerial bridges.
- At ground level building separation is reduced to 10m between building G + H and 18m between building H + J. The ground floor level contains non-residential uses.
- Shadow diagrams (Appendix C) demonstrate that facades are capable of achieving 70% solar access to east, west and north facing facades.
- Indicative floor plans for Building G + H (Appendix B) demonstrate that 2 hours of solar access at mid-winter can be achieved to living rooms and private open spaces by maximising the number of units to the west.
- Buildings A - C have been rotated to true north above level 8 to maximise solar access from the east and west.
- The rooms and layouts of the apartments will be the subject of a separate Development Application submissions and a design excellence jury process.
- Privacy is promoted between apartments through building separation, orientation and internal layouts.
- There is good outlook to streets, the river, Sydney and the Parramatta CBD.
- Shadow diagrams (Appendix C) illustrate that 70% of the foreshore square receives solar access at mid-winter between 12pm and 2pm at mid-winter. 50% of the foreshore square receives solar access between 10.15am and 2.30pm at mid-winter.



BUILDING	NO. OF STORIES	ORIENTATION	PERCENTAGE OF FACADE 'IN SUN' WITH THE POTENTIAL FOR APARTMENTS TO RECEIVE SOLAR ACCESS MID-WINTER					
			9am-10am	10am-11am	11am-12pm	12pm-1pm	1pm-2pm	2pm-3pm
A	40	East-west	100%	100%	80%	80%	85%	50%
B	40	East-west	100%	100%	80%	80%	85%	50%
C	40	East-west	100%	100%	100%	100%	100%	95%
D	8	East-west	100%	100%	100%	100%	100%	100%
E	8	East-west	100%	100%	100%	100%	100%	100%
F	8	East-west	100%	100%	100%	100%	100%	95%
G	22	East-west	95%	95%	95%	95%	95%	100%
H	22	East-west	95%	75%	70%	60%	90%	100%
J	40	East-west	50%	70%	75%	75%	85%	95%
K1	28	East-west	25%	20%	75%	75%	50%	35%
K2	28	East-west	15%	35%	75%	75%	30%	15%
L	28	East-west	15%	70%	80%	80%	80%	80%
M	28	East-west	95%	95%	95%	95%	95%	95%
N	28	East-west	20%	30%	90%	90%	75%	35%

70% or more solar access received to facade 'in sun'

To comply with the Apartment Design Guide, a minimum of 70% of apartments are required to receive 2 hours of direct solar access to living areas and private open spaces between 9am - 3pm at mid-winter. At this stage, building forms have been design, not buildings. Future apartment layouts will need to harness the sun to satisfy the Apartment Design Guide Requirement. Option E, has building envelopes that are oriented to the east-west, with the ability to receive sun on the long facades in the morning and afternoon in addition to the north facade. It also demonstrates that the taller buildings with the largest number of apartments receive in excess of the minimum requirement for solar access.

If future development applications have unit layouts that maximise the number of apartments with living rooms and open spaces to facades that receive 2 hours of solar access at mid-winter, then the development is capable of satisfying the solar access requirement of the Apartment Design Guide. It will also be a requirement of future development applications for the site, that this requirement is achieved, monitored and reconciled. The table above indicates that building forms in Option E, achieve the floor space while maximising the percentage of solar access to facades.

These overshadowing studies also illustrate that between 12pm - 2pm at mid-winter, more than 71% of the foreshore square receives direct solar access.

REFER TO OVERSHADOWING IMPACT
ANALYSIS OPTION E P. 6-24 TO 6-37

2.7 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.

- Areas between buildings will allow for pedestrians to comfortably move between buildings to promote the principles of passive surveillance. These spaces will be publically accessible.
- Pedestrian and vehicle conflict are minimised with limited vehicle crossings to the public domain.
- Vehicle crossings are provided where appropriate to enable emergency and/or maintenance vehicle access to the foreshore/through site links.
- The width and surface area of driveways and other hard surfaces associated with the movement and parking of vehicles shall be minimised and will be adequate in width to enable two vehicles to pass.
- Vehicles are permitted in the shared way mid-block connection between Main Street A + B. The pavement of the shared way is to be consistent with the surrounding foreshore square.
- Residential lift lobbies can be provided directly from streets with clear sight lines.
- Passive surveillance is afforded by balconies and windows that take in all aspects.



2.8 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.

- The design concept (Appendix A) has floor plates that are capable of providing a range of unit types and sizes that appeal to different price points.
- The design concept (Appendix A) is capable of achieving a apartment mix of 30% x 1 bed, 65% x 2 bed and 5% x 3 bed.
- The proposed future development will cater to residents from a wide range of backgrounds and age groups.
- Areas of communal open space include sky gardens and roof top gardens. These spaces provide planting, seating and BBQ facilities.
- Social spaces are capable of being provided within each tower for the use of residents and their visitors to encourage social interaction. These spaces may include libraries, gymnasiums, lounges, common rooms, bio-lounges, sky gardens or communal open space.



2.9 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 design concept (Appendix A) provides building envelopes that can contain well articulated and modulated buildings and have an attractive composition of building elements that results in high quality design outcomes.
- The aesthetics do not form part of the design concept. The appearance of the buildings will be addressed in detail in subsequent Development Application submissions and be required to achieve design excellence through a jury process.
- The indicative visualisations (Refer to Urban Design Report - Appendix E) give an indication of the approach that may be taken in order to represent the overall scale of the building relative to its context.
- The indicative building forms shown in the indicative visualisations (Refer to Urban Design Report - Appendix E) are characterised by areas of open balconies and fenestration.
- The architectural character will set a standard for future developments in the wider context and give a variety of grain and character within this framework.
- The design, materials and colours shown are purely indicative at this stage.



3 ADJOINING LAND IMPACTS

This section relates to Alteration of Gateway Determination, point 9.

Supporting urban design studies and masterplan have been updated to include design studies that identify any potential amenity implications of the design concept on adjoining land to ensure there is an optimal renewal outcome for the wider precinct.

It is not clear how the adjoining lands will develop, so in order to assess any potential amenity impacts we refer to Camellia Precinct - Land Use Strategy (July 2015) prepared by the Department of Planning and Parramatta City Council (Appendix D) as a guide for the planning vision for the precinct over the next 20 years. The Camellia Precinct - Land Use Strategy establishes guiding principles, precinct planning principles and strategies for land use, sustainability and transport.

3.1 CAMELLIA PRECINCT - LAND USE STRATEGY (Prepared by the Department of Planning and Environment and Parramatta City Council)

The guiding principles for the Camellia Precinct are:

1. *Establish infrastructure that improves the connectivity of people, places and ideas.*
2. *Support innovation through the growth of new industries including clean technologies, eco-industries, advanced manufacturing and logistics.*
3. *Foster a dynamic, integrated community by creating places for people to work, learn, live and play.*
4. *Regenerate Camellia's natural assets, including the Parramatta River and Duck River, to create a clean and healthy environment.*
5. *Prioritise design quality as a tool to create a built environment that is unique to Parramatta.*
6. *Create an efficient, resilient precinct that achieves environmental best practice and demonstrates leadership in sustainability.*

The precinct planning principles for the precinct are:

1. *Increase job density by supporting a variety of employment opportunities across the precinct.*
2. *Allow for some mixed use development, including residential, in the north-western quadrant of the precinct, concentrated around the future Western Sydney Light Rail alignments and with primary access from James Ruse Drive and Grand Avenue.*
3. *Create an industry-leading entertainment precinct at Rosehill Racecourse, which can serve as a buffer between the mixed use and industrial uses within the precinct.*
4. *Retain the majority of the southern and eastern part of the precinct for industrial uses, but facilitate its transition to more contemporary industries including clean technologies, eco- industries, advanced manufacturing and logistics.*
5. *Provide an integrated transition zone in the northern part of the precinct along the Parramatta River adjacent to Grand Avenue, allowing for a complementary transition of land uses between the mixed use precinct to the west and industrial precinct in the east.*
6. *Provide for vehicular connections between Camellia, Silverwater, Rydalmere and the M4 to mitigate heavy vehicle movements through mixed use development.*
7. *Improve access to public transport in the precinct by focusing new development around transport nodes.*
8. *Create a network of public open spaces to improve active transport connectivity to, through and within the precinct.*

9. *Investigate opportunities for additional public facilities and infrastructure to support the expected demand for services at Camellia.*
10. *Establish design guidelines to deliver high quality urban environments within Camellia that result in enhanced amenity for residents, workers and visitors alike.*

The Camellia Precinct - Land Use + Transport Strategy (Appendix D) prepared by the Department of Planning and Environment and Parramatta City Council identifies a new town centre and a mixed use/ residential to the south of the site. It envisages that the town centre, development sites to the east and the subject site will have enhanced public access to the Parramatta River and a riverfront promenade that would connect Camellia to the Parramatta CBD and Sydney Olympic Park.

The north-west precinct where the site is located is identified as a mixed-use/ residential with the following characteristics:

- Mixed use residential development is to be considered for the north-western quadrant of the precinct.
- Development is to create well defined streets that enhance accessibility, allow for sensitive transition to future waterfront parks and publicly accessible riverfront with active uses for key foreshore buildings (for example, cafes, restaurants, and community facilities).
- Buildings heights will identify gateways and key destinations in the precinct and achieve design excellence.
- Density of development is to respond to projected capacity of the transport network and desired future character.

The urban strategy (Appendix E) for the site prepared by Stanisic Architects which underpins the design concept prepared by Stanisic Architects (Appendix A), preceding the land use strategy (Appendix D) prepared by the Department of Planning and Environment and Parramatta City Council, already incorporates these characteristics and provides a permeable framework with a street network that can extend to the south to provide physical and visual connections between the new town centre and the river, a foreshore park, foreshore walk/ cycleway, active uses at ground level and a riverfront square.

3.2 INDICATIVE DEVELOPMENT SCENARIO

The Camellia Precinct - Land Use + Transport Strategy (Appendix D) includes an indicative development scenario prepared by the Department of Planning and Environment and Parramatta City Council (Appendix F) for the precinct. It represents one option for the site and is not necessarily the best outcome for the site. However, in the absence of any other direction, this is the basis for an assessment of the potential amenity impacts by the design concept (Appendix A).

To the east, in the narrow strip of land between the river and the railway line, the Camellia Precinct - Land Use + Transport Strategy (Appendix D) scenario indicates that this area will be zoned RE1 public recreation land. This is a reasonable assumption given its inaccessibility and high flood risk. This area has excellent amenity having an eastern aspect and frontage to the River. This RE1 land will extend along the foreshore to the east (Appendix G)

To the south of the site, the scenario indicates that streets will extend from the subject site from Grand Avenue North to the foreshore. It will comprise buildings that vary in height from 8-20 storeys. Buildings will be generally oriented east-west. There is a green space located opposite the existing train station.

3.3 OVERSHADOWING IMPACT ANALYSIS

An overshadowing impact analysis (Appendix H) has been undertaken to assess the potential amenity implications on adjoining land. These studies are developed from the Camellia Precinct - Land Use + Transport Strategy's indicative development scenario prepared by the Department of Planning and Parramatta City Council, incorporates the street network proposed by the design concept (Appendix A).

For the purposes of an analysis, the Camellia Precinct - Land Use + Transport Strategy's indicative development scenario has been developed and makes the following assumptions:

1. Building forms will orient to the east and west to maximise solar access to apartments.
2. The lower non-residential levels will have podiums which are suited to office and retail uses within a future centre.
3. Above ground, building forms are spaced 24m apart.
4. Building heights are in accordance with the indicative development scenario.
5. A public open space is located adjacent to Camellia Station to the south east.
6. Proposed street network will extend Main Street A and B to the site to the south.
7. Above ground floor plates are a maximum of 1,000sqm with 24m building depths.

Shadow diagrams (Appendix H) have been prepared for each hour at the winter solstice to determine whether the RE1 public recreation land is capable of achieving a minimum of 3 hours of solar access at mid winter and whether future built forms to the south of the site are capable of achieving 2 hour of solar access to 70% of apartments at mid-winter.

An assessment of the mid-winter shadow studies (Appendix H) to the site to the east illustrates the following:

- Between 9.00am and 1.45pm (4.75 hours) solar access is achieved to more than 50% of RE1 public recreation land to the east of the site at mid-winter which is acceptable.
- The urban strategy (Appendix E) proposes a riverfront walk and cycling track that connects to the neighbouring land. In the late afternoon, solar access can be achieved on the subject site which has a northern aspect.

Time (Winter Solstice)	Solar access to adjoining RE1 land to the east of site
9am	100%
10am	100%
11am	100%
12pm	100%
1pm	78%
2pm	40%
3pm	7%

An assessment of the mid-winter shadow studies (Appendix H) on the adjoining site to the south illustrates the following:

- Between 9.00am and 3.00pm, 2 hours of solar access can be achieved to 70% of the indicative future building facades at mid-winter (except in the case of buildings K1 and K2). If future development applications have unit layouts that maximise the number of apartments with living rooms and open spaces to facades that receive 2 hours of solar access at mid-winter, then the development is capable of satisfying the solar access requirement of the Apartment Design Guide.
- Generally, indicative future building forms have an east-west aspect and are capable of receiving 2 hours of sun to the east and west.
- Indicative future building forms that have a frontage to James Ruse Drive and the railway line receive 2 hours of sun at mid-winter.

- Indicative future building forms have floor plates that are capable of being planned to maximise apartments that face the sun - refer to Appendix B. Buildings that have a frontage to James Ruse Drive, will maximise apartments to the west and take advantage of views to Parramatta CBD. Buildings that have a frontage to the railway line, will maximise apartments to the east and the views to the river.
- Only 1 of 5 indicative future building forms are adversely impacted by the building envelopes of the design concept - the form directly opposite Building K1 + K2. However, as it is an indicative envelope only, these impacts can be mitigated by further detailed studies and other development options for this site.

4 CONCLUSION

The design concept (Appendix A) for the site provides a framework for the development of future development applications. While it is not practical to apply many of the provisions of SEPP 65 at this stage, an assessment of the design concept demonstrates that it is capable of achieving compliance with the principles of SEPP 65, in particular the key principles relating to built form and scale, sustainability and amenity.

The supporting urban design report and masterplan have been updated, relocating the foreshore square to the north in order to increase the amount of solar access it receives at mid-winter. An overshadowing impact analysis has confirmed that the new location of amended masterplan increases the amount of solar access to the foreshore square resulting in the RE1 public recreation land and the foreshore square receiving a minimum of 50% solar access at mid-winter between 12am and 2pm.

An assessment of the overshadowing impact analysis (Appendix H) has confirmed that there are no adverse amenity impacts on proposed RE1 public recreation land to the east of the site. An assessment of the shadow studies on the site to the east identifies that between 9.00am and 1.45pm (4.75 hours) solar access is achieved to more than 50% of RE1 public recreation land to the east of the site at mid-winter which is acceptable.

An assessment of the shadow studies on the site to the south identifies that between 9.00am and 3.00pm, 2 hours of solar access can be achieved to 70% of the indicative future building forms at mid-winter. While one future building form is adversely impacted by the building envelopes of the design concept (Appendix A), the future building forms are indicative only and can be mitigated by further detailed studies and other development options for the adjoining site.

The design concept provides a sound framework to the adjoining site to the south to redevelop where Main Street A + B can be extended to the south. A foreshore walk can also be extended along the foreshore to the sites east and west.

APPENDIX

A	AMENDED MASTERPLAN (OPTION E)
B	INDICATIVE FLOOR PLAN
C	SHADOW DIAGRAMS - AMENDED MASTERPLAN (OPTION E)
D	CAMELLIA PRECINCT - LAND USE + TRANSPORT STRATEGY
E	URBAN STRATEGY
F	INDICATIVE DEVELOPMENT SCENARIO
G	PUBLIC SPACES
H	SHADOW DIAGRAMS - ADJOINING LANDS

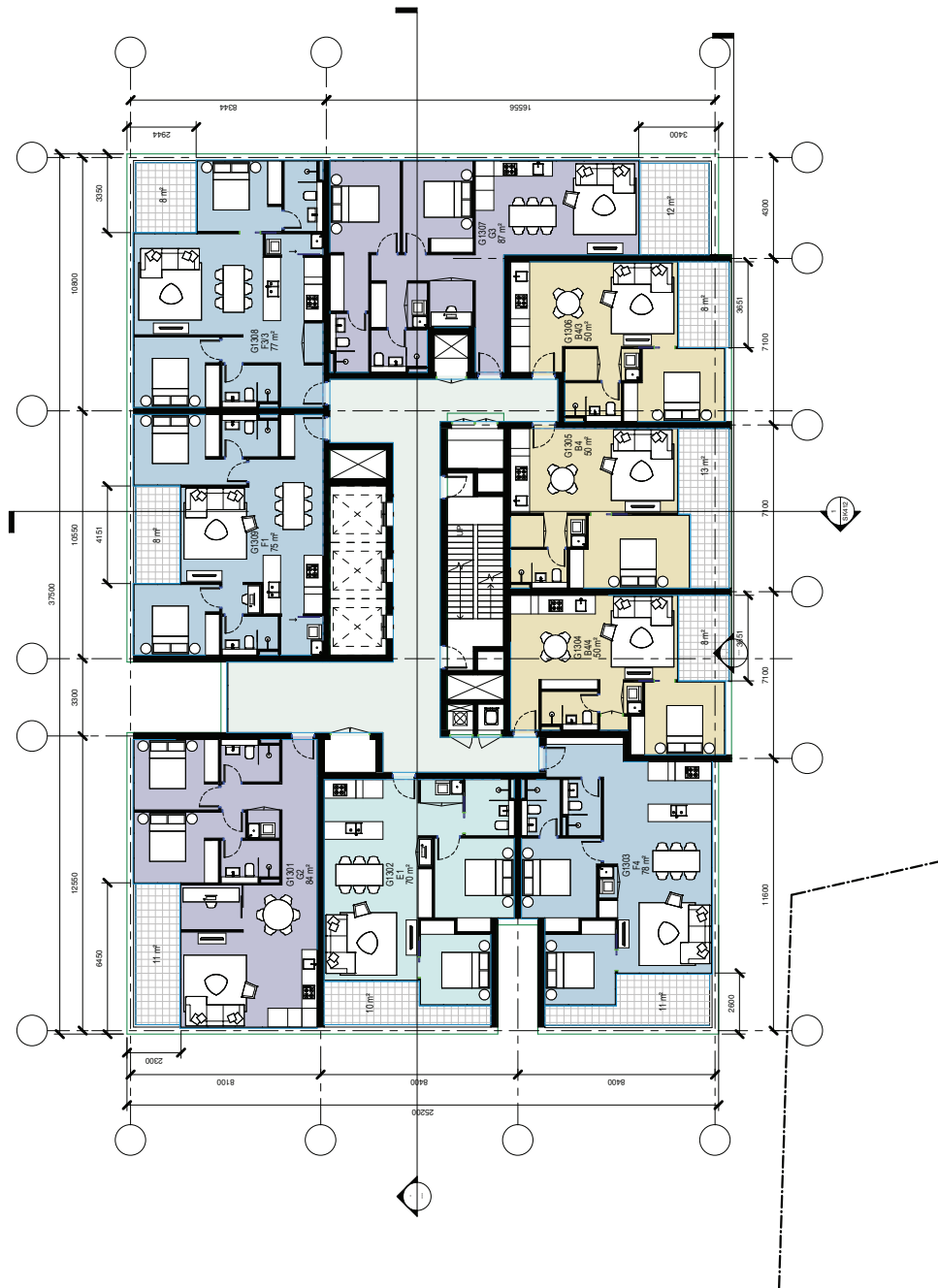
APPENDIX A: AMENDED MASTERPLAN (OPTION E) - PREPARED BY STANISIC ARCHITECTS





AERIAL VIEW FROM THE NORTH WEST - PREPARED BY STANISIC ARCHITECTS

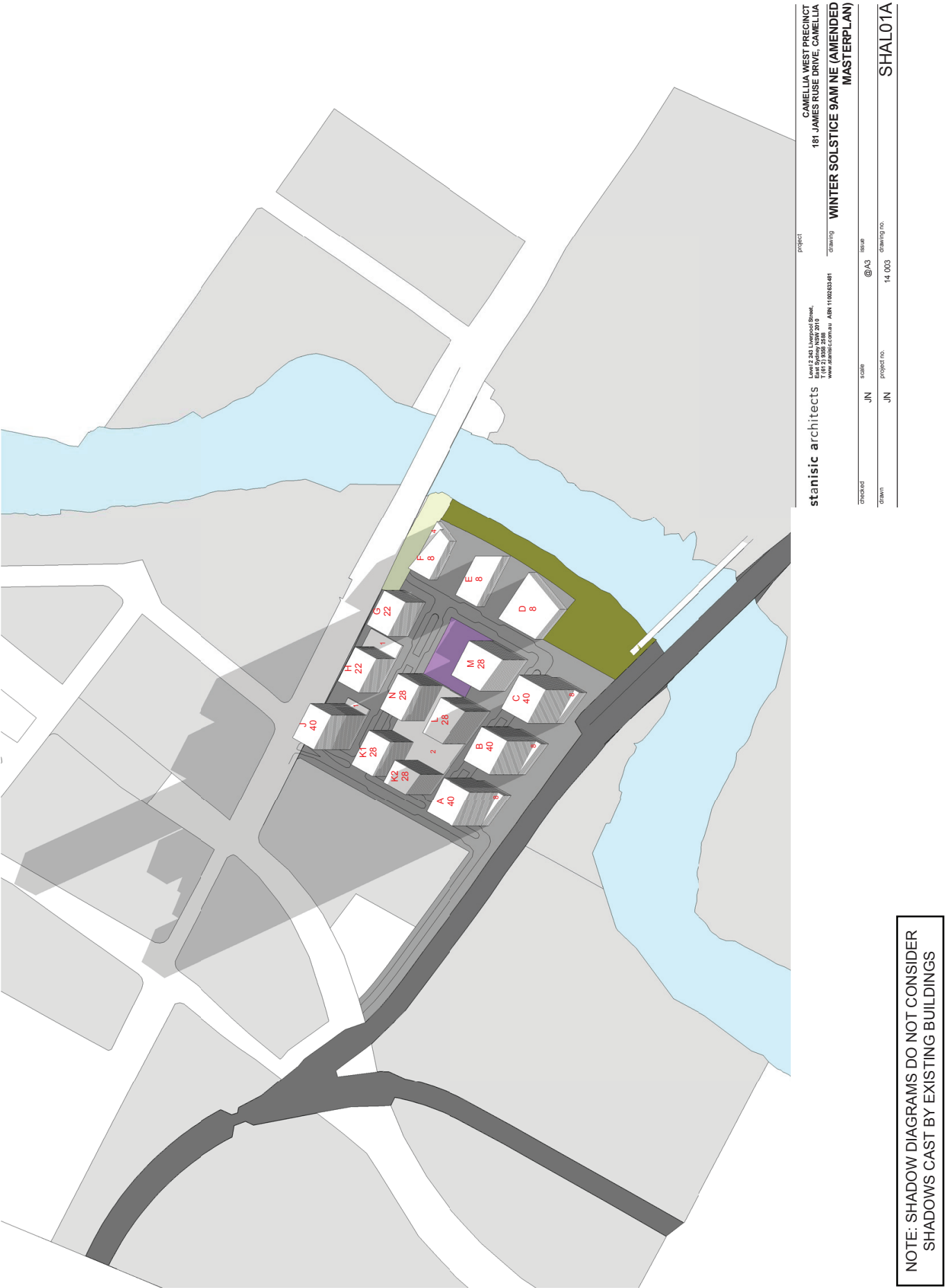


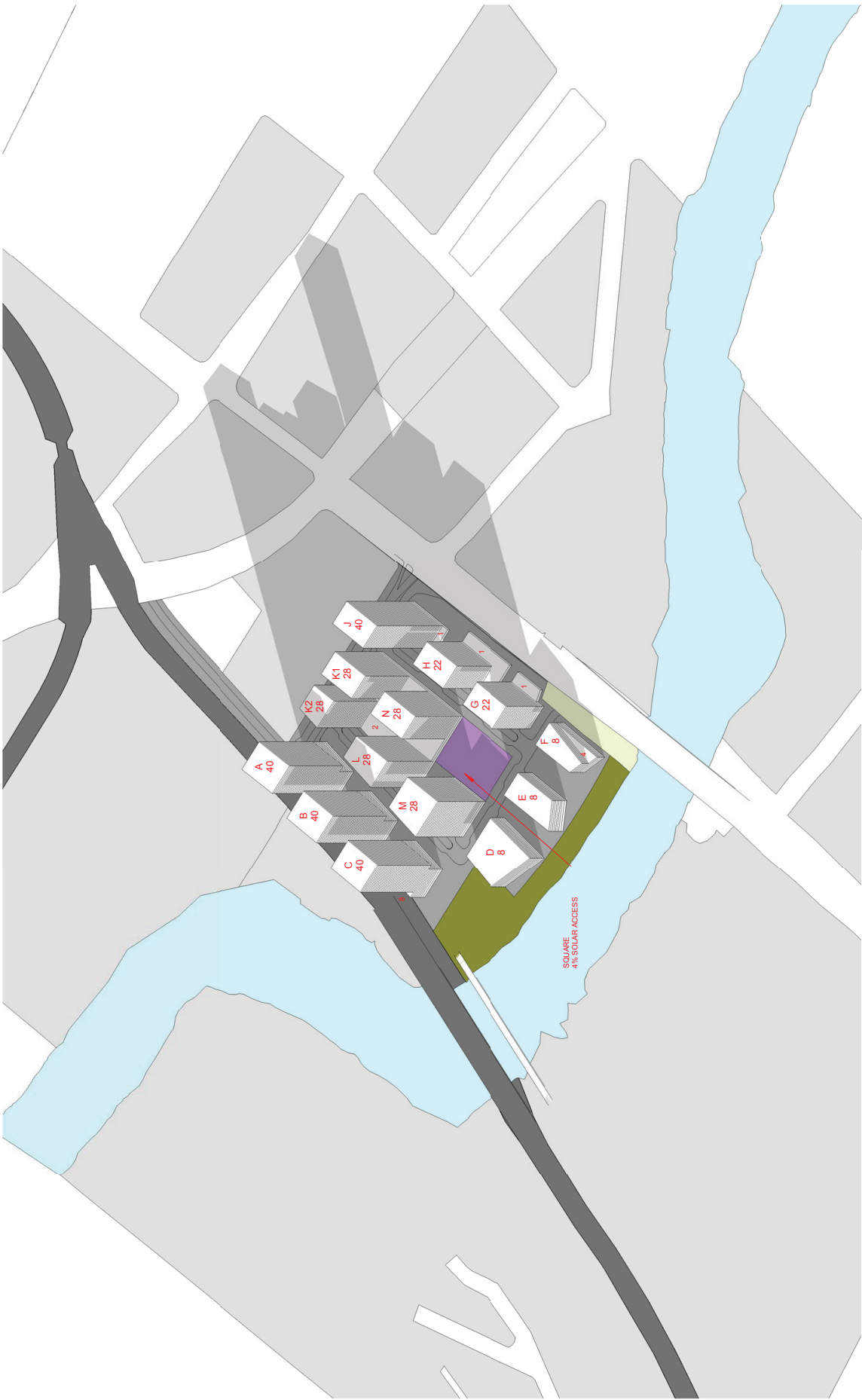


stanisic architects		181 JAMES RUSE DRIVE, CAMELLIA STAGE 01	
drawing		BUILDINGS G & H - LEVEL 13	
checked	checked	scale	1 : 1000/A1
drawn	author	project no	15 007
		drawing no	SK103

INDICATIVE FLOOR PLAN
BUILDING G + H ONLY

APPENDIX C: SHADOW STUDY - WINTER SOLSTICE AMENDED MASTERPLAN (OPTION E)





NOTE: SHADOW DIAGRAMS DO NOT CONSIDER
SHADOWS CAST BY EXISTING BUILDINGS

stanisic architects	project		CAMELLIA WEST PRECINCT	
	Level 2 243 Liverpool Street, Brisbane QLD 4000 www.stanisic.com.au A/N 1100333481		181 JAMES RUSE DRIVE, CAMELLIA	
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scale	project no.		drawing no.	
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issue		drawing no.		SHAL01B
@A3		drawing no.		SHAL01B



stanisic architects	Level 2 243 Liverpool Street, Brisbane QLD 4000 www.stanisic.com.au A/N 11002833481	project	CAMELLIA WEST PRECINCT 181 JAMES RUSE DRIVE, CAMELLIA		
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NOTE: SHADOW DIAGRAMS DO NOT CONSIDER
SHADOWS CAST BY EXISTING BUILDINGS



stanisic architects	Level 2 243 Liverpool Street, Brisbane QLD 4000 www.stanisic.com.au A/N 1100283481	project	CAMELLIA WEST PRECINCT 181 JAMES RUSE DRIVE, CAMELLIA		
			WINTER SOLSTICE 10AM NW (AMENDED MASTERPLAN)		
checked	scale	issue			
drawn	JN	@A3			
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NOTE: SHADOW DIAGRAMS DO NOT CONSIDER
SHADOWS CAST BY EXISTING BUILDINGS



stanisic architects Level 2 243 Liverpool Street, project CAMELLIA WEST PRECINCT
Brisbane QLD 4000 181 JAMES RUSE DRIVE, CAMELLIA
www.stanisic.com.au A/N 11002833481 drawing WINTER SOLSTICE 11AM NE
(AMENDED MASTERPLAN)

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	project no.	14 003
	drawing no.	SHAL03A

NOTE: SHADOW DIAGRAMS DO NOT CONSIDER
SHADOWS CAST BY EXISTING BUILDINGS



stanisic architects	Level 2 243 Liverpool Street, Brisbane QLD 4000 www.stanisic.com.au A/N 1100333481	project	CAMELLIA WEST PRECINCT 181 JAMES RUSE DRIVE, CAMELLIA		
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NOTE: SHADOW DIAGRAMS DO NOT CONSIDER
SHADOWS CAST BY EXISTING BUILDINGS



NOTE: SHADOW DIAGRAMS DO NOT CONSIDER SHADOWS CAST BY EXISTING BUILDINGS

stanisic architects Level 2 243 Liverpool Street, Brisbane QLD 4000 www.stanisic.com.au A/N 11002833481	project	CAMELLIA WEST PRECINCT 181 JAMES RUSE DRIVE, CAMELLIA		
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stanisic architects	Level 2 243 Liverpool Street, Brisbane QLD 4000 www.stanisic.com.au A/N 11002833481	project	CAMELLIA WEST PRECINCT 181 JAMES RUSE DRIVE, CAMELLIA		
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NOTE: SHADOW DIAGRAMS DO NOT CONSIDER
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NOTE: SHADOW DIAGRAMS DO NOT CONSIDER
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NOTE: SHADOW DIAGRAMS DO NOT CONSIDER
SHADOWS CAST BY EXISTING BUILDINGS



stanisic architects
Level 2 243 Liverpool Street,
Brisbane QLD 4000
www.stanisic.com.au A/N 11002833481

project
CAMELLIA WEST PRECINCT
181 JAMES RUSE DRIVE, CAMELLIA

drawing
WINTER SOLSTICE 3PM NE (AMENDED
MASTERPLAN)

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drawing no.

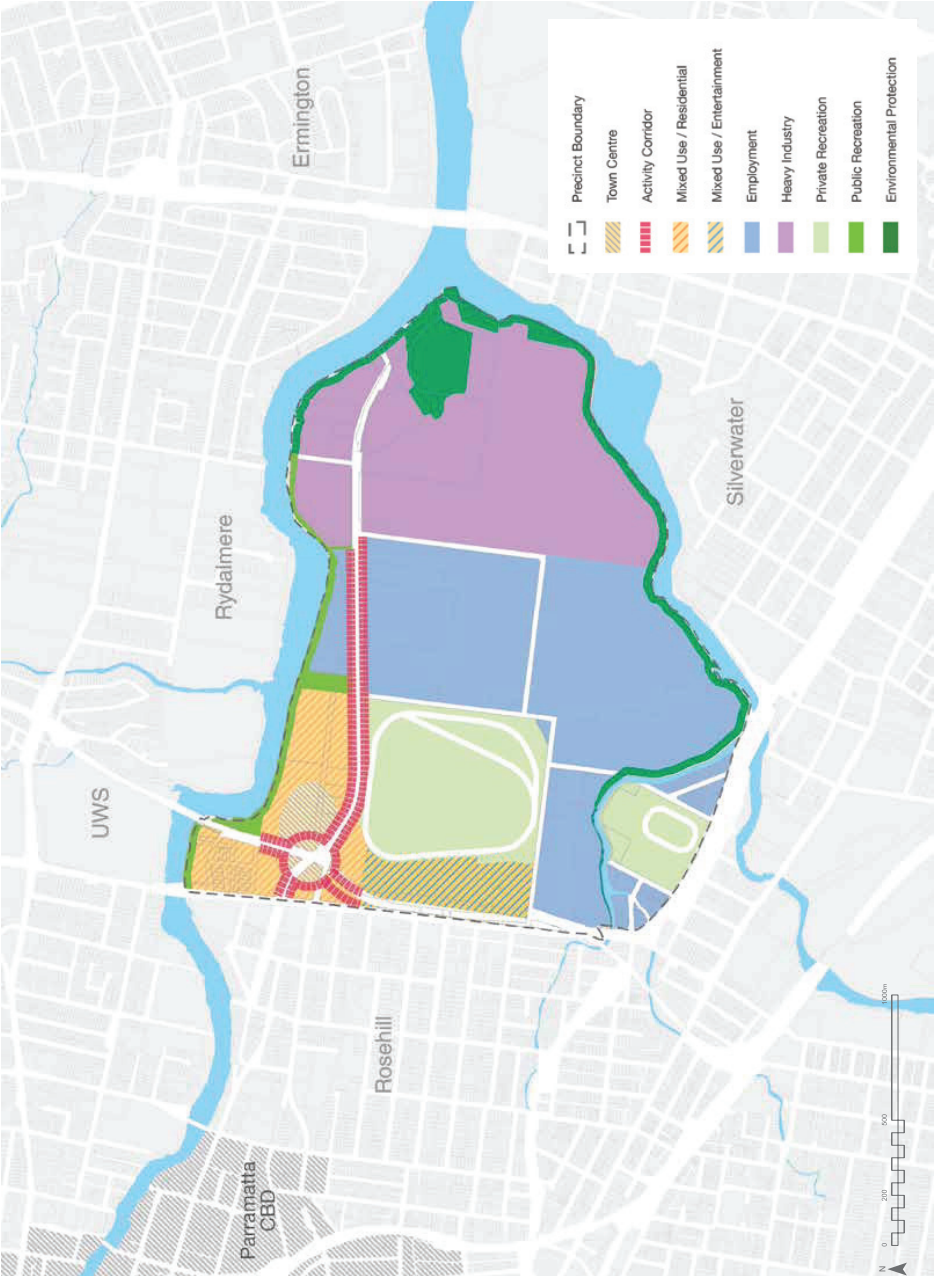
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SHADOWS CAST BY EXISTING BUILDINGS



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NOTE: SHADOW DIAGRAMS DO NOT CONSIDER
SHADOWS CAST BY EXISTING BUILDINGS



5.2 Land Use

Redevelopment of the precinct will be focused around a new town centre located within the mixed use sub-precinct with primary access to future public transport, Grand Avenue and James Ruse Drive. New homes, jobs, shops, cafes, restaurants, entertainment and local services will be located close to transport connections in an attractive place for people to live, work and visit. The new community of Camellia, and surrounding areas, will enjoy enhanced public access to Parramatta River through new waterfront parks and a riverfront promenade connecting Camellia to Parramatta CBD and Sydney Olympic Park.

A revitalised Grand Avenue will act as a catalyst for a new business activity corridor capitalising on improved public transport and the amenity associated with the new town centre and connecting to the waterfront. These businesses, which will provide a buffer between residential and industrial uses, could act as a hub for research, innovation and emerging technologies to support other industries in the precinct. There is also the opportunity for potential links to the University of Western Sydney.

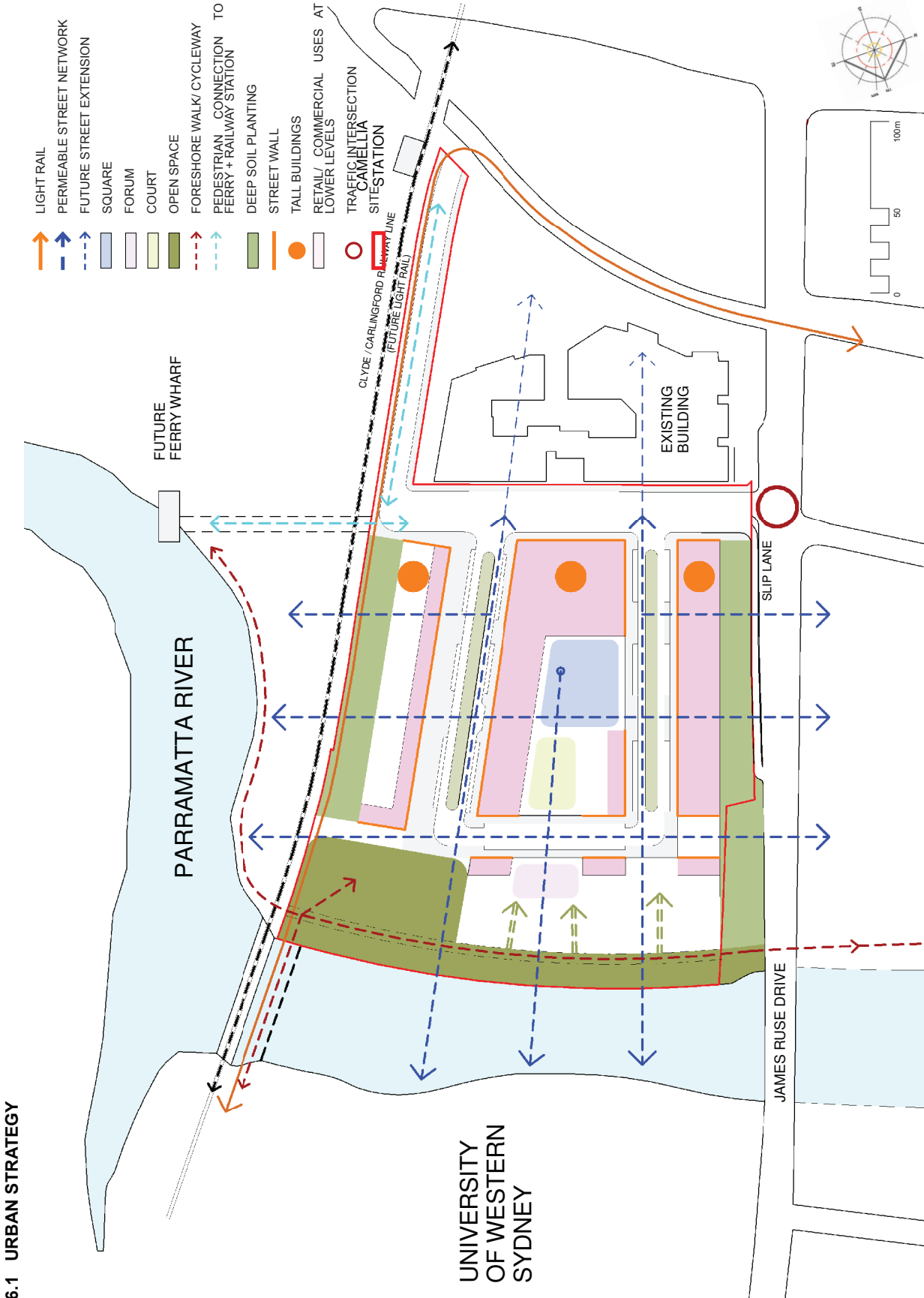
Significant areas of employment generating land uses are to be retained across the precinct creating opportunities to further develop Camellia as an 'Innovation Precinct' and to build on the precinct's strategic location for freight distribution. Heavy industry is to be retained in the eastern part of the precinct, with the remainder to be transformed into an employment zone where job density will increase.

Entertainment uses will be accessible from James Ruse Drive and the town centre and integrated with public transport and the activity corridor along Grand Avenue.

The Parramatta River waterfront will be gradually transformed to create a linear park and contribute to the open space network both within the precinct and to the broader area.

The type of development envisaged for each of the proposed uses is outlined on the following pages.

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PLANNING + PARRAMATTA CITY COUNCIL



6.1 URBAN STRATEGY

6 URBAN STRATEGY

stanisic architects

38 URBAN DESIGN REPORT 181 JAMES RUSE DRIVE, CAMELLIA

APPENDIX F: INDICATIVE DEVELOPMENT SCENARIO

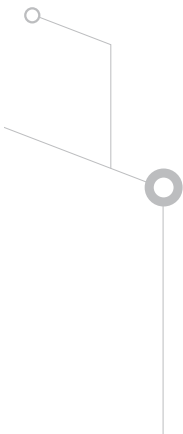
Connectivity and Sustainability



Indicative development scenario - for discussion purposes only

Redevelopment of the Camellia Precinct is to foster a new connected and sustainable community through:

- ▲ creating a **productive, sustainable and liveable place**;
- ▲ facilitating **high density transit oriented development** to create an active, safe and vibrant town centre with building heights identifying gateways and key destinations in the precinct;
- ▲ **revitalising Grand Avenue** to function as the main transit boulevard, connecting employment and industrial sub-precincts to the new town centre and the waterfront;
- ▲ locating **new homes near jobs and services** with improved access, so that getting around on foot, bike and public transport will be realistic and viable modes of travel;
- ▲ creating a network of **high quality, flexible and diverse public spaces** that will be the focus of activity, encourage social interaction, and make the area an attractive place to live and work;
- ▲ enhancing **public access** and public ownership of the **Parramatta River foreshore**;
- ▲ facilitating the **remediation** of contaminated land within the precinct;
- ▲ protecting the **ecological values** of the Parramatta and Duck River foreshores;
- ▲ identifying opportunities to expand the existing **recycled water** network; and
- ▲ developing **innovative** measures to reduce waste and water consumption, and to improve energy efficiency.



Mixed Use / Entertainment

An active north-south spine lined with new club and sporting facilities, hotels, function and retail spaces, cafes and restaurants, is to be visually connected to the mixed use residential sub-precinct and river to the north.

Event spaces are to be clearly accessible from James Ruse Drive and the new Camellia town centre, with development integrated with the public transport network.

Streetscape improvements along the interface with James Ruse Drive will enhance the amenity of this sub-precinct.

The southern portion of this sub-precinct is to form a transition between new uses and ongoing industrial uses to the south.

Public Spaces

The open space framework is to eventually comprise a continuous riverfront promenade that can link Parramatta CBD to Camellia and further to Sydney Olympic Park. The proposed riverfront promenade in conjunction with the established Parramatta Valley Cycleway in Rydalmere north of the precinct, will form a comprehensive riverfront walking and cycling network connecting to Greater Parramatta, consistent with the Parramatta Green Grid project.

A revitalised Grand Avenue is to be the focus for the precinct and provide an east-west connection through the precinct. Dedicated off-street walkways and cycleways, and green links with wider pedestrian footpaths and featured landscape settings will provide comfortable walking and cycling connections towards and between the proposed riverfront promenade, waterfront parks, transit facilities, the town centre and event spaces.

Additional public space is to be sought as individual parcels are considered for development.

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Mixed Use / Entertainment



Public Spaces



Queensland Performing Arts Centre, QLD



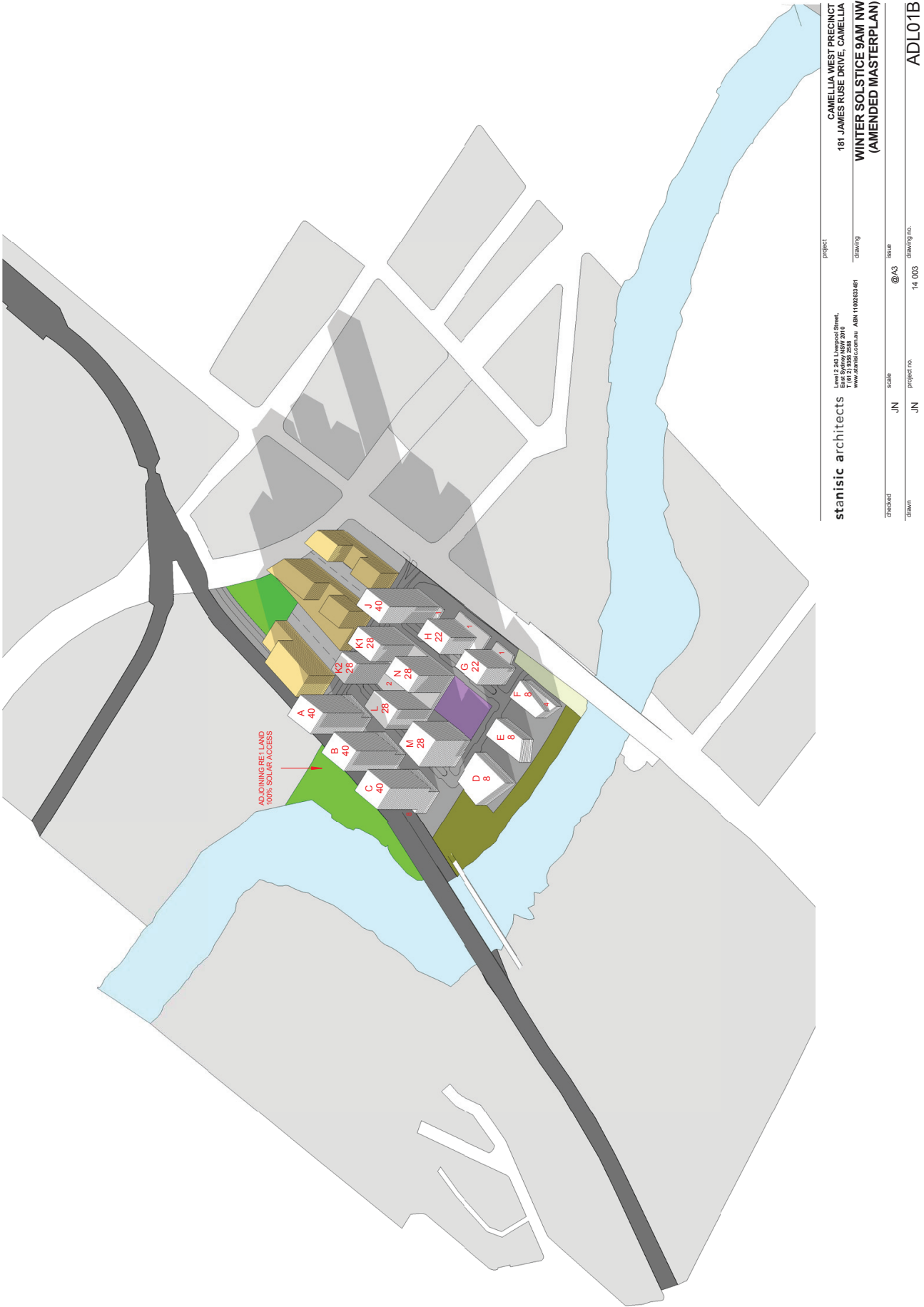
Thuringowa Riverway, QLD

APPENDIX H: SHADOW DIAGRAMS - ADJOINING LANDS



stanisic architects		Level 2 243 Liverpool Street, Brisbane QLD 4000 T (61 7) 3358 3358 www.stanisic.com.au ABN 11002833481		project	CAMELLIA WEST PRECINCT 181 JAMES RUSE DRIVE, CAMELLIA WINTER SOLSTICE 9AM NE (AMENDED MASTERPLAN)		
drawing				drawing no.			
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NOTE: SHADOW DIAGRAMS DO NOT CONSIDER SHADOWS CAST BY EXISTING BUILDINGS



NOTE: SHADOW DIAGRAMS DO NOT CONSIDER
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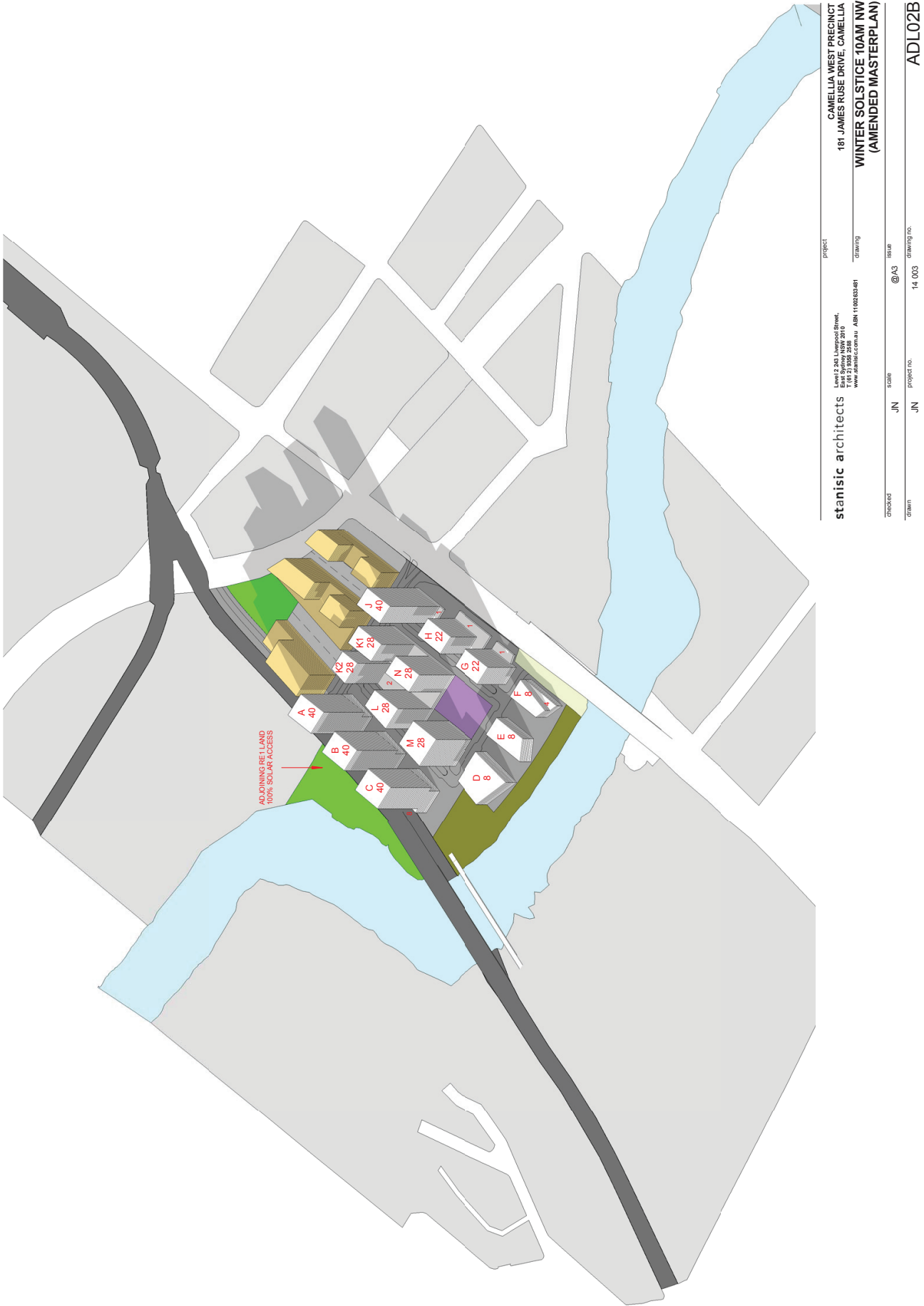


stanisic architects
Level 2 243 Liverpool Street,
Brisbane QLD 4000
www.stanisic.com.au AIN 11002833481

project
CAMELLIA WEST PRECINCT
181 JAMES RUSE DRIVE, CAMELLIA
WINTER SOLSTICE 10AM NE
(AMENDED MASTERPLAN)

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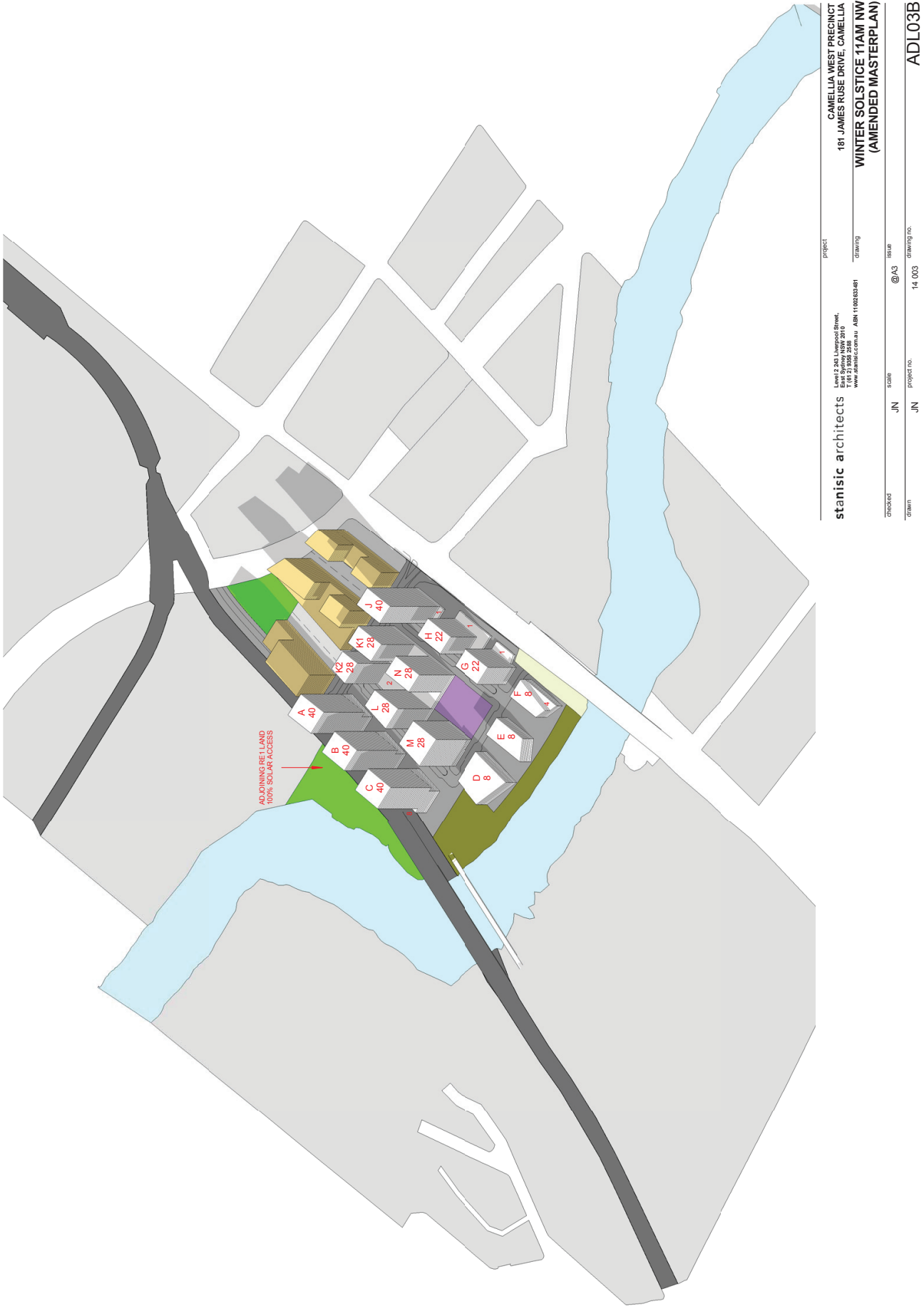
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stanisic architects	Level 2 243 Liverpool Street, Brisbane City QLD 4000 T (61 8) 3005 5248 www.stanisic.com.au A/N 11002833481	drawing	CAMELLIA WEST PRECINCT 181 JAMES RUSE DRIVE, CAMELLIA		
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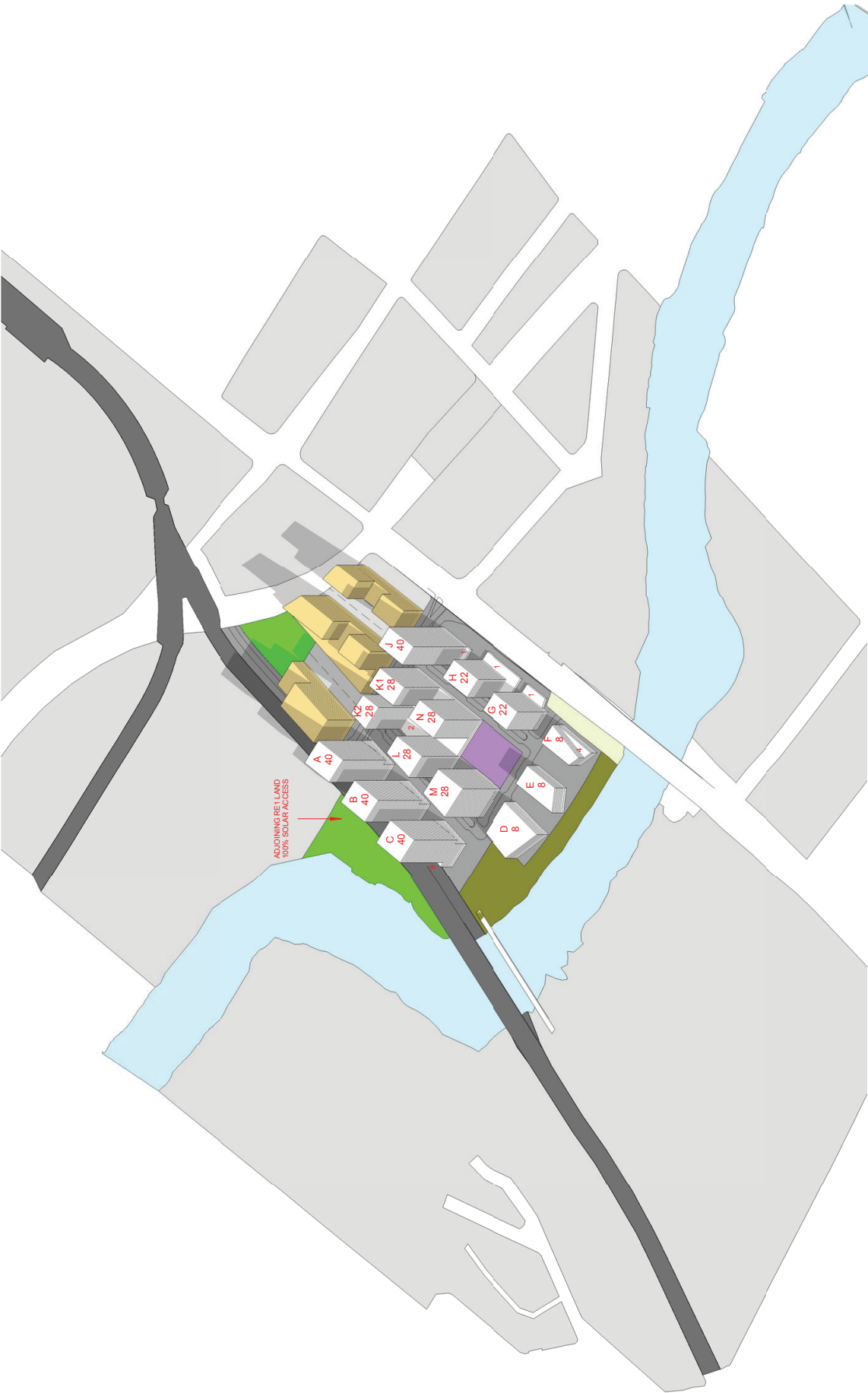


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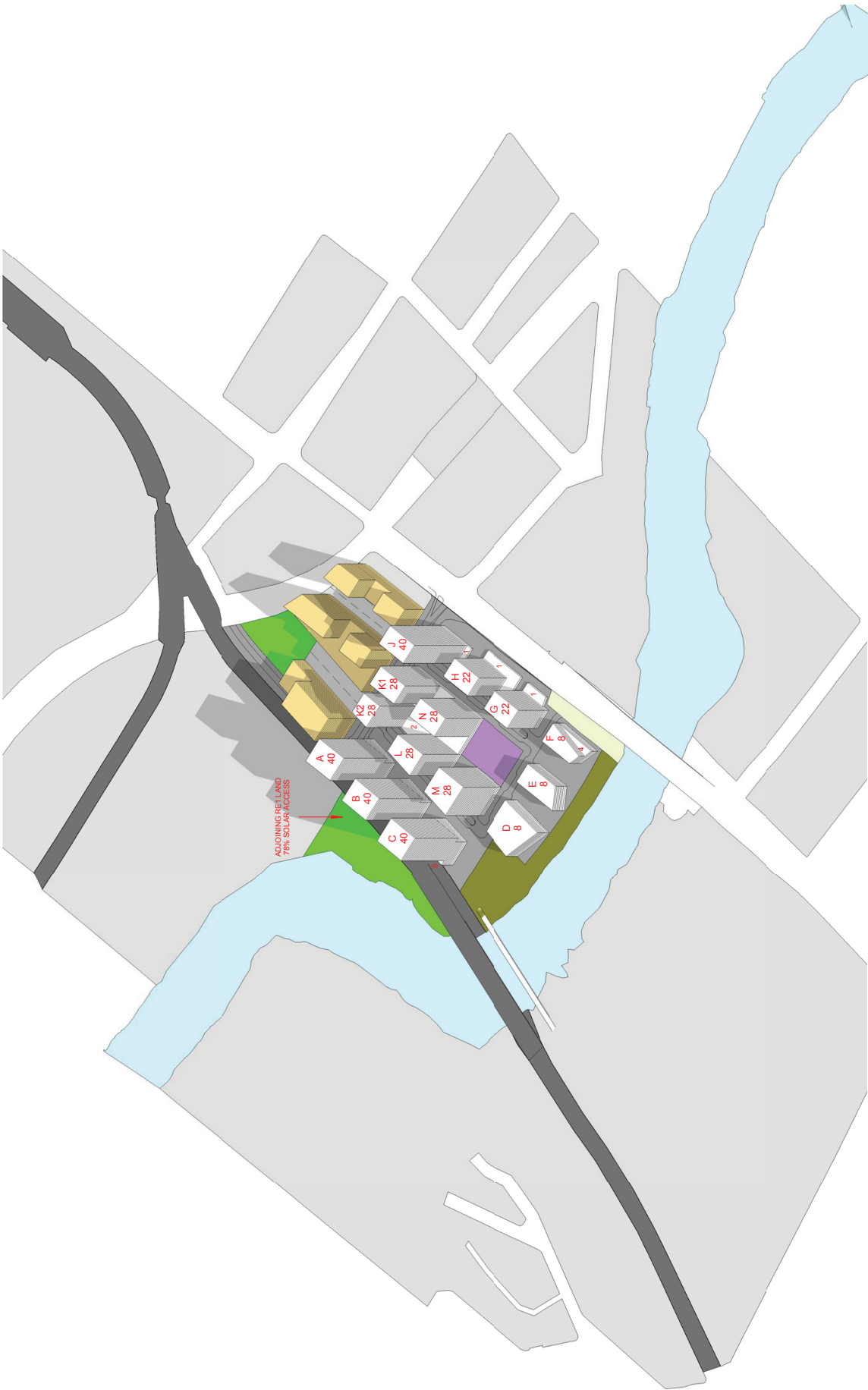
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NOTE: SHADOW DIAGRAMS DO NOT CONSIDER SHADOWS CAST BY EXISTING BUILDINGS



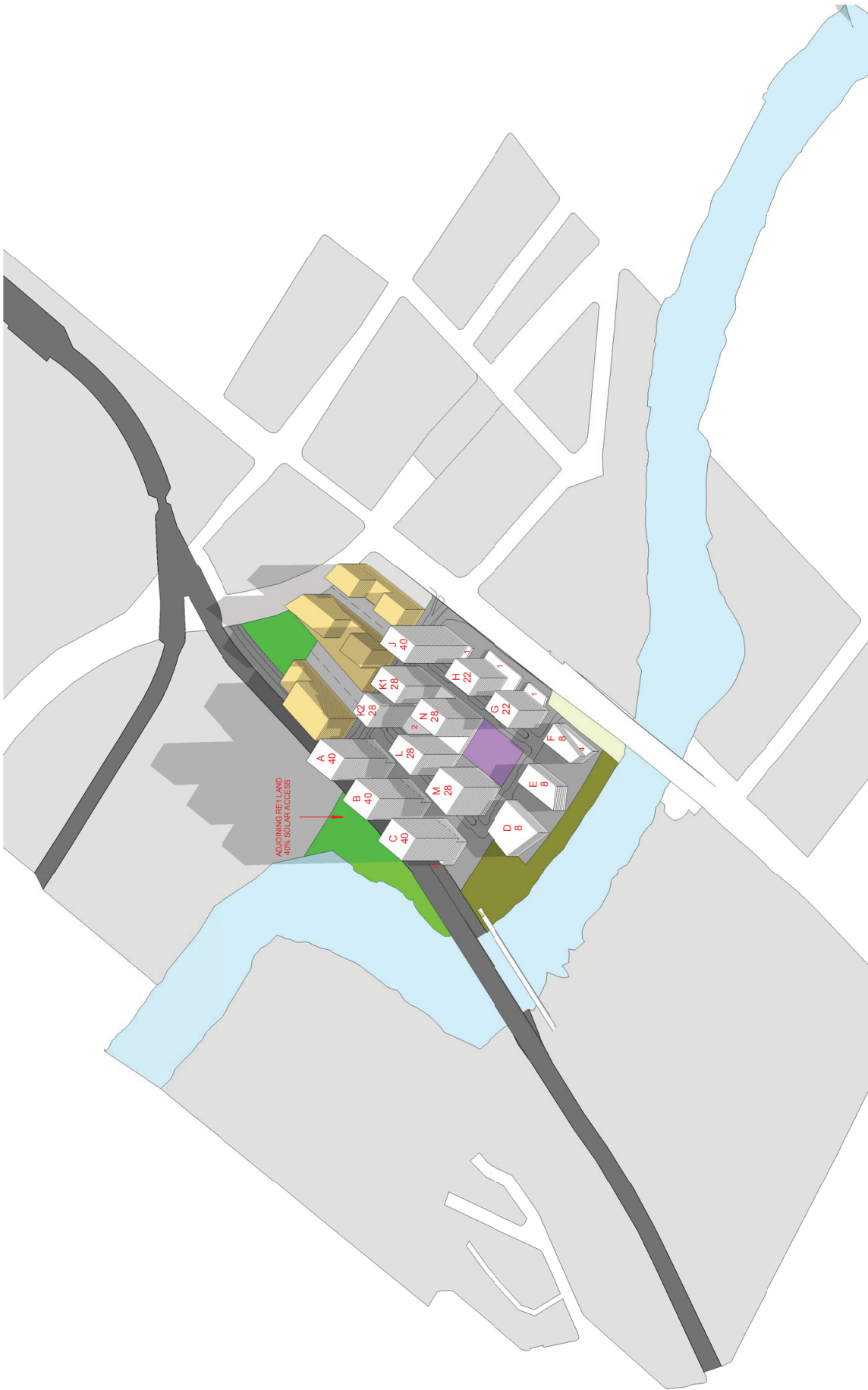
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NOTE: SHADOW DIAGRAMS DO NOT CONSIDER
SHADOWS CAST BY EXISTING BUILDINGS



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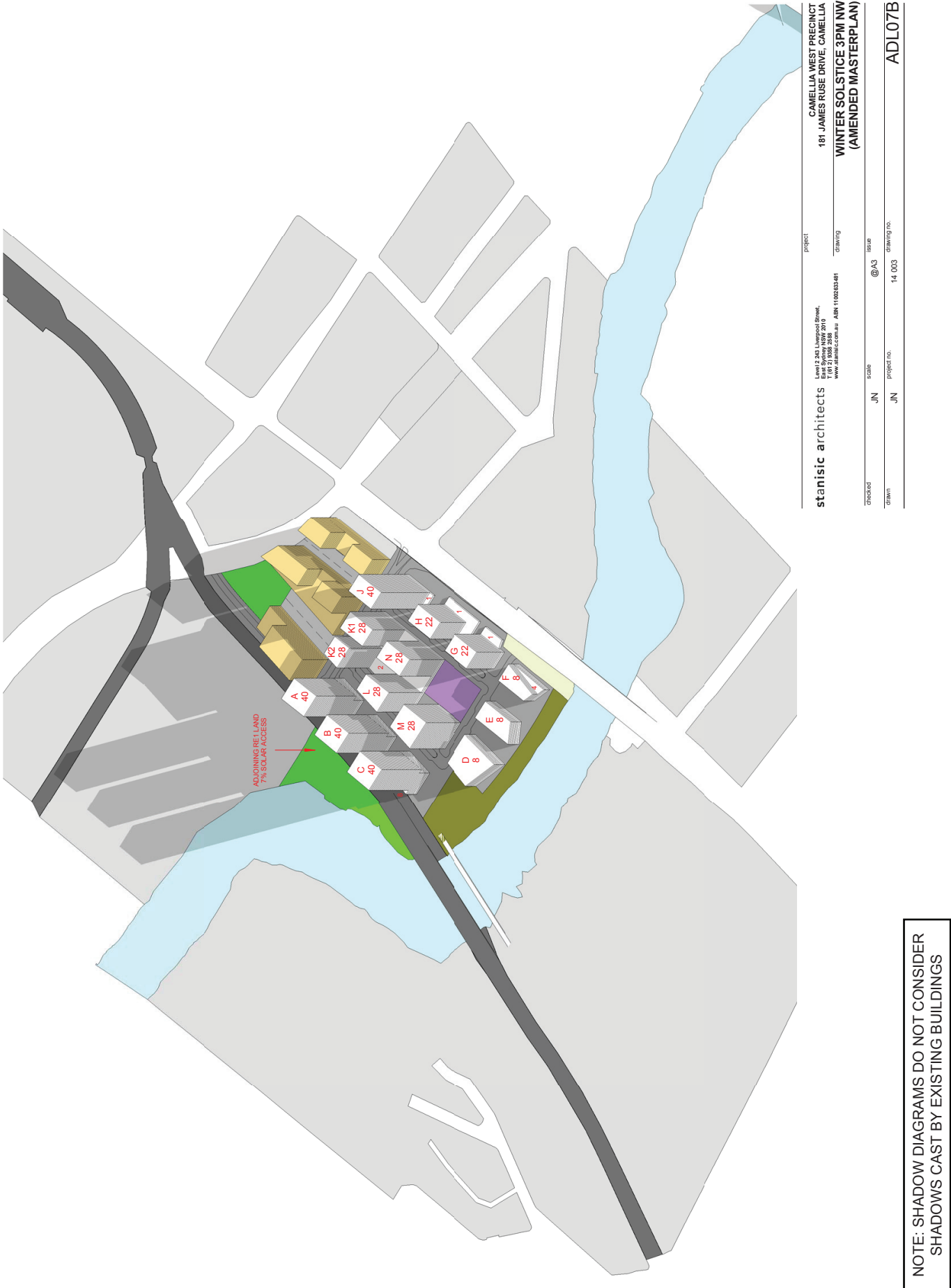
stanisic architects	Level 2 243 Liverpool Street, Brisbane City QLD 4000 www.stanisic.com.au A/N 11002833481	project	CAMELLIA WEST PRECINCT 181 JAMES RUSE DRIVE, CAMELLIA	
		drawing	WINTER SOLSTICE 2PM NW (AMENDED MASTERPLAN)	
checked	scale	issue		
drawn	JN	@A3		
	JN	project no.	14 003	drawing no.
				ADL06B

NOTE: SHADOW DIAGRAMS DO NOT CONSIDER
SHADOWS CAST BY EXISTING BUILDINGS



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		drawing	WINTER SOLSTICE 3PM NE (AMENDED MASTERPLAN)		
checked	scale	issue			
drawn	JN	@A3			
	JN	project no.	14 003	drawing no.	ADL07A

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checked	scale	issue		
drawn	JN	@A3		
	JN	project no.	14 003	drawing no.
				ADL07B

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