KW Street Pty Ltd C/- Future Urban Group

Construction of a 9 storey mixed use building consisting of seven residential levels, three commercial tenancies, car parking, landscaping and associated site works.

2-4 King William Street, Kent Town

155/M013/17

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OVERVIEW

Application No	155/M013/17
Unique ID/KNET ID	2017/21963/01 Appian 2569
Applicant	KW Street Pty Ltd C/- Future Urban Group
Proposal	Mixed use development comprising of commercial tenancies, residential apartments, ancillary carparking, landscaping and associated building works
Subject Land	2-4 King William Street, Kent Town
Zone/Policy Area	Business Policy Area , Urban Corridor Zone
Relevant Authority	State Commission Assessment Panel
Lodgement Date	06/10/2017
Council	City of Norwood Payneham St Peters
Development Plan	Norwood Payneham and St Peters (City) Development Plan [Consolidated 30 May 2017]
Type of Development	Merit
Public Notification	Category 1
Referral Agencies	Associate Government Architect
Report Author	Karl Woehle
RECOMMENDATION	Development Plan Consent subject to conditions

EXECUTIVE SUMMARY

The applicant seeks Development Plan Consent for the construction of a 9 storey mixed use building comprising of commercial tenancies, residential apartments, ancillary car parking, landscaping and associated building works in the Business Policy Area of the Urban Corridor Zone at 2-4 King William Street, Kent Town.

The proposed development is a merit kind of development that triggers a statutory referral to the Associate Government Architect (AGA), however the applicant obtained a Pre-lodgement Agreement from the AGA which obviates the need for a statutory referral. Council played an active role throughout the PLP and Design Review process and in principle do not oppose to the proposed development.

The overall building height is 9 storeys (including ground) or 34.49 to the roofline (excluding plant and screening), which exceeds the maximum height of 18.5 metres or 5 Storeys set out in the Business Policy Area. It is acknowledged that the subject site abuts the Boulevard Policy Area which has a maximum build height of 36m or 10 Storeys. Directly adjacent the subject site is an 11 storey residential development that is under construction and exhibits a similar height to the proposed development. Throughout the Pre-lodgement process the support of the proposed height was contingent on the design quality, public realm improvements, affordable housing and design excellence. As such support from the AGA in the form of a Pre-lodgement Agreement is evident that the proposed development exhibits significant design merits to justify the over height nature of building. Council are of the view, in context, the streetscape impact of the proposed building height is considered acceptable.

The proposal generally achieves appropriate performance outcomes in respect to technical matters such as pedestrian and vehicle access, bicycle parking, energy efficiency, waste management and stormwater. The residential apartments exceed the minimum quantitative requirements and should offer a high level of apartment amenity.

The proposed development responds to the immediate locality and adjacent Local Heritage Place. This is evident in the deliberate setbacks and fine grain materiality used within the proposal. A publicly accessible connection through the development site and complimentary street art and landscaping has been proposed which should positively contribute to the public realm. A go-get shared vehicle scheme has been proposed to

support the development, which compliments the proposed affordable housing opportunities this development offers the community.

Notwithstanding the height of the development, the proposal generally satisfies the policy provisions of the Business Policy Area and other relevant development control policies. It is consequently considered that it warrants Development Plan Consent subject to conditions.

ASSESSMENT REPORT

1. BACKGROUND

On 29 October 2013, the Minister for Planning approved the Kent Town and The Parade Strategic Growth Development Plan Amendment (DPA) to the Norwood Payneham St Peters (NPSP) Council Development Plan as a component of the broader Inner Metropolitan Growth initiative, which focuses on targeted rezoning of land along major transit corridors to promote inner city living and employment opportunities, and leverage greater use and efficiency of Adelaide's road and public transport systems.

1.1 Strategic Context

The Council initiated the DPA to investigate opportunities in Kent Town for infill mixed-use development in proximity to Adelaide's CBD supported by existing infrastructure. Key amendments included the introduction of the Urban Corridor Zone and 3 new policy areas which generally encourage compatible development uplift through changes to built form policy.

The DPA enabled an increase in building heights recommended within the Urban Corridor Zone's High Street Policy Area to up to 5 storeys or 18.5 metres in height, up from 2 storeys under previous policy except for residential development which could exceed that height by an unspecified amount.

1.2 Pre-Lodgement Process

The proponent engaged in the Pre-lodgement Service, participating in three (3) Pre-lodgement Panel meetings and three (3) Design Review sessions and one (1) Desktop Design Review. A formal Pre-lodgement Agreement was reached prior to lodgement of the subject application

2. DESCRIPTION OF PROPOSAL

The proposal consist of the construction of a 9 storey mixed use development consisting of commercial/retail tenancies, residential apartments, ancillary car parking, landscaping and associated site works. Application details are contained in the ATTACHMENTS

A summary of the proposal is as follows:

Land Use Description	Mixed use development containing commercial/retail, residential apartments and associated car parking
Building Height	9 Storey / 34.7 metres to the roof
Description of levels	**Basement levels** : Residential storage cages, building services and car parks **Ground Floor:** Two commercial tenancies, public open space and laneway, bicycle parking, car parking, residential apartment foyer, waste services and go get car **Level 1 :** Commercial Tenancy, residential storage spaces and car parking **Leve 2 -9 :** A total of 52 residential apartments consist of 12

	one bedroom, 24 two bedroom apartments and 16 three bedroom apartments
Apartment floor area (excluding balconies)	**Dwelling Type** / **Floor Area (excluding POS)** 1 Bedroom apartments: 66 square metres 2 Bedroom apartments: 79 – 89 square metres 3 bedroom apartments: 115- 147 square metres
Site Access	Vehicle and bicycle parking is accessed via Little Rundle Street located to the rear of the development site. Pedestrian access can be gained from King William Street and Little Rundle Street
Car and Bicycle Parking	Vehicle and bicycle parking is contained wholly in the proposed development and is not visible from the primary street frontage
Encroachments	There are no proposed encroachments
Staging	Proposed development is not staged

3. SITE AND LOCALITY

3.1 Site Description

The subject site is located at 2-4 King William Street, Kent Town. The subject site consist of one allotment located on the southern side of King William Street and is situated to the west of Dequevettle Terrace. Little Rundle Street to the immediate south acts as a secondary road frontage to the subject site. The allotment is regular in shape and has a frontage of 26m and a site area of approximately 1300m^2. The site has been cleared and has a slope that runs from the west to east.

Lot No	Section	Street	Suburb	Hundred	Title
A2	F100027	King William	Kent Town	Adelaide	CT 5077/990

The figure below illustrated the subject land highlighted in blue in the context of the immediate locality

Figure 1 - Location Map

The subject land gains vehicle access via Little Rundle Street located to the rear of the subject site

Figure 2: Site Photographs

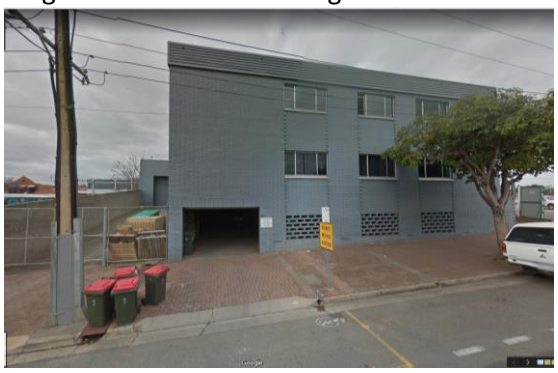
King William Street – looking south to subject land

King William Street – looking west

King William Street – looking east

King William Street - looking north

Neighbouring site (LH)– eastern side



Neighbouring site– western side

Little Rundle Street – looking east

Little Rundle Street – looking west

3.2 Locality

The locality is characterised by a mixture of land-uses, which range from commercial, retail and residential uses. The built form in the immediate locality ranges from low scale character fronted cottages, 2-3 storey commercial buildings and high density multi-level residential developments.

To the eastern side of the development site is a single storey character fronted cottage which is listed in the Development Plan as a Local Heritage Place. Directly to the north of the development site there is an 11 Storey residential apartment building under construction. It is noted there is not a dominate built form within the immediate locality.

The development site fronts onto King William Street which is a two-way street with parallel parking, bike lane, pedestrian footpaths and mature street trees on both sides of the street. King William Street runs parallel with North Terrace to the north and Rundle Street to the south and links Fullarton Road to the east with Dequetteville Terrace to the west. Fig UrC/1 in the Development Plan has designated the King William Street as a Primary Road Corridor.

Little Rundle Street to the rear on the development is the secondary street frontage for the development site. Little Rundle Street is narrow in width and is utilised as a service laneway for service vehicles and car parking. Fig UrC/1 in Development Plan has designated the portion of Little Rundle Street to the rear of the development site as an active laneway.

4. COUNCIL COMMENTS

4.1 Norwood Payneham and St Peters

Advice was sought from Council administration regarding technical matters. The following points were raised for consideration:

- Council is concerned that the proposed waste collection within Little Rundle Street will be disruptive to traffic movement and there would be insufficient room for another truck to pass the waste collection vehicle.
- The waste collection will interfere with convenient access to the adjacent property at 5-9 Rundle Street.
- The proposed building is considered to be well sited so as to maintain good visibility of the Local Heritage Place in the streetscape.
- In context, the streetscape impact of the proposed building height is considered acceptable.
- The use of traditional materials, including face brick at lower levels, is positive, which respects the adjacent Local Heritage Place as well as the Kent Town context.
- The rear of the development is considered to have been well resolved.
- The proposed pedestrian linkage adjacent to the north-eastern boundary of the site is a positive aspect.

The Council comments are contained in the ATTACHMENTS and are further discussed in the Planning Assessment.

5. STATUTORY REFERRAL BODY COMMENTS

5.1 Government Architect

The Government Architect is a mandatory referral in accordance with Schedule 8 of the *Development Regulation 2008.* The applicant was successful in obtaining a Pre-lodgement Agreement with the Associate Government Architect, Pursuant to Section 37AA of the Development Act, the Agreement obviates the need for a statutory

referral to the Associate Government Architect during the assessment of the application.

The project was presented at three Design Review Sessions and one Desktop Review Session, over which the design response progressed significantly. The Associate Government Architect (AGA) acknowledges that the proposal departs substantially from the maximum envisaged height for the site, however supports the proposed height on balance.

The AGA is of the opinion the over height impacts are reduced by the site's location abutting the policy area that allows development up to ten storeys. The project offers significant merits to justify the over height nature of this development, such as delivering high quality public realm contribution and apartment amenity that is above and beyond the minimal quantitative requirements.

The AGA supports the build form, articulation and architectural expression. There is strong support for the provision of the publically accessible pedestrian connection through the site between the two street frontages with complimentary landscaping, urban design and public art strategies

The AGA's Pre-lodgement Agreement and associated comments is contained in the ATTACHMENTS and are further discussed in the Planning Assessment.

6. PUBLIC NOTIFICATION

The application is a Category 1 development pursuant to the Urban Corridor Zone principle of Development Control 21. No public notification was required.

7. POLICY OVERVIEW

The subject site is located wholly in the Urban Corridor Zone and the Business Policy Area as described within the Norwood, Payneham & St Peters Development Plan consolidated 30 May 2017.

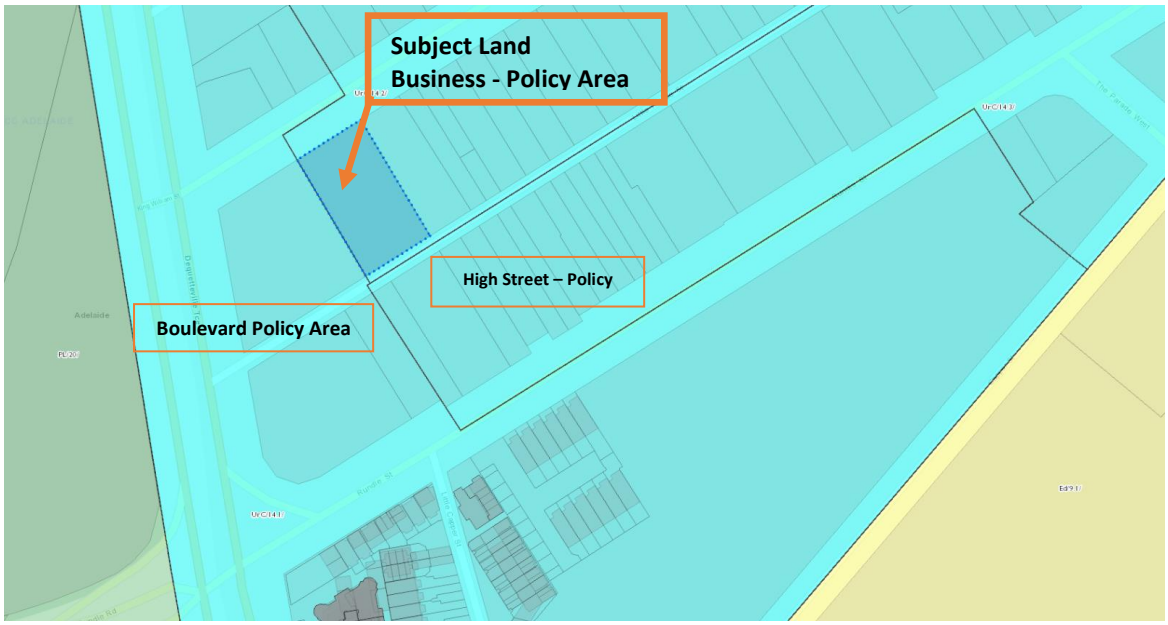


Figure 3 - Zoning Map

7.1 Business Policy Area

The subject land is wholly located within the Urban Corridor Zone – Business Policy Area as described in the City of Norwood, Payneham and St Peters Development Plan. The Policy Area encourages a diverse range of commercial and light industry land uses with compatible medium and high density residential development. The policy

area supports a high standard of development which reflects contemporary building, landscape and streetscape design whilst minimising any adverse impacts upon the amenity of the locality.

The policy area supports residential development to be established above compatible ground and first floor level- non-residential uses, however wholly commercial building in this policy area are also appropriate. The desired character of the zone anticipates developments to be built up to five (5) stories, forming a continuous hard edge along the King William Street frontage.

7.2 Urban Corridor Zone

The Urban Corridor Zone seeks a wide range of mix-uses in densities that reflects the close proximity to the City of Adelaide, as well as its location around Primary Road Corridors and public transport infrastructure.

The Zone anticipates residential developments that incorporates a significant residential component (more than 20 dwellings) will provide a range of dwelling sizes and a proportion of affordable housing. New development in the zone will exhibit architectural merit, which favours contemporary leading edge design.

Developments adjacent to State or Local Heritage Places, will be respectful of its heritage character and settings and ensure an appropriate design expression sensitively interfaces with the heritage building form, in some circumstances limit the scale and intensity of development on site.

It is intended that minor laneways such as Little Rundle Street will continue to provide vehicle access to the rear of building for loading, service requirements and vehicle parking, however opportunities to explore, activate and develop these laneways is encouraged. It is envisaged that developments will provide space for future public related activities and upgrades.

7.3 Council Wide

General provisions of relevant to the proposal seek development in appropriate location of a high design standard and appearance that positively responds to the locality, whilst protecting and enhancing the visual amenity.

It is noted that the extensive policies in the Urban Corridor Zone, but more specifically the Business Policy Area provide detailed guidance to developments of this nature and is further reinforced in the Council Wide policy requirements.

The critical Council Wide Policies of relevance would specially relate to transport access, parking (car and bicycle), design and appearance, stormwater, heritage, energy efficiency, crime prevention and high rise development

The Council wide policies of relevance to the assessment of the proposal are contained in **ATTACHMENTS.**

7.4 Overlays

7.4.1 Affordable Housing

Affordable housing overlay as depicted on Development Plan Map NPSP/1 (Overlay 6) recommends that development comprising 20 or more dwellings should include a minimum of 15 percent affordable housing.

The subject land is located within the designated affordable housing area as detailed within the Development Plan. The applicant has indicated that they are

in the process of signing an agreement with Renewal SA and have confirmed the proposed development will include affordable housing.

7.4.2 Noise and Air Emissions

This site is located within the designated area for the Noise and Air Emissions Overlay, and as such requires assessment against *Minister's Specification SA 78B for Construction Requirements for the Control of External Sound.*

The Overlay contains planning policies to protect new noise and air quality sensitive development from noise and air emissions generated from major transport corridoes (road and rail) and mixed land use.

8. PLANNING ASSESSMENT

The application has been assessed against the relevant provisions of the Norwood Payneham St Peters Development Plan, which are contained in **ATTACHMENTS.**

8.1 Quantitative Provisions

	Development Plan Guideline	Proposed	Guideline Achieved	Comment
Building Height	5 Storeys and up to 18.5m	9 Storey / 34.7 metres to roof	YES ☐ NO ☒ PARTIAL ☐	Development exceeds maximum height
Car Parking	1 per 1&2 bedroom dwelling 2 per 3+ bedroom dwelling 3 spaces per 100m^2 of gross leasable floor area	67 proposed car parks	YES ☐ NO ☒ PARTIAL ☐	Shortfall of 13 car parks – development subject to lesser parking provisions
Bicycle Parking	1 for every 2 dwellings 1 for every 100m^2 for office gross leasable floor area 1 for every 150m^2 of shop gross leasable floor area	30 secure bicycle parks 12 bicycle parks located in public areas	YES ☒ NO ☐ PARTIAL ☐	
Front Setback	No minimum	Majority ground floor setback 4.8m Upper levels setback 2m	YES ☒ NO ☐ PARTIAL ☐	
Rear Setback	Width required to make the access way 6.5 metres, to provide adequate manoeuvrability for vehicles, plus 1m	Ground floor to level 1 setback 1.6 Upper levels setback 1.5-.5 m	YES ☐ NO ☐ PARTIAL ☒	Ground floor and level 1 achieve rear setback
Side Setback	No minimum	Zero setback at ground to 1 level Storeys 2-9 setback 3 m	YES ☒ NO ☐ PARTIAL ☐	

Apartment Size	1B/R – 50m^2 2B/R – 65m^2 3B/R – 80m^2 **(Adelaide City Council guideline)**	**Proposed** 1B/R – 66m^2 2B/R –79-89m^2 3B/R –115m^2-147m^2	YES ☒ NO ☐ PARTIAL ☐	
Private Open Space	1B/R – 10m^2 2B/R – 12m^2 3B/R – 15m^2	**Proposed** 1B/R –8.8-27m^2 2B/R –12-49m^2 3B/R –19-63m^2	YES ☐ NO ☐ PARTIAL ☒	Some 1B/R apartments do not meet policy provisions.

8.2 Land Use and Character

The Urban Corridor Zone supports integrated mixed use developments in the form of medium and high rise buildings with ground floor uses that create active and vibrant streets. Whilst the Business Policy Area generally seeks land uses on ground and first floors to be non-residential.

The proposal involves the development of a mixed use building with commercial tenancies on ground and first floor with residential apartments above. As such the proposed land-use and composition of the development is consistent with the Urban Corridor Zone and Business Policy Area.

8.3 Building Height

The Urban Corridor Zone – Business Policy Area envisages the following building heights:

Policy area	Minimum building height	Maximum building height
Boulevard	3 storeys or no less than 11.5 metres, or 4 storeys or no less than 15 metres for land that is directly adjacent to or facing the Adelaide Park Lands	10 storeys and up to 36 metres
High Street	3 storeys or no less than 11.5 metres	5 storeys and up to 18.5 metres
Business	3 storeys or no less than 11.5 metres	5 storeys and up to 18.5 metres

The overall building height is 9 storeys (including ground) or 34.49 to the roofline (excluding plant and screening). It is acknowledged that the proposed development is at odds with the envisgaed height of the Policy Area. However there are several aspects of the proposed development and the site context that provide some support for the proposed height, which are:

- The subject site is adjacent to the Boulevard Policy Area of the Urban Corridor, which envisages development up to ten-storeys in height.
- The East Park development to the immediate north adjacent the proposed development is under construction and is 11 storeys in height.
- Council are of the opinion in the context the streetscape impact of the proposed building height is considered acceptable.
- The Associate Government Architect is of the opinion the project offers significant merit to justify the over height, such as delivery of high quality public realm and apartment amenity.
- The design and appearance of the proposed development attempts to reduce the scale and bulk of the building through the uses of a strong brick base,

landscaping, recessed upper levels and setbacks, which has strong support from the Associate Government Architect.

- The penthouse floor of development has been setback behind a solid parapet to reduce the perceived visual bulk from the streetscape.

- The proposed height should not unreasonably overshadow existing residential dwellings or private open space.

On balance whilst the proposed development exceeds the maximum envisaged height, the development delivers significant benefit to the public realm, affordable housing opportunities and a high standard of design that responses to the immediate locality.

8.4 Setback and Transition

The Urban Corridor Zone provides the following provisions for building setbacks.

	Required	Proposed
Front	No minimum	Front setback to King William Street range from 0 – 4.8 metres
Rear	1.5 metres (Little Rundle Street, laneway is approximately 6 in width)	1.6 metres at ground level and level 1 Tower element setback ranges from 700 millimetres to 1.5metres
Side (east)	No minimum	Podium element abuts side boundary. Tower element setback 3m from side boundary
Side (west)	No minimum	

The proposed development from ground to level 1 has been setback 1.6 metres from Little Rundle Street which is consistent with the requirements of the Urban Corridor Zone. It is noted that the upper levels of the building encroach into the required 1.6 metre setback. Whilst the encroachment of the upper levels into the rear setback is not ideal, it is acknowledged that intent of rear setback is to ensure there is appropriate separation with traffic movements in Little Rundle Street. As such the encroachment of the upper levels from levels 2 is unlikely to detrimentally impact the traffic movements through Little Rundle Street.

On balance proposed development exhibits appropriate setbacks which responses the immediate locality, provides sufficient separation from neighbouring properties to future proof the residential apartment amenity and is considered consistent with the immediate locality.

8.5 Design and Appearance

The desired character statement of the Business Policy Areas provides the following guidance with respect to design and appearance of buildings:

> *Cutting edge, contemporary building design, which incorporates bold materials and shapes, will be encouraged within the Business Policy Area. The built form will comprise buildings of up to five (5) storeys, forming a continuous hard edge along the King William Street frontage.*
>
> *On-site car parking will be located behind or below buildings fronting the primary street, with access from Little King William Street and Little Rundle Street.*

Council-wide policy broadly seeks development of a high architectural standard that compliments the existing buildings and locality. Developments are encouraged to minimise visual bulk of the building, whilst achieving human scale at ground level with an emphasis placed on pedestrian entry points. Balconies should be incorporated

into the architectural expression of the building and it is encouraged to integrate public art and appropriate landscaping into public and private spaces.

The proposed development progressed through 3 Design Reviews and 1 Desktop Review in which the design and appearance of the building has undergone significant peer review. The design team welcomed the feedback and evolved the design and appearance of the building which ultimately resulted in a Pre-lodgement Agreement with the Associate Government Architect.

The podium and tower elements of the proposed development responds to the fine grain materiality and established built form within the immediate locality. The architectural expression of the building has been designed 'in the round' and displays a restrained appearance that is supported by the AGA. The apartment floors above the podium have been setback from the side boundaries 3 metres reducing the bulk of the building and future proofing the amenity of the balconies. It is noted that the central balconies have been further recessed into the built form, which adds articulation and further mitigates the perceived bulk of the building.

The ground floor of the proposed development includes landscaping at both street frontages, a public colonnade, public seating and incorporates street art. The proposed pedestrian connection through the development site strategical aligns with the Kent Town Strategic Growth Concept Plan which seeks greater pedestrian activation and permeability along this section of Little Rundle Street. The car parking is accessed from the rear of the development from Little Rundle Street consistent with the desired character statement of the Business Policy Area. The proposed landscaping to the rear of the development should screen the car parking and is considered consistent with the Development Plan provisions.

The proposed development generally exhibits a high standard of architectural quality that responses to the immediate locality and is generally consistent with the Development Plan policies and objectives. The AGA is of the view that the project exhibits significant design merits which delivers high quality public realm contributions and apartment amenity above and beyond the minimal quantitative requirements.

8.6 Heritage

The Development Plan seeks developments to respect the setting and character of places with heritage significance. Developments adjacent to land containing State or Local Heritage Places should demonstrate sensitive design considerations of the relationship with the adjacent heritage place and the broader locality. The design relationship with the heritage place can be established by demonstrating compatible scale, proportion of design elements, form and visual interest amounts other design approaches.

The proposed development at ground level adjacent to the Local Heritage Place has been setback approximately 4.5m from King William Street and 3.2 metres from the north eastern side boundary directly adjacent to the Local Heritage Place. The design team has utilised a vertical void from ground to level one to provide a further relief in built form adjacent to the Local Heritage Place. As a result the north-eastern wall on level 1 and 2 when viewed from King William has been setback 11.5m from the front boundary, placing it behind the façade of the Local Heritage Place. Council support the setbacks and placement of the proposed development which maintains good visibility of the Local Heritage Place in the streetscape.

The proposed materiality of the podium form responses to the immediate locality and should complement the Local Heritage Place.

The proposed development demonstrates appropriate design consideration to the adjacent Local Heritage Place and is generally consistent with the Development Plan policies.

8.7 Apartment Amenity

The Development Plan seeks medium to high scale residential development to provide a high standard of apartment amenity with functional internal layouts. All residential developments should have direct access to natural ventilation and light.

The proposed development consist of 12 one bedroom, 24 two bedroom and 16 three bedroom apartments consistent with PDC 275 which seek development comprising of 10 or more dwellings to provide a variety of dwelling sizes and configurations

PDC 274 seeks living rooms to have a satisfactory short range visual outlook to public or private open space. All apartment living rooms within the proposed development have direct unrestricted views to private open space. All of the apartments have windows with natural light and ventilation into all bedrooms and living areas. Furthermore the proposed 3 metres side setbacks future-proofs the apartment amenity, providing sufficient separation/outlook to the adjacent neighbouring sites. The apartments have a floor to ceiling height of 3m which should improve daylight distribution and enhance the apartment amenity.

The Development Plan generally seeks dwellings to provide a covered storage area of not less than 8 cubic metres in the dwelling and garage. The applicant noted in the design documentation that the storage provisions exceed the minimal quantitative requirements. The NPSP Development Plan is silent on minimal apartment sizes, however when reviewed against the relevant provisions setout in the Adelaide City Council Development Plan, all the apartments exceed the minimum requirements.

The AGA supports the proposed mix of apartment types including affordable housing options as well as the apartment configurations that affords outlook, functional and adaptable layouts. On balance the proposed apartments should provide a high level of apartment amenity.

8.8 Private open space

The Development Plan seeks habitable rooms, windows and balconies to provide adequate separation and screening from adjoining private open space and neighbouring properties. Balconies should have a minimal dimension of 2 metres, provided the area of each is equal to or greater than 8 square metres.

The Development Plan sets the following provisions for multi-storey residential apartment buildings

Apartment Type	Minimal Private Open Space
Studio and 1 Bedroom	Minimum of 10m2
2 Bedroom	Minimum of 12 m2
3 Bedroom	Minimum of 15m2

The proposed balconies dimensions are general acceptable, it is noted that the central balconies that have been recessed into the built form display a width of 1.9m which presents a minor shortfall. However this provides increased side setback to 3m which is important to provide separation from the neighbouring properties.

Some of proposed one bedroom apartments do not meet the minimum private open space requirements. It is acknowledged that the private open space opens directly

onto the living space and the size of the one bedroom apartments generally exceed the minimum apartment size requirements by approximately 16m^2.

It is also noted that the one bedroom apartments are part of the affordable housing scheme. On balance the high level of apartment amenity, coupled with the affordable housing opportunities and generous apartment size should offset the shortfall of 1.2m^2 in private open space.

8.9 Traffic Impact, Access and Parking

8.9.1 Car Parking

Table NPSP/9A provides car parking requirements for the whole Council. These requirements state:

Table 1 – Off Street Parking Requirements for Non-Residential Land Uses

Location of development	Desired minimum number of vehicle parking spaces	Maximum number of vehicle parking spaces
Urban Corridor Zone	3 spaces per 100 square metres of gross leasable floor area	5 spaces per 100 square metres of gross leasable floor area

Table 3: Residential development, in the form of residential flat buildings and residential development in multi-storey buildings

Location of development	Rate for each dwelling based on number of bedrooms per dwelling	Plus number of required visitor parking spaces
Urban Corridor Zone	1 per studio , 1 or 2 bedroom dwelling 1.25 per 3+ bedroom dwelling	0.25 per dwelling

As per the relevant Development Plan requirement the following car parking spaces will be necessary:

56 car parking spaces for residents
14 car parking spaces for visitors of dwellings
10 car parking spaces for the commercial uses

The proposed development provides 67 car parks which presents a shortfall of approximately 13 car parks. However it is noted that the Table NPSP/9A contemplates a lesser number of parking spaces if:

(a) The development is a mixed use development with integrated (shared) parking where the respective peak parking demands across the range of uses occurs at different time;
(b) The development is sited in a locality where the respective peak demands for parking for the range of uses (existing and proposed) occurs at different time and suitable arrangements are in place for the sharing of adjoin or nearby parking areas;
(c) the development involves the retention and reuse of a place of heritage value, where the provision of on-site parking is constrained;
(d) suitable arrangements are made for any parking shortfall to be met elsewhere or by other means (including a contribution to a car parking fund);
(e) generous on-street parking and/or public parking areas are available and in convenient proximity, other than where such parking may become limited or removed by future loss of access, restrictions, road modifications or widening;

(e) generous on-street parking and/or public parking areas are available and in convenient proximity, other than where such parking may become limited or removed by future loss of access, restrictions, road modification or widening.

There is on-street parking available on King William Street which is within close proximity to the proposed development. The mixed-use nature of the proposed development would support the potential for shared car parking opportunities which could be managed through building management. The application has included details of a go-gets shared car, which encourages the reduction of car ownership within the residential apartments. Council did not raise any concerns relating to the shortfall in car parks and are of the opinion the proposal is consistent with the Development Plan.

It is noted that the development site is located in close proximity to high frequency bus services, walking and bicycle paths. Whilst the proposed development presents a shortfall in vehicle parking, it should not result in a detrimental impact to the proposed development or the immediate locality.

8.9.2 Bicycle Parking

Table NPSP/10 provides bicycle parking requirements for the whole Council. These requirements state:

Form of development	Employee/resident (bicycle parking spaces)	Visitor/shopper (bicycle parking spaces)
Residential component of a multi-storey building/residential flat building	1 for every 2 dwellings	1 for every 5 dwellings
Office	1 for every 100 square metres of gross leasable floor area	2 **plus** 1 per 500 square metres of gross leasable area
Shop	1 for every 150 square metres of gross leasable floor area	1 per 300 square metres of gross leasable area
Tourist Accommodation	1 for every 10 employees	2 for the first 20 rooms **plus** 1 for every additional 20 rooms

As per the relevant Development Plan requirements the following bicycle spaces will be necessary:

- 26 bicycle parking spaces for the residential apartments
- 10 bicycle parking spaces for visitors of the apartments
- 6 bicycle parking spaces for the commercial land use (staff and visitors)

The proposal development provides 30 secure bicycle parking spaces at ground level via racking system. In addition the proposal has provisions to provide additional bicycle parking spaces within the open areas of the ground floor for visitors of the apartments and commercial tenancies.

The proposed onsite bicycle parking is located at ground level, undercover, located where surveillance is possible and is easily accessible by bicycle, consistent with PDC 110 Council Wide. The proposal is considered on balance to satisfy the Development Plan requirements for Bicycle Parking

8.9.3 Traffic

The Urban Corridor Zone envisages Little Rundle Street will continue to provide vehicle access to the rear of buildings for loading and service requirements or access to car parking areas.

The residential and service vehicle access to the proposed development via Little Rundle Street, consistent with the Urban Corridor Zone desire character statement. The consultant's traffic report indicates the proposed development is likely to generate 22 residential and 7 commercial vehicle movements per hour. Based on the calculations the consultant concluded that the proposed development would be a low traffic generator and there should be very little impact on the adjacent roads as a result. Council did not raise any concerns to the potential increase in traffic in Little Rundle and King William Street.

8.10 Environmental Factors

8.10.1 Crime Prevention

The Development Plan generally seeks developments to integrate and maintain sight lines between buildings and streets to improve safety and passive surveillance. Building should be orientated to overlook public and communal open spaces and streets to allow casual surveillance.

The proposed development is orientated regularly within the development site, promoting natural surveillance in all directions. The commercial tenancies on ground floor utilise extensive glazing within the facades, enabling direct sightlines to King William Street, the building entrance and residential lobby.

The proposed development will restrict access to the car parking area and pedestrian walkway during the evening hours to prevent loitering and appropriate lighting will be provided within and round the walkway during evening hours.

These measures are considered to address the principles of personal safety and provides sufficient levels of passive surveillance to the public and private realms of the development.

8.10.2 Noise Emissions

The Development Plan seeks developments with noise generating sources to be located, designed and attenuated to avoid causing potential noise nuisance to adjoining landowners and occupiers. Additionally residential development close to high noise sources should be designed with appropriate noise attenuation measures.

The applicant has indicated the proposal includes specific measures to ensure that the dividing walls and floors between the apartments comply with the requirements of Building Code of Australia for sound insulation. It is noted that the plant rooms and services are located on the roof and in the car parking areas away from the residential apartments. The services located on the roof have a 1.9m acoustic screening. It is anticipated that the acoustic treatments to the roof plant should adequately control airborne noise from present and future adjoining landowners and residents.

The proposed noise attenuation measures contained within the proposal is considered appropriate and consistent with the Development Plan policies.

8.10.3 Waste Management

Council Wide Policies encourage medium and high rise developments to provide a dedicated area for on-site collection and sorting of recyclable materials, that is appropriately screened and should not detract from the visual appearance of the ground floor.

The proposed development utilises a waste chute system for the residential component, which is to be managed and maintained by building services. Commercial tenants on ground and level 1 will be responsible for manually transporting their waste directly to the appropriate bins in the waste storage room.

The proposed development includes a storage room large enough to accommodate 3x1100 litre general waste bins, 2x1100 litre recycling bins, 3x660 litre organic waste bins and 1x1100 litre cardboard bin. It is noted the waste management system does not take into account e-waste and hard waste. The applicant noted that this waste type would be collected from the subject site by separate contracts on an 'as needs' basis or privately arranged.

The collection vehicles expected for waste collection at the proposed development will consist of Rear lift trucks for collection routine waste, Pan tech or flatbed trucks for collection of at call waste streams. The consultant's waste report estimated that there would be 7-8 collection vehicle movements per week at the site.

A commercial waste contractor will be responsible for the collection of waste from the development. Waste collection is proposed to occur on-street in Little Rundle Street in a proposed loading zone (subject to Council discretion).

Council raised concerns that the parked waste vehicle could disrupt the traffic movements in Little Rundle Street and would interfere with the convenient access to the adjacent property at 5-9 Rundle Street. On this basis Council are not supportive of the proposed waste collection arrangements.

It is acknowledged that a parked waste vehicle in Little Rundle Street is not ideal. It is noted the traffic consultant's report detailed that the collection of waste will occur outside of peak hours to ensure traffic impacts are minimised. There is also potential for the waste vehicle to use the 1.6m rear setback on Little Rundle Street, which should provide sufficient width in laneway for vehicles to pass.

On balance the proposed waste management is acceptable and generally consistent with the Development Plan policies. A planning condition has been placed on the application to ensure the collection of waste occurs outside of peak hours.

8.10.4Stormwater Management

The Development Plan policies generally seek stormwater management systems to be designed and located to improve the quality of stormwater, minimise pollutant transfer and protect downstream receiving waters from high levels of flow. Additionally developments of this size should incorporate an on-site stormwater detention system.

The applicant supplied a Stormwater Management Plan and associated drainage plans. The proposed development includes on-site detention tanks to ensure post development discharge from site does not exceed predevelopment discharge. It is noted in the Stormwater Management Plan that a filtration system can be utilised to ensure stormwater is discharged at an acceptable quality.

8.10.5 Energy Efficiency

The desired character statement for the Urban Corridor states:

> *Building will be designed having regard to best practice energy efficiency principles, in order to reduce dependence on mechanical heating, cooling and lighting systems and include options for the harvest, treatment, storage and reuse of stormwater.*

All apartments within the proposed development have access to natural ventilation and light, reducing the reliance on mechanical cooling, heating and lighting. Vertical shading fins have been utilised on windows that do not have balconies above, which should reduce solar heat gain to these external windows.

The building design utilises low VOC paint to improve internal air quality, high performance ceiling insulation, water efficient fixtures, energy efficient artificial light fittings and HVAC systems.

The applicant submitted a Sustainability Report for the proposed development. The report concluded the ESD initiatives utilised within the proposed development are appropriate for the long-term sustainability of the building. The proposed development demonstrates appropriate energy efficiency considerations and generally satisfies Council Wide Energy Efficiency policies.

8.10.6 Wind Analysis

Development Plan PDC 281 seeks development of 5 or more storeys, or 21 metres or more in building height, should be designed to minimise the risk of wind tunnelling effect on adjacent street by adopting one or more of the following

(a) Podium at the base of a tall tower and aligned with the street to deflect wind away from the street;
(b) Substantial verandas around a building to deflect downward travelling wind flows over pedestrian areas;
(c) The placement of building and use of setbacks to deflect the wind at ground level.

The ground floor of the proposed development has been setback from the front and rear boundaries. It is also noted the tower element of the proposed development is setback approximately 3 metres from the front and side boundaries creating a strong tower and podium form which should assist in reducing wind tunnelling effects at ground level and is considered consistent with PDC 281.

8.10.7 Site Contamination

The applicant has indicated that the subject land was historically used as a residential premises. Given the historical use of the subject land it is considered that there would be a very low risk of contamination being present. As such it is considered the subject site is unlikely to pose unacceptable health further noting that the majority of the site is to be sealed.

8.11 Signage

The applicant has indicated that the proposed development does not include any signage elements. The submission of a separate signage application is anticipated for assessment once signage arrangements have been derived.

8.12 Landscaping

The Urban Corridor Zone encourages developments to provide attractive pedestrian friendly spaces which includes high quality landscaping.

The applicant engaged a landscape architect to ensure the proposed landscaping concept is appropriate in nature and fit for purpose. The applicant noted that the plant species specified in the landscaping concept have been selected for their durability and ability to grow in shaded/ low light positions. The AGA supports the provision of landscaping at the street frontages, public colonnade and the pedestrian connection through the site.

Council noted that the current plans show a continuation of the proposed pavement treatment along the eastern boundary of the site, into the footpath on King William Street, the specific treatment might not be supported by Council. The applicant has confirmed that they are open to collaborating with Council to finalise the public realm treatments to ensure an integrated outcome.

The landscaping on ground floor utilises an extensive drip irrigation system to ensure plants at ground are appropriately irrigated. The applicant has indicated that the plants in the planter boxes at the edges of the residential balconies will be maintained by the occupants of the associated apartment.

Overall, the proposed landscaping treatment for the development is consistent with the Development Plan policies and visually softens the hard surfaces of the external built form, whilst offering an increased presentation to the existing streetscape character.

8.13 Overshadowing and Overshadowing

It is noted within the desired character statement from the Urban Corridor Zone envisages:

> *it is recognised that some level of overshadowing and overlooking will occur, however, this will be moderated through a range of design techniques, which may include separation of buildings, orientation of windows and balconies and various forms of screening.*

Overlooking

The immediate locality surrounding the subject site is generally commercial in nature as such there is minimal opportunity to look into private property. The East End Park 11 storey mixed use development under construction to the north west of the subject site is separated from the proposed development by King William Street providing appropriate separation between developments.

On levels 2-8 apartment windows on the eastern and western side of the development have shading devices, which should restrict direct views in the adjacent sites. The tower element of the development has been setback approximately 3 metres from the neighbouring sites, which is generally acceptable and likely to provide sufficient separation.

It is considered that the combination of privacy treatments in certain locations and the arrangement of built form should sufficiently mitigate the potential impacts of overlooking and is considered in accordance with the Development Plan policies.

Overshadowing

The Urban Corridor Zone recognises that some level of overshadowing will occur, which can be moderated through different design techniques. Council Wide policies outline that development should ensure north-facing windows of habitable rooms of

dwellings on adjacent site receive at least 3 hours of direct sunlight between 9am and 5pm during the winter solstice.

The applicant provided a Shadow Analysis drawing that illustrates the potential overshadowing the proposed development could create. It is acknowledged there is a small amount of overshadowing to 3 Rundle Street located to the south of the proposed development. It is noted that the residential dwelling is located in the Urban Corridor Zone which anticipates some level of overshadowing. The overshadowing is generally considered acceptable as it will predominately fall onto the residential carport and street tree. The applicant also provided an additional shadow analysis of a five storey building on the subject site, which demonstrated that the additional height of the proposed development does not substantially increase the overshadowing.

On balance the proposal generally achieves the shadowing requirements of the Development Plan and should not result in any adverse overshadowing impacts to the immediate locality.

9. CONCLUSION

The proposal is for the construction of a 9 storey mixed use development consisting of commercial/retail tenancies, residential apartments, ancillary car parking, landscaping and associated site works, which is considered to generally align with both the Urban Corridor Zone and more specifically the Business Policy Area.

The proposed development generally meets the quantitative provisions of the Development Plan. Whilst the proposed development significantly exceeds the maximum envisaged height of the Business Policy Area, it is noted the development site adjoins the Boulevard Policy Area, which contemplates higher density developments. It is acknowledged that an 11 storey residential apartment development is under construction on the opposite side of the subject land. The architectural expression and articulation of the proposed development attempts to reduce the perceived visual bulk of the building.

The AGA is of the view that the project offers significant design merits to justify the departure from the envisaged height limit by offering contributions to the public realm and apartment amenity that exceeds the minimum quantitative requirements. Council do not oppose the proposed development and are of the option that the streetscape impact of the proposed building height is considered acceptable.

The proposal is generally considered to be consistent with the Development Plan provisions and worthy of conditional Development Consent on the basis of the following:

- Building articulation and architectural expression is supported by the AGA and considered appropriate for the Policy Area and locality
- The setback from boundaries is considered appropriate, whilst responding to the adjacent local heritage place.
- Apartments have been configured to provide access to natural light and ventilation and should provide a high level of apartment amenity.
- The proposed apartments offer generous floor plates and exceeds the minimal storage requirement
- The development exceeds the bicycle parking requirements set out within the Development Plan
- The development positively contributions to the public realm activation through appropriate use of public art, landscaping and retail/commercial uses at ground level
- Provision of a pedestrian connection through the development site which strategical aligns with the Kent Town Strategic Growth Concept Plan

- The proposal includes 23 percent affordable housing in the form of 12, 1 bedroom apartments.

When assessed against the relevant Development Plan policies the proposal generally satisfies the policy provisions. The proposal is consistent with the desired character of the Business Policy Area in the Urban Corridor Zone and should not result in or cause unacceptable impacts on the local amenity. Accordingly, the proposal warrants Development Plan consent subject to conditions.

10. RECOMMENDATION

It is recommended that the Development Assessment Commission:

1) RESOLVE that the proposed development is NOT seriously at variance with the policies in the Development Plan.

2) RESOLVE that the Development Assessment Commission is satisfied that the proposal generally accords with the related Objectives and Principles of Development Control of the Norwood Payneham and St Peters Development Plan.

3) RESOLVE to grant Development Plan Consent to the proposal by Future Urban Group for DA 155/M013/17 at 2-4 King William Street, Kent Town subject to the following conditions of consent.

PLANNING CONDITIONS

1. That except where minor amendments may be required by other relevant Acts, or by conditions imposed by this application, the development shall be established in strict accordance with the details and following plans submitted in Development Application No 155/M013/17.

Job	Drawing Title	Drawing No.	Date
Marchese Partners			
16097	Cover Sheet	DA 0.00	18/08/2017
16097	Location Plan / Site Analysis	DA 1.0	18/08/2017
16097	Site Integration & Ground Floor Plan	DA 2.01	18/08/2017
16097	Ground Floor Plan with Landscape Schedule	DA 2.01A	18/08/2017
16097	Landscape Intent Plan	DA 2.02	18/08/2017
16097	Basement Level	DA 2.03	18/08/2017
16097	Mezzanine Level	DA 2.04	18/08/2017
16097	Level 1	DA 2.05	18/08/2017
16097	Level 2	DA 2.06	18/08/2017
16097	Typical Apartment Level	DA 2.07	18/08/2017
16097	Penthouse Level	DA 2.08	18/08/2017
16097	Roof Plan	DA 2.09	18/08/2017
16097	Section	DA 3.01	18/08/2017
16097	King William Street Elevation	DA 4.01	18/08/2017
16097	North East Elevation	DA 4.02	18/08/2017
16097	South Elevation	DA 4.03	18/08/2017
16097	South West Elevation	DA 4.04	18/08/2017
16097	Material Selection	DA 5.01	18/08/2017
16097	Shadow Analysis	DA 6.01	18/08/2017
16097	Artist Impression	DA 7.01	18/08/2017
16097	Artist Impression	DA 7.02	18/08/2017
16097	Artist Impression	DA 7.03	18/08/2017
Plot Works Design			
	Landscape Details	LA - 03	10/08/2017

Pyper Leaker – Surveying Services			
PL 8064	Detail and Level Survey 2-4 King William Street, Kent Town		10/03/2017

Reports and correspondence

- Traffic and Parking Report by Frank Siow & Associates dated 8 September
- Waste Management Plan by Rawtec dated September 2017
- Sustainability Report by Lucid Consulting dated August 2017
- Services Infrastructure Report by Lucid Consulting dated 29 August 2017
- Stormwater Management Report by Robert Bird Group dated 15 August 2017

2. Prior to Development Approval, the applicant shall submit a final detailed schedule of materials, finishes and landscaped areas in consultation with the Government Architect to the reasonable satisfaction of the State Commission Assessment Panel.

3. All vehicle car parks, driveways and vehicle entry and manoeuvring areas shall be designed and constructed in accordance with Australian Standards (AS/NZS 2890.1:2004 and AS/NZS 2890.6.2009) and be constructed, drained and paved with bitumen, concrete or paving bricks in accordance with sound engineering practice and appropriately line marked to the reasonable satisfaction of the State Commission Assessment Panel prior to the occupation or use of the development.

4. All bicycle parks shall be designed and constructed in accordance with Australian Standard 2890.3-2015.

5. Landscaping shown on the approved plans shall be established prior to the operation of the development and shall be maintained and nurtured at all times with any diseased or dying plants being replaced.

6. A watering system shall be installed at the time landscaping is established and operated so that all plants receive sufficient water to ensure their survival and growth.

7. All external lighting on the site shall be designed and constructed to conform to Australian Standard (AS 4282-1997). The lighting shall be designed and operated with CPTED practices in mind in order to maximise pedestrian amenity and safety.

8. All stormwater design and construction shall be in accordance with Australian Standard AS/NZS 3500.3:2015 (Part 3) to ensure that stormwater does not adversely affect any adjoining property or public road.

9. A Construction Environment Management Plan (CEMP) shall be prepared and implemented in accordance with current industry standards – including the EPA publications "Handbook for Pollution Avoidance on Commercial and Residential Building Sites – Second Edition" and, where applicable, "Environmental Management of On-site Remediation" – to minimise environmental harm and disturbance during construction.

10. The hours for waste collection vehicles to enter and exit the site shall be restricted to Monday to Friday: 7am to 5pm; with no collection on a Saturday or Sunday

11. All Council, utility or state-agency maintained infrastructure (i.e. roads, kerbs, drains, crossovers, footpaths etc.) that is demolished, altered, removed or damaged during the construction of the development shall be reinstated to Council, utility or state agency specifications. All costs associated with these works shall be met by the proponent.

ADVISORY NOTES

a. This Development Plan Consent will expire after 12 months from the date of this Notification, unless final Development Approval from Council has been received within that period or this Consent has been extended by the Development Assessment Commission.

b. The applicant is also advised that any act or work authorised or required by this Notification must be substantially commenced within 1 year of the final Development Approval issued by Council and substantially completed within 3 years of the date of final Development Approval issued by Council, unless that Development Approval is extended by the Council.

c. The applicant has a right of appeal against the conditions which have been imposed on this Development Plan Consent. Such an appeal must be lodged at the Environment, Resources and Development Court within two months from the day of receiving this notice or such longer time as the Court may allow. The applicant is asked to contact the Court if wishing to appeal. The Court is located in the Sir Samuel Way Building, Victoria Square, Adelaide, (telephone number 8204 0289).

d. The applicant is reminded of its general environmental duty, as required by Section 25 of the Environment Protection Act 1993, to take all reasonable and practical measures to ensure that the activities on the whole site, including during construction, do not pollute the environment in a way which causes or may cause environmental harm.

e. If, in carrying out the activity, contamination is identified which poses actual or potential harm to the health or safety of human beings or the environment or potential harm to the health or safety of human beings or the environment that is not trivial (taking land use into account), the applicant may need to remediate the site in accordance with EPA guidelines.

f. If, at any stage, contamination is identified which poses actual or potential harm to water that is not trivial, a notification of contamination which affects or threatens groundwater (pursuant to Section 83A of the Environment Protection Act 1993) must be submitted to the EPA.

g. Continual monitoring of soil condition and appearance shall be undertaken during any site works including the excavation of footings and the trenching of services. In the event that any potential soil contamination is detected (discoloured soil or odour) the applicant shall undertake appropriate testing and remediation/removal of the soil in accordance with standard industry procedures and as advised by an appropriately qualified person. Upon completion of all earthworks, a statement from an appropriately qualified person shall be submitted to the SCAP confirming the completion of remediation works in accordance with industry procedures.

h. Mechanical plant or equipment, shall be designed, sited and screened to minimise noise impact on adjacent premises or properties in accordance with the Environment Protection (Noise) Policy 2007.

i. Due consideration should be given to the residential context of the subject site. In particular, consideration should be given to management of noise associated with patron behaviour, vehicle movements etc outside of normal operating business hours.

j. No additional signs shall be displayed upon the subject land other than those identifying the parking area access points and those shown on the approved plans. If any further signs are required, these shall be the subject of a separate application.

k. As work is being undertaken on or near the boundary, the applicant should ensure that the boundaries are clearly defined, by a Licensed Surveyor, prior to the commencement of any building work.

Karl Woehle
Planning Officer
DEVELOPMENT DIVISION
DEPARTMENT OF PLANNING, TRANSPORT and INFRASTRUCTURE

RESIDENTIAL DEVELOPMENT
2KW PTY LTD AT KENT TOWN

KING WILLIAM ST.

KENT TOWN SA, 5067

DRAWING LIST

DWG.NO.	DRAWING	SCALE	REVISION
	GENERAL		
DA 0.00	COVER SHEET	NTS @ A1	-
DA 1.00	LOCATION PLAN / SITE ANALYSIS	NTS @ A1	-
	FLOOR PLANS		
DA 2.01	SITE INTEGRATION & GROUND FLOOR PLANE	1:100 @ A1	-
DA 2.02	SITE INTEGRATION & GROUND FLOOR PLANE	1:100 @ A1	-
DA 2.03	BASEMENT LEVEL	1:100 @ A1	-
DA 2.04	MEZZANINE LEVEL	1:100 @ A1	-
DA 2.05	LEVEL 1	1:100 @ A1	-
DA 2.06	LEVEL 2	1:100 @ A1	-
DA 2.07	TYPICAL APARTMENT LEVEL	1:100 @ A1	-
DA 2.08	PENTHOUSE LEVEL	1:100 @ A1	-
DA 2.09	ROOF PLAN	1:100 @ A1	-
	SECTIONS		
DA 3.01	LONG SECTION	1:200 @ A1	-
	ELEVATIONS		
DA 4.01	KING WILLIAM STREET ELEVATION	1:200 @ A1	-
DA 4.02	NORTH EAST ELEVATION	1:200 @ A1	-
DA 4.03	SOUTH EAST ELEVATION	1:200 @ A1	-
DA 4.04	SOUTH WEST ELEVATION	1:200 @ A1	-
	MATERIALS		
DA 5.01	MATERIAL SELECTIONS	NTS @ A1	-
	SHADOW STUDY		
DA 6.01	SHADOW ANALYSIS	NTS @ A1	-
	PHOTOMONTAGE		
DA 7.01	ARTIST IMPRESSION	NTS @ A1	-
DA 7.02	ARTIST IMPRESSION	NTS @ A1	-
DA 7.03	ARTIST IMPRESSION	NTS @ A1	-

SCHEDULE OF AREA

TOTAL SITE AREA	1301M²
TOTAL BUILDING AREA (incl balconies)	10376M²
TOTAL APARTMENT AREA	4871M²
TOTAL COMMERCIAL AREA	332M²
TOTAL BALCONY & TERRACE AREA	1160M²
TOTAL NUMBER CAR PARKING	67 CARS
TOTAL NUMBER BICYCLE PARK	42 PARKS

IMPORTANT NOTES:

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FOR APPROVAL
NOT FOR CONSTRUCTION

REVISION	DATE	DESCRIPTION	BY

marchesepartners
Marchese Partners International Pty Ltd
Level 1, 22-26 Peel Street. Adelaide, SA 5000. Australia
P +61 8 8121 9304 E info@marchesepartners.com
www.marchesepartners.com
Sydney · Brisbane · Canberra · Melbourne · Adelaide · Perth
London · Kuala Lumpur · Auckland
ABN 20 098 552 151

CLIENT
2KW PTY LTD

PROJECT
APARTMENT DEVELOPMENT
2-4 KING WILLIAM STREET
KENT TOWN, S.A. 5067

DRAWING TITLE
COVER SHEET

SCALE	DATE	DRAWN	CHECKED
NTS	18.08.2017	HA	JN

JOB	DRAWING	REVISION
16097	DA 0.00	-

LOCATION PLAN
1:2000 @ A1 / 1:4000 @ A3

SITE ANALYSIS
NTS

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marchesepartners
Marchese Partners International Pty Ltd
Level 1, 22-26 Peel Street. Adelaide, SA 5000. Australia
P +61 8 8121 9304 E info@marchesepartners.com
www.marchesepartners.com
Sydney · Brisbane · Canberra · Melbourne · Adelaide · Perth
London · Kuala Lumpur · Auckland
ABN 20 098 552 151

CLIENT
2KW PTY LTD

PROJECT
APARTMENT DEVELOPMENT
2-4 KING WILLIAM STREET
KENT TOWN, S.A. 5067

DRAWING TITLE
LOCATION PLAN / SITE ANALYSIS

SCALE	DATE	DRAWN	CHECKED
NTS	18.08.2017	HA	JN

JOB	DRAWING	REVISION
16097	DA 1.00	-

EXISTING BUILDING

EXISTING COMMERCIAL PROPERTY

EXISTING COMMERCIAL PROPERTY

EXISTING DRIVEWAY

1631

LITTLE RUNDLE STREET

visually permeable roller door

RAMP UP TO MEZZANINE

RAMP DOWN TO BASEMENT

secure roller door

visitor car park

6100

WASTE COLLECTION

UPPER GROUND 4 CARS

BIKE STORAGE

SEC1

SIP

GO GET CAR SPACE

6100

visitor car park

SC

GROUND 6 CARS

COMMERCIAL 68m²

TRANSFORMER

PERFORATED BRICK SCREENING

CLIMBER TO PERFORATED BRICK WALL

REFLECTION POND / WATER FEATURE

INTEGRATED BIKE STORAGE

BOOSTER

INTEGRATED BENCH SEATS

BRICK TEXTURE

COMMERCIAL 84m²

RESI FOYER

RISER

BRICK TEXTURE

BIKES

BIKES

SEC1

RAISED LANDSCAPED PODIUMS

RAMP DOWN TO GROUND

INTEGRATED BENCH SEATS WITH STEEL SCREENING FOR CLIMBER ABOVE

RAISED PLANTERS WITH STEEL SCREENING ABOVE

BRICK TEXTURE

1m 20 fall

MURAL - COMMUNITY - ART

BRICK TEXTURE

TELCO

WM

COMMUNITY PATHWAY WITH VARYING TEXTURES AND SHADES OF STONE

GROUNDCOVER INLAYS

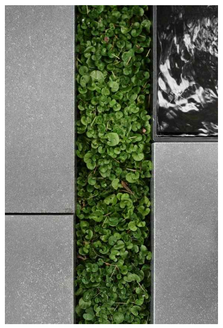
CLIMBER TO STEEL CABLE TRELLIS

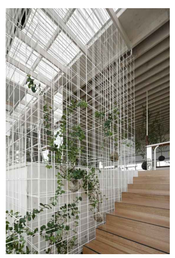
WM

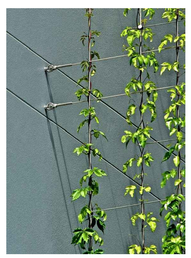
EXISTING SHED

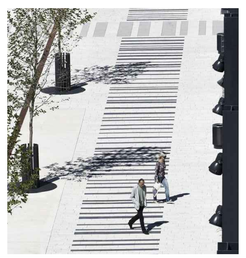
LOCAL HERITAGE LISTED PROPERTY

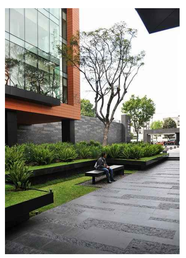
VERANDAH











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FOR APPROVAL
NOT FOR CONSTRUCTION

REVISION	DATE	DESCRIPTION	BY

PLOT WORKS

marchesepartners

Marchese Partners International Pty Ltd
Level 1, 22-26 Peel Street. Adelaide, SA 5000. Australia
P +61 8 8121 9304 E info@marchesepartners.com
www.marchesepartners.com
Sydney · Brisbane · Canberra · Melbourne · Adelaide · Perth
London · Kuala Lumpur · Auckland
ABN 20 098 552 151

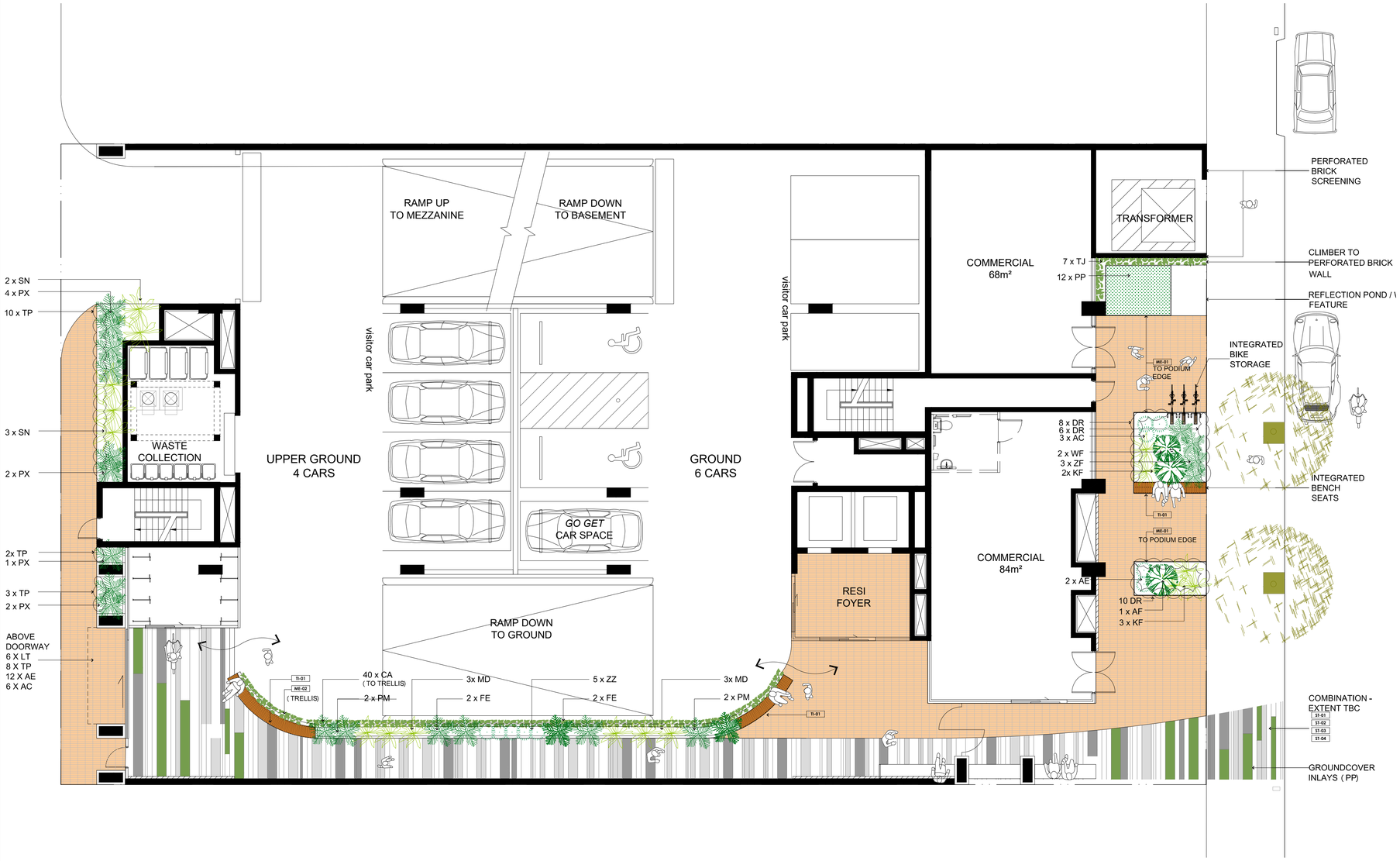
CLIENT
2KW PTY LTD

PROJECT
APARTMENT DEVELOPMENT
2-4 KING WILLIAM STREET
KENT TOWN, S.A. 5067

DRAWING TITLE
SITE INTEGRATION & GROUND FLOOR PLAN

SCALE	DATE	DRAWN	CHECKED
1:100	18.08.2017	HA	JN

JOB	DRAWING	REVISION
16097	DA 2.01	-



PLANT SCHEDULE

CODE	SPECIES	COMMON NAME	SIZE	QTY
CA	CISSUS ANTARCTICA	KANGAROO VINE	200MM	40
MD	MONSTERA DELICIOSA	SWISS CHEESE	200MM	4
FE	FICUS ELASTICA	RUBBER PLANT	200MM	4
ZZ	ZAMIOCULCAS ZAMIIFOLIA	ZZ PLANT	200MM	5
DR	DICHONDRA REPENS	SILVER FALLS	140MM	
WF	WESTRINGIA FRUTICOSA	COASTAL ROSEMARY	300MM	3
ZF	ZAMIA FURFURACIA	CARDBOARD PALM	200MM	3
KF	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER'	FEATHER GRASS	140MM	5
TJ	TRACHELOSPERMUM JASMINOIDES	STAR JASMINE	200MM	7
PP	PRATIA PEDUNCULATA	BLUE STAR CREEPER	140MM	12
AE	ASPIDISTRA ELATIOR	CAST IRON PLANT	140MM	18
SN	STRELITZIA NICOLAI	GIANT BIRD OF PARADISE	250MM	5
PX	PHILODENDRAN XANADU	XANADU	200MM	9
TP	TRADESCANTIA PALLIDA	PURPLE HEART	140MM	23
LT	LOMANDRA LONGIFOLIA TANIKA	TANIKA	140MM	6
AC	ACACIA COGNATA	LIMELIGHT	140MM	9

MATERIAL SCHEDULE

CODE	NAME	SUPPLIER
ST-01	BLUE LIMESTONE EXFOLIATED	BEYOND STONE
ST-02	BLUESTONE CHISELLED	BEYOND STONE
ST-03	CHARCOAL GRANITE EXFOLIATED	BEYOND STONE
ST-04	CHARCOAL GRANITE SPLIT FACE	BEYOND STONE
ME-01	STEEL, POWDERCOAT BLACK MATT	TBA
ME-02	STEEL, POWDERCOAT WHITE	TBA
TI-01	175 X 35 SOLID TEAK, NATURAL FINISH	TBA

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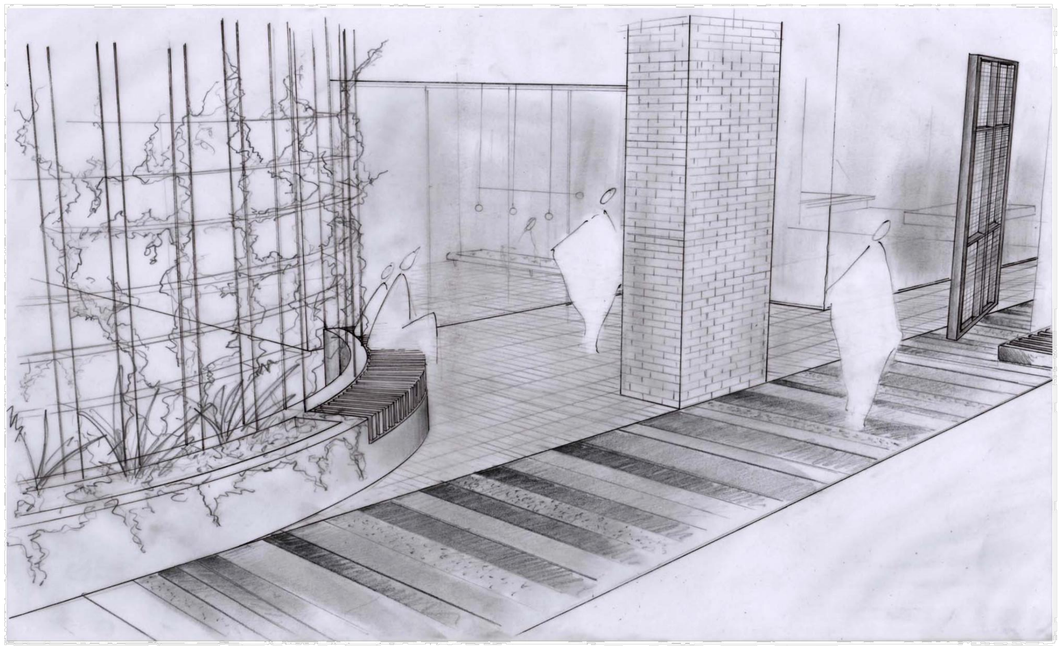
PROJECT
APARTMENT DEVELOPMENT
2-4 KING WILLIAM STREET
KENT TOWN, S.A. 5067

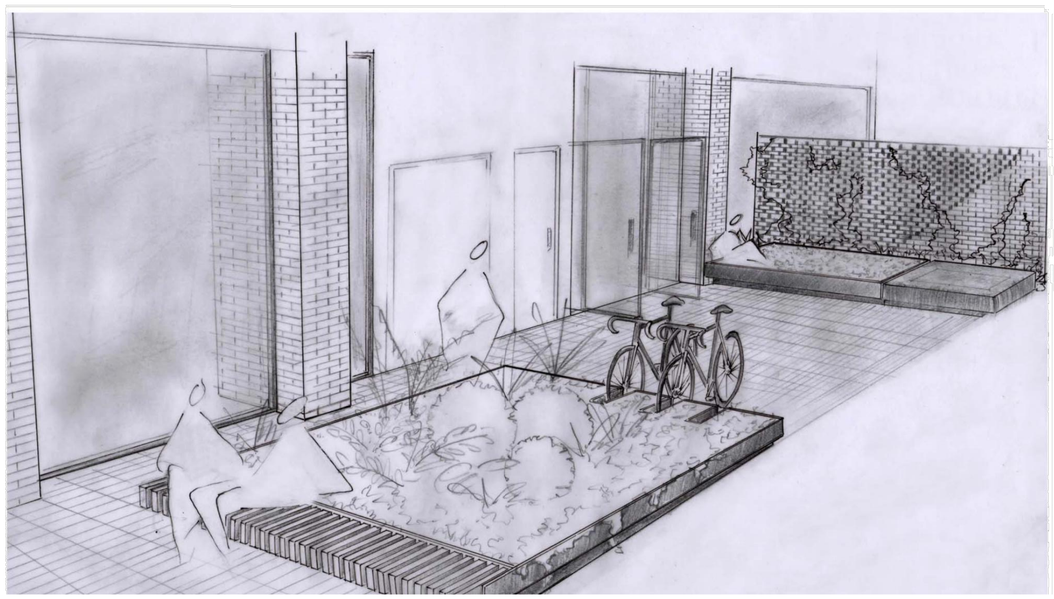
DRAWING TITLE
GROUND FLOOR PLAN WITH LANDSCAPE SCHEDULE

SCALE	DATE	DRAWN	CHECKED
1:100	18.08.2017	HA	JN

JOB	DRAWING	REVISION
16097	DA 2.01A	-



COMMUNITY WALKWAY VIEW



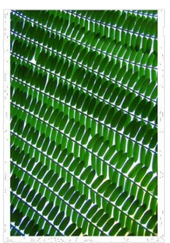
COMMUNITY WALKWAY

Cissus Antarctica
'Kangaroo Vine'

Parthenocissus tricuspidata
'Boston Ivy'

Monstera Deliciosa
'Swiss Cheese'

Ficus Elastica
"Red Rubber'



Polystichum Munitum
'Sword Fern'

SOUTH FACING

Philodendron Xanadu
'Xanadu'

Strelitzia Nicolai
'Giant Bird of Paradise'

Tradescantia Pallida
'Purple Heart'

NORTH FACING

Dichondra
'Silver Falls'

Acacia Cognata
'Limelight'

Feather Grass

Zamia Furfuracia
'Cardboard Palm'

Westringia Fruticosa
'Coastal Rosemary'

Trachelospermum Jasminoides
'Star Jasmine'

Aspidistra Elatior
'Cast Iron'

Pratia Pedunculata
'Blue Star Creeper'

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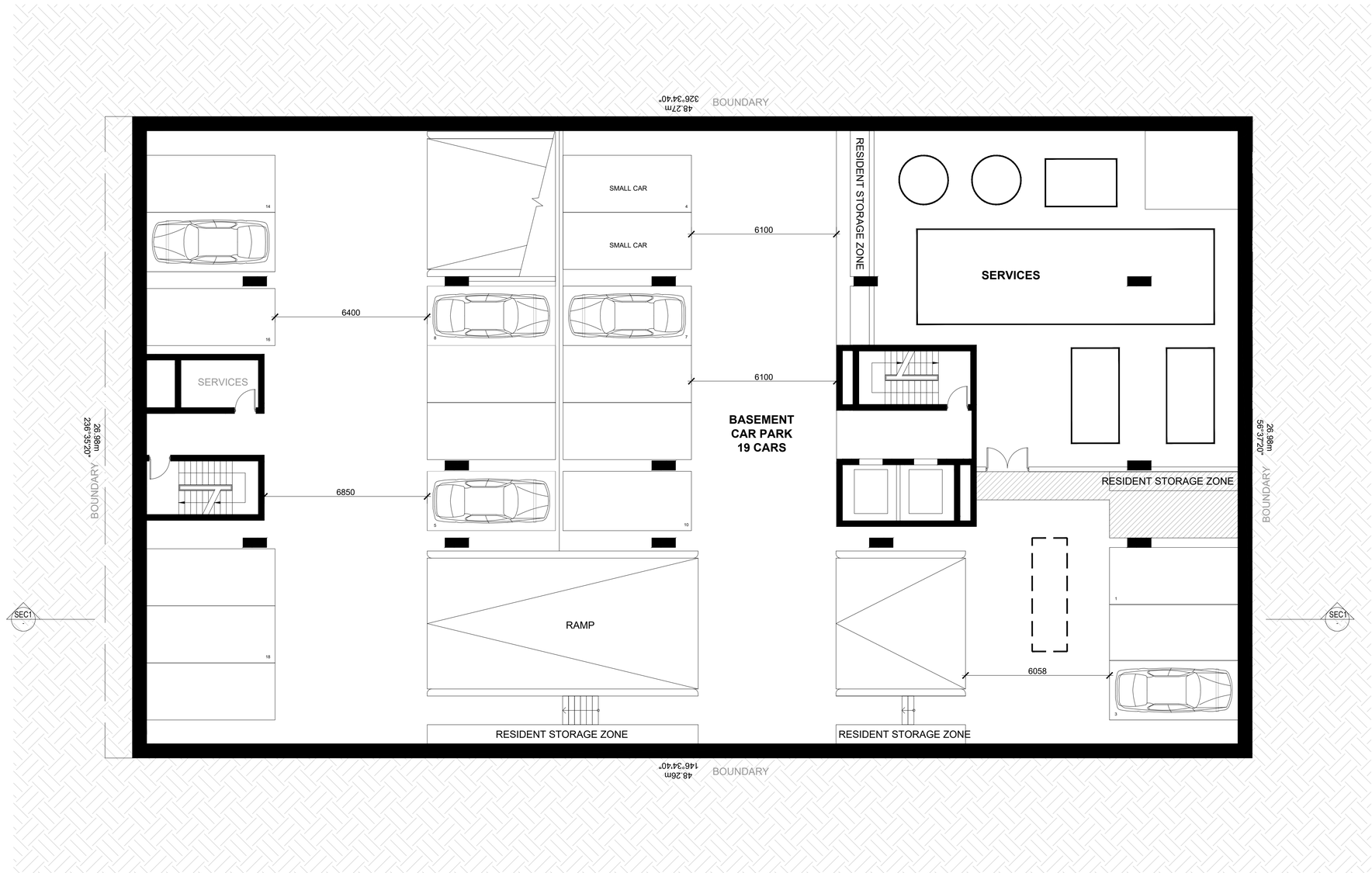
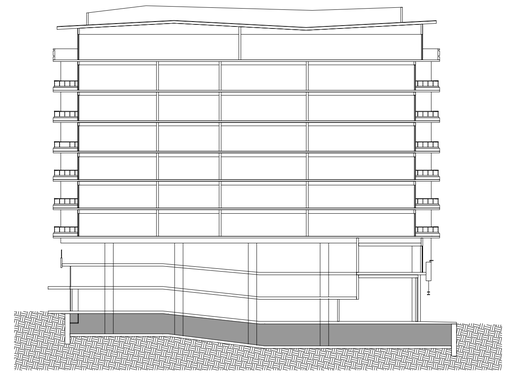
DRAWING TITLE
LANDSCAPE INTENT PLAN

PROJECT
APARTMENT DEVELOPMENT
2-4 KING WILLIAM STREET
KENT TOWN, S.A. 5067

SCALE	DATE	DRAWN	CHECKED
NTS	18.08.2017	HA	JN

JOB	DRAWING	REVISION
16097	DA 2.02	-





STORAGE SPACE	58m3

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DRAWING TITLE
BASEMENT LEVEL

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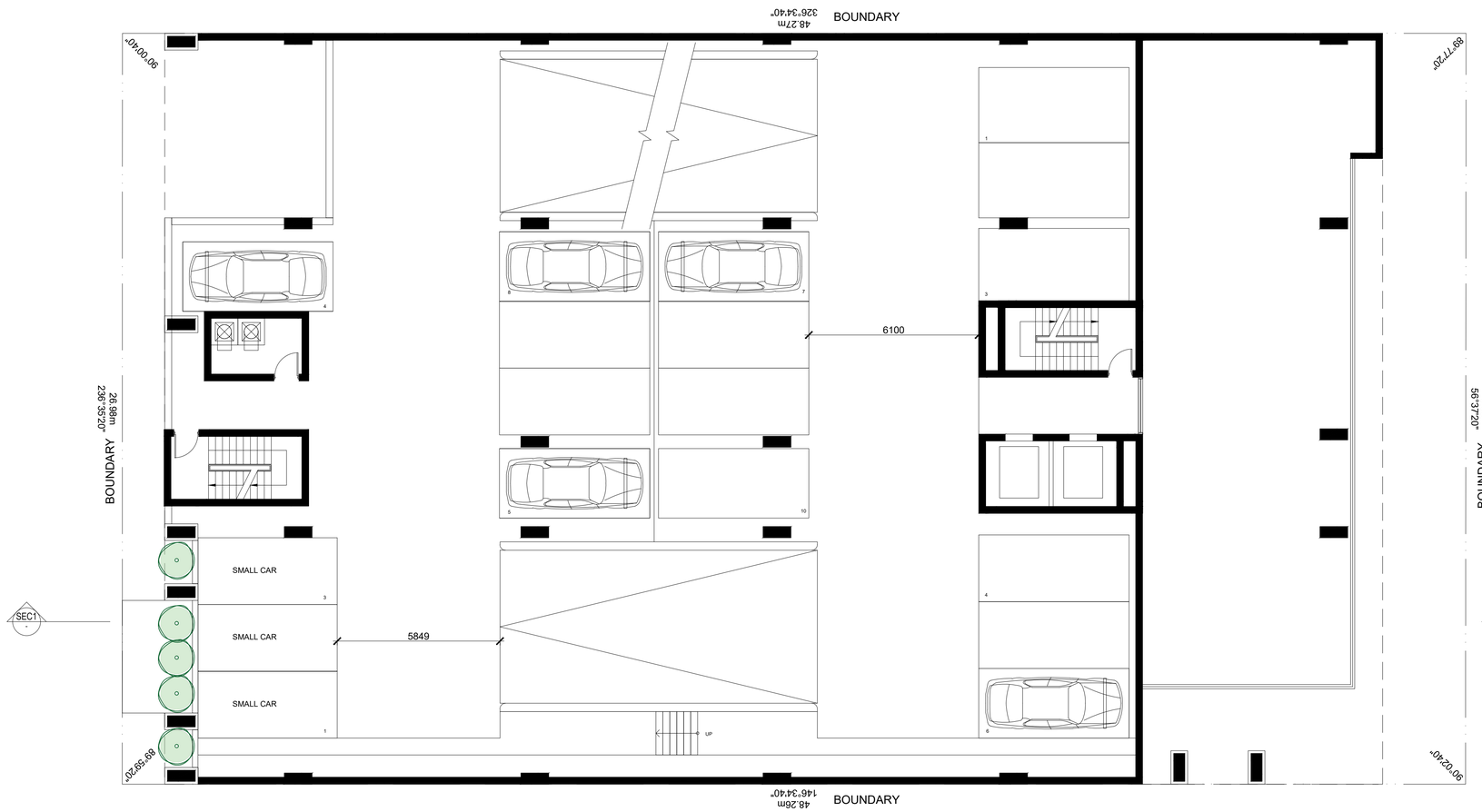
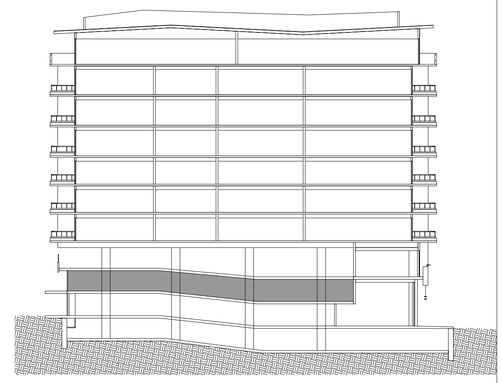
JOB	DRAWING	REVISION
16097	DA 2.03	-





STORAGE SPACE	56.6m3

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DRAWING TITLE
MEZZANINE LEVEL

SCALE	DATE	DRAWN	CHECKED
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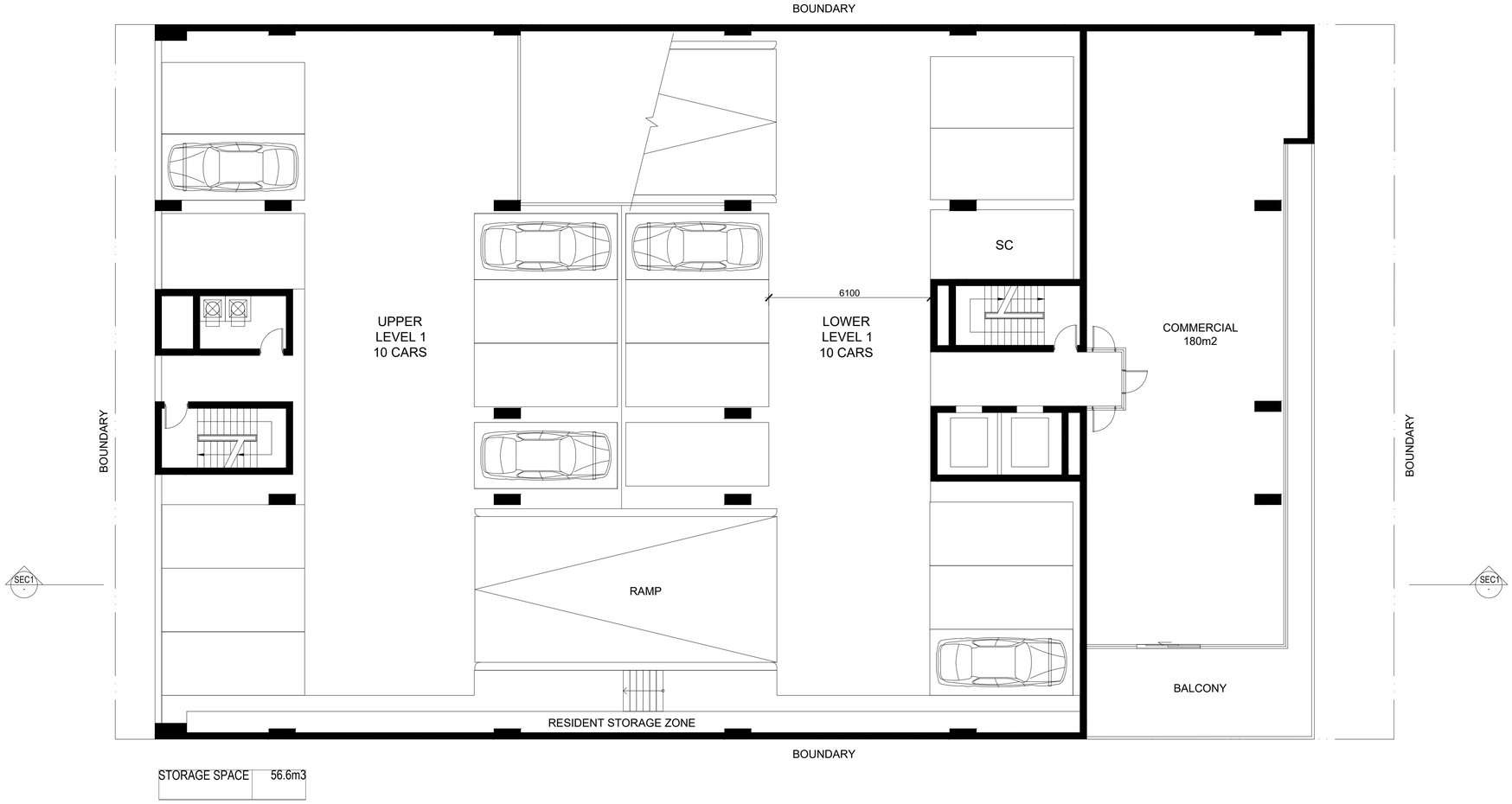
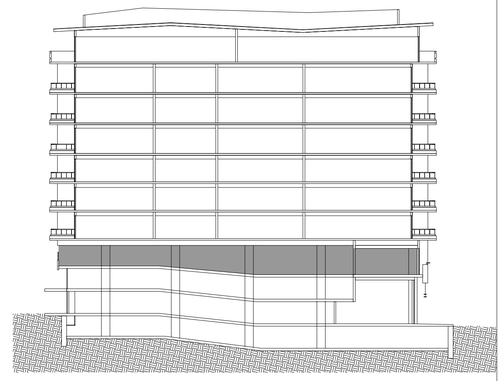
JOB	DRAWING	REVISION
16097	DA 2.04	-



STORAGE SPACE	56.6m3



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DRAWING TITLE
LEVEL 1

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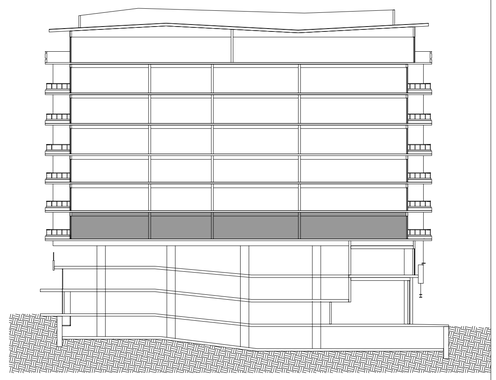
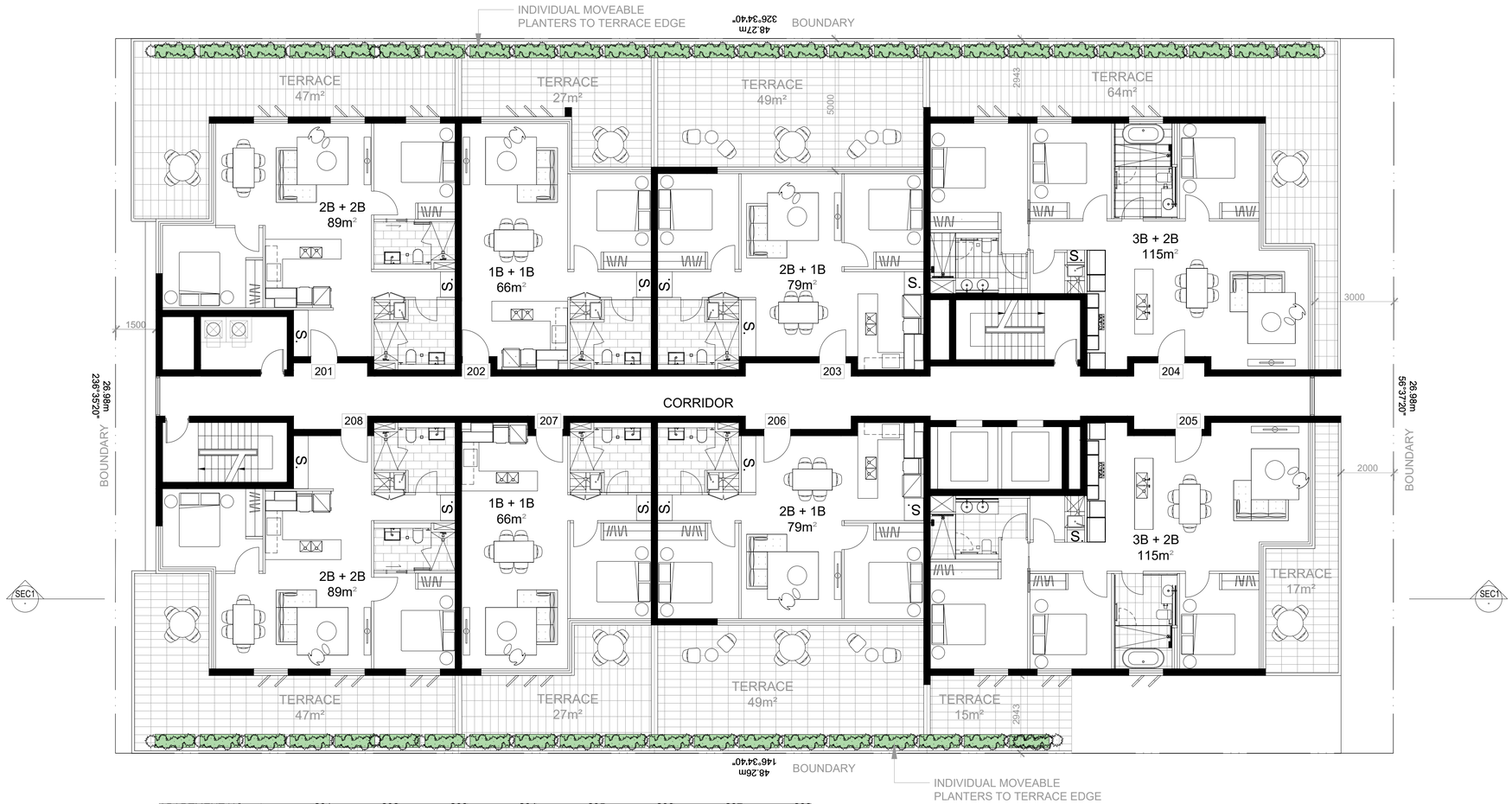
JOB	DRAWING	REVISION
16097	DA 2.05	-





APARTMENT NO.	201	202	203	204	205	206	207	208
STORAGE SPACE	13.24m3	8.2m3	15.45m3	14.13m3	14.13m3	15.45m3	8.2m3	13.24m3

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DRAWING TITLE
LEVEL 2

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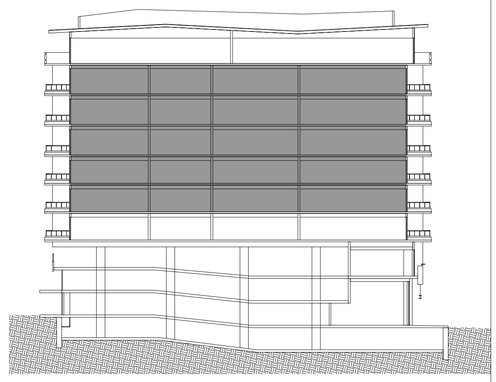
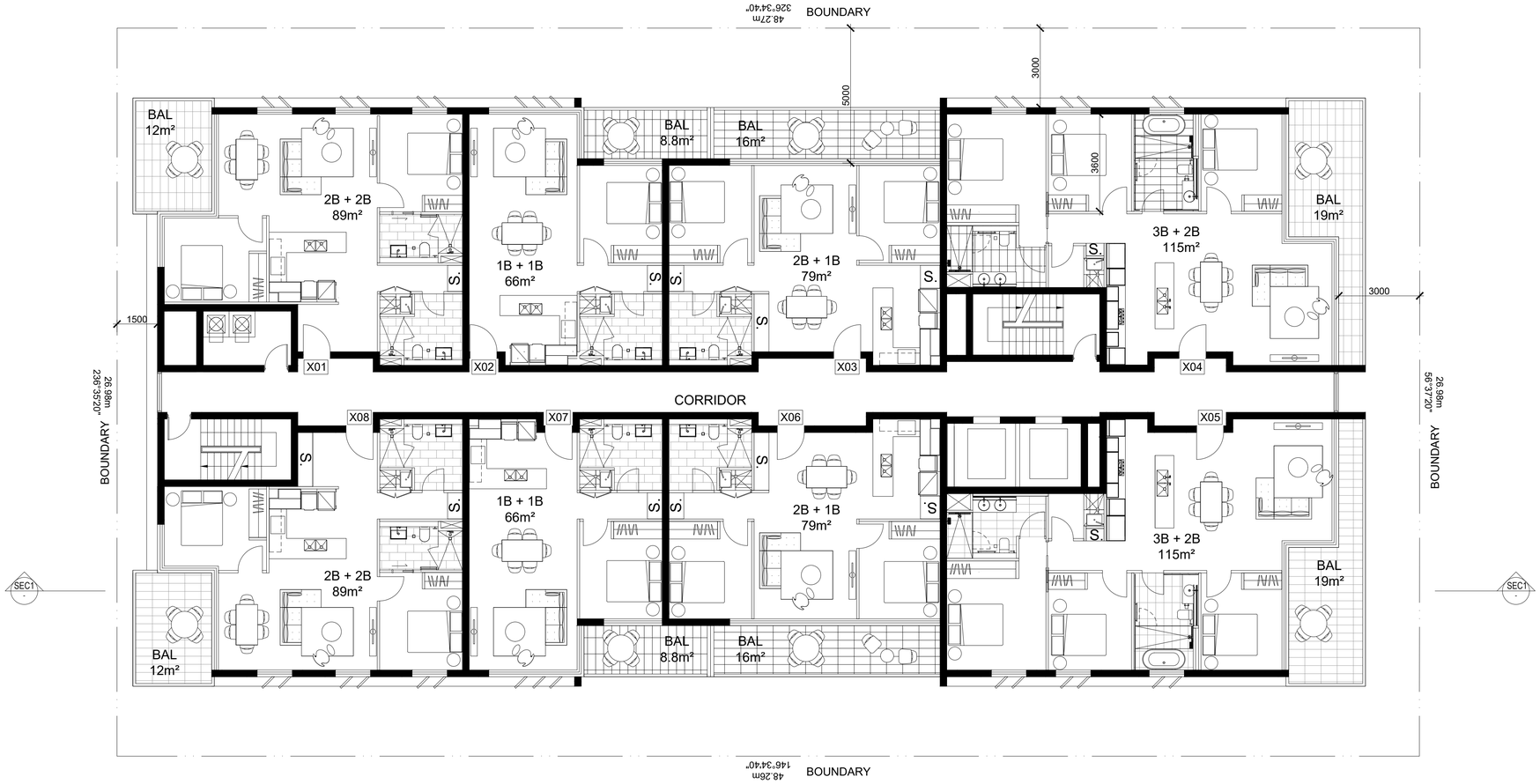
JOB	DRAWING	REVISION
16097	DA 2.06	-





APARTMENT NO.	X01	X02	X03	X04	X05	X06	X07	X08
STORAGE SPACE	13.24m3	8.2m3	15.45m3	14.13m3	14.13m3	15.45m3	8.2m3	13.24m3

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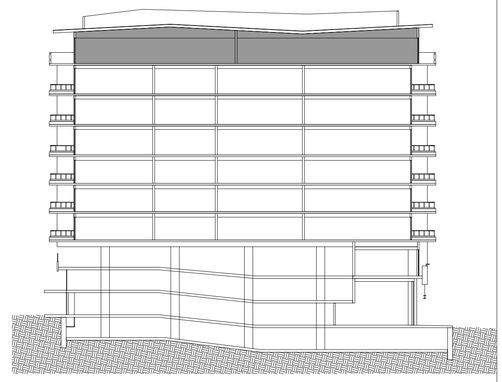
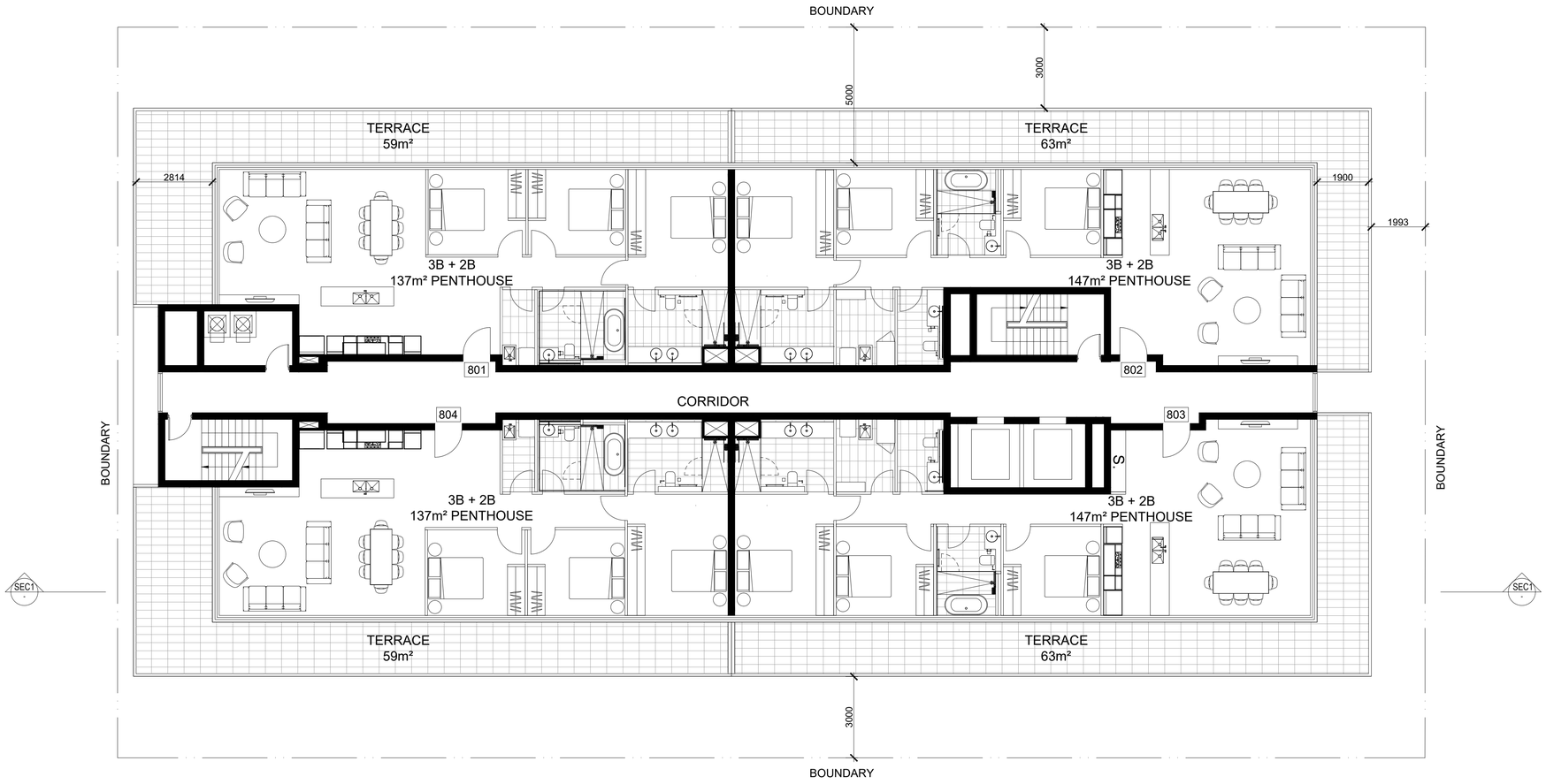
DRAWING TITLE
TYPICAL APARTMENT LEVEL

SCALE	DATE	DRAWN	CHECKED
1:100	18.08.2017	HA	JN

JOB	DRAWING	REVISION
16097	DA 2.07	-





APARTMENT NO.	801	802	803	804
STORAGE SPACE	17.23m3	16.61m3	16.61m3	17.23m3

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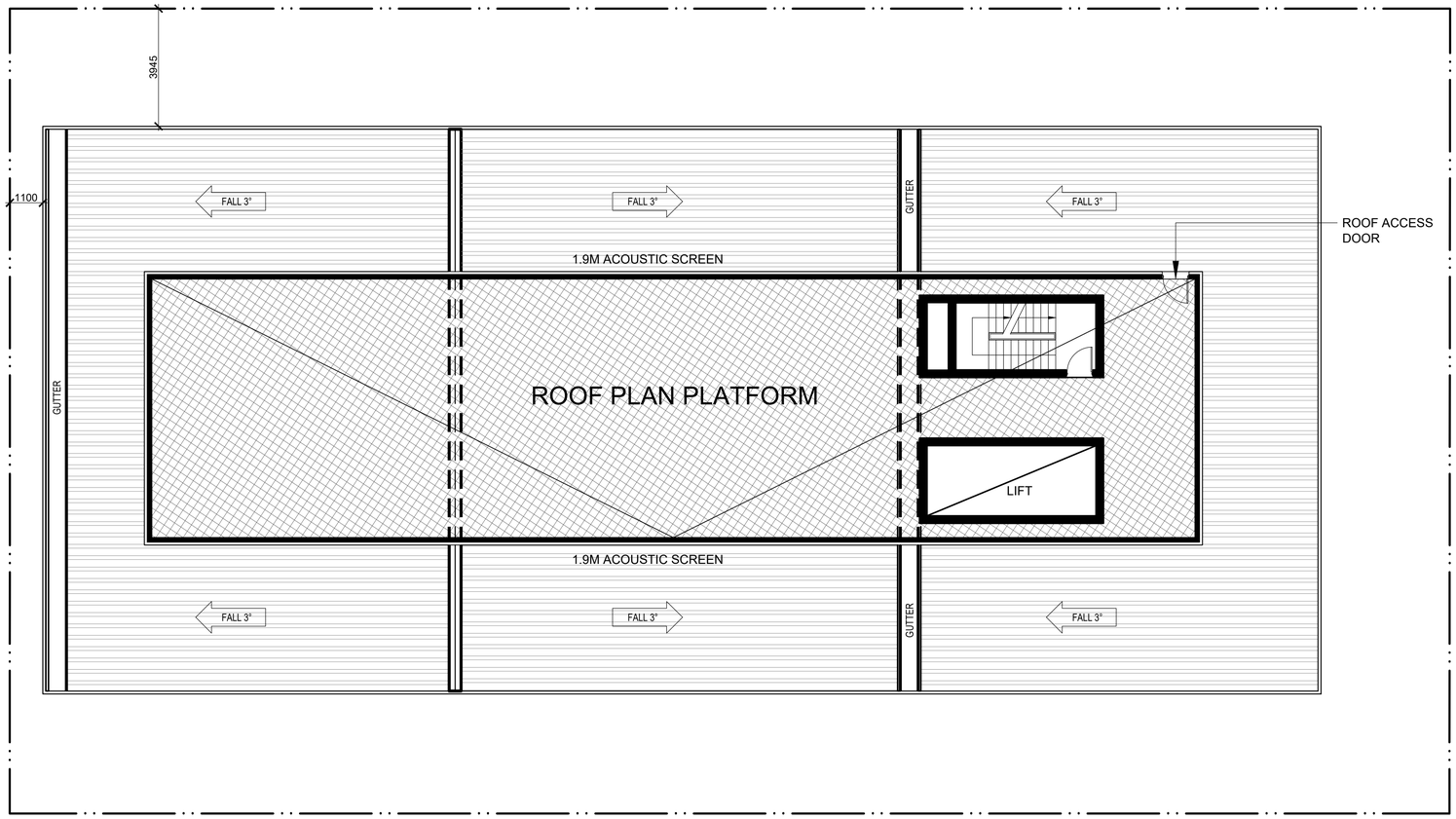
DRAWING TITLE
PENTHOUSE LEVEL

SCALE	DATE	DRAWN	CHECKED
1:100	18.08.2017	HA	JN

JOB	DRAWING	REVISION
16097	DA 2.08	-



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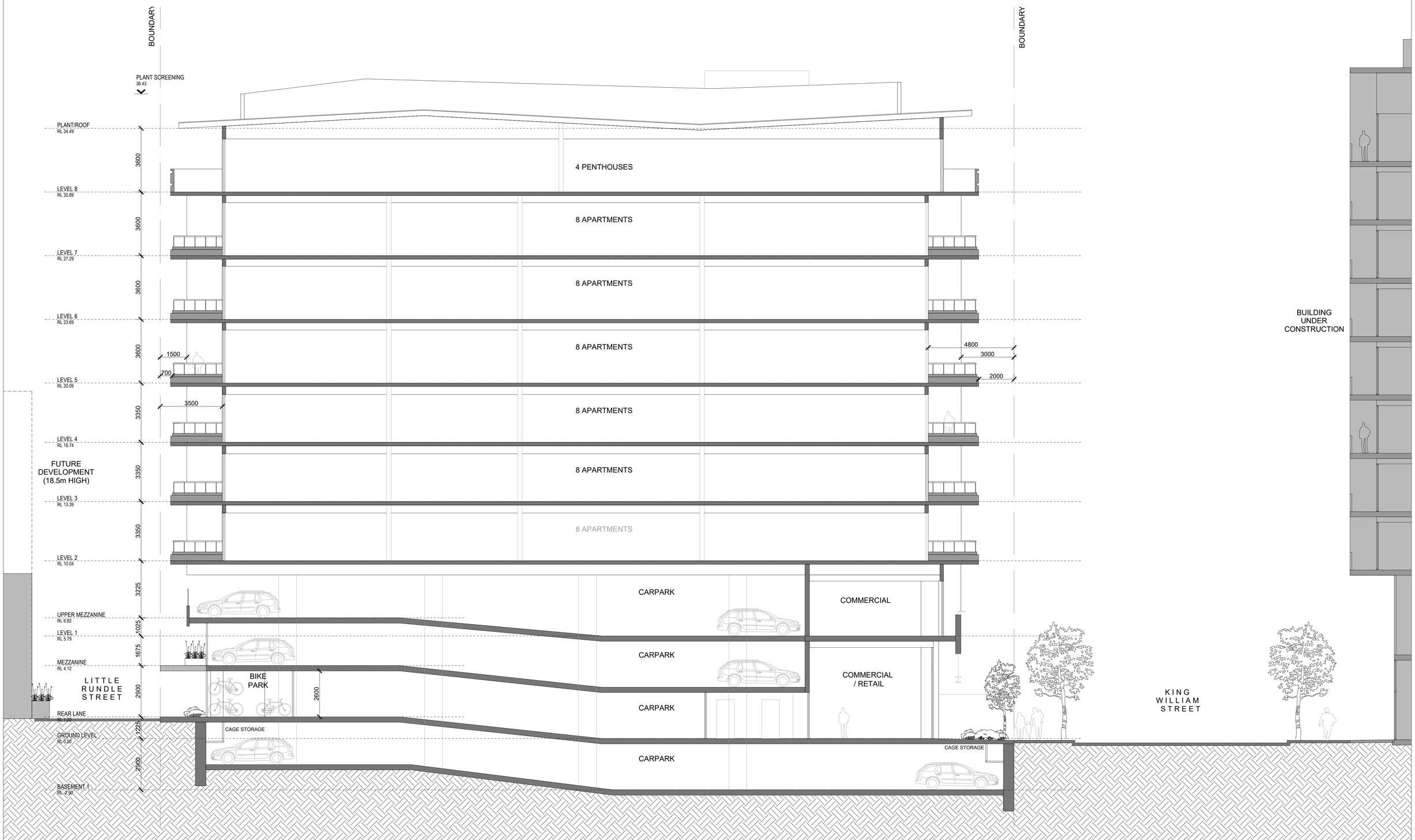
DRAWING TITLE
ROOF PLAN

SCALE	DATE	DRAWN	CHECKED
1:100	18.08.2017	HA	JN

JOB	DRAWING	REVISION
16097	DA 2.09	-



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DRAWING TITLE
SECTION

SCALE	DATE	DRAWN	CHECKED
1:100	18.08.2017	HA	JN

JOB	DRAWING	REVISION
16097	DA 3.01	-

polished and textured precast concrete with horizontal recessed detailing

part precast & part glass balcony balustrade

fair face brick work

bronze powder coated window frames

bronze powder coated window frames

textured brick panels

King William Street elevation

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DRAWING TITLE
KING WILLIAM STREET ELEVATION

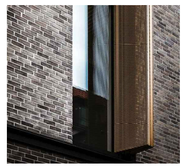
PROJECT
APARTMENT DEVELOPMENT
2-4 KING WILLIAM STREET
KENT TOWN, S.A. 5067

SCALE	DATE	DRAWN	CHECKED
1:200	18.08.2017	HA	JN

JOB	DRAWING	REVISION
16097	DA 4.01	-

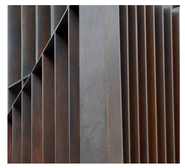

part precast & part glass balcony balustrade

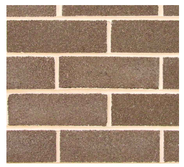

polished and textured precast concrete with horizontal recessed detailing


powder coated bronze mesh screen


bronze powder coated mesh balustrade


glass balcony balustrade


bronze shading fins


fair face brick work

potential development envelope

development under construction

north east elevation

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DRAWING TITLE
NORTH EAST ELEVATION

PROJECT
APARTMENT DEVELOPMENT
2-4 KING WILLIAM STREET
KENT TOWN, S.A. 5067

SCALE	DATE	DRAWN	CHECKED
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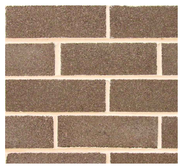
JOB	DRAWING	REVISION
16097	DA 4.02	-

standing seam
metal cladding

metal cladding &
brickwork precedent
image

polished and textured precast
concrete with horizontal
recessed detailing



fair face brick work

bronze powder coated metal
mesh

bronze powder coated
window frames

Little Rundle Street elevation (south east)

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DRAWING TITLE
SOUTH EAST ELEVATION

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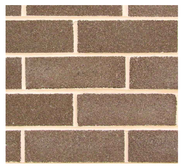
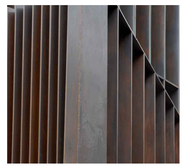
2-4 KING WILLIAM STREET
KENT TOWN, S.A. 5067

SCALE	DATE	DRAWN	CHECKED
1:200	18.08.2017	HA	JN

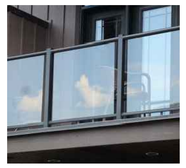
JOB	DRAWING	REVISION
16097	DA 4.03	-



fair face brick work



bronze shading fins



glass balcony balustrade

bronze powder coated mesh balustrade

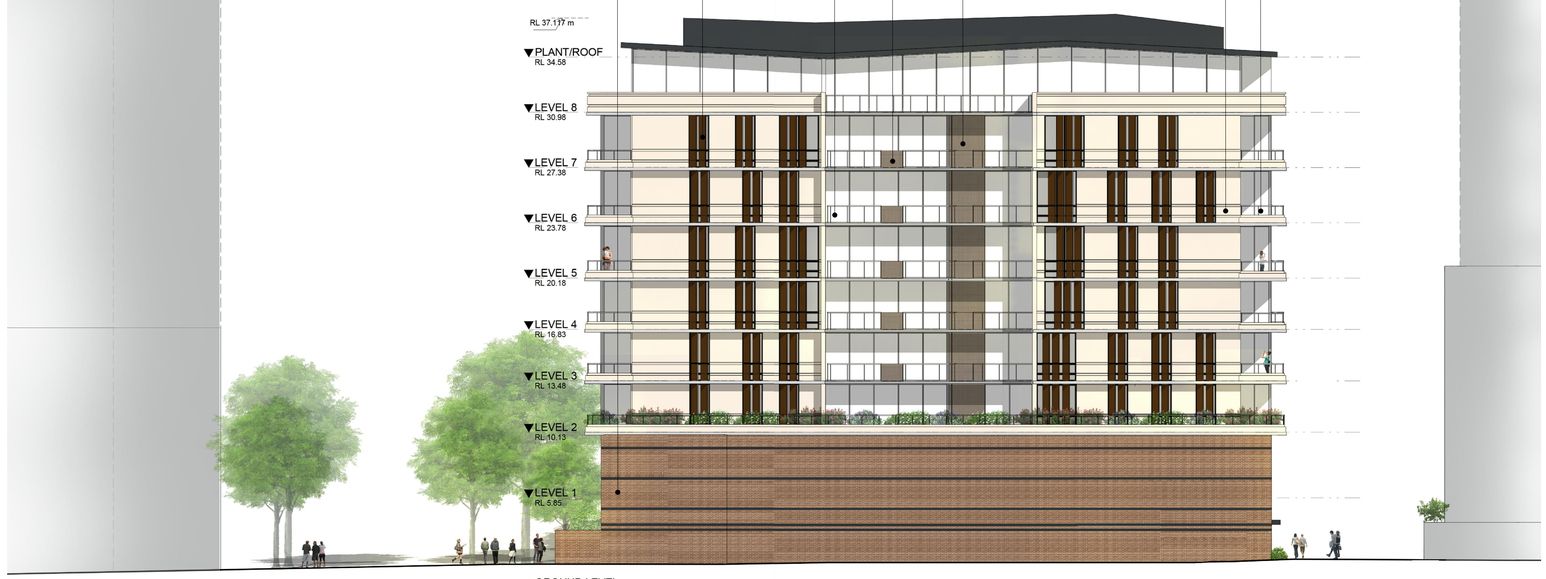
powder coated bronze mesh screen

polished and textured precast concrete with horizontal recessed detailing

part precast & part glass balcony balustrade

potential development envelope

development under construction



King William Street

Little Rundle Street

north east elevation

IMPORTANT NOTES:

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marchesepartners

Marchese Partners International Pty Ltd
Level 1, 22-26 Peel Street. Adelaide, SA 5000. Australia
P +61 8 8121 9304 E info@marchesepartners.com
www.marchesepartners.com
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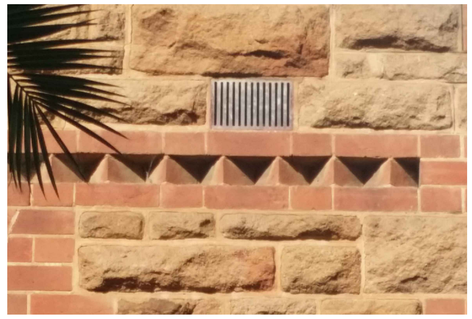
PROJECT
APARTMENT DEVELOPMENT
2-4 KING WILLIAM STREET
KENT TOWN, S.A. 5067

DRAWING TITLE
SOUTH WEST ELEVATION

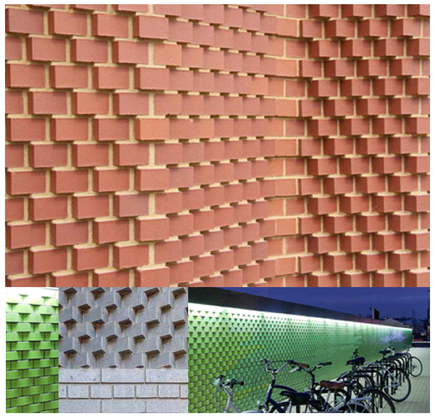
SCALE	DATE	DRAWN	CHECKED
1:200	18.08.2017	HA	JN

JOB	DRAWING	REVISION
16097	DA 4.04	-

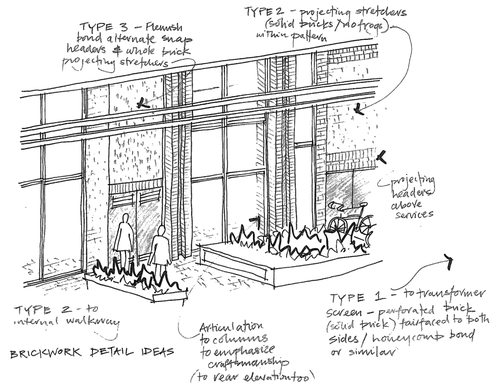
Reinterpretation of the past - through detail and material selection

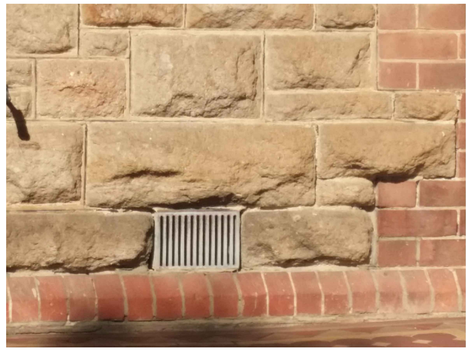


Reference - Brick Dogtooth corbel

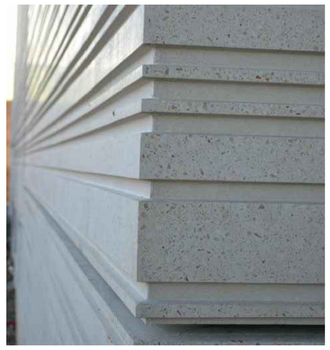


Reinterpretation - Brick patterning on pedestrian walkway

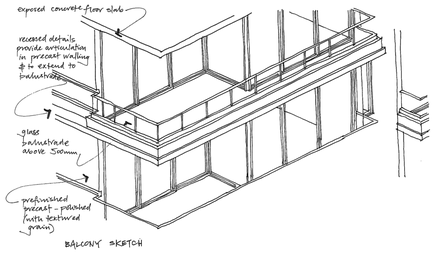


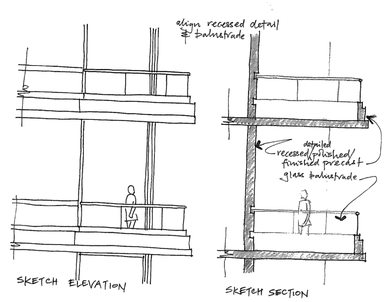


Reference - Coursed squared rubble - sandstone - rock face for texture



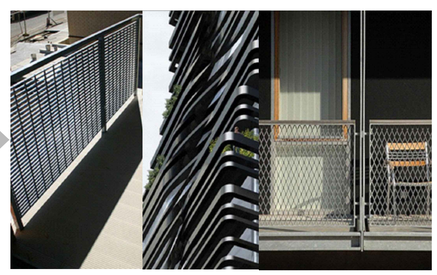
Reinterpretation - precast concrete panels with recessed detail to to resemble stone and create horizontality.



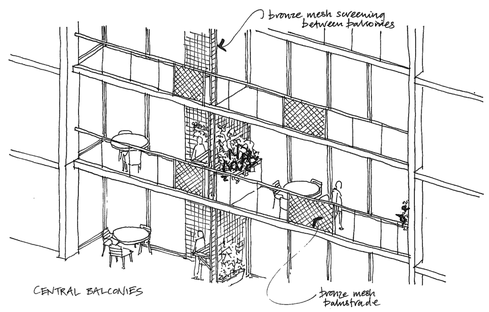


part precast & part glass balustrade

Reference - Ironwork and part brick part mesh fencing



Reinterpretation - Balustrade detail



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marchesepartners
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Level 1, 22-26 Peel Street. Adelaide, SA 5000. Australia
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www.marchesepartners.com
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PROJECT
APARTMENT DEVELOPMENT
2-4 KING WILLIAM STREET
KENT TOWN, S.A. 5067

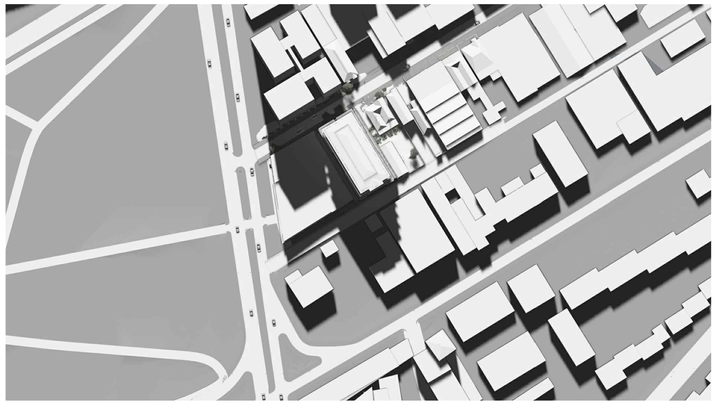
DRAWING TITLE
MATERIAL SELECTION

SCALE	DATE	DRAWN	CHECKED
NTS	18.08.2017	HA	JN

JOB	DRAWING	REVISION
16097	DA 5.01	-

JUNE 21st

10:00am



12:00pm

3:00pm

DECEMBER 21st

10:00am

12:00pm

3:00pm

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DRAWING TITLE
SHADOW ANALYSIS

PROJECT
APARTMENT DEVELOPMENT
2-4 KING WILLIAM STREET
KENT TOWN, S.A. 5067

SCALE	DATE	DRAWN	CHECKED
NTS	18.08.2017	HA	JN

JOB	DRAWING	REVISION
16097	DA 6.01	-

VIEW FROM ENTRANCE - 1

VIEW FROM ENTRANCE - 2

VIEW FROM FRONT BUILDING - 1

VIEW FROM LITTLE RUNDLE STREET

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APARTMENT DEVELOPMENT
2-4 KING WILLIAM STREET
KENT TOWN, S.A. 5067

DRAWING TITLE
ARTIST IMPRESSION

SCALE	DATE	DRAWN	CHECKED
NTS	18.08.2017	HA	JN

JOB	DRAWING	REVISION
16097	DA 7.01	-

VIEW FROM KING WILLIAM STREET - 1

VIEW FROM KING WILLIAM STREET - 2

VIEW FROM INTERIOR - 1

VIEW FROM INTERIOR - 2

IMPORTANT NOTES:

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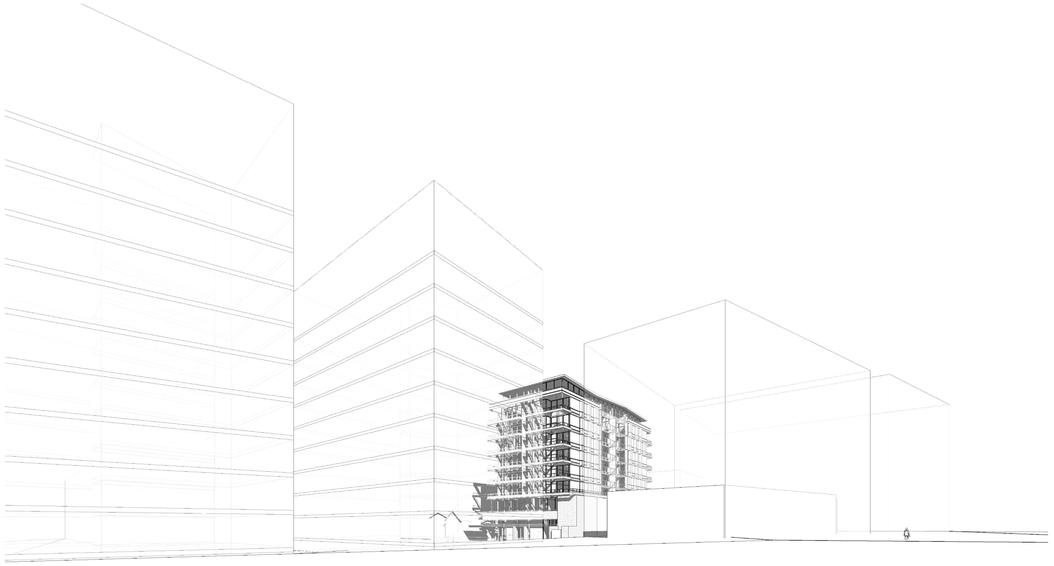
DRAWING TITLE
ARTIST IMPRESSION

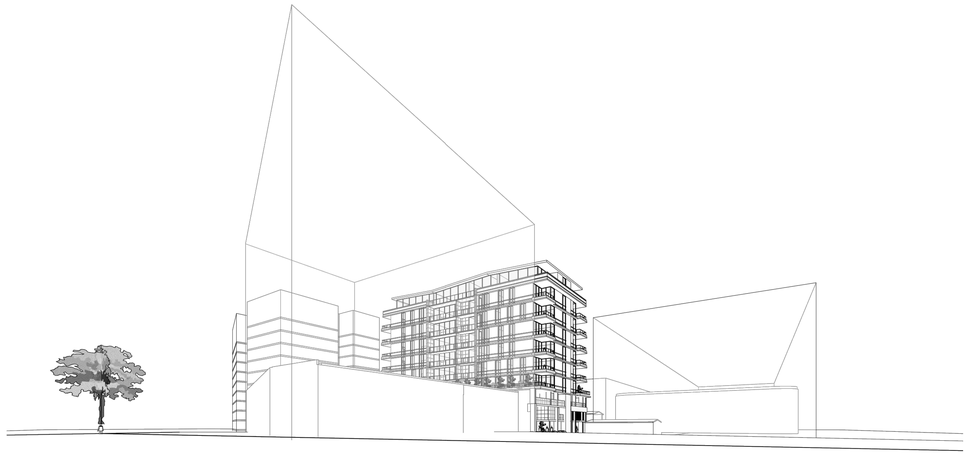
PROJECT
APARTMENT DEVELOPMENT
2-4 KING WILLIAM STREET
KENT TOWN, S.A. 5067

SCALE	DATE	DRAWN	CHECKED
NTS	18.08.2017	HA	JN

JOB	DRAWING	REVISION
16097	DA 7.02	-

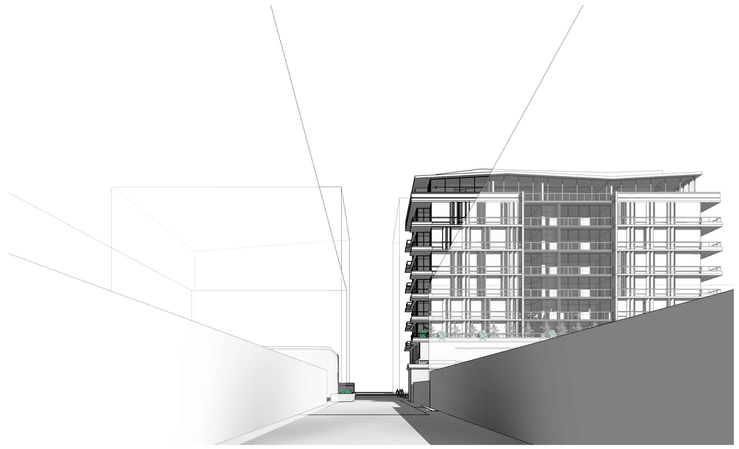


LONG DISTANCE - 1



LONG DISTANCE - 2

LONG DISTANCE - 3



LONG DISTANCE - 4

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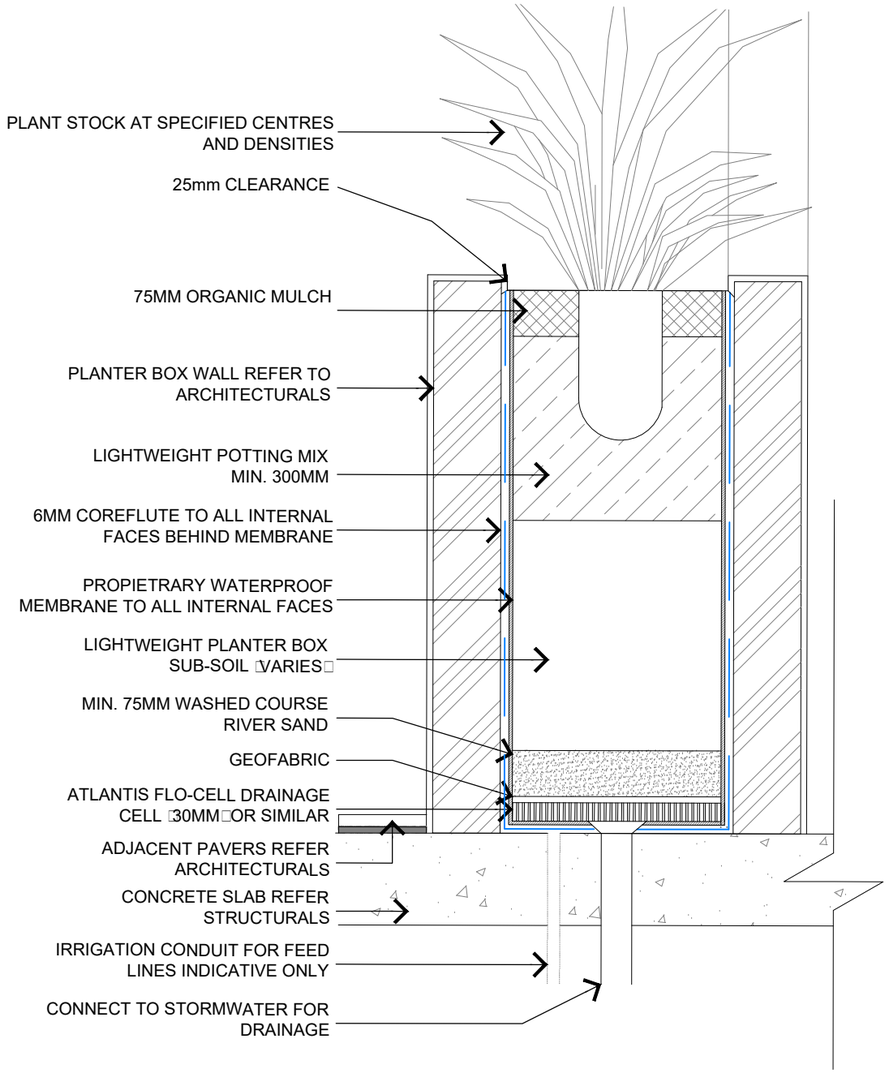
DRAWING TITLE
ARTIST IMPRESSION

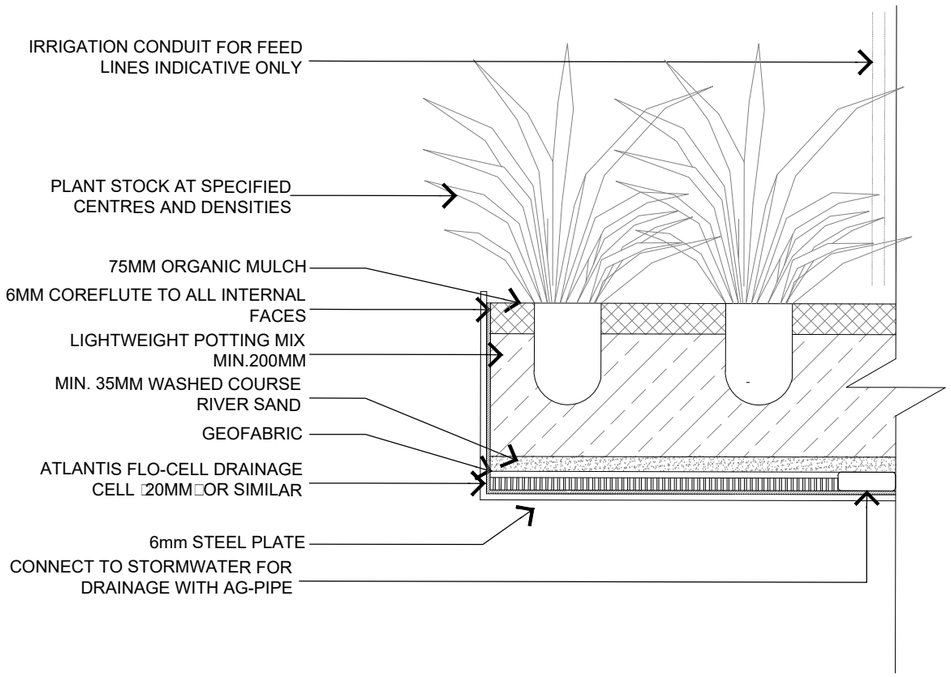
PROJECT
APARTMENT DEVELOPMENT
2-4 KING WILLIAM STREET
KENT TOWN, S.A. 5067

SCALE	DATE	DRAWN	CHECKED
NTS	18.08.2017	HA	JN

JOB	DRAWING	REVISION
16097	DA 7.03	-



- / – RAISED PLANTER - GROUND FLOOR PATHWAY
1:10



- / – SUSPENDED PLANTER - GROUND FLOOR REAR ENTRY
1:10

C1	00:00:16	CONSTRUCTION DRAWINGS
T1	00:00:16	TENDER DRAWINGS
W1	00:00:16	WORKING DRAWINGS
A1	02:0i6:17	CONCEPT DESIGN

Rev.	Date	Description

PLOT WORKS
Design
a: PO Box 392 STIRLING
p: 83885520
e: info@plotworks.com.au
w: www.plotworks.com.au

Sheet Title

APARTMENT DEVELOPMENT
2-4 KING WILLIAM STREET
KENT TOWN

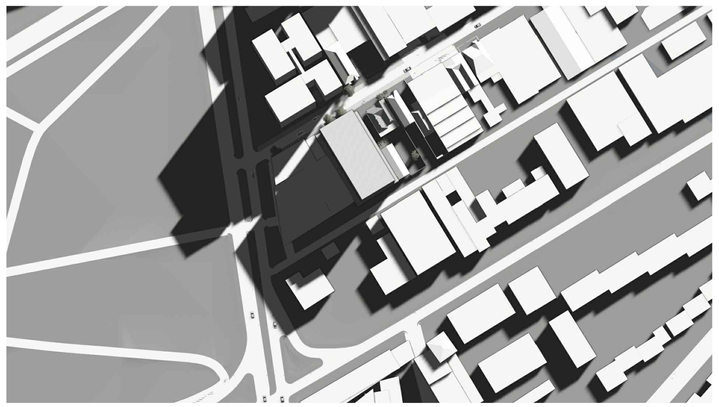
LANDSCAPE DETAILS

Drawn	Date	Scale
EA	10:08:2017	1:10

It is intended that the drawings represent the visual design of the work. Any technical details are for outline purposes only. The contractor must separately provide all necessary technical diagrams or calculations for compliance with any relevant industry or safety standards or regulations or by-laws.
Check ALL dimensions on site.
Use figured dimensions not scaled.
Check for latest revision issue.

Job No.	Sheet No.	Revision
-	LA-03	A1

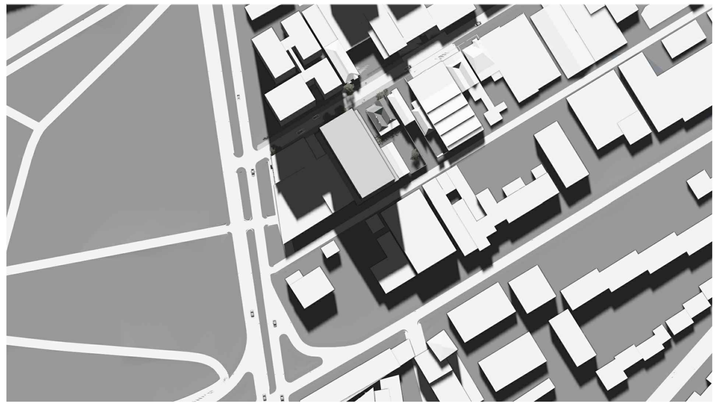
JUNE 21st



9:00am

10:00am

11:00am



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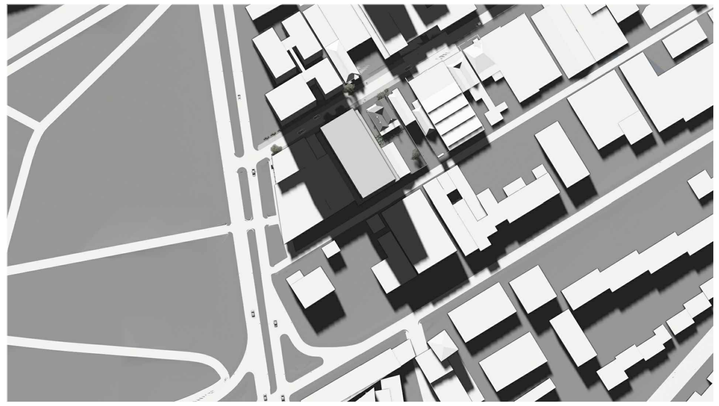

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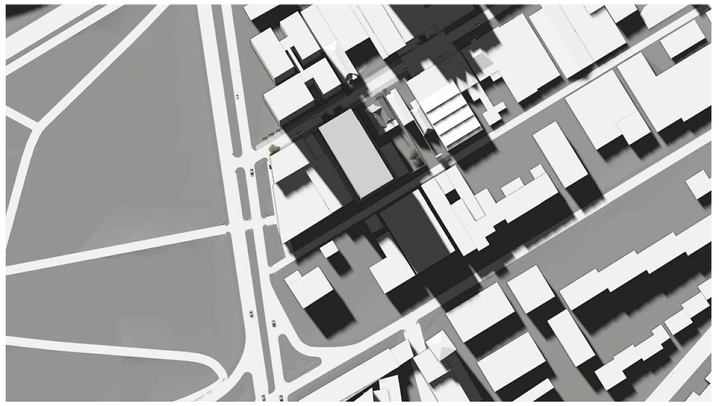

2:00pm

3:00pm

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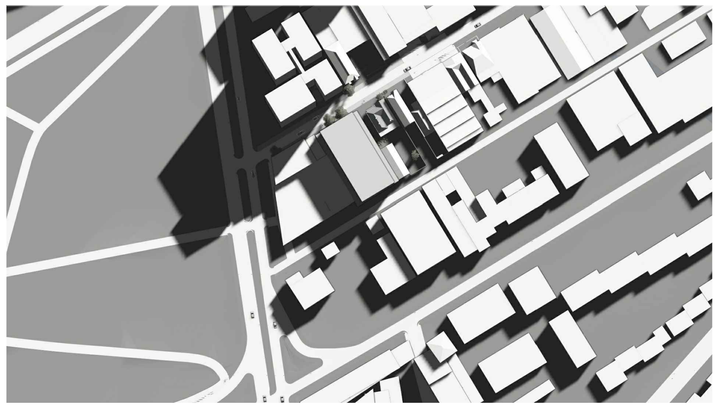
PROJECT
APARTMENT DEVELOPMENT
2-4 KING WILLIAM STREET
KENT TOWN, S.A. 5067

DRAWING TITLE
SHADOW ANALYSIS - June 21st
CURRENT PROPOSAL

SCALE	DATE	DRAWN	CHECKED
NTS	18.08.2017	HA	NW

JOB	DRAWING	REVISION
16097	DA 6.03	-

JUNE 21st



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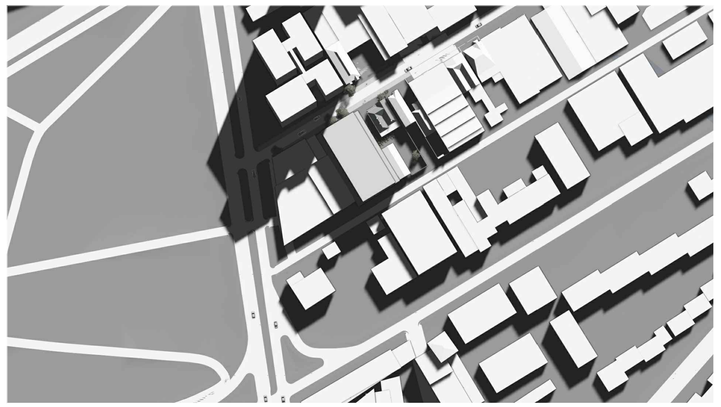

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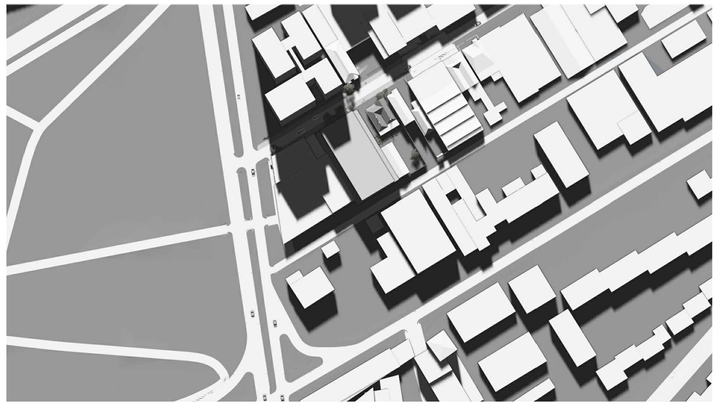

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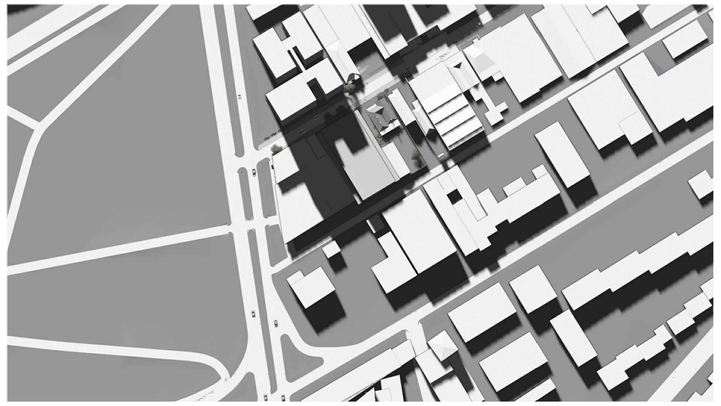

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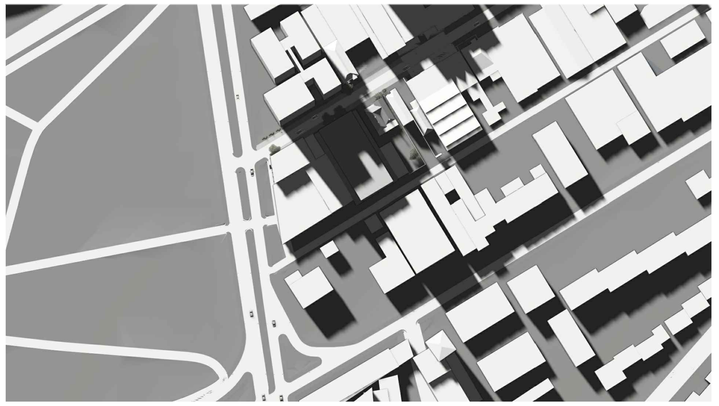

2:00pm

3:00pm

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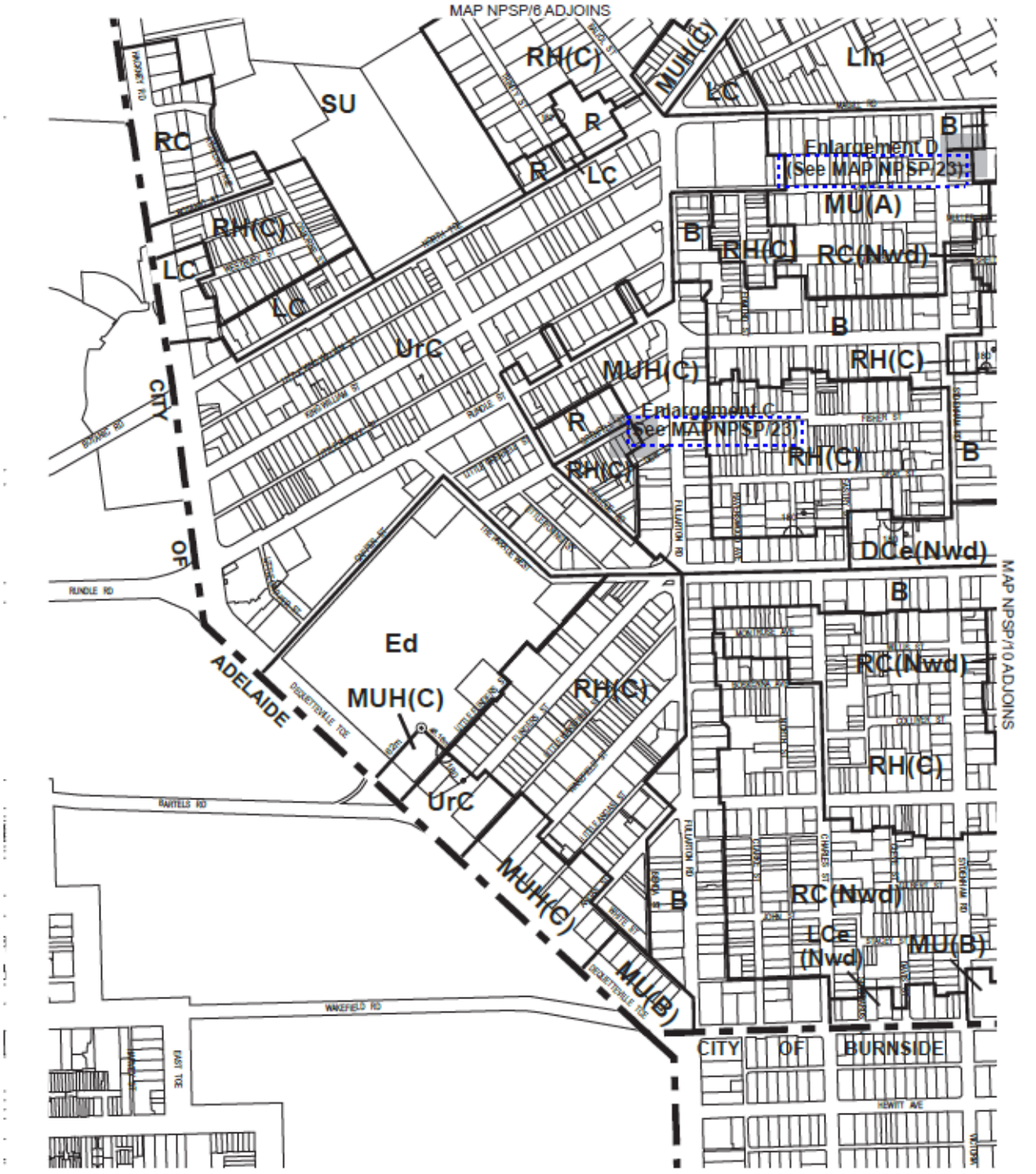
PROJECT
APARTMENT DEVELOPMENT
2-4 KING WILLIAM STREET
KENT TOWN, S.A. 5067

DRAWING TITLE
SHADOW ANALYSIS - June 21st
5 STOREY SCENARIO

SCALE	DATE	DRAWN	CHECKED
NTS	18.08.2017	HA	NW

JOB	DRAWING	REVISION
16097	DA 6.04	-



NOTE : For Policy Areas See MAP NPSP/15

B	Business	**RC**	Residential Character
DCe(Nwd)	District Centre (Norwood)	**RC(Nwd)**	Residential Character (Norwood)
Ed	Educational	**RH(C)**	Residential Historic (Conservation)
LC	Local Commercial	**SU**	Special Uses
LCe(Nwd)	Local Centre (Norwood)	**UrC**	Urban Corridor
LIn	Light Industry		
MU(A)	Mixed Use A		
MU(B)	Mixed Use B		
MUH(C)	Mixed Use Historic (Conservation)		
R	Residential		

Zone Boundary

Development Plan Boundary

Scale 1:8000

0 500metres

NORWOOD PAYNEHAM AND ST PETERS (CITY) ZONES MAP NPSP/9

Consolidated - 30 May 2017

Business
6.1 West Norwood
6.2 Beulah Road
6.3 Magill Road West
7 Mixed Use A

District Centre (Norwood)
2.3 The Parade West

Educational
9.1 Prince Alfred College

Mixed Use B
8.1 Kensington Road
8.2 Dequetteville Terrace South

Mixed Use Historic (Conservation)
11.1 Dequetteville Terrace
11.2 The Parade/Fullarton Road
11.4 Payneham Road

Residential
1.1 Medium Density

Residential Character
15.2 Hackney

Residential Historic (Conservation)
12.1 Kent Town 1
12.2 Kent Town 2
12.3 Norwood 1
12.4 Norwood 2
12.5 Norwood 3
12.7 Norwood 5
12.12 Hackney South
12.13 College Park

Urban Corridor
14.1 Boulevard
14.2 Business
14.3 High Street

Policy Area Boundary
Development Plan Boundary

Scale 1:8000

0 500metres

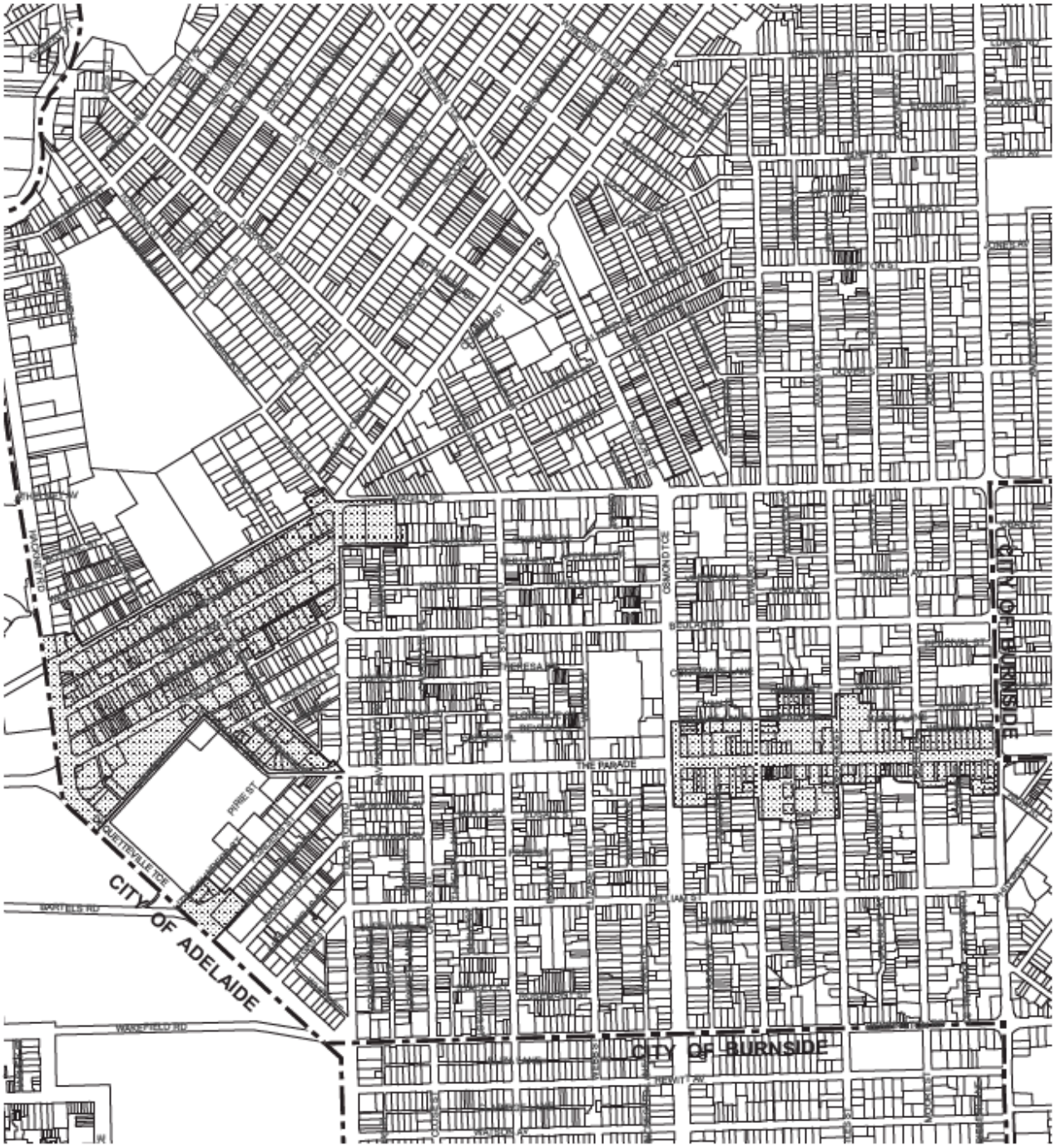
NORWOOD PAYNEHAM AND ST PETERS (CITY) POLICY AREAS MAP NPSP/15

Consolidated - 30 May 2017

- Living
- District Centre (DCe)
- Neighbourhood Centre (NCe)
- Local Centre (LCe)
- Business
- Shopping
- Commercial
- Light Industry
- Public Purpose
- Public Purpose – Education (Ed)
- Special Use
- Open Space
- Historic Conservation
- Community (CU)
- Mixed Use
- Mixed Use (Medium - High Density)
- River Alignment
- Creek Alignment
- Collector Road/Local Crossing
- Major Collector Road
- Secondary Arterial Road
- Primary Arterial Road
- Development Plan Boundary

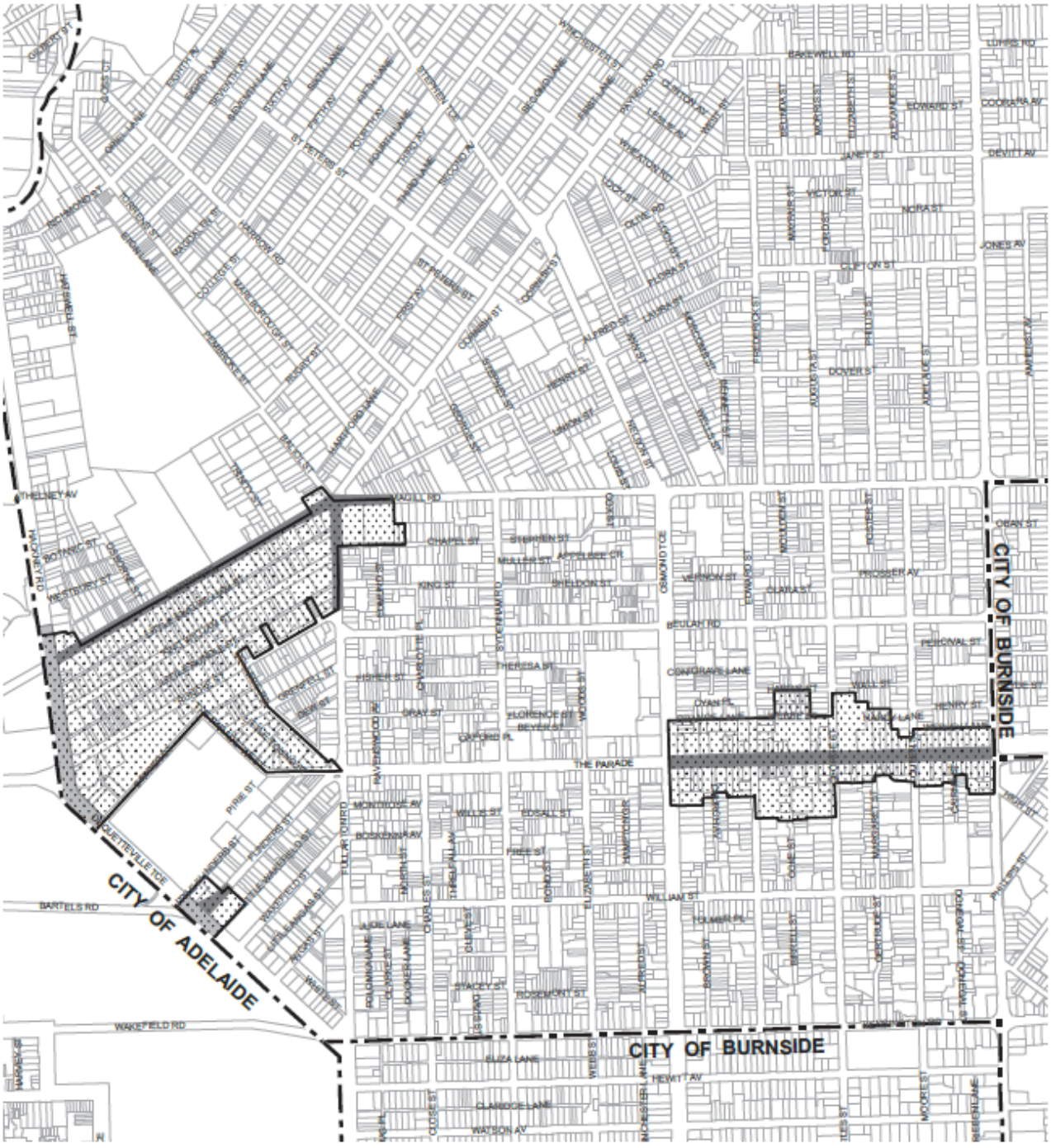
NORWOOD PAYNEHAM AND ST PETERS (CITY) STRUCTURE PLAN MAP NPSP/1 (Overlay 1) PART B

Consolidated - 30 May 2017



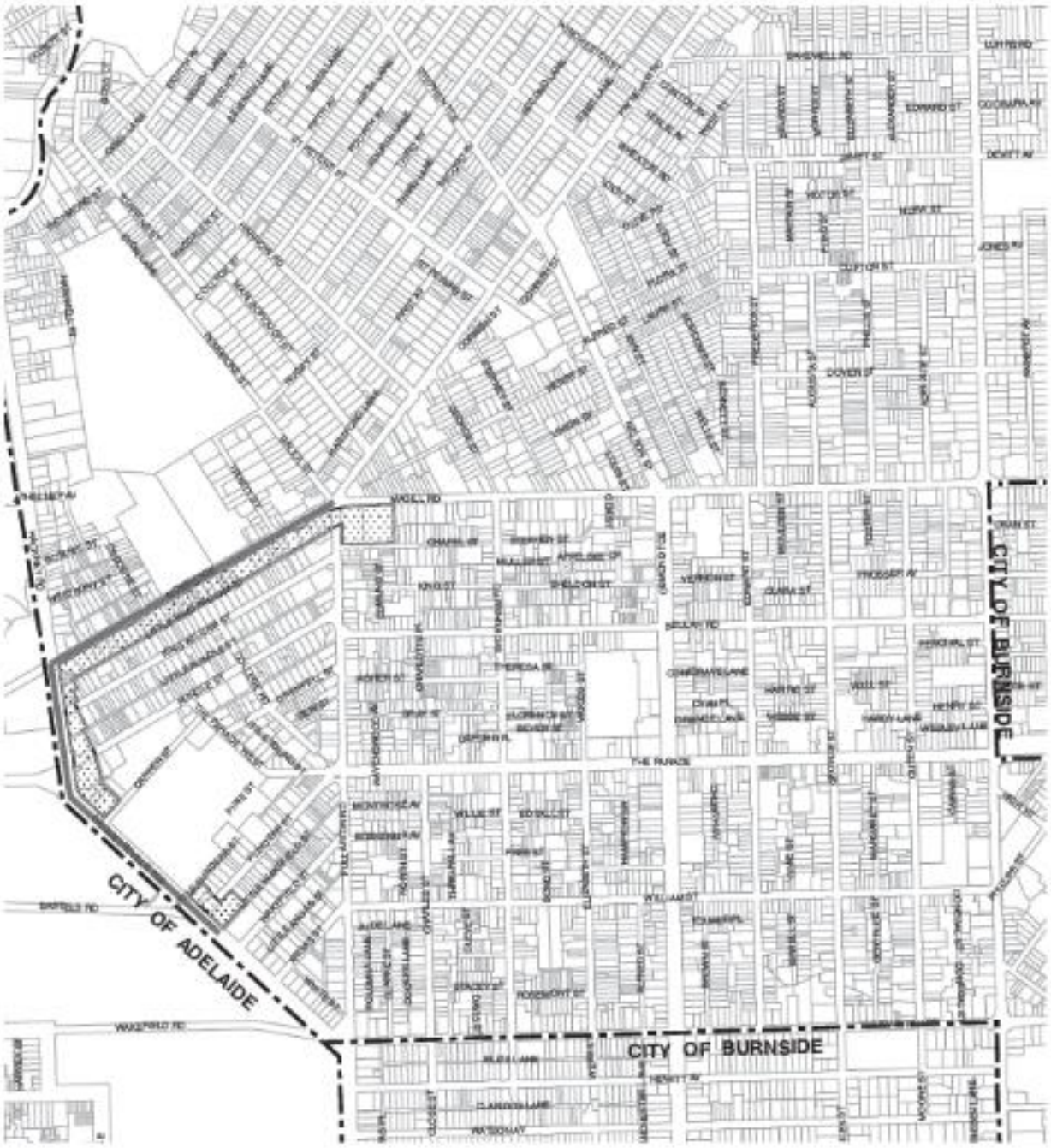
NORWOOD PAYNEHAM AND ST PETERS (CITY)
AFFORDABLE HOUSING
MAP NPSP/1 (Overlay 6)

Consolidated - 30 May 2017



NORWOOD PAYNEHAM AND ST PETERS (CITY)
NOISE AND AIR EMISSIONS
MAP NPSP/1 (Overlay 7)

Consolidated - 30 May 2017



NORWOOD PAYNEHAM AND ST PETERS (CITY)
STRATEGIC TRANSPORT ROUTES
MAP NPSP/1 (Overlay 8)

Designated Area
Strategic Roads Network
Development Plan Boundary

Consolidated - 30 May 2017

Site Photographs

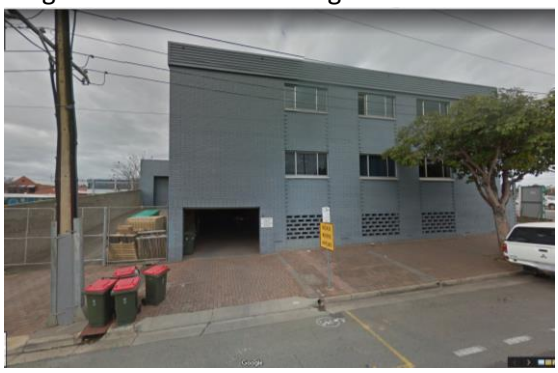
King William Street – looking south to subject land

King William Street – looking west

King William Street – looking east

King William Street - looking north

Neighbouring site (LH)– eastern side



Neighbouring site– western side

Little Rundle Street – looking east

Little Rundle Street – looking west

Government of South Australia
Department of Planning, Transport and Infrastructure

Product	Register Search (CT 5077/990)
Date/Time	28/08/2017 02:06PM
Customer Reference	2-4KWS
Order ID	20170828007777
Cost	$28.25

REAL PROPERTY ACT, 1886
South Australia

The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.

Certificate of Title - Volume 5077 Folio 990

Parent Title(s) CT 4171/70

Creating Dealing(s) CONVERTED TITLE

Title Issued 03/07/1992 **Edition** 7 **Edition Issued** 13/01/2017

Estate Type

FEE SIMPLE

Registered Proprietor

KW STREET PTY. LTD. (ACN: 615 800 952)
OF SE 3 G WEST 50 GRENFELL STREET ADELAIDE SA 5000

Description of Land

ALLOTMENT 2 FILED PLAN 100027
IN THE AREA NAMED KENT TOWN
HUNDRED OF ADELAIDE

Easements

NIL

Schedule of Dealings

NIL

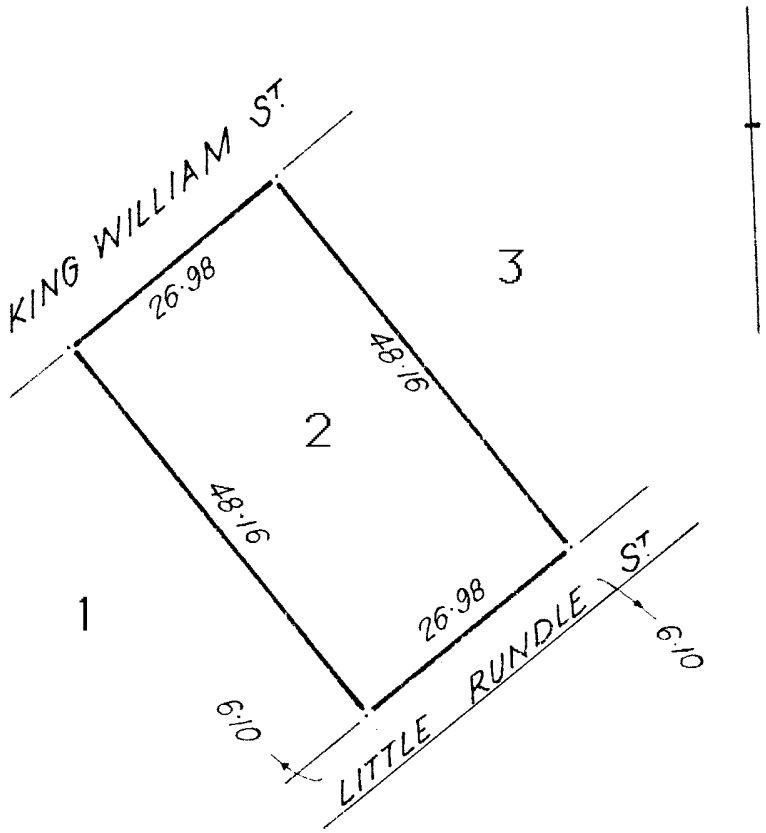
Notations

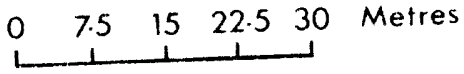
Dealings Affecting Title	NIL
Priority Notices	NIL
Notations on Plan	NIL
Registrar-General's Notes	NIL
Administrative Interests	NIL

Product	Register Search (CT 5077/990)
Date/Time	28/08/2017 02:06PM
Customer Reference	2-4KWS
Order ID	20170828007777
Cost	$28.25

This plan is scanned from Certificate of Title 4171/70

LAST PLAN REF : GP 226/54





Note: Subject to all lawfully existing plans of division

DEVELOPMENT REGULATIONS 2008

Form of Declaration

(Schedule 5, Clause 2A)

To:	The State Planning Assessment Commission
From:	KW STREET PTY LTD C/- FUTURE URBAN GROUP
Date of Application:	Friday, 29 September 2017

Location of Proposed Development:

House Number:	2- 4	Lot Number:	2
Street:	King William Street	Town/Suburb:	Kent Town
Section No (full/part):		Hundred:	Adelaide
Volume:	5077	Folio:	990

Nature of Proposed Development:

CONSTRUCTION OF A 9 STOREY MIXED USE BUILDING CONTAINING SEVEN RESIDENTIAL LEVELS, THREE COMMERCIAL TENANCIES, CARPARKING AND LANDSCAPING.

I, Milly Nott, in my capacity as a representative of the Applicant, declare that the proposed development will involve the construction of a building which would, if constructed in accordance with the accompanying drawings, not be contrary to the regulations prescribed for the purposes of Section 86 of the *Electricity Act 1996*.

I make this declaration under Clause 2A(1) of Schedule 5 of the *Development Regulations 2008*.

Friday, 29 September 2017

Date

Signed

DEVELOPMENT APPLICATION FORM

AUTHORITY: THE STATE PLANNING ASSESSMENT COMMISSION

APPLICANT: KW STREET PTY LTD

Postal Address: C / – FUTURE URBAN GROUP

GPO BOX 2403, ADELAIDE, SOUTH AUSTRALIA, 5001

OWNER: KW STREET PTY LTD

Postal Address: SUITE 3G WEST

50 GRENFELL STREET, ADELAIDE SA 5000

BUILDER: TO BE CONFIRMED

Postal Address:

Licence No:

CONTACT PERSON FOR FURTHER INFORMATION:

Name: MILLY NOTT

Telephone: (08) 8221 5511

Email: MILLY@FUTUREURBANGROUP.COM

Mobile: 0450 965 858

EXISTING USE:

VACANT LAND

FOR OFFICE USE

Development No:

Previous Development No:

Assessment No:

❑ Complying	Application forwarded to DA
❑ Non-complying	Commission/Council on:
❑ Notification Cat 2	/ /
❑ Notification Cat 3	Decision:
❑ Referrals/Concurrence	Type:
❑ DA Commission	Date: / /

	Decision	Fees	Receipt No	Date
Planning:	YES			
Building:				
Land Division:				
Additional:				
Dev Approval:				

DESCRIPTION OF PROPOSED DEVELOPMENT: CONSTRUCTION OF A 9 STOREY MIXED USE BUILDING CONTAINING SEVEN RESIDENTIAL LEVELS, THREE COMMERCIAL TENANCIES, CARPARKING AND LANDSCAPING

LOCATION OF PROPOSED DEVELOPMENT:

House No: 2 - 4 Lot No: 2 Road: KING WILLIAM STREET Town/Suburb: KENT TOWN

Section No (full/part): Hundred: ADELAIDE Volume: 5077 Folio: 990

DOES EITHER SCHEDULE 21 OR 22 OF THE *DEVELOPMENT REGULATIONS 2008* APPLY? YES: ☐ NO: ☑

HAS THE *CONSTRUCTION INDUSTRY TRAINING FUND ACT 1993 LEVY* BEEN PAID? YES: ☐ NO: ☑

DEVELOPMENT COST (Do not include any fit-out costs): $ 18 MILLION

I acknowledge that copies of this development application and any supporting documentation may be provided to interested persons in accordance with the *Development Regulations 2008*.

SIGNATURE: 

Dated: 29 SEPTEMBER 2017

ON BEHALF OF 2KW PTY LTD

2 – 4 KING WILLIAM STREET

KENT TOWN

PLANNING REPORT

Prepared for:
2KW Pty Ltd

Date:
19 October 2017

Proprietary Information Statement

The information contained in this document produced by Future Urban Group is solely for the use of the Client identified on the cover sheet for the purpose for which it has been prepared and Future Urban Group undertakes no duty to or accepts any responsibility to any third party who may rely upon this document.

Document Control

Revision	Description	Author	Date
V1	Draft	MN	27/09/17
V2	Draft Review	CV	28/09/17
V3	Final	MN/CV	19/10/17

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1. INTRODUCTION

The proposed development seeks to construct a nine storey mixed use building comprising of three commercial tenancies (total of 332 square metres of floor area), car parking in the form of basement, ground level, and two levels above ground (67 carparks in total), seven residential apartment levels (52 apartments in total, including 4 penthouse apartments and 12 Affordable Housing apartments), landscaping, and a publicly accessible pedestrian link through the site.

This development application also includes the following which form appendices to this planning statement:

- Appendix 1 – Development Application form;
- Appendix 2 – Electricity Act Declaration;
- Appendix 3 – Certificates of title;
- Appendix 4 – Traffic and Parking Assessment prepared by Frank Siow & Associates dated 8 September 2017;
- Appendix 5 – Waste Management Plan prepared by RawTec Pty Ltd dated 12 September 2017;
- Appendix 6 – Sustainability Report prepared by Lucid Consulting Australia dated August 2017;
- Appendix 7 – Services Infrastructure Report prepared by Lucid Consulting Australia dated 29 August 2017;
- Appendix 8 - Stormwater Management Report prepared by Robert Bird Group dated 15 August 2017;
- Appendix 9 – Landscaping Maintenance Concept prepared by Plot Works dated 10 August 2017; and
- Appendix 10 – Plans and Drawings prepared by Marchese Partners dated 18 August 2017.

As a result of the pre-lodgement agreement being reached; the specialist inputs; our site and locality inspection; and, our assessment of the proposal against the relevant provisions of the Norwood, Payneham and St Peters Development Plan (consolidated 30 May 2017), we have formed the opinion that the proposal displays significant planning merit and therefore warrants Development Plan Consent.

2. PROPOSAL DESCRIPTION

The proposed development seeks to construct a nine storey mixed use building comprising of three commercial tenancies (total of 332 square metres of floor area), car parking in the form of basement, ground level, and two levels above ground (67 carparks in total), seven residential apartment levels (52 apartments in total, including 4 penthouse apartments and 12 Affordable Housing apartments), landscaping, and a publicly accessible pedestrian link through the site.

The proposal will be described in detail below.

2.1 Design Process and Philosophy

The design has evolved during the course of several months consultation with the Office of Design and Architecture South Australia (ODASA). Several design review workshops, pre-lodgement panel meetings and a desktop review created a rigorous and constructive design process has culminated into an excellent design outcome.

During this process, the design team took on board the Expert Panel Member's comments, particularly in regard to:

- the overall size of development;
- height and scale of development;
- public amenity at ground level;
- the context of the site and relationship to existing and future development;
- vertical and horizontal proportions and composition; and
- the visibility of car parking above ground level.

By addressing each of these points, the layout, built form and envisaged articulation has been achieved.

The proposed design incorporates:

- an active street frontage comprising retail and commercial spaces along King William Street;
- an extended, recessed and partially colonnaded footpath permitting pedestrian friendly activities;
- a defined residential entrance;
- well resolved back of house activities which separate the vehicle crossovers and the pedestrian and bicycle access;
- a pedestrian walkway along the north-eastern side of the subject site, between King William Street and Little Rundle Street which presently does not exist. This design approach also 'opens up' the north eastern corner of site and creates a connection with the adjacent Local Heritage building;
- commercial tenancies at Ground Level and Level 1 with car parking located behind to enhance the activation of the King William Street frontage;
- wide frontages and generous balconies to all residential apartments with natural light and ventilation to all living and bedroom areas;
- natural ventilation and light to internal corridors on all levels; and

- a building with elegant proportions, generous floor to floor and floor to ceiling heights, and functional apartment layouts offering a high standard of amenity.

The resultant overall built form and mass is conscious of its immediate surrounds. Located at the interface of the Boulevard Policy Area and the East Park (11 storey) development on the opposite side of King William Street, the site provides an opportunity to provide a 'book-end'.

The base of the building (Ground Level and Level 1) is placed to the side boundaries with the upper levels generously setback from all boundaries. The setbacks to the east and west ensures that the future development potential of adjacent sites is protected and at the same time future-proofs the amenity of the subject development in terms of outlook and views and privacy. The setbacks to the street frontages provides the necessary clearance to overhead powerlines.

At ground level, earlier schemes lacked activation along both King William Street and Little Rundle Street. The creation of a publicly accessible pedestrian link assisted in activating both street frontages. This link is separated from the vehicular access point and provides a generous public gesture that is also visually enhanced with landscaping and public art.

Acknowledging that the adjacent site is a Local Heritage listed property, the materiality and finishes chosen for the podium have been carefully designed and detailed in an innovative and contemporary manner. The fair face brickwork at street level and the use of a combination of carefully landscaped features and unit paving textures break down the scale of this base element. Further, the design 'opens up' the corner of the northeast corner of the building to create a visual 'relationship' with, and connection to, the heritage place to respect its significance.

Above the podium, the building mass presents a clean and well-defined form. Solid polished structural precast walls are used to frame the ends of the building. In addition, horizontal recessed details along the precast walls align with the balustrade heights to further enhance the horizontality of the building. This, in combination with the balconies and full height central windows break up the vertical mass whilst maintaining a unified architectural expression that is well-balanced in its overall building proportion.

Internally, particular attention has been given to the passive design of the apartments, including the layout and orientation, access to natural light, cross ventilation and appropriate shading. The inclusion of elements such as generous shading devices, landscaping to the exposed terraces, solid elements and reduction of unprotected windows substantially enhances this passive design performance of the building.

The final design forming part of the Pre-Lodgement Agreement references the broader urban context, together with the finer grain elements of the immediate locality representing an overall appropriate architectural composition that is clearly defined, representing a quietly contemporary residential character.

2.2 Ground Level

The proposed ground level includes two commercial tenancies, a pedestrian walkway, car and bicycle parking facilities, residential foyer, waste storage, and extensive landscaping.

The two ground level commercial tenancies front King William Street and are 68 square metres and 84 square metres, in floor area. The floor to ceiling height of these spaces will be 5.85 metres influenced by the void created by the mezzanine car parking level. Landscaping, public seating, paving, three integrated bicycle parking spaces, and a reflection pond are also included along the King William Street frontage.

Along the north-eastern boundary is the proposed pedestrian walkway, providing public access between King William Street to Little Rundle Street. This access will be open during the daylight/business hours and closed during the evening. The walkway has been designed to enhance pedestrian amenity and permeability, through the inclusion of interesting materials, textures, landscaping and public seating.

The foyer for the residential apartments is located behind the commercial tenancies, and contains the lift, stair and mailbox facilities. It is accessible via the pedestrian walkway, the King William Street frontage, and the car parking area.

Vehicle access is provided via a double crossover off Little Rundle Street. This access will be controlled by a roller door which will be open during the daylight/business hours, and closed in the evenings. Residents will have remote control access of the roller door. An intercom system is proposed to allow visitor access. There are 10 car parking spaces provided at ground level, including 9 visitor/customer spaces (including 2 spaces for persons with a disability), and 1 Go-Get car space (for shared use by building occupants).

Along the Little Rundle Street façade a bicycle storage room is proposed containing 30 secure bicycle parking spaces, together with a waste storage area.

2.3 Basement, Mezzanine Level and Level 1

The basement, mezzanine level and Level 1 are all generally used for car parking, services and external resident storage with the exception of Level 1 which includes a commercial tenancy of 180 square metres in floor area fronting King William Street.

The car parks are distributed across the car parking levels as outlined below:

- Basement Level – 19 car parking spaces (including 2 small car spaces);
- Mezzanine Level – 18 car parking spaces
  - » 10 spaces in the lower mezzanine; and
  - » 8 spaces in the upper mezzanine including 3 small car parking spaces.
- Level 1 – 20 car parking spaces
  - » 10 spaces in lower Level 1; and
  - » 10 spaces in upper Level 1.

2.4 Level 2

There are eight apartments provided at Level 2, comprising of the following:

- 2, two bedroom, two bathroom apartments of 89 square metres in floor area and a 47 square metre balcony;
- 2, one bedroom, one bathroom apartments of 66 square metres in floor area and a 27 square metre balcony;
- 2, two bedroom, one bathroom apartments of 79 square metres in floor area and a 49 square metre balcony; and
- 2, three bedroom, two bathroom apartments of 115 square metres in floor area and balconies between 32 square metres and 64 square metres in total.

Between 8.2 cubic metres and 15.45 cubic metres of internal and external storage is provided to each apartment (excluding habitable rooms).

Level 2 is setback 3 metres from King William Street, and 1.5 metres from Little Rundle Street (to the building). The building is also setback between 2.94 metres and 5 metre from the north east and the south western boundaries.

2.5 Level 3 to Level 7

There are eight apartments provided over Levels 3 to 7, comprising of the following:

- 2, two bedroom, two bathroom apartments of 89 square metres in floor area and a 12 square metre balcony;
- 2, one bedroom, one bathroom apartments of 66 square metres in floor area and a 8.8 square metre balcony;
- 2, two bedroom, one bathroom apartments of 79 square metres in floor area and a 16 square metre balcony; and
- 2, three bedroom, two bathroom apartments of 115 square metres in floor area and a 19 square metre balcony.

Between 8.2 cubic metres and 15.45 cubic metres of internal and external storage is provided to each apartment (excluding habitable rooms).

At these levels, the building is setback 3 metres from King William Street, and 1.5 metres from Little Rundle Street. The building is also setback between 3 metres and 5 metres from the north east and the south western boundaries.

2.6 Level 8

There are four apartments provided on Level 8, comprising of the following:

- 2, three bedroom, two bathroom apartments of 137 square metres in floor area and a 59 square metre balcony; and
- 2, three bedroom, two bathroom (plus one separate toilet) apartments of 147 square metres in floor area and a 63 square metre balcony.

Between 16.61 cubic metres and 17.23 cubic metres of internal and external storage is provided to each apartment.

Level 8 is setback 3.89 metres from King William Street, and between 1 metre and 2.8 metres from Little Rundle Street (to the building). The building is also setback 5 metres from the north east and the south west.

2.7 Roof Level

The roof level will contain the lift overrun and mechanical plant for those services which are not accommodated within the basement levels. This area will be contained within a 1.9 metre high acoustic screen.

2.8 Landscaping

Extensive and integrated landscaping is to be included throughout the proposed development, and supported by services to ensure ongoing maintenance. Landscaping has been provided as follows:

- A reflection pond with a background of "Star Jasmine" creepers over the perforated brick walls behind, in the north western corner of the site (fronting King William Street);
- Low height plant species such as "Silver Falls", "Feather Grass", "Cast Iron Plant", "Limelight", "Coastal Rosemary", "Cardboard Palm" within the landscaped podiums to the King William Street façade. These podiums also include innovative and integrated bicycle parking spaces and bench seats to serve a functional purpose as well as added amenity;
- "Blue Star Creeper" groundcover inlays at the entrances to the pedestrian walkway;
- Climbers including "Kangaroo Vine" and low height plants such as "Swiss Cheese", "Rubber Plant", and "ZZ Plant" along the "green wall" of the pedestrian walkway;
- Feature plant species such as "Giant Bird of Paradise", "Xanadu" and "Purple Heart" in front of the bicycle parking area and waste storage adjacent Little Rundle Street;
- Above the Little Rundle Street entrance to the pedestrian walkway there will be plants overhanging from the mezzanine level. These plant species will include "Tanika", "Purple Heart", "Cast Iron Plant" and "Limelight"; and
- Individual, movable planters located on the edge of the terraces located on Level 2.

Plant species have been selected for their durability and ability to grow in shaded/low light positions. An extensive drip irrigation system is proposed to be established to ensure the continued health of plants at ground level. It is expected that the plants in the planter boxes at the edges of the residential balconies will be maintained by the occupants of the associated apartment.

2.9 Waste

The proposed development utilises a waste chute system which is to be managed by building services and collected via a private waste contractor.

Residents will be required to transport their waste to the chute room located on at the southern end of the hallway on each residential level. There will be two chutes allocated for either general or recycling waste and connected to their corresponding bins at ground level. Organic waste will need to be transported directly to the corresponding bin in the waste storage area (not via the chutes).

Commercial tenants (on both ground level and Level 1) will be responsible for manually transporting their waste directly to the appropriate bins in the waste storage room.

Waste from the subject site is proposed to be separated into general, comingled recycling and organic waste. Hard waste and e-waste (office paper, CFL/Lighting, printer cartridges and batteries) will be temporarily stored in apartments/tenancies, and collected from the subject site by separate contractors on an "as needs" basis, or privately arranged to be dropped off to their respective waste disposal locations.

Building services will be responsible for replacing full bins connected to the chutes in the waste store room with empty bins as required. Building services will also coordinate the collection of waste and washing down of bins (in the bin wash down area located within the waste storage room).

At the time of collection, the private contractor will temporarily park in Little Rundle Street. The contractor will then be required to wheel the waste bins from the wastes storage area to Little Rundle Street, load the waste, then return the empty bins to the waste storage area. Based on predicted volumes, there will be up to 8 collections per week for general, co-mingled recycling and organic waste.

2.10 Ecologically Sustainable Development

The intent of the proposed ESD initiatives is to reduce the ecological impact of the development and improve the environment for building occupants. The building design aims to reduce energy and water consumption and the ecological footprint of the building and occupants, as well as improving the thermal comfort and air quality within the building, and occupant wellbeing in general.

This is to be achieved through the use of the following Ecologically Sustainable Development initiatives:

- Massing building configuration (apartments located directly above one another, improving the building's thermal performance);
- Dual aspect building design permitting natural cross ventilation;
- Energy efficient building services such as high efficiency artificial light fittings and HVAC systems;
- Bicycle parking;
- Small parking spaces for fuel efficient cars;
- Parking dedicated for car-sharing scheme;
- Water efficient fixtures such as:
  - Taps with a WELS rating of not less than 5 stars (5.0L/min);
  - Shower heads with a WELS ranting of not less than 3 stars (7.0 L/min);
  - Water closets with a WELS rating of not less than 4 stars (3.5 L / flush, dual flush); and
  - Which results in an estimated reduction in water usage per person of approximately 52 percent.
- Use of Low VOC paint to improve internal air quality;
- High performance ceiling insulation;
- Hot and cold water metering;
- Insulated hot water pipework; and
- Solar shading to encourage the use of natural light, and enable natural ventilation to occur during rain events.

2.11 Noise

Given the nature of the proposed land uses, specific measures have been recommended to ensure that the dividing walls and floors between the apartments comply with the requirements of Building Code of Australia for sound insulation.

This is considered to be adequate in containing internal sounds and minimising traffic and/or mechanical noises from the locality or the proposed building.

Air conditioning units servicing all land uses in the development will be located in the basement and on the roof (within a 1.9 metre acoustic screen). These locations have been selected as they are orientated away from neighbouring sensitive land uses (existing) and private open space. Further, when the neighbouring site to the west of the subject land is eventually redeveloped, the acoustic treatments to the roof plant are anticipated to adequately control airborne noise from these units.

It is not considered necessary to implement additional noise mitigation measures for the commercial tenancies until the land uses occupying these spaces is confirmed.

2.12 Contamination

Given the historical use of the site, it is considered that there would be a very low risk of contamination being present which would pose unacceptable health or environmental risks to future residents, visitors and pedestrians and other users accessing the site.

2.13 Category of Development

According to the Procedural Matters section of the Urban Corridor Zone, as the proposed development is not located on land adjacent to the Residential Zone, it should therefore be assessed as a category 1 type of development.

3. SITE AND LOCALITY

The subject site is located on the southern side of King William Street, Kent Town approximately 40 metres from its intersection with Dequetteville Terrace. The subject site comprises of a single allotment, legally described as Allotment 2 in Certificate of Title Volume 5077 Folio 990.

Figure 3.1 *Subject site and surrounding locality.*

The subject site has a frontage to King William Street of 26.98 metres, a frontage to Little Rundle Street of 26.98 metres, a depth of 48.16 metres and a site area of approximately 1,299 square metres. The site is wholly located within the Business Policy Area of the Urban Corridor Zone. Whilst all adjoining land to the subject site is located within the Urban Corridor Zone, the land to the west is the located within the Boulevard Policy Area, and the land to the south (opposite side of Little Rundle Street) is located in the High Street Policy Area.

The subject site is currently vacant and clear of any substantial vegetation. There are two crossovers on King William Street. The land is characterised by a distinct slope running from its highest point in the southwest corner to the lowest point in the north east corner.

The character of the locality can be broken down into three sections, the higher density developments adjacent Dequetteville Terrace, the low to medium scale developments fronting King William Street, and the narrow, service lane function of Little Rundle Street.

The character of Dequetteville Terrace is currently dominated by the East Park development which comprises a 11 storey mixed use building currently under construction located directly opposite the subject site to the north. Other buildings fronting Dequetteville Terrace within the vicinity of the subject site are between 1 and 3 storeys, and are commercial in nature. Some commercial buildings appear to be located within converted dwellings, none of which have heritage significance. Other buildings in the locality which present a significant scale include North Terrace House, the National Wine Centre and the Brewery Apartments.

To the north east of the subject site along King William Street, the built form is generally between 1 and 3 storeys, with more recent development achieving heights of up to 5 storeys. Land uses in the locality include both solely commercial and residential buildings with interspersed mixed use buildings. These buildings include a mix of heritage places and more recent contemporary constructions.

Adjoining the subject site to the north east is a single storey Local Heritage Place, in the form of an Edwardian sandstone and bluestone villa. The Local Heritage listing only includes the dwelling, and does not extend to the garage extension along the south western boundary.

To the south of the subject site is Little Rundle Street. This narrow roadway is currently used solely for vehicle access and servicing, and as such is characterised by garages, loading areas, and parking areas.

The land between College Road and Dequetteville Terrace features a slight 'dip', which is most visible when viewing the subject site from the corners of College Road and King William Street, and Dequetteville Terrace and King William Street as pictured below.

Figure 3.2 *View of subject site from corner of King William Street and College Road.*

Figure 3.3 *View of subject site from corner of King William Street and Dequetteville Terrace.*

King William Street is identified in Kent Town Strategic Growth Concept Plan Fig UrC/1 as a primary road corridor. It supports a single lane of traffic and a dedicated bicycle lane in both a northeast and a southwest direction. In the vicinity of the subject site, on-street car parking is restricted to a maximum of 1 hour between 9:00am and 5:00pm Monday to Friday, and between 9:00am and 12:00pm on Saturdays.

King William Street also includes regular, established street tree plantings along both sides of the roadway.

Public bus stops are located along Botanic Road, North Terrace, and Rundle Street.

4. DEVELOPMENT PLAN ASSESSMENT

4.1 Development Plan

The proposed development is located within Business Policy Area 14.2 of the Urban Corridor Zone as identified in the City of Norwood, Payneham and St Peters Development Plan (consolidated version 30 May 2017).

Our planning assessment focuses on the matters which we consider most relevant in determining the merit, or otherwise, of the proposal, namely:

- Desired character;
- Height and scale;
- Building appearance and design;
- Setbacks;
- Heritage;
- Apartment design;
- Parking, access and traffic;
- Crime prevention;
- Environmental Considerations; and
- Affordable Housing.

Our following assessment should be read in conjunction with the proposal plans and specialist reports accompanying the development application and included as appendices to this planning report.

4.2 Desired Character

4.2.1 Density

The Urban Corridor Zone seeks to increase densities in order to achieve the overall population and employment targets for the Eastern Metropolitan Adelaide Region, as set out in the 30 Year Plan for Greater Adelaide. As the Kent Town area is within close proximity to the City of Adelaide and Adelaide Parklands, opportunities have been earmarked for this locality to develop a high quality urban environment, which supports a mix of medium to high density residential development and employment generating activities.

The proposal represents a high density character which in our opinion is appropriate for the site given its context. We have formed this opinion for the following reasons:

- The proposed density reflects that which is envisaged within the adjoining Boulevard Policy Area (minimum net residential site density of 100 dwellings per hectare, and development of up to 10 storeys in height). This envisaged density is also reflected physically in the East Park Development directly north west of the subject site (over King William Street), which is 11 storeys in height and has a comparable density to the proposal;
- all apartments within the building exceed the prescribed minimums in relation to provision of private open space, storage, natural sunlight and ventilation.

- the building adequately achieves the prescribed setback guidelines;
- the density of the development will not present any unreasonable impacts on the existing road network (as confirmed by the Traffic and Parking Report prepared by Frank Siow and Associates included in Appendix 4);
- the subject site is located within close proximity to the Adelaide Parklands, the Central Business District and Adelaide's premier shopping precincts;
- the subject site is located within 200 metres of a "Go Zone" area for public transport (buses) with frequent connections taking users to the city and most other suburbs of metropolitan Adelaide; and
- the Pre-Lodgement Agreement reached with ODASA is testament to the high quality design outcome.

In consideration of the above, we are comfortable with the proposed net residential density in this particular context.

4.2.2 Built Form

Development fronting King William Street should include non-residential land uses at ground level, with residential dwellings above. Where more than 20 dwellings are incorporated within a development, a range of dwelling sizes and affordable housing are envisaged. The proposed development is consistent with this envisaged character.

Although the subject site is located within Business Policy Area where buildings are envisaged to be up to five storeys in height, the proposed development takes advantage of its interface with the Boulevard Policy Area (10 storeys) to "book end" King William Street, by presenting a lower but comparable height to the East Park development. Whilst the proposed height will be discussed further in Section 4.3, we are comfortable with the height of the development in this particular urban context will not undermine the desired character of the zone or respective policy areas.

4.2.3 Land Use

As previously discussed, development which proposes non-residential land uses at ground level and residential dwellings above are envisaged in the Business Policy Area of the Urban Corridor Zone. Specifically, the desired character supports the continued development of Kent Town as a 'creative industries hub' with a focus on digital media, advertising, publishing and design activities. Retail activity and shops are also contemplated (at smaller scales) to serve these local businesses.

Although the land uses to occupy the commercial tenancies are yet to be confirmed, these spaces are adequately serviced with facilities, and sufficient in floor area to accommodate the envisaged land uses. As such, we are satisfied that the proposal will achieve the desired character in this respect.

4.2.4 Building Design

Buildings in the Urban Corridor Zone are sought to display designs which are cutting edge, contemporary, and energy efficient in design. Specifically, buildings in the Business Policy Area should be up to five storeys in height and form a continuous edge along the King William Street frontage.

The proposed building design has undergone rigorous review during the Design Review Process, with the project partaking in three Design Review Sessions and one Desktop Session.

As a result, the project team and applicant have reached a Pre-Lodgement Agreement with ODASA, binding their support for the proposed building design and its delivery on ground.

The building design which has positively evolved during the Design Review process is of a high quality, appropriate for its context, and includes energy efficient initiatives and public benefits in excess of the expectations of the Development Plan. The presentation of the building to the public realm of King William Street and Little Rundle Street is visually pleasing and not over complicated. The internal amenity of the building is also of a high quality.

In addition to the above, a community art wall has also been included adjacent to the publicly accessible pedestrian link which provides a public benefit that is not envisaged by the desired character.

The Pre-Lodgement Agreement is testament to the project team's commitment to achieve a high quality design solution for the site.

4.2.5 Heritage

Development in the Urban Corridor Zone should respect the setting and character of places of heritage significance by ensuring the interface between old and new buildings is adequately addressed. The proposed building's relationship with the Local Heritage Place will be discussed in further detail in Section 4.6, however we are comfortable with the selection of materials and design of the ground level and Level 1 which protects the integrity, setting and historical significance of the adjacent Local Heritage place.

4.2.6 Access, Bicycle and Car Parking

The Urban Corridor Zone and the Business Policy Area encourage on-site car parking to be provided below grade in the basement of buildings, or at/above ground behind active frontages, so as to not be visible from King William Street and other Primary Road Corridors. This desired arrangement is reflected in the proposed development.

The proposed development provides vehicle, loading and services access from Little Rundle Street as envisaged by the desired character. In addition, this frontage is sought to be activated through setbacks, landscaping, and a publicly accessible pedestrian link.

The development provides bicycle parking in excess of the minimum guidelines, and an acceptable number of car parking spaces, relative to the nature, location, and functionality of the proposal. Overall, the traffic arrangements proposed are anticipated to be safe and efficient, representing no detrimental impacts upon the adjacent road network.

4.3 Height and Scale

The following provisions of the Development Plan are considered most relevant in assessing the height and scale of the proposed development.

Urban Corridor Zone

PDC 13 *Except where airport building height restrictions prevail, or the interface height provisions require a lesser height, or where an alternative maximum building height is shown on Concept Plan Fig UrC/1, building heights (excluding any rooftop mechanical plant or equipment) should be consistent with the following parameters:*

Policy area	Minimum building height	Maximum building height
Boulevard	3 storeys or no less than 11.5 metres, or 4 storeys or no less than 15 metres for land that is directly adjacent to or facing the Adelaide Park Lands	10 storeys and up to 36 metres
High Street	3 storeys or no less than 11.5 metres	5 storeys and up to 18.5 metres
Business	3 storeys or no less than 11.5 metres	5 storeys and up to 18.5 metres

PDC 32 *The height of buildings, structures and associated component parts should not exceed the number of storeys or height in metres above the natural ground level prescribed in the relevant Zone and/or Policy Area.*

For the purposes of this Principle, 'storey' refers to the space between a floor and the next floor above, or if there is no floor above, the ceiling above. A mezzanine floor level shall be regarded as a floor. A space with a floor located below natural ground level shall be regarded as a storey if greater than one metre of the height between the floor level and the floor level above is above natural ground level.

The maximum building height in the Business Policy Area is prescribed by Urban Corridor Zone PDC 13 to be five storeys, or 18.5 metres.

We acknowledge that the proposed building height of 34.49 metres (excluding plant and screening) exceeds the envisaged maximum height guideline, however we believe that a building of this height and scale is warranted on the subject site for the following reasons:

- the subject site is adjacent to the Boulevard Policy Area of the Urban Corridor Zone, where development is envisaged to be up to ten-storeys in height. At nine storeys, the proposed building contributes to the 'book end' at the western end of King William Street, assisted by the East Park development under construction directly opposite the subject site which is of a greater scale (11-storeys);
- the bulk and scale of the building has been reduced through its strong brick base, use of landscaping, materials, and recessed upper levels ensuring the building does not impose on the streetscape amenity or character of King William Street or Little Rundle Street;
- the ground level has been designed to create a high amenity pedestrian experience by providing active commercial uses, integrated public seating, attractive landscaping, bicycle parking and a publicly accessible pedestrian link which connects Little Rundle Street to King William Street;
- the land uses surrounding the subject site are generally commercial, and as such there is minimal opportunity for overlooking into private property;
- the proposal will not unreasonably overshadow any existing residential dwellings or private open space. Further, it will not substantially increase the existing level of overshadowing which will result from the East Park development under construction to the north west of the subject site;

- the design is highly articulated, visually coherent and presents a positive contribution to the immediate streetscape and broader locality of King William Street; and
- the location of the subject site within close proximity to Adelaide City and the Parklands supports an increased density and scale; and
- 12 apartments have been allocated as affordable housing, contributing to the mixture of apartment offerings in the locality.

Respecting the above, we have formed the opinion that the proposed height is appropriate given the context of the subject site and the significant benefit the proposed building will bring to the public.

4.4 Building Design and Appearance

The relevant provisions of the Development Plan relating to building design and appearance have been separated under the following headings:

- Land use;
- Design and appearance;
- Materials and finishes;
- Pedestrian experience;
- Wind;
- Storage and services; and
- Car parking.

The proposed development will be assessed under each of these headings below.

4.4.1 Land Use

Business Policy Area

PDC 2 *Land uses on the ground and first floor levels of buildings should be non-residential.*

PDC 3 *Shop or group of shops should have a maximum gross leasable floor area in the order of 500 square metres.*

The proposed development has located non-residential land uses on Ground Level and Level 1, thereby satisfying Policy Area PDC 2. Further, the gross leasable floor area of the proposed shop tenancy will not exceed 500 square metres, satisfying Policy Area PDC 3.

On this basis, we have formed the opinion that the proposed locations and floor areas of the commercial tenancies are appropriate.

4.4.2 Design and Appearance

Business Policy Area

PDC 7 *The ground floor of buildings should be built to dimensions including a minimum floor to ceiling height of 3.5 metres to allow for adaptation to a range of land uses including retail, office and residential without the need for significant change to the building.*

PDC 8 *A minimum of 50 per cent of the width of the ground floor primary frontage of buildings should be visually permeable, transparent or clear glazed to promote active street frontages and maximise passive surveillance.*

Design and Appearance of Land and Buildings

PDC 29 *Except where the zone or policy area objectives, principles of development control and/or desired character of a locality provide otherwise, new buildings:*

(a) may be of a contemporary appearance and exhibit an innovative style;

(b) should complement the urban context of existing buildings on adjoining and nearby land in terms of:

i. maintenance of existing vertical and horizontal building alignments

ii. architectural style, building shape and the use of common architectural elements and features;

iii. consistent colours, materials and finishes; and

(c) should not visually dominate the surrounding locality.

PDC 30 *Buildings should be designed to minimise their visual bulk and provide visual interest through design elements such as:*

(a) articulation;

(b) colour and detailing;

(c) materials, patterns, textures and decorative elements;

(d) vertical and horizontal components;

(e) design and placement of windows;

(f) window and door proportions;

(g) roof form and pitch;

(h) verandahs and eaves; and

(i) variations to facades.

PDC 33 *Buildings should be designed and sited to avoid creating extensive areas of uninterrupted walls facing areas exposed to public view.*

PDC 35 *Unless otherwise specified in the relevant Zone and/or Policy Area, where a building is sited on or close to a side boundary, the side boundary wall should be sited and limited in length and height to minimise:*

(a) the visual impact of the building as viewed from adjoining properties;

(b) overshadowing of adjoining properties and allow adequate sunlight to neighbouring buildings, private open space and solar collectors (such as solar hot water systems and photovoltaic cells); and

(c) the risk of damage to mature/regulated vegetation on adjoining properties taking into consideration potential damage to the root system.

PDC 37 *The external walls and roofs of buildings should not incorporate highly reflective materials which will result in excessive glare.*

PDC 38 *Structures located on the roofs of buildings to house plant and equipment, should be screened from view and should form an integral part of the building design in relation to external finishes, shaping and colours.*

PDC 39 *Building design should emphasise all pedestrian entry points to provide all users with perceptible and direct access from public street frontages and vehicle parking areas.*

Residential Development

PDC 176 *Residential development should be appropriately designed to take into account the climatic and topographic conditions of the site.*

PDC 228 *Rooftop gardens should be incorporated into multi-storey residential flat buildings and multi- storey buildings with a residential component.*

PDC 230 *Balconies should make a positive contribution to the internal and external amenity of residential buildings and should be located, where possible, adjacent to the main living areas, such as the living room, dining room or kitchen, to extend the living space of the dwelling.*

PDC 236 *Permanently fixed external screening devices should be designed and finished in materials to blend in with the associated building's external materials and finishes.*

Medium and High Rise Development

PDC 260 *Buildings should be designed to respond to key features of the prevailing local context within the same zone as the development. This may be achieved through design features such as vertical rhythm, proportions, composition, material use, parapet or balcony height, and use of solid and glass.*

PDC 266 *Balconies should be integrated into the overall architectural form and detail of the development and should:*

(a) utilise sun screens, pergolas, louvres and openable walls to control sunlight and wind;

(b) *be designed and positioned to respond to daylight, wind, and acoustic conditions to maximise comfort and provide visual privacy;*

(c) *allow views and casual surveillance of the street while providing for safety and visual privacy of nearby living spaces and private outdoor areas;*

(d) *be of sufficient size, particularly depth, to accommodate outdoor seating.*

PDC 273 *Residential buildings (or the residential floors of mixed use buildings) should have habitable rooms, windows and balconies designed and positioned with adequate separation and screening from one another to provide visual and acoustic privacy and allow for natural ventilation and the infiltration of daylight into interior and outdoor spaces.*

One way of achieving this is to ensure any habitable room windows and/or balconies are separated by at least 6 metres from one another where there is a direct 'line of sight' between them and be at least 3 metres from a side or rear property boundary. Where a lesser separation is proposed, alternative design solutions may be applied (such as changes to orientation, staggering of windows or the provision of screens or blade walls, or locating facing balconies on alternating floors as part of double floor apartments), provided a similar level of occupant visual and acoustic privacy, as well as light access, can be demonstrated.

As outlined previously, a Pre-Lodgement Agreement has been achieved between the applicant and ODASA. With this support, we are confident that the proposed development is one of exceptional design quality and appearance, and will sit comfortably on the site and locality.

With specific reference to the Development Plan, the external design of the building achieves the contemporary and innovative style envisaged for the Business Policy Area and the Urban Corridor Zone. The simplistic and well-proportioned design of the upper levels is complemented by the solid brick base podium, which respects the Local Heritage Place to the northeast through its material composition and horizontal alignments. Respecting this, we have formed the opinion that the proposal satisfies Design and Appearance of Land and Buildings PDC 29. The podium also respects the existing character of the King William Road streetscape and assist in creating a comfortable human scale for pedestrians at ground Level.

Design and Appearance of Land and Buildings PDC 35 outlines that side boundary walls should be appropriately sited, and limited in height and length to minimise overshadowing, potential damage to mature/regulated vegetation, and visual impacts when viewed from neighbouring sites.

With reference to this provision, we have formed the opinion that the proposed boundary development is acceptable based on the following:

- the visual impact of the north-eastern wall when viewed from King William Street has been minimised by setting back the structure 11.6 metres from the front boundary to place it behind the façade of the Local Heritage Place;
- the south-western boundary wall abuts an existing wall of the adjoining commercial building;
- existing street trees in the locality will screen views of the walls at street level;
- no unreasonable shadowing will occur over neighbouring buildings and/or solar collectors; and
- no mature/regulated vegetation will be impacted by the development.

In addition to the above, the proposed development satisfies the following provisions in relation to design and appearance:

- the ground level floor to ceiling height exceeds 3.5 metres (Policy Area PDC 7);
- more than 50 percent of the Ground Level façade will be glazed or open to assist with activation of the buiding frontage (Policy Area PDC 8);
- the building will not present any extensive areas of uninterrupted walling to public view (Design and Appearance of Land and Buildings PDC 33);
- the proposed external materials are not overly luminous or highly reflective (Design and Appearance of Land and Buildings PDC 37);
- the rooftop plant has been integrated into the overall building and roof design by incorporating similar colours and external finishes to the screening elements, thereby improving the appearance of the roof when viewed from existing and future adjacent buildings (Design and Appearance of Land and Buildings PDC 38);
- the proposed building takes advantage of the sloping site to create an active ground level space, as well as efficient and screened areas for car parking (Residential Development PDC 176);
- screening devices have been integrated into the overall building design (Residential Development PDC 236);
- balconies and habitable room windows have been adequately separated to ensure privacy for occupants (Medium and High Rise Development PDC 273);
- balconies have been designed to be functional, and located so as to maximise views (where possible) and sunlight penetration to create comfortable environmental conditions for occupants (Residential Development 230 and Medium and High Rise Development PDC 266); and
- pedestrian entry points have been emphasised through material changes, use of landscaping, and variations in the built form (Design and Appearance of Land and Buildings PDC 39).

In consideration of all the above, we have formed the opinion that the proposed building sufficiently accords with the relevant provisions relating to design and appearance.

4.4.3 Materials and Finishes

Medium and High Rise Development

PDC 265 *Materials and finishes should be selected to be durable and age well to minimise ongoing maintenance requirements. This may be achieved through the use of materials such as masonry, natural stone, prefinished materials that minimise staining, discolouring or deterioration, and avoiding painted surfaces particularly above ground level.*

The proposed development includes materials and finishes that will be durable and require minimal ongoing maintenance, therefore satisfying Medium and High Rise Development PDC 265.

4.4.4 Pedestrian Experience

Medium and High Rise Development

PDC 267 *Development facing the street should be designed to provide attractive, high quality and pedestrian friendly street frontage(s) by:*

(a) incorporating active uses such as shops or offices, prominent entry areas for multi- storey buildings (where it is a common entry), habitable rooms of dwellings, and areas of communal public realm with public art or the like, where consistent with the zone and/or policy area provisions;

(b) providing a well landscaped area that contains a deep soil zone space for a medium to large tree in front of the building (except in a High Street Policy Area or other similar location where a continuous ground floor façade aligned with the front property boundary is desired).

One way of achieving this is to provide a 4 metre x 4 metre deep soil zone area in front of the building;

(c) designing building façades that are well articulated by creating contrasts between solid elements (such as walls) and voids (for example windows, doors and balcony openings);

(d) positioning services, plant and mechanical equipment (such as substations, transformers, pumprooms and hydrant boosters, car park ventilation) in discreet locations, screened or integrated with the façade;

(e) ensuring ground, semi-basement and above ground parking does not detract from the streetscape;

(f) minimising the number and width of driveways and entrances to car parking areas to reduce the visual dominance of vehicle access points and impacts on pedestrian areas.

Medium and High Rise Development PDC 267 outlines a number of criteria to assist in creating high quality, attractive, and pedestrian friendly street frontages. The proposed development achieves all relevant criteria in that:

- active commercial uses have been included over the first two levels fronting King William Street, including a café at Ground Level with outdoor seating (within the boundaries of the subject site);
- public art has been included within the pedestrian walkway;
- all facades of the building have been highly articulated with complementary materials and textures to achieve appropriate visual massing, proportion and scale;
- services, mechanical equipment and the plant have been located within the basement levels, screened on the roof, or integrated into the design at ground level;
- car parking is screened from public view behind the active commercial uses fronting King William Street, and the storage areas and landscaping fronting Little Rundle Street; and

- access to the site is provided by a double crossover via Little Rundle Street, therefore dedicating the entire primary road frontage (King William Street) to a high quality pedestrian experience.

The proposal includes extensive and innovative landscaping, including a variety of plant species and planting styles. Whilst the proposal does not include any deep soil zones as encouraged by Medium and High Rise Development PDC 267, we have formed the opinion that the landscaping will provide a valuable contribution to the site and pedestrian environment. Further, we have formed the opinion that the established street trees along King William Street will contribute to the envisaged outcomes sought by PDC 267.

4.4.5 Wind

PDC 281 *Development of 5 or more storeys, or 21 metres or more in building height (excluding the rooftop location of mechanical plant and equipment), should be designed to minimise the risk of wind tunnelling effects on adjacent streets by adopting one or more of the following:*

(a) a podium at the base of a tall tower and aligned with the street to deflect wind away from the street;

(b) substantial verandas around a building to deflect downward travelling wind flows over pedestrian areas;

(c) the placement of buildings and use of setbacks to deflect the wind at ground level.

Use of setbacks and inclusion of a podium element in the building design is anticipated to assist in minimising wind tunnelling at Ground Level, in accordance with Medium and High Rise Development PDC 281.

4.4.6 Storage and Services

Design and Appearance of Land and Buildings

PDC 42 *Development should be designed and sited so that outdoor storage, loading and service areas, fire escapes and plant and equipment hatches are screened from public view through the use of an appropriate combination of built form, solid fencing and/or landscaping.*

PDC 43 *Outdoor storage, loading and service areas should be located and designed to enable the convenient manoeuvring of service and delivery vehicles and sited away from sensitive land uses.*

Residential Development

PDC 233 *Site facilities for group dwellings and residential flat buildings of greater than six dwellings should include:*

(a) mail box facilities located close to the major pedestrian entrance to the site;

(b) bicycle parking for residents and visitors;

(c) *household waste and recyclable material storage areas away from dwellings; and*

(d) *external clothes drying areas, which are readily accessible to each dwelling and complement the development and streetscape character, for dwellings which do not incorporate ground level private open space.*

Medium and High Rise Development

PDC 287 *The size of lifts, lobbies and corridors should be sufficient to accommodate movement of bicycles, strollers, mobility aids and visitor waiting areas.*

Outdoor storage and service areas have been conveniently located and contained within the building so as to not negatively impact the streetscape amenity as envisaged by Design and Appearance of Land and Buildings PDC 42 and PDC 43.

Site facilities such as bicycle parking (for residents and visitors), clothes drying areas and waste storage areas have been conveniently provided within apartments and communal areas (Residential Development PDC 233).

Mail boxes for residents are proposed to be included within the development, however their location will be finalised as a part of the detailed design.

Lifts, lobbies and corridors have also been adequately sized to accommodate waiting areas, and movement of bicycles, strollers, and mobility aids in accordance with Medium and High Rise Development PDC 287.

4.4.7 Car parking

Urban Corridor Zone

PDC 7 *Vehicle parking should be located to the rear of development or not be visible from public land along the primary road frontage.*

Movement, Transport and Car Parking

PDC 132 *Vehicle parking spaces and multi-level vehicle parking structures within buildings should:*

(a) *enhance active street frontages by providing land uses such as commercial, retail or other non-car park uses along ground floor street frontages;*

(b) *complement the surrounding built form in terms of height, massing and scale; and*

(c) *incorporate facade treatments along major street frontages that are sufficiently enclosed and detailed to complement neighbouring buildings consistent with the desired character of the locality.*

Vehicle parking is proposed to be located behind the commercial land uses fronting King William Street and the storage/bicycle parking facilities fronting Little Rundle Street. The area will be accessed from the rear of the site (Little Rundle Street). Respecting this, we have formed the opinion that the proposal satisfies Movement, Transport and Car Parking PDC 132 and Zone PDC 7. This arrangement enhances the pedestrian amenity and comfort along King William Street.

In light of the above, we believe that the proposed building will present an exceptional architectural design, which is appropriate in its existing and future context. Further, the development will not interfere with the attainment of the Zone and Policy Area Objectives consistent with Design and Appearance of Land and Buildings PDC 47.

4.5 Setbacks

The following provisions in relation to envisaged setbacks are considered relevant to the subject land and proposed development.

Urban Corridor Zone

PDC 15 *Buildings (excluding verandahs, porticos and the like) should be set back from the primary road frontage in accordance with the following parameters:*

Policy Area	Minimum setback from the primary road frontage where it is the Primary Road Corridor as shown on Concept Plan Fig UrC/1.	Minimum setback from the primary road frontage in all other cases
Boulevard Policy Area	4 metres from the Dequetteville Terrace, North Terrace, Magill Road and Fullarton Road Primary Road Corridors	2 metres
High Street Policy Area	No minimum	2 metres
Business Policy Area	No minimum	2 metres

PDC 16 *Buildings (excluding verandahs, porticos and the like) should be set back from the secondary road frontage or a vehicle access way in accordance with the following parameters:*

Policy area	Minimum setback from a secondary road (where the secondary road is not a rear access way or laneway)	Minimum setback from a rear access way (or laneway)
Boulevard Policy Area	No minimum	1 metre where the access way is 6.5 metres or more in width OR Where the access way is less than 6.5 metres in width, the additional width required to make the access way 6.5 metres, to provide adequate manoeuvrability for vehicles, plus 1 metre
High Street Policy Area	No minimum	1 metre where the access way is 6.5 metres or more in width OR Where the access way is less than 6.5 metres in width, the additional width required to make the access way 6.5 metres, to provide adequate manoeuvrability for vehicles, plus 1 metre
Business Policy Area	No minimum	1 metre where the access way is 6.5 metres or more in width OR

		Where the access way is less than 6.5 metres in width, the additional width required to make the access way 6.5 metres, to provide adequate manoeuvrability for vehicles, plus 1 metre

PDC 17 *Buildings (excluding verandahs, porticos, or any portion of a basement car park which is less than 1 metre above natural ground level) should be set back in accordance with the following parameters:*

Policy area	Minimum setback from rear allotment boundary (where not a rear access way or laneway)	Minimum setback from side boundaries (where not a street boundary)
Boulevard Policy Area	5 metres where the subject land directly abuts an allotment of a different zone 3 metres, except where the development abuts the wall of an existing or simultaneously constructed building on the adjoining land.	For allotments with a frontage width of: (a) 20 metres or less: no minimum (b) more than 20 metres: 3 metres
High Street Policy Area	5 metres where the subject land directly abuts an allotment of a different zone 3 metres, except where the development abuts the wall of an existing or simultaneously constructed building on the adjoining land.	No minimum
Business Policy Area	5 metres where the subject land directly abuts an allotment of a different zone 3 metres, except where the development abuts the wall of an existing or simultaneously constructed building on the adjoining land.	No minimum

The Urban Corridor Zone identifies the following setback guidelines for development within the Business Policy Area:

- Primary front setback – no minimum.
- Rear setback – 1.4 metres.
- Side setbacks – No minimum.

The proposed development is setback the following distances from each boundary:

- Front setback (King William Street):
  - between 0 metres and 4.8.
- Rear setback (Little Rundle Street):
  - 1.63 metres at Ground Level and Level 1; and
  - 700 millimetres to balconies, and between 1.5 metres and 3.5 metres to the building at Level 2 to Level 8.
- Side setbacks:
  - Between 0 metres and 3 metres.

Although the upper levels of the building encroach slightly into the envisaged rear setback it is important to note that both the Ground Level and Level 1 achieve the recommended 1.4 metre setback. We consider this acceptable given the intention behind the setback is to create safe, efficient and effective traffic movement through Little Rundle Street and into/out of the site.

Respecting this, we are satisfied that the proposed development is sited and designed on the site in an appropriate manner

4.6 Heritage

The following provisions of the Development Plan are considered most relevant in assessing the appropriateness (or otherwise) of the proposed development on places of heritage significance.

Heritage

PDC 347 *Development (including land division) should not compromise or detrimentally affect the heritage value, character, integrity, setting, siting or function of buildings or sites of architectural, historic or scientific interest, sites of natural beauty or places of heritage value identified in Tables NPSP/5 and 6 as State or Local Heritage Places.*

PDC 359 *Development on land adjacent to land containing a State or Local Heritage Place as designated in Tables NPSP/5 and 6 should respect the heritage value, integrity and character of the heritage place and should clearly demonstrate design consideration of the relationships with the heritage place and its setting (without necessarily replicating its historic detailing) and the character of the locality by establishing compatible:*

(a) scale and bulk;

(b) width of frontage and boundary setback patterns;

(c) proportion and composition of design elements;

(d) form and visual interest (as determined by play of light and shade, treatment of openings and depths of reveals, roofline and pitch and silhouette, colour and texture of materials as well as detailing, landscaping and fencing);

(e) fencing and areas set aside for landscaping, particularly on the primary street frontage of an allotment, which complement the era, style and landscaping setting of the heritage place; and

(f) garages, carports or outbuildings set-back at a greater distance from the primary street frontage than the main face of the primary building.

PDC 360 *Development on land adjacent to land containing a heritage place and sited in strategic locations, such as corners or at the termination of vistas, should have a scale and visual interest in the streetscape at least equal to that of the adjoining heritage place, providing the heritage value of the place within its setting is not diminished.*

PDC 361 *Development on land adjacent to land containing a State or Local Heritage Place should not be undertaken if it is likely to dominate or detract from the heritage value and integrity of the heritage place by way of design, appearance or standard of construction.*

The character and setting of the adjacent Local Heritage Place is respected by the proposed development through the following means:

- the proposed front setback exceeds that which is envisaged by the Zone, increasing the vista to the Local Heritage Place from the street particularly from the west;

- the north eastern corner of the slab of Level 1 cantilevers over the Ground Level, creating a void adjacent to the Local Heritage Place to create a visual connection to the building;
- the void created by the proposal respects the scale of the heritage place and at the same time, creates visual interest in a manner that does not diminish the setting of the heritage place;
- the proposed external materials complement the heritage place without dominating or mimicking the value and integrity of the heritage place; and
- the height of the podium respects the horizontal lines of the Heritage Place providing a comfortable relationship and human scale.

Overall, we are comfortable with the relationship between the proposed development and the adjacent Local Heritage Place.

4.7 Apartment Design

The following provisions are considered most relevant in assessing the proposed apartment designs.

Residential Development

PDC 224 *Private open space should be located and designed:*

(a) to be accessed directly from the internal living areas of the dwelling;

(b) generally at ground level to the side or rear of a dwelling and screened for privacy;

(c) to take advantage of but not adversely affect natural features of the site;

(d) to minimise overlooking from adjacent buildings;

(e) to achieve where possible, separation from adjoining sites;

(f) where possible, to have a northerly aspect to provide for comfortable year-round use;

(g) to not be significantly shaded during winter by the associated dwelling or adjacent development;

(h) to be shaded in summer, where possible; and

(i) *to retain any significant vegetation.*

PDC 226 *Residential development in the form of apartments within a multi storey building should have associated private open space of sufficient area and shape to be functional and capable of meeting the likely needs of the occupant(s) and should be in accordance with the following requirements:*

(a) *studio (no separate bedroom) or one bedroom, a minimum area of 10 square metres of private open space;*

(b) *two bedrooms, a minimum area of 12 square metres of private open space; or*

(c) *three bedrooms or greater; a minimum area of 15 square metres of private open space.*

Medium and High Rise Development

PDC 274 *Living rooms should have a satisfactory short range visual outlook to public or private open space.*

PDC 275 *Buildings comprising more than 10 dwellings should provide a variety of dwelling sizes and a range in the number of bedrooms per dwelling.*

PDC 277 *Dwellings with 3 or more bedrooms, should, where possible, have the windows of habitable rooms overlooking internal courtyard space or other public space.*

PDC 284 *Dwellings should provide a covered storage area of not less than 8 cubic metres in one or more of the following areas:*

(a) *in the dwelling (but not including a habitable room);*

(b) *in a garage, carport, outbuilding or an on-site communal facility and be conveniently located and screened from view from streets and neighbouring properties.*

Energy Efficiency

PDC 68 *Buildings should be sited and designed to ensure:*

(a) *that the main living areas and the private open space associated with the main living areas, face north to maximise exposure to winter sun; and*

(b) *adequate natural light and winter sunlight is available to the main internal living areas and principal private open spaces of adjacent properties.*

The proposed development includes a variety of apartment types and sizes (including affordable housing) as envisaged within the Zone. All apartments within the proposed development are afforded with functional floor areas, natural ventilation, and appropriate sun penetration.

The proposed side setbacks future-proof the development and the ability for sunlight and ventilation to reach all apartments, taking into account the redevelopment potential of adjacent sites particularly those along Dequetteville Terrace. Whilst the northern apartments will experience ample sunlight year-round, the apartments along the southern side will enjoy a degree of morning sun and ambient light conditions due to the low scale of development to the south; as well as exceptional views towards the Adelaide Hills.

In addition to the above, all apartments include storage and private open space in excess of the minimum guidelines. Further, the private open space has been dimensioned and located to ensure functionality, privacy, and comfort for the occupants of the dwelling.

Respecting the above, we are satisfied that the proposed apartments have been designed to a high quality and will create comfortable and desirable living conditions for future occupants of the building.

4.8 Parking, Traffic and Access

The relevant provisions of the Development Plan have been separated under the following headings:

- Car parking;
- Bicycle parking; and
- Traffic and Access.

The proposed development will be assessed under each of these headings.

4.8.1 Car Parking

Urban Corridor Zone

PDC 6 *Vehicle parking should be provided in accordance with the rates set out in Table NPSP/9A - Off Street Vehicle Parking Requirements for Designated Areas.*

Movement, Transport and Car parking

PDC 122 *A lesser on-site car parking rate may be applied to applicable elements of a development in any of the following circumstances:*

(a) development includes affordable housing or student accommodation; or

(b) sites are located within 200 metres walking distance of a convenient and frequent service fixed public transport stop; or

(c) mixed use development including residential and non-residential development has respective peak demands for parking occurring at different times; or

(d) the proposed development is on or adjacent to the site of a heritage place, or includes retention of a desired traditional building and its features, which hinders the provision of on-site parking or the most effective use of the spaces within the site; or

(e) the parking shortfall is met by contribution to a Car Parking Fund (where one is available); or

(f) *the development qualifies for certification under the Green Energy rating program, or similar program; or*

(g) *where it can be demonstrated that it would not result in a greater demand for on-street car parking on existing streets in the locality.*

PDC 123 *Development should provide carparking which is consistent with Australian Standard AS: 2890 - Parking facilities.*

PDC 124 *Vehicle parking areas should be sited and designed to:*

(a) *facilitate safe and convenient pedestrian linkages to the development and areas of*

(b) *significant activity or interest in the vicinity of the development;*

(c) *include safe pedestrian and bicycle linkages that complement the overall pedestrian and cycling network;*

(d) *not inhibit safe and convenient traffic circulation;*

(e) *result in minimal conflict between customer and service vehicles;*

(f) *avoid the necessity to use public roads when moving from one part of a parking area to another;*

(g) *minimise the number of vehicle access points onto public roads;*

(h) *avoid the need for vehicles to reverse onto public roads;*

(i) *where practical, provide the opportunity for shared use of car parking and integration of car parking areas with adjoining development to reduce the total extent of vehicle parking areas and the requirement for access points;*

(j) *not dominate the character and appearance of the development when viewed from public roads or spaces;*

(k) *provide landscaping that will shade and enhance the appearance of the vehicle parking areas; and*

(l) *where practicable, include infrastructure such as underground cabling and connections to power infrastructure that will enable the recharging of electric vehicles.*

PDC 125 *Where vehicle parking areas are not obviously visible or navigated, signs indicating the location and availability of vehicle parking spaces associated with businesses should be displayed at locations readily visible to users.*

PDC 126 *Vehicle parking areas that are likely to be used during non-daylight hours should provide floodlit entry and exit points and site lighting directed and shaded in a manner that will not cause nuisance to adjacent properties or users of the parking area.*

PDC 129	*Vehicle parking areas should be line-marked to delineate parking bays, movement aisles and direction of traffic flow.*
PDC 130	*On-site visitor parking spaces should be sited and designed to:* *(a) not dominate internal site layout;* *(b) be clearly defined as visitor spaces not specifically associated with any particular dwelling; and* *(c) be accessible to visitors at all times.*
PDC 133	*In mixed use buildings, the provision of vehicle parking may be reduced in number and shared where the operating hours of commercial activities complement the residential use of the site.*

Zone PDC 6 encourages development to provide onsite vehicle car parking in accordance with the rates set out in *Table NPSP/9A - Off Street Vehicle Parking Requirements for Designated Areas*. Movement, Transport and Car Parking PDC 122 and PDC 133 also outline circumstances where rates can be reduced.

The applicant engaged Frank Siow & Associates to undertake a Traffic and Parking Report for the proposed development. Mr Siow concluded that the proposed development generates the following car parking rates:

- 56 spaces for residents;
- 13 spaces for residential visitors; and
- 10 spaces for commercial land uses.

Mr Siow identified a shortfall of 12 spaces, however also considered the following exceptional circumstances in relation to the inadequacy:

- it is likely that minimal visitors will access the site during business hours, therefore the parking demand during these hours would only be essential for residents (56), and the commercial tenancies (10), generating a demand of 66 spaces; and
- outside of business hours, car parking spaces for the commercial tenancies will not be required. Therefore, the demand will only be generated by residents (56) and visitors (13), equating to 69 spaces.

Table NPSP/9A supports the views of Mr Siow in that mixed use developments may utilise integrated (shared) parking where the respective peak parking demands across the range of uses occur at different times (also consistent with Movement, Transport and Car Parking PDC 133). Respecting this, Mr Siow considers it acceptable that commercial and visitor car parking spaces may be shared on the subject site, concluding that the proposal has a shortfall of only two car parking spaces.

Mr Siow's on-site observations confirmed that the shortfall could be accommodated by readily available on-street car parking.

Mr Siow also notes the location of the subject site on the city fringe, within close proximity of public transport and the Adelaide Parklands, and accordingly forms the view that the parking demand for the proposed development will likely be less than outlined above. In addition, the proposed development includes a "Go Get" car, enabling residents to utilise a shared car scheme in lieu of a personal vehicle. The development may also be eligible to receive a discounted parking rate of 20 percent (generating a demand of 63 spaces) due to its location within 200 metres of a "Go Zone" bus stop.

In summary, Mr Siow is comfortable with the car parking supply.

Further to Mr Siow's investigations, we note the following circumstances where a reduced car parking rate applies (Movement, Transport and Car Parking PDC 122):

- the proposed development includes 23 percent affordable housing; and
- through the removal of two existing crossovers on King William Street, the proposed development will return up to two on-street car spaces.

With respect to the design of the carparking areas:

- Mr Siow has confirmed that the carparking is consistent with Australian Standard AS: 2890 - Parking facilities (Movement, Transport and Car parking PDC 123);
- visitor parking spaces will be clearly defined and accessible at all time during the day, and by intercom/private arrangement in the evening hours (for security) (Movement, Transport and Car parking PDC 130);
- the car parking area will include appropriate signage, lighting and line markings (Movement, Transport and Car parking PDC 125, PDC 126 and PDC 129); and
- the car parking area will be safe and convenient for all users (including pedestrians), including adequate sightlines, linkages, functionality and overall streetscape appearance (Movement, Transport and Car parking PDC 124).

4.8.2 Bicycle Parking

Movement, Transport and Car Parking

PDC 109 *Development should encourage and facilitate cycling as a mode of transport by incorporating end-of journey facilities including:*

(a) showers, changing facilities and secure lockers;

(b) signage indicating the location of bicycle facilities; and

(c) bicycle parking facilities provided at the rate set out in Table NPSP/10

PDC 110 *On-site secure bicycle parking facilities should be:*

(a) located in a prominent place;

(b) located at ground floor level;

(c) located undercover;

(d) *located where surveillance is possible;*

(e) *well lit and well signed;*

(f) *close to well used entrances; and*

(g) *accessible by cycling along a safe, well lit route.*

PDC 111 *Pedestrian and cycling facilities and networks should be designed and provided in accordance with relevant provisions of the Australian Standards and Austroads Guides.*

The proposed development has integrated bicycle parking facilities into the overall building design. These facilities are conveniently located at Ground Level and near entrances, as well as undercover, secure (surveillance) and will be well lit (Movement, Transport and Carparking PDC 111).

Table NPSP/10 prescribes the bicycle parking rates for the proposed development. Based on these rates the following spaces are required:

- 26 spaces for residents;
- 10 spaces for visitors; and
- 6 spaces for the commercial tenancies (3 for employees and 3 for customers).

The proposed development has provided a total of 42 bicycle parking spaces at ground level which exceeds the minimum rates. Notwithstanding, there is also adequate space in the residential apartments for residents to store their bicycles privately (if they wish).

Respecting the above, we have formed the opinion that the development provides appropriate bicycle parking and facilities to support residents, workers and visitors to the site.

4.8.3 Traffic and Access

Urban Corridor Zone

PDC 12 *Vehicle access points on side streets and rear access ways should be located and designed to:*

(a) *minimise the impacts of headlight glare and noise on nearby residents; and*

(b) *avoid excessive traffic flows into residential streets.*

Residential Development

PDC 175 *Residential development should not create conditions which are likely to exceed the capacity of existing roads, public utilities and other community services and facilities.*

Movement, Transport and Car Parking

PDC 93 *Development should be integrated with existing transport networks, particularly major rail, road and public transport corridors, and designed to minimise its potential impact on the functional performance of the transport network.*

PDC 98 *Development should provide safe and convenient access for all anticipated modes of transport.*

PDC 99 *Development at intersections, pedestrian and cycle crossings, and crossovers to allotments should maintain or enhance sightlines for motorists, cyclists and pedestrians to ensure safety for all road users and pedestrians.*

PDC 101 *Driveway crossovers should be appropriately separated and the number minimised to maintain streetscape character, preserve street trees and optimise the provision of on-street visitor parking (where on-street parking is appropriate).*

PDC 102 *Development should be designed to discourage commercial and industrial vehicle movements through residential streets and adjacent other sensitive land uses.*

PDC 103 *Industrial/commercial vehicle movements should be separated from passenger vehicle car parking areas.*

PDC 105 *Development should ensure that a permeable street and path network is established that encourages walking and cycling through the provision of safe, convenient and attractive routes with connections to adjoining streets, paths, open spaces, schools, pedestrian crossing points on arterial roads, public and community transport stops and activity centres.*

PDC 113 *Development should be provided with safe and convenient access which:*

(a) avoids unreasonable interference with the flow of traffic on adjoining roads;

(b) provides appropriate separation distances from existing roads or level crossings;

(c) accommodates the type and volume of traffic likely to be generated by the development or land use and minimises induced traffic through over-provision; and

(d) is sited and designed to minimise any adverse impacts on the occupants of and visitors to neighbouring properties.

PDC 119 *Development should be sited and designed to provide convenient access for people with a disability.*

PDC 134 *Undercroft or below ground garaging of vehicles should only occur where it is envisaged in the relevant Zone and/or Policy Area and only where:*

(a) the overall height and bulk of the undercroft structure does not adversely impact on streetscape character of the locality or the amenity of adjacent properties;

(b) vehicles can safely enter and exit from the site without compromising pedestrian or cyclist safety or causing conflict with other vehicles;

(c) driveway gradients provide for safe and functional entry and exit;

(d) *the appropriate gradient transition is provided within the subject site;*

(e) *driveways and adjacent walls, fencing and landscaping are designed to provide adequate sightlines from vehicles to pedestrians using the adjacent footpath;*

(f) *openings into undercroft areas are integrated with the main building so as to minimise visual impact;*

(g) *the height of the car park ceiling does not exceed one metre above the natural ground level (Refer to Figure 2), unless otherwise specified in the relevant Zone and/or Policy Area;*

(h) *landscaping, mounding and/or fencing is incorporated to improve its presentation to the street and to adjacent properties (Refer to Figure 3);*

Mr Siow has undertaken an assessment of the likely traffic impacts associated with the proposed development. He has determined that the residential component of the building and the small scale commercial uses proposed are both low traffic generators. As such, it is not expected that the development will have a significant impact on Little Rundle Street or King William Street.

Specifically, the expected pear hour trip generation will be 29 vehicles per hour (low impact), and on this basis, Mr Siow is comfortable with the estimated impacts. The proposal therefore satisfies Zone PDC 12, Residential Development PDC 175 and Movement, Transport and Car parking PDC 113.

In addition to the above, the access and traffic arrangements achieve the following development plan provisions in that:

- carparking has been integrated into the overall building design, has an acceptable gradient, allows efficient car parking and will not impact traffic safety (Movement, Transport and Car Parking PDC 134);
- the proposal improves pedestrian connectivity between Little Rundle Street and King William Street through the new pedestrian link (Movement, Transport and Car Parking PDC 105);
- traffic associated with the proposed development will integrate with the transport corridors and arterial roads in close proximity to the subject site (Movement, Transport and Car Parking PDC 93);
- the vehicle, bicycle and pedestrian access points will be safe and convenient for all occupants, including those living with a disability (Movement, Transport and Car Parking PDC 98 and PDC 119);
- adequate sightlines are maintained within and around the proposed development to ensure continued traffic and pedestrian safety (Movement, Transport and Car Parking PDC 99);
- the two existing crossovers to King William Street will be removed, with up to two spaces potentially returned to on-street car parking spaces (at Councils discretion) (Movement, Transport and Car Parking PDC 101); and
- commercial and waste truck movements will predominately occur via Little Rundle Street, as currently occurs for the majority of properties adjacent to Little Rundle Street (Movement, Transport and Car Parking PDC 102).

Respecting the above, we are satisfied that the proposed traffic arrangements will result in a safe and efficient traffic arrangement.

4.9 Crime Prevention

The most relevant provisions applicable to the proposed development in relation to crime prevention are outlined below.

Urban Corridor Zone

PDC 10 *To maintain sight lines between buildings and the street, and to improve safety through passive surveillance, solid fencing should not be constructed between the front building line and the primary or secondary street.*

Design and Appearance of Land and Buildings

PDC 59 *Development should be designed to maximise surveillance of public spaces through the incorporation of clear lines of sight, appropriate lighting and the use of visible permeable barriers wherever practicable.*

PDC 60 *Buildings should be designed to overlook public and communal open spaces and streets to allow casual surveillance.*

PDC 61 *Buildings should be designed to minimise and discourage access between roofs, balconies and windows of adjoining dwellings.*

PDC 62 *Development, including car park facilities should incorporate signage and lighting that indicate the entrances and pathways to, from and within the site.*

PDC 63 *Site planning, buildings, fences, landscaping and other features should clearly differentiate between public, communal and private areas.*

PDC 64 *Development should avoid pedestrian entrapment spots and routes and paths that are predictable or unchangeable and offer no choice to pedestrians.*

PDC 65 *Development fronting an alleyway, laneway (including a service lane), or other minor or unserviced street should be located and designed to maximise safety and security.*

PDC 66 *Development fronting a laneway (including a service lane), or other minor or unserviced street should maximise the potential for passive surveillance by ensuring that the building can be seen from nearby buildings and the laneway/minor streets/unserviced streets.*

Landscaping, Fencing and Walls

PDC 75 *Landscaping should be used to assist in discouraging crime by:*

(a) screen planting areas susceptible to vandalism;

(b) planting trees or ground covers, rather than shrubs, alongside footpaths; and

(c) *planting vegetation other than ground covers a minimum distance of two metres from footpaths to reduce concealment opportunities.*

Residential Development

PDC 243 *Residential developments and associated spaces should be designed to enhance safety and security by:*

(a) *ensuring dwellings overlook public and communal streets and public open spaces to allow casual surveillance;*

(b) *avoiding heavily obscured or isolated spaces that potentially expose residents to threat in their usual movements to and from home e.g. by providing convenient and safe access from car parking spaces to entry doors;*

(c) *providing clear lines of sight and appropriate lighting;*

(d) *clearly differentiating public, communal and private areas through the use of low front fences or other visual treatments; and*

(e) *making the public realm attractive to general foot traffic and casual surveillance throughout various times of the day.*

Medium and High Rise Development

PDC 268 *Common areas and entry points of the ground floor level of buildings should be designed to enable surveillance from public land to the inside of the building at night. Entrances to multi-storey buildings should:*

(a) *be oriented towards the street;*

(b) *be visible and clearly identifiable from the street, and in instances where there are no active or occupied ground floor uses, be designed as a prominent, accentuated and welcoming feature;*

(c) *provide shelter, a sense of personal address and transitional space around the entry;*

(d) *provide separate access for residential and non-residential land uses;*

(e) *be located as close as practicable to the lift and/or lobby access;*

(f) *avoid the creation of potential areas of entrapment.*

Council Wide PDC 243 outlines that development should maximise safety by encouraging clear lines of sight, using appropriate lighting, and designing buildings which do not provide entrapment areas and which overlook public and communal areas. On-site security is also envisaged through the provision of clearly defined public and private spaces, the use of robust materials not susceptible to damage or vandalism, and avoiding the use of obscuring landscaping and fencing in building design.

The design of the built form, use of high quality materials and lighting, as well as the opportunities for casual surveillance encouraged from balconies is anticipated to create an environment which deters crime.

In our opinion, the proposed development achieves the intent of the Development Plan provisions through the following:

- promoting natural surveillance of the public realm (King William Street and Little Rundle Street) from upper level balconies and commercial tenancies;
- glazing of the Ground Level commercial tenancies ensures visibility to/from the street;
- enabling direct sightlines between King William Street, Little Rundle Street, the building entrance and lobby and through the pedestrian walkway;
- restricting access to the car parking area and pedestrian walkway during the evening hours to prevent loitering;
- ample lighting within and around the walkway during evening hours (despite it being closed to the public during the evening hours);
- use of landscaping which allows visual permeability; or which grows to a low height to prevent opportunities for concealment;
- avoiding any opportunities for entrapment;
- the use of robust and durable design features to discourage vandalism; and
- built form and signage which clearly delineates private and public areas.

As such, we have formed the opinion that the proposal satisfies the relevant provisions relating to crime prevention.

4.10 Environmental Considerations

4.10.1 Waste

The most relevant Development Plan provisions relating to the assessment of proposed waste arrangements are outlined below.

Medium and High Rise Development

PDC 285	*Development should provide a dedicated area for the on-site collection and sorting of recyclable materials and refuse, green organic waste and wash-bay facilities for the ongoing maintenance of bins. This area should be screened from view from public areas so as to not to detract from the visual appearance of the ground floor.*
PDC 286	*Where the number of bins to be collected kerbside is 10 or more at any one time, provision should be made for on-site commercial collection.*

RawTec Pty Ltd have been engaged by the proponent to prepare a Waste Management Plan for the proposed development. This report has been included in Appendix 5.

The Waste Management Plan includes on-street collection by a private contractor on Little Rundle Street. This arrangement has been assessed by Mr Siow in his Traffic and Parking Report. He observed that Little Rundle Street is used extensively as a service lane for car parking access and servicing of refuse bins. Given this existing condition, Mr Siow has recommended that it is appropriate for the refuse truck to stop in the laneway adjacent to the development to collect the waste outside of peak traffic hours.

Due to the increased width of the laneway created by the ground level setback, waste collection via Little Rundle Street can occur without blocking the roadway or access to the subject site.

The option of reversing the waste truck into the car park access way for onsite collection was explored, however due to the design of the building and location of the site, collection via Little Rundle Street was deemed to be the most efficient solution, particularly in terms of traffic functionality. For example, an on-site collection arrangement would result in the waste vehicle blocking access to the carpark and also part of Little Rundle Street (albeit for a short period of time).

We have formed the opinion that the proposed Waste Management Plan satisfies Medium and High Rise Development PDC 285, in that general waste, recyclable materials, as well as organic waste will all be separated, stored and collected separately from the subject site. The waste storage room will be screened from Little Rundle Street and the carpark, and will include a bin wash down area.

Respecting this, we consider that the proposed Waste Management Plan as recommended by RawTec, and supported by Mr Siow, will adequately service the proposed development, and will not detrimentally impact the surrounding road network.

4.10.2 Energy Efficiency

Development Plan provisions most relevant to the assessment of the energy efficiency are outlined below.

Energy Efficiency

PDC 69 *Development should be designed to minimise energy consumption by incorporating, where practicable, energy efficient building design elements, techniques and materials, such as:*

(a) the sizing, orientation and shading of windows to reduce summer heat load and take advantage of winter sun;

(b) the use of deciduous trees, pergolas, eaves, verandas and awnings, to allow penetration of heat and light from the sun in winter and to provide shade in summer;

(c) openings designed to maximise the potential for natural cross-ventilation to enable cooling breezes to reduce internal temperatures in the summer months; or

(d) the use of colours on external surfaces such as roofs and walls, to minimise heat absorption in summer.

PDC 70 *Development should facilitate the efficient use of solar collectors, such as solar hot water systems and photovoltaic cells by:*

(a) taking into account overshadowing from neighbouring buildings and trees; and

(b) designing roof orientation and pitch to maximise exposure to direct sunlight.

Medium and High Rise Development

PDC 279 *Multi-storey buildings should:*

(a) minimise detrimental micro-climatic and solar access impacts on adjacent land or buildings, including effects of patterns of wind, temperature, daylight, sunlight, glare and shadow;

(b) incorporate roof designs that enable the provision of photovoltaic cells and other features that enhance sustainability (including landscaping).

Multi-storey developments are encouraged to reduce their detrimental micro-climatic impacts through building design, and should include sustainable initiatives such as solar hot water and photovoltaic cells.

Lucid Consulting Australia have been engaged to prepare a Sustainability Report for the proposed development (included in Appendix 6). The report concludes that through building design, material selection, orientation, and use of energy/water efficient services and appliances, the proposed development will reduce its reliance on active systems. In consideration of the list of ESD initiatives proposed for use in the building (as stated in the Proposal Description), the long-term sustainability of the building is anticipated to be comfortably achieved.

We have therefore formed the opinion that the initiatives meet the expectations of the Development Plan promoting energy efficiency and sustainable design outcomes.

4.10.3 Overshadowing

The following provisions of the Development Plan are considered most relevant in assessing the overshadowing impacts of the proposed development.

PDC 71 *Development should maintain solar access, for a minimum of 3 hours between 9am and 3pm on 21 June, to:*

(a) any existing solar collectors (such as solar hot water systems and photovoltaic cells) on adjoining properties; or

(b) an area of at least 10m² on the north facing roof of the existing building/s, in the event that there are no existing solar panels and/or photovoltaic cells on the adjoining property; and in any case development should not increase the overshadowed area by more than 20 per cent in cases where overshadowing already exceeds these requirements.

Design and Appearance of Land and Buildings

PDC 31 *The design and location of buildings should ensure that adequate natural light is available to adjacent dwellings, with particular consideration given to:*

(a) windows of habitable rooms, particularly the living areas of adjacent buildings;

(b) ground-level private open space of adjacent dwellings;

(c) *upper level private balconies that provide the primary open space area for any dwelling; and*

(d) *access to solar energy.*

Residential Development

PDC 195 *Unless otherwise specified in the relevant Zone and/or Policy Area, development should ensure that the north-facing windows of habitable rooms of dwelling(s) on adjacent sites receive at least 3 hours of direct sunlight over a portion of their*

surface and in the case of the main living area windows, a minimum of 50% of their surface, between 9am and 5pm on the winter solstice (21 June).

Development should not increase the overshadowed area in cases where overshadowing from existing structures, fences and non-deciduous vegetation already exceeds this requirement.

PDC 196 *Unless otherwise specified in the relevant Zone and/or Policy Area, development should ensure that at least half of the ground level private open space of existing dwelling(s) receive direct sunlight for a minimum of two hours between 9.00am and 3.00pm on 21 June. Development should not increase the overshadowed area in cases where overshadowing already exceeds these requirements.*

With reference to the Shadow Analysis drawing prepared by Marchese Partners and included in Appendix 10, it is clear that the proposed development will not unreasonably overshadow existing residential dwellings or private open space, as the land uses surrounding the subject site are predominately commercial.

A small amount of overshadowing will occur over the north facing windows and private open space of residential dwellings fronting Rundle Street to the south of the subject site. As this overshadowing will occur after 3:00pm, more than 3 hours of sunlight will still be afforded to these dwellings in line with the abovementioned provisions.

Respecting this, we are comfortable that the proposed development will not result in unreasonable overshadowing.

4.10.4 Overlooking

The following provision of the Development Plan is considered most relevant in assessing the impacts of overlooking from the proposed development.

Residential Development

PDC 234 *In areas where buildings of 3 or more storeys are contemplated, direct overlooking into habitable room windows or onto the useable private open spaces of other dwellings from upper level windows, external balconies, terraces and decks should be minimised through the adoption of one or more of the following methods and may be supplemented by landscaping:*

(a) *building layout;*

(b) *location and design of windows and balconies;*

(c) *screening devices; or*

(d) *adequate separation.*

The existing land uses surrounding the subject site predominately consist of commercial development and as such, there will be limited potential for overlooking into private residential properties.

The 11 storey mixed use development currently being constructed to the north west of the subject site (opposite King William Street) is separated from the proposed building by King William Street ensuring no unreasonable overlooking. Notwithstanding, the balconies fronting King William Street for both developments will be subject to a degree of overlooking from the street.

The development potential of adjacent land has also been considered, and the proposed development seeks to protect the privacy of its future occupants by providing 3 metre setbacks from these neighbouring sites.

Recognising the context of the site and the proposed setbacks, we believe the design has mitigated potential overlooking impacts.

4.10.5 Noise

The following provisions of the Development Plan are considered most relevant in assessing the potential noise impacts of the proposed development.

Residential Development

PDC 237	*Residential development close to high noise sources (eg major roads, O-bahn, and industry) should be designed to locate bedrooms, living rooms and private open spaces away from those noise sources, or protect these areas with appropriate noise attenuation measures.*
PDC 239	*The number of dwellings sharing a common internal pedestrian entry within a residential flat building should be minimised to limit noise generation in internal access ways.*
PDC 242	*Noise generated by fixed noise sources such as air conditioning units and pool pumps should be located, designed and attenuated to avoid causing potential noise nuisance to adjoining landowners and occupiers.*

As the subject site is located within close proximity to Dequetteville Terrace, it is anticipated that noise levels in the area will be generally higher than in wholly residential areas. Notwithstanding, the proposed development will seek to reduce noise impacts.

Specific measures have been implemented to ensure that the dividing walls and floors between the apartments comply with the requirements of Building Code of Australia for sound insulation. Plant rooms and services have also been located on the roof and in the car parking areas, away from residential apartments.

Respecting the above, we have formed the opinion that the proposed development is unlikely to be subjected to unreasonable noise impacts or result in any detrimental noise levels upon the locality.

4.10.6 Stormwater

The following Development Plan provisions are considered most relevant in assessing the stormwater arrangements for the proposed development.

Natural Resources

PDC 147 *Development should be designed to maximise conservation, minimise consumption and encourage re-use of water resources.*

PDC 148 *Development should be sited and designed to:*

(a) minimise surface water runoff;

(b) capture and re-use stormwater, where practical;

(c) prevent soil erosion and water pollution;

(d) protect and enhance natural water flows;

(e) protect water quality by providing adequate separation distances from watercourses and other water bodies; and

(f) maintain natural hydrological systems and not adversely affect:

i. the quantity and quality of groundwater; and

ii. the depth and directional flow of groundwater.

PDC 149 *Development should include stormwater management systems to:*

(a) mitigate peak flows and manage the rate and duration of stormwater discharge from the site to ensure the carrying capacities of downstream systems are not overloaded; and

(b) protect it from damage during a minimum of a 1 in 100 year Average Recurrence Interval flood.

PDC 151 *Stormwater management systems should:*

(a) maximise the potential for stormwater harvesting and re-use, either on-site or as close

(b) as practicable to the source; and

(c) utilise, but not be limited to, one or more of the following harvesting methods:

i. the collection of roof water in tanks;

ii. the controlled discharge to open space, landscaping or garden areas, including strips adjacent to car parks;

iii. *the incorporation of detention and retention facilities; or*

iv. *aquifer storage and recovery.*

PDC 152 *Stormwater management systems should be designed and located to improve the quality of stormwater, minimise pollutant transfer to receiving waters, and protect downstream receiving waters from high levels of flow.*

PDC 160 *A development which includes:*

(a) three or more dwellings;

(b) the replacement of one dwelling with three or more dwellings on one site, or on separate sites resulting from the land division of the original site; or

(c) in the case of a non-residential development, an impervious surface area that is greater than the pre-development state;

should incorporate an on-site stormwater detention system (either above or below ground) to ensure that stormwater discharged from the site and/or combined sites does not exceed the capacity of the existing or planned 1 in 5 year Average Recurrence Interval stormwater system and increase the risk of flooding to downstream properties or add any significant pollutant load to the downstream stormwater system.

Robert Bird Group (RBG) has been engaged to prepare a Stormwater Management Plan in relation to the proposed development, which is included in Appendix 8. The report concludes the following:

- on-site detention tanks will be utilised to ensure that the post-development discharge from the site does not exceed the pre-development discharge;
- peak flows can be mitigated to protect it from damage during a minimum of a 1 in 100 year Average Recurrence Interval flood; and
- filtration systems can be utilised to ensure stormwater is discharged at an acceptable quality.

Respecting the above, we are comfortable that the proposed Stormwater Management Plan achieves the relevant provisions of the Development Plan.

4.10.7 Landscaping

The following provisions of the Development Plan are considered most relevant in assessing the proposed landscaping.

Landscaping, Fencing and Walls

PDC 73 *Development should incorporate open space and landscaping and minimise the use of hard paved surfaces in order to:*

(a) complement built form and reduce the visual impact of larger buildings (for example locating taller and broader plants against taller and bulkier building components);

(b) *enhance the visual appearance from the street frontage;*

(c) *screen service yards, loading areas and outdoor storage areas;*

(d) *define and enhance the appearance of outdoor spaces, including car parking areas;*

(e) *minimise heat absorption and reflection;*

(f) *provide shade and shelter;*

(g) *assist in climate control within and around buildings;*

(h) *allow for natural infiltration of surface waters through permeable treatments;*

(i) *contribute to the viability of ecosystems and species; and*

(j) *promote water and biodiversity conservation.*

PDC 74 *Landscaped areas should:*

(a) *where practicable, have a width of not less than two metres;*

(b) *be protected from damage by vehicles and pedestrians;*

(c) *result in the appropriate clearance from powerlines and other infrastructure being maintained;*

(d) *be designed to incorporate the re-use of stormwater for irrigation purposes; and*

(e) *include the planting of locally indigenous species where practical.*

Medium and High Rise Development

PDC 280 *Green roofs (which can be a substitute for private or communal open space provided they can be accessed by occupants of the building) are encouraged for all new residential commercial or mixed use buildings.*

PDC 282 *Deep soil zones should be provided to retain existing vegetation or provide areas that can accommodate new deep root vegetation, including tall trees with large canopies.*

One way of achieving this is in accordance with the following table:

Site area	Minimum deep soil area	Minimum dimension	Tree/ deep soil zones
<300m^2	10m^2	1.5 metres	1 small tree / 10m^2 deep soil
300-1500m^2	7% site area	3 metres	1 medium tree / 30m^2 deep soil
>1500m^2	7% site area	6 metres	1 large or medium tree / 60m^2 deep soil

Tree size and site area definitions	
Small tree	< 6 metres mature height and < less than 4 metres canopy spread
Medium tree	6-12 metres mature height and 4-8 metres canopy spread
Large tree	12 metres mature height and > 8 metres canopy spread
Site area	The total area for development site, not average area per dwelling

Residential Development

PDC 228 *Rooftop gardens should be incorporated into multi-storey residential flat buildings and multi- storey buildings with a residential component.*

A high standard of development is envisaged in the Business Policy Area of the Urban Corridor Zone, promoting distinctive and contemporary landscape designs which contribute to a high visual and environmental amenity. Where possible, it is also envisaged that rooftop gardens be incorporated into multi-storey buildings with a residential component.

Whilst the proposed development does not include a rooftop garden, it does include extensive, meaningful and practical landscaping to its lower levels and public areas, to create a high quality pedestrian environment that is also envisaged in the desired character statement of the Zone.

Landscaping forms an integral part of the design to:

- complement the built form;
- enhance the visual appearance from the street frontage;
- screen service and storage areas from the public realm;
- defining and enhancing the amenity of outdoor spaces; and
- improve the pedestrian environmental through minimising heat absorption and reflection.

In our opinion, the proposed landscaping at ground level is key to the successful functioning and use of the pedestrian link.

We believe the landscaped and active public space provided at the ground level, along with the existing amenity provided by the nearby parklands, creates public spaces of high visual and environmental quality for building occupants to enjoy. On this basis, we believe the intention behind including deep soil zones and green roofs outlined in Landscaping, Fencing and Walls PDC 282 and Residential Development PDC 228, respectively, have been achieved.

In addition, the proposed landscaping has been strategically located and will be supported by an irrigation system which will ensure the continued health of landscaping in the public areas. This will ensure that the amenity of the building is maintained and preserved. A Concept Design of the planter boxes has been included in Appendix 9.

Respecting the above, we have formed the opinion that the proposed landscaping will achieve the intent of the relevant provisions of the Development Plan.

4.11 Affordable Housing

The following provisions is considered most relevant to Affordable Housing.

Residential Development

PDC 178 *Dwellings constituting affordable housing and/or housing for seniors should be located in close proximity to existing centres, social services and facilities, and public transport.*

As the site is located within close proximity to Adelaide City, public facilities and amenities, the applicant has dedicated 23 percent of the apartments to affordable housing in the form of 12, 1 bedroom apartments. Residential Development PDC 178 has therefore been satisfied.

5. CONCLUSION

In our opinion, although the height of the proposed development exceeds the maximum envisaged for the policy area, the overall building design, location of the subject site, its relationship to surrounding development and the public benefit created by the proposed pedestrian link, supports the proposed height and scale. Further, the proposal substantially accords with all other relevant Development Plan provisions. Specifically, the proposal will:

- represent an appropriate density of development given the proximity of the subject site to public transport, amenities, local services and facilities;
- contribute positively to ground level activation and connectivity along King William Road and Little Rundle Street;
- create a high quality pedestrian experience through the inclusion of a podium element, a glazed ground floor, and extensive landscaping;
- provide an overall building appearance and design of high architectural quality responding to both the existing and future character of the locality;
- be of an overall height and scale that will not unreasonably impact surrounding properties by way of overshadowing, overlooking, or visual impacts;
- be sited and designed in a manner that will not present any unreasonable impacts upon surrounding properties or the character of adjacent roads;
- present a range of apartment types in close proximity to public transport links and public facilities;
- create a high quality apartment offering with excellent views;
- provide apartment layouts which achieve all relevant passive design principles with natural daylight to all habitable rooms, natural ventilation and shading;
- provide high quality apartments which adequately achieve the prescribed minimum private open space and storage requirements;
- provide 23 percent affordable housing;
- provide sufficient car and bicycle parking given the location of the subject site and the proposed land uses;
- allow safe, convenient and effective movement for all vehicle types and pedestrians;
- provide for safe and effective waste management and stormwater plans;
- adequately control noise emissions, and internal noise levels;
- mitigate the potential for wind tunnelling through building articulation and use of setbacks;
- create a safe, secure and crime resistant environment; and
- incorporate a large number of energy efficiency initiatives.

In addition, the Associate Government Architect has prepared a Pre-Lodgement Agreement reinforcing the high quality design of the development.

Accordingly, we have formed the opinion that the proposal warrants Development Plan Consent.

FRANK SIOW & ASSOCIATES

Traffic and Parking Consultants

P.O. Box 253
Kensington Park SA 5068
Tel/Fax: (08) 8364 1351
Mobile: 0411 445 438
Email: frank@franksiow.com.au

8 September 2017

Mr Nick Wong
Marchese Partners International Pty Ltd
Level 1, 22-26 Peel Street
Adelaide SA 5000

Dear Mr Wong,

2 KING WILLIAM STREET, KENT TOWN
PROPOSED MIXED USE DEVELOPMENT
TRAFFIC AND PARKING REPORT

As requested, we have reviewed the proposal to construct an apartment tower with 52 apartments, 332m2 of commercial tenancies and 4 levels of parking on the subject site. The subject site is located on the southern side of King William Street, east of the intersection with Dequetteville Terrace. The subject site also has a frontage on Little Rundle Street.

King William Street and Little Rundle Street are both under the control and care of the City of Norwood, Payneham & St Peters. There are bus stops located nearby on Botanic Road and Rundle Street. The Botanic Road bus stop is a "Go Zone" stop. Furthermore the subject site is in a city fringe location.

King William Street is a single lane road in both directions with bicycles lanes and parallel parking on both sides of the road. The road provides access to many car parks for both residential and commercial sites. Little Rundle Street is a Council laneway that carries two-way traffic. Parking is permitted at some locations on both sides of the laneway via the designated Loading Zones. The laneway services many rear loading areas and car parks of existing businesses in the area.

The subject site is located with the Urban Corridor Zone (Business Policy Area) of the City of Norwood, Payneham & St Peters.

1.0 THE PROPOSAL

The proposal is shown in Drawings DA2 & DA4 and comprises of the following:

- 52 apartments (12 one-bedroom, 24 two-bedroom and 16 three-bedroom)
- Commercial tenancies totalling approximately 332m2
- 67 on-site parking spaces (including two disabled parking space)

The proposed car park would have an access point from Little Rundle Street only. The proposal plan shows a large secured room for bicycle parking for tenants and residents. There are further bicycle parking rails provided within the ground floor area of the building. Additional bicycles could also be accommodated within the extensive 'resident storage zones' or within the apartments themselves.

2.0 PARKING ASSESSMENT

The relevant parking requirements for residential dwellings and commercial developments in the Urban Corridor Zone are as follows:

Car parking:
- *Resident: 1 per studio (no separate bedroom), 1 or 2 bedroom dwelling. 1.25 per 3+ bedrooms.*
- *Visitor: 0.25 per dwelling*

- *Non-residential: Desired Minimum – 3 spaces per 100m2 of gross leasable area. Desired Maximum – 5 spaces per 100m2 of gross leasable area.*

Bicycle parking:
- *Residential: 1 for every 2 dwellings (employee/resident) and 1 for every 5 dwellings (visitors)*
- *Office: 1 for every 100m2 floor area (employee/resident) and 2 plus 1 per 500m2 floor area (visitors)*

Based on the Development Plan, the parking required would be:

- 56 car parking spaces for the residents
- 13 car parking spaces for visitors of the dwellings
- 10 car parking spaces for the commercial land uses
- 26 bicycle parking spaces for the residential apartments (residents)
- 10 bicycle parking spaces for visitors of the apartments
- 6 bicycle parking spaces for the commercial land use (staff and visitors)

The secured bicycle parking area at ground level can house up to 30 bicycles inside (via use of a rack system). 12 bicycle parking bays would be provided within the open areas of the ground floor for visitors of the apartments and commercial tenancies. The above provision, totalling 42 bicycle parking spaces, would satisfy the Development Plan parking requirements.

Each apartment would also be able to accommodate its resident bicycle parking within the apartment or resident storage zones in the secured car parking area.

The number of car parking spaces required by the Development Plan would be 79 spaces. The proposed development would provide 67 car parking spaces, therefore a parking shortfall of 12 spaces would result.

In considering the parking adequacy issue, regard should also be given to the potential shared parking opportunity between the land uses:

- During business hours when the commercial tenancies are open, it would be likely that there would be minimal visitors to the residential apartments. The parking requirement would be 66 spaces (56+10). The parking provision of 67 spaces would meet this requirement.

- After hours and on weekends, when the commercial tenancies are closed, the parking requirement for the residential dwellings would be 69 spaces (56+13). There would be a minor parking shortfall of 2 spaces arising.

We note that Table NPSP/9A considers that a lesser number of parking may be provided if:

> *(a) the development is a mixed use development with integrated (shared) parking where the respective peak parking demands across the range of uses occurs at different times;*

(b) the development is sited in a locality where the respective peak demands for parking for the range of uses (existing and proposed) occurs at different times and suitable arrangements are in place for the sharing of adjoining or nearby parking areas;
(e) generous on-street parking and/or public parking areas are available and in convenient proximity, other than where such parking may become limited or removed by future loss of access, restrictions, road modifications or widening;

Our site inspection indicate that after business hours and on weekends there are many vacant spaces on King William Street available. On-street parking would therefore be readily available for visitors to the proposed development.

Given the subject site's proximity to major bus services (including Go Zone bus services) and being a City fringe location (walking path through parklands), residents, staff and visitors to the development would be encouraged to walk, use public transport or cycle. The likely parking requirement should therefore be lower than calculated above.

A parking standard that is increasingly referenced by traffic engineers is the *Parking Spaces for Urban Places: Car Parking Study Guideline for Greater Adelaide 2013*. This standard provides parking rates for various land uses and makes recommendations to discount the parking requirement, having regard to access to alternative modes of transport. More particularly, the discount to be applied would be as follows:

- *Located within 200m of a train station, tram station, a bus stop with five or more public transport routes, or a bus stop within a 'Go Zone' - 20%*

If the 20% discount were to be applied to the overall development (79 spaces required), the parking requirement would be reduced to 63 spaces. The proposed on-site parking of 67 spaces would exceed this requirement.

Having regard to the location of the subject site in an Urban Corridor Zone, its proximity to bus services and walking paths into the CBD, the encouragement of cycling through provision of bicycle parking facilities and the potential for shared parking between the mixed land uses, we are of the opinion that the parking provision for the development would be satisfactory.

3.0 PARKING LAYOUT

Parking spaces would generally be 2.4m by 5.4m with 5.8m aisleways. These dimensions would comply with AS/NZS 2890.1-2004. The disabled parking space with clear zone would comply with AS/NZS 2890.6-2009.

Where spaces are adjacent to walls, additional clearances would be provided to assist door opening. Columns would be set back 750mm from the start of the spaces which would comply with the parking standard.

A visitor parking area (9 spaces) is proposed in the upper ground and ground floor levels. This area is outside of the 'secured parking' area for residents. In addition to the visitor parking, a "go-get" share car would also be available for residents to use. We understand that a "go-get" car pooling arrangement is designed to reduce car ownership and therefore reduce car parking demands for the development.

At the access point on Little Rundle Street, the pedestrian sight line requirement would be satisfied. Adequate sight distance would also be provided to view oncoming traffic in the laneway.

4.0 WASTE MANAGEMENT

A bin storage area is proposed within the subject site on the Ground floor level, adjacent to Little Rundle Street. We note that Little Rundle Street is a laneway that is used extensively for car parking access and servicing of refuse bins from the rear of commercial premises.

We note that a Waste Management Plan has been proposed to manage the refuse collection for the development.

While there is a small 'void' portion of the car park entrance where sufficient head height is available for a truck to reverse into for the bin pick up, the truck would be required to park over the main car park entrance and would also encroach over part of the laneway. This option would result in the car park entrance being blocked and part of the laneway being block, albeit for a short duration.

We would recommend that the refuse truck stop along the laneway instead to pick up the bins, similar to how many of the existing commercial and residential bins are picked up from laneways throughout the Kent Town area. On refuse collection days, the refuse truck would travel along the laneway and stop to pick up bins during off-peak periods. The bins would be wheeled out from the bin storage area by the private waste contractor, unloaded and then placed back in the bin storage area. Little Rundle Street has a width of approximately 6.2m. A refuse truck that is momentarily stopped to pick up bins would not obstruct through traffic flow. Importantly, the refuse truck would not need to block access at the car park entrance.

5.0 TRAFFIC IMPACT

The proposed development is primarily a residential development, which is a low traffic generator.

The small scale commercial tenancies (approximately 332m2) would also be expected to generate low traffic volumes during peak hours.

Based on the typical DPTI trip generation rates, the proposed 52 apartments would be expected to generate say 22 vehicles per hour and the commercial tenancies say 7 vehicles per hour, i.e. total of 29 vehicles per hour (two-way). Given the site's proximity to public transport services and to the CBD (walking distance), the expected peak hour trip generation would be less than 29 vehicles per hour.

Such a low traffic volume would have very little impact on King William Street and Little Rundle Street.

Based on the above assessment, we are satisfied that the proposed development would not create any adverse traffic impacts on the adjacent roads.

6.0 SUMMARY

The proposed development comprises of a mixed use development of 52 residential apartments and 332m2 of commercial tenancies. The subject site is located in close proximity to bus services and the

CBD where walking, cycling and use of public transport would be encouraged as convenient modes of transport.

The proposed land uses would have different peak parking periods and therefore would allow shared parking opportunities to be maximised. The proposed development would provide adequate car parking and bicycle parking that would satisfy the likely peak parking demands of the mixed use development.

The proposed development would also be a low traffic generator and there should be very little impact that would arise on the adjacent roads as a result of the proposed development.

On the basis of the above assessment, we are of the opinion that the proposed development can be supported on traffic and parking grounds.

Yours sincerely,

Frank Siow

FRANK SIOW
MIEAust MAITPM MIPWEA

Buildtec

2-4 King William St Kent Town Development

Waste Management Plan

September 2017

Prepared by Rawtec Pty Ltd

ABN 59 127 176 569
PO Box 1159,
Glenelg South SA 5045
Ph: +61 8 8294 5571
www.rawtec.com.au

Document verification

Date	Version	Title	Prepared by	Approved by
11/08/17	Draft V1	2-4 King William St Kent Town Development Waste Management Plan - Draft	Matthew Allan and Kat Heinrich	Kat Heinrich
12/09/17	Final V1	2-4 King William St Kent Town Development Waste Management Plan	Matthew Allan and Kat Heinrich	Mark Rawson

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1. Introduction

1.1. About this WMP and the proposed development

This document provides a waste management plan (WMP), for the proposed development identified in Table 1 below. This WMP will be included with building plans for the development lodged with the Development Assessment Commission (DAC) to obtain Development Approval. The WMP outlines the proposed waste management system (WMS) for the development at high-level, which demonstrate that successful management of waste can be achieved at the site.

Table 1: Proposed development details

Site Location	2-4 King William St Kent Town SA 5067
Development Project	2-4 King William St Kent Town Development
Client	Buildtec
Project Architect	Marchese Partners
Urban Planners	Future Urban Group

1.2. Purpose and scope of WMP

This WMP has been developed for the planning stage of this development. It provides a preliminary design for the WMS for this site and is intended to demonstrate that successful management of waste can be achieved at the site. To support this WMP, the Client will need to provide the additional documentation or details on their plans as listed in Section 1.3 below.

The WMP has been prepared with the policy and requirements for waste management (identified in Appendix 1) in conjunction with the Client, Project Architects, and Traffic Consultant, who have indicated the intended site uses of the development, occupancy data, and requirements for how waste should be managed. If future land uses and waste management arrangements for the development are altered, the WMP may need to be updated.

The suggested arrangements in this WMP are preliminary and reflect one possible configuration for the waste management system at this site. These arrangements could evolve and be refined (during detailed building design) before the construction takes place. This may affect the WMP for the site, which should be updated accordingly.

1.3. Required supporting documentation and design details

The following information is required to support this WMP:

1. Building plans confirming:
    - The size and layout of the waste rooms.
    - Transfer pathways for safe and efficient movement of bins/waste between waste rooms and locations for collection.
2. Traffic Consultant report confirming:
    - Parking, loading, unloading and manoeuvring for collection vehicles servicing the development in the on-street loading zone.

1.4. What this WMP contains

Table 2 below outlines what is contained in the waste management plan (WMP).

Table 2: What this WMP contains

Section 2 – Description of Development	Provides details of the development relevant to the WMP preparation and indicates the waste and recycling collection services proposed for the development.
Section 3 – Outcomes from the Analysis on Waste and Recycling Requirements at the Development	Provides estimates of the waste and recycling volumes likely to be generated at the site which will require storage, collection and disposal. This included the recommended size and layout of the development waste and recycling storage locations.
Section 4 – Proposed Waste Management System (WMS)	Provides an overview of the proposed WMS for the development, including the main elements and important design requirements, and how these systems should operate. The WMS outlines how waste would be stored, transferred and collected at the site.
Section 5 – Collection Vehicle Requirements	Includes relevant information on collection requirements, including number of collections per week and provision for access and maneuverability for waste collection vehicles.
Appendix 1: Policy, Design and Operational Waste Management Requirements for the Development	This Appendix identifies the policy, design, and/or operational requirements for waste management that have been used in relation to the development of the WMP.
Appendix 2: Methodology for Estimating Waste & Recycling Volumes and Sizing Storage Areas	This Appendix sets out the design approach and assumptions that have been used in the estimation of waste and recycling volumes contained in this plan:
Appendix 3 – Additional Waste Management Design Advice	This Appendix provides better practice design advice and other waste management design considerations for the development, based on the South Australia Better Practice Waste Management Guide for Residential and Mixed Use Developments.
Appendix 4 – Alternative food organics disposal option for residents	This provides an alternative food organics disposal option for residents, namely an additional chute, or two chutes, one of which has a diverter for food organics or comingled recycling.

2. Description of the Development

2.1. Land uses and occupancy data

The Client has provided Rawtec with a description of the development and plans showing the proposed layout of the site, buildings and land uses. A breakdown of the land use and tenancy assumptions used for estimating waste and recycling volumes for the development, can be found in Table 3 below.

Table 3: Land use and occupancy overview

Land Use Type Per Plans	Land Use Type (for waste generation calculation)	Occupancy Data (m^2/ Bedrooms)
Apartments including penthouses, levels 2 - 8	Residential (high density)	52 apartments 108 bedrooms
Commercial (ground floor)	Café/ restaurant	84 m^2
Commercial (ground floor)	Offices or consulting rooms	68 m^2
Commercial (first floor)	Offices or consulting rooms	180 m^2
Total		108 residential bedrooms and 332 m^2 of commercial entities

2.2. Site waste management requirements

The following waste management and operational arrangements were identified as preferred for the site by the Client and Project Architect (Table 4 below). These arrangements have been considered when developing the design of the proposed waste management system and the information contained in the waste management plan.

Table 4: Site waste management requirements

Waste Management Requirement	Description
Waste Storage	• Waste storage would be on the ground floor near Little Rundle St. • This room will have the chute access point for residential bins, and store waste for the commercial tenancies.
Building Services	• Staff/cleaners would move waste from commercial tenancies to the larger bins in the bin storage room.
Collection point(s)	• The nominated collection location is on Little Rundle St (on-street). • The Traffic Consultant would need to confirm swept paths (if applicable) and vehicle access along Little Rundle Street and in the on-street loading zone (see Section 5 for further information).
Commercial collection	• We understand that commercial collection of waste throughout the building is the desired option.

2.3. Recommended waste and recycling services

To achieve effective waste and recycling management at the site, Table 5 below outlines the recommended waste and recycling services that should be collected from the development[1].

Table 5: Proposed waste and recycling streams servicing the development

	Required/Desired Waste and Recycling Collection Services			
	Land Use	***Residential***	***Commercial***	***Commercial***
	Development Land Uses	***Apartments*** *Residential (High Density)*	***Commercial assumed office*** *Offices or Consulting Rooms*	***Commercial assumed café*** *Café/Restaurant*
	Waste and Recycling Stream			
Routine collection (e.g. rear-lift collection)	**General Waste**	X	X	X
	Co-mingled Recycling	X	X	X
	Organics (Food) Recycling	X	X	X
	Cardboard Recycling	NS	NS	X
	Paper Recycling	NS	X	NS
	Glass Recycling	NS	NS	NS
	Plastic Recycling	NS	NS	NS
	Confidential Paper Recycling	NS	X	NS
***On-call collection** (pick-up by contractor) *or* **External drop-off** (by building services)	**Hard Waste**	X	X	X
	E-waste	X	X	X
	CFL/Lighting	X	X	X
	Printer Cartridges	X	X	X
	Batteries	X	X	X

X = Required/Desired

NS = Not serviced as not required/desired

Note: 'X' indicates required/desired as per The SA Better Practice Guide – Waste Management in Residential or Mixed Use Developments (Green Industries SA, 2014).

E-waste and hard waste considerations include:

- E-waste (batteries and printer cartridges, lighting etc.) – These waste streams would be either be temporarily stored within tenancies before being dropped off at an appropriate external location (e.g. local recycling depot or office supply store) or collected by an appropriate collection company. Some items may be managed through an external collection contractor (e.g. for carpark lighting replacement).
- Hard waste – Hard waste would be temporarily stored within tenancies until collection and managed via a pull-in/pull-out collection service from the apartment. This would be arranged by the tenants in conjunction with building services and collection would be via the on-street loading zone.
    - Note that it may be logistically simpler and more cost effective to have a common aggregation area on the ground floor for hard waste. Collection from apartments requires the building services manager, resident and collection contractor to be present for the collection day and time. It also takes longer for the contractor to collect the waste and may increase the number of collections per year and costs.

[1] As outlined in the *SA Better Practice Guide – Waste Management in Residential or Mixed Use Developments* (Green Industries SA, 2014).

3. Outcomes from the Analysis

3.1. Estimated waste and recycling volumes by land use

Table 6 details the estimated waste and recycling volumes by land use for the development.

Table 6: Estimated waste and recycling volumes by land use

	Estimated Waste Generation Volumes (Litres Per Week) by Land Use & Waste Stream (All Land Uses)				
	Land Use	**Residential**	**Commercial**	**Commercial**	**Totals** (Litres Per Week)
	Development Land Use	***Apartments***	***Commercial assumed office***	***Commercial assumed café***	
	WRGR Classification	*Residential (High Density)*	*Offices or Consulting Rooms*	*Café/Restaurant*	
Waste Stream	**General Waste**	3,200	400	1,800	5,400
	Co-mingled Recycling	2,700	200	300	3,200
	Organics (Food) Recycling	1,100	60	2,400	3,600
	Cardboard Recycling	NE	NE	900	900
	Paper Recycling	NE	200	NE	200
	Confidential Paper Recycling	NE	20	NE	20
	Hard Waste	800	NE	NE	800
	E-waste	100	NE	NE	100
Total Site Volume (Litres per Week)		**7,000**	**900**	**5,400**	**14,200**

**Note: Totals have been rounded to better reflect estimates and may not equate*

NE = Not Estimated as Not Required

3.2. Waste and recycling stream volumes, bin sizes and collection details by commercial/residential tenancies

Table 7 below identifies estimates for the total waste and recycling volumes generated, nominated bin sizes for each waste stream, proposed collection, number of bins required, proposed waste collection service provider, and the location where bins are presented for collection.

Table 7: Estimates of waste and recycling volumes (litres/week) for all tenancies, with proposed services and collection frequency

Waste stream	Estimated Waste Volume (Litres Per Week)*	Proposed Services				
		Bin Size (Litres)	**Collection Frequency**	**Est. no. of bins required**	**Proposed waste collection service provider**	**Proposed location where bins/ waste is presented for collection**
General Waste	5,400	1100	2 x per week	3	Commercial contractor (all land uses to use the same contractor)	Presentation within the bin storage room on the ground floor
Co-mingled Recycling	3,200	1100	2 x per week	2		
Organics (Food) Recycling	3,600	660	2 x per week	3		
Cardboard Recycling	900	1100	1 x per week	1		
Paper Recycling	200	240	1 x fortnight	2 (one in each tenancy)		
Confidential Paper Recycling	20	240	As needed	2 (one in each tenancy)		
Hard Waste	800	-				In apartments or commercial tenancies
E-Waste	100	-				
Totals	**14,200**	-	**7 - 8 per wk**	**-**	-	-

**Note: Totals have been rounded to better reflect estimation of the volumes and may not equate*

3.3. Recommended waste storage areas

An indicative drawing of the development's bin storage room on the ground floor containing the required number of bins, which includes one example of bin configuration, can be found in Figure 1 below. Note that a bin wash area has been included in the waste room, and bins can be placed on this area if required. For further information on bin wash areas, see Appendix 3. Figure 2 includes a potential configuration of the chute room on each floor, and Figure 3 in Appendix 4 demonstrates an alternative option for the waste room if three chutes were installed throughout the building, or if a dual chute was provided on the second chute. This provides an option for food organics waste disposal on each floor without needing to transport bins to the ground floor.

Figure 1:Preliminary drawing showing the estimated size and layout of the development's bin storage area on the ground floor, and required no. bins assuming collection frequency in Table 7

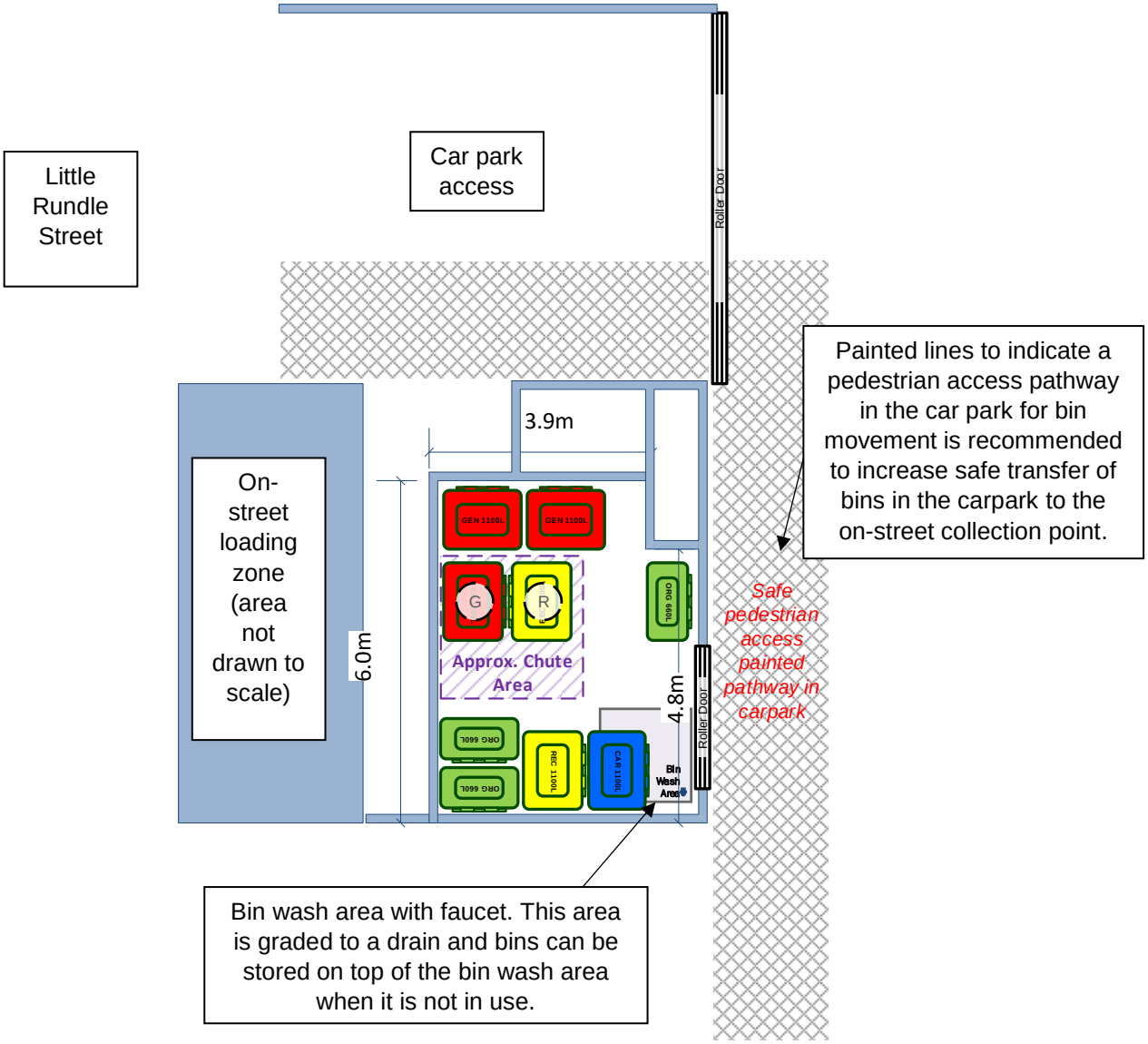
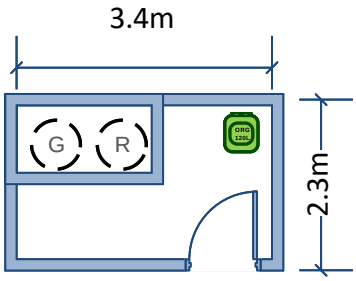


Figure 2:Preliminary drawing showing the estimated size and layout of the development's chute room if organics bins are to be provided in these rooms



Note: These bin sizes are for **illustration purpose only** and are based on the standard MASTEC Australia bin sizes (http://www.mastec.com.au). Bin sizes and shapes may differ depending on manufacturer, collection contractor or local waste authority. Please allow extra room (e.g. >10%) for differences in bin sizes, bin access, opening and closing and manoeuvring etc.

LEGEND
GEN = General Waste
REC = Comingled Recycling
ORG = Organics
CAR = Cardboard

4. Proposed Waste Management System

4.1. Overview of the Waste Management System

To effectively manage the waste generated at the site, an appropriate Waste Management System (WMS) is required. The WMS consists of:

- User storage of waste
- Waste transfer to common disposal area
- Aggregation and storage of this waste
- Waste/bin collection.

The table overleaf provides an outline of the waste management system for each land use. This is based on the waste management steps recommended in the *South Australian Better Practice Guide – Waste Management in Residential or Mixed Use Developments* (Green Industries SA, 2014), summarised in Appendix 3.

4.2. WMS for commercial properties

	WMS step	WMS Notes
Storage, transfer pathways and collection details for: • General waste • Co-mingled recycling • Organics (food) recycling • Cardboard recycling (café) • Paper Recycling (offices) • Confidential Paper Recycling (offices)	**1 – User disposal and storage**	• Each commercial tenancy would have its own bin station to store waste and recyclables (e.g. 60-120L bins). • Office tenancies would each have a 240L paper recycling bin and a 240L confidential paper recycling bin, which would be managed via pull-in/pull-out paper recycling collection service.
	2 – Transfer pathway to common disposal area	• Staff/cleaners would move waste and recyclables from commercial tenancies to the bin storage room when required. • For the first floor, this will be via the lifts and then the 'resi foyer', and walkway along the side of the building. • Sufficiently safe, wide access pathways clear of obstructions and stairs and with a gradient no more than 1:10 are required between the commercial tenancies and the bin room (see Appendix 3). We understand the person transferring the waste is required to walk in the carpark. As such, pedestrian painted line markings along this pathway in the carpark are recommended. • Larger items such as cardboard boxes can be taken directly from commercial tenancies to the bin storage room on the ground floor.
	3 – Aggregation and storage	• Waste and recyclables would be aggregated and stored within the larger bins in the bin storage room. • See Appendix 3 for recommendations on pathways (width, slope etc.) from storage to collection point. As the pathway is via a carpark, we recommend pedestrian painted line markings along this pathway.
	4 – Waste Collection	• The waste collection vehicle would drive along Little Rundle Street and stop in the on-street loading zone. • The bins would be pulled out from the waste room, transported through the car park along safe access pathways to the street, loaded at the rear of the waste truck, and empty bins transported back to the waste room. • The Traffic Consultant would need to confirm swept paths (if applicable) and access to the loading area by a waste collection vehicle along Little Rundle Street (see section 5). • As the pathway from the waste room to collection point is via a carpark, we recommend pedestrian painted line markings along this pathway (see Figure 1).

4.3. WMS for residential properties

The below table captures the waste management system for residential properties at the site. Note that an alternative option for the food organics system is provided in Appendix 4 for consideration.

	WMS step	WMS Notes
Storage, transfer pathways and collection details for: • General waste • Co-mingled recycling • Organics (food) recycling	**1 – User disposal and storage**	• Each residential tenancy would have its own bins to store waste, recyclables and food organics (e.g. 10 – 80L bins, with food organics potentially stored in kitchen caddies with compostable liners).
	2 – Transfer pathway to common disposal area	• Residents would transport waste from their respective apartment to the chute room. • The chute room will have two chutes, with one potentially a dual chute with the choice between food organics and comingled recycling. If both chutes are single chutes (i.e. one for general waste, one for comingled recycling), small food organics bins can be placed on each floor to store food organics generated by residents (note an alternative option is provided in Appendix 4). • See Appendix 3 for recommendations on pathways (width, distance etc.) from generation to disposal point.
	3 – Aggregation and storage	• Waste would enter the bin room on the ground floor via the chutes. • If food organics bins are used in the chute room on each floor, building services would need to move these to the larger food organics bins in the ground floor bin room. • An alternative food organics disposal option is provided in Appendix 4.
	4 – Waste Collection	• The waste collection vehicle would drive along Little Rundle Street and stop in the on-street loading zone. • The bins would be pulled out from the waste room, transported through the car park along safe access pathways to the street, loaded at the rear of the waste truck, and empty bins transported back to the waste room. • The Traffic Consultant would need to confirm swept paths (if applicable) and access to the loading area by a waste collection vehicle along Little Rundle Street (see section 5). • As the pathway from the waste room to collection point is via a carpark, we recommend pedestrian painted line markings along this pathway (see Figure 1).

5. Collection Vehicle Requirements

5.1. Collection vehicle requirements

The collection vehicles expected for waste collection at this development would generally be:

- Rear-lift trucks – for collection of routine waste, comingled recycling and food organics streams;
- Pan-tech or flat-bed trucks – for collection of at-call waste streams, if required.

Examples of the likely truck dimensions are provided in the below to assist the Traffic Engineer/Consultant in ensuring that the on-street loading zone can accommodate the waste and recycling collection vehicles, and that vehicles can enter and exit the area safely along Little Rundle Street. In addition to the truck length, the waste truck parking area will need to accommodate at least 2m behind collection vehicles for waste bin loading.

Collection vehicle dimensions and operating requirements vary between waste collection contractors. The client would be required to ensure that the collection vehicle used by the waste collection contractor servicing the development is able to accommodate for the loading zone and other requirements before collection can begin.

Table 8: Likely dimensions and turning circles of waste collection vehicles that would be required to access the loading zone and Little Rundle Street

Likely dimensions and turning circles of waste collection trucks		
	Rear-lift truck (to collect bins up to 1100L)	**Pan-tech/flat-bed* (to collect hard waste/E-waste)**
Dimensions	3.4m (h) x 2.5m (w) x 8.8m (l) plus 2m space at the rear to load bins	Up to 4.5m (h) x 2.5m (w) x 8.8m (l)
Vehicle height in operation	Up to 4m	Up to 4.5m
Vehicle turning circle	18-25m	10m

**Note: Pantech/flatbed vehicle dimensions are based on Australian MRV standard specifications - AS 2890.2-2002*

5.2. Estimated number of waste vehicle movements per week

We have estimated that there would be 7 - 8 collection vehicle movements per week at the site. This is based on the estimated waste and recycling volumes and service frequency described above and assumes collection is undertaken by the same contractor for each land use. These estimated vehicle movements do not include the on-call pickups of infrequent services such as hard waste/E-waste collection.

Appendix 1: Policy, Design and Operational Waste Management Requirements for the Development

This WMP has been prepared with the following policy, design, and/or operational requirements for waste management in mind:

- *The South Australian Environment Protection (Waste to Resources) Policy 2010 (W2REPP) (Government of South Australia, 2011):*
    - This Policy requires that waste is subject to resource recovery processes, which can include source separation, before disposal to landfill.
- *South Australian Better Practice Guide – Waste Management in Residential or Mixed Use Developments (Green Industries SA (previously Zero Waste SA), 2014):*
    - Identifies need for areas to store waste and recyclable materials, appropriate to the size and type of development, screened from public, which minimises disturbance to residents and provides for service vehicle access.
    - Provides guidance on design of waste management systems for medium to high density residential and mixed use developments.

Appendix 2: Methodology for Estimating Waste & Recycling Volumes and Sizing Storage Areas

The estimation of waste and recycling volumes contained in this waste management plan, is based on:

- The proposed land use data;
- Client and regulatory expected services for different land uses in the development; and
- Waste generation metrics found in:
    - The South Australian Better Guide Practice Guide – Waste Management in Residential or Mixed Use Developments (Green Industries SA (previously Zero Waste SA), 2014)
    - Waste and recycling metrics developed by Rawtec, which are based on industry knowledge and experience.

Appendix 3: Additional Waste Management Design Advice

The below table provides design advice and other considerations based on the South Australia Better Practice Guide to Waste Management for Residential and Mixed Use Developments. Note that this does not include all recommendations/ considerations from this Guide, and for further information it is recommended that this document is reviewed (see link).

Area	Recommendation/ Consideration
Access distance from resident properties to bin disposal point	• Better practice recommends this distance be no greater than 30 metres. This reduces the likelihood of spillage and increases convenience for residents.

Disposal points for residents	• The SA Better Practice Guide indicates that organics (food and/or garden) is a required or expected service for residents in South Australia.
	• It is also recommended that disposal points for all three streams (general waste, comingled recycling and food organics) be at the same point for residents.
	  • If the building has multiple stories, this could be done by providing three separate chutes (one general waste, one recycling, one food organics), or two chutes with one chute being a dual chute (for food organics and commingled recycling).
	  • Alternatively, the chute room on each floor can include small (e.g. 80L) food organics disposal bins that need to be transported to the ground floor waste room bins.
	  • This reduces transport distances for residents and the potential for food waste to leak out in lifts while moving the food organics throughout the building. An alternative option is to provide residents with a food organics bin on the ground floor that is easy to access.

Bin/chute rooms on each floor	• It is important that consideration is given for access to this room/chute area by mobility impaired persons (no stairs, doorways that can be accessed for individuals with wheelchairs etc).
Chutes in the waste room	• If chutes are entering the waste room, the minimum height of the waste room from floor to ceiling is 3 metres.
Bin transfer routes	• The Better Practice Guide recommends transfer routes be free of obstructions and steps, at least 1.25m wide and a slope of no more than 1:10 • These should also not pass through living areas or dwellings. • If the transfer route is through a carpark, pedestrian line markings in the carpark are recommended to increase safety.

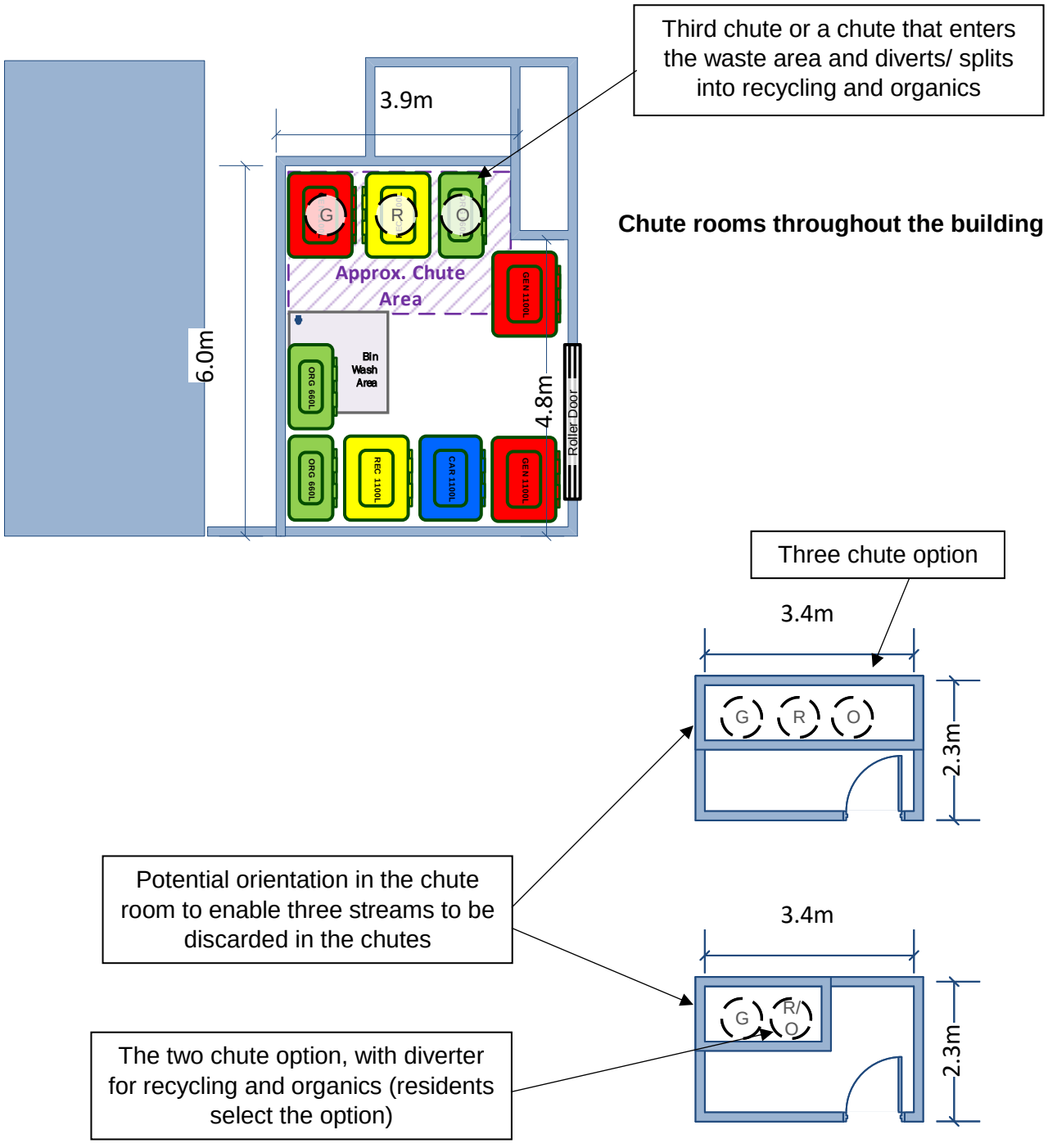
Hard waste	• It is recommended that an aggregation point for hard waste be provided in a space that is easy to access for collection vehicles. • This is logistically easier than collection directly from apartments, where the building services manager, resident and collection contractor would all need to be present for the collection day and time. It also takes longer for the contractor to collect the waste and may therefore increase costs.

Bin washing	• It is recommended that a bin wash area be installed and that:
	  • Is sloped to a drain leading to the sewer,
	  • Has an installed tap with mains supply and a hose nearby,
	  • Is at least 2m x 2m, and
	  • Is slip resistant to prevent slippage during washing.
	• Note that line marking and bunding is not required around the bin wash area, and bins can be stored on top of the bin wash area in the waste room. During washing, other bins can be placed outside the waste collection room while bins are washed in the waste room.
	• Please note that alternatively, it is possible for the bin wash area to be installed outside the waste room. It may also be possible for the waste contractor to be contracted to provide this service (either on-site or off-site).

Appendix 4: Alternative waste and chute room set up to enable food organics waste to enter the waste room via chutes

Figure 3: Alternative waste room and chute room to enable food organics waste to be transferred to the waste room via chutes

Waste room on the ground floor



Note: These bin sizes are for **illustration purpose only** and are based on the standard MASTEC Australia bin sizes (http://www.mastec.com.au). Bin sizes and shapes may differ depending on manufacturer, collection contractor or local waste authority. Please allow extra room (e.g. >10%) for differences in bin sizes, bin access, opening and closing and manoeuvring etc.

LEGEND
GEN = General Waste
REC = Comingled Recycling
ORG = Organics
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CONSULTING AUSTRALIA

MIXED-USE DEVELOPMENT

2-4 KING WILLIAM STREET, KENT TOWN

Project No: LCE12188

Sustainability Report

August 2017

1 INTRODUCTION

1.1 PROJECT OVERVIEW

The proposed mixed-use development at 2-4 King William Street, Kent Town consists of the following:

- One level of below-ground carparking;
- Building entrance, retail/commercial tenancies and carparking at ground floor
- Two additional levels of carparking at mezzanine level and Level 1
- 48 apartments over 6 levels; and
- 4 penthouses at top floor (i.e. Level 8)

Figure 1: Site plan (source: Google Maps).

1.2 OBJECTIVES

This report outlines the sustainability initiatives proposed for the development.

The intent of each initiative is to reduce the ecological impact of the development and improve the environment for the occupants. Collectively, these initiatives shall: -

- Reduce energy and water consumption;
- Reduce the ecological footprint of the building and its occupants;
- Improve thermal comfort and air quality within the building; and
- Improve occupant well-being.

1.3 SUMMARY OF SUSTAINABILITY INITIATIVES

The following initiatives have been incorporated in the building design and described in Section 2.

Energy efficiency & Carbon footprint minimisation	▪ Massing building configuration ▪ Dual aspect design ▪ Shading ▪ Energy efficient building services
Water efficiency	▪ Water efficient fixtures
Environmentally friendly transport	▪ Bicycle parking ▪ Small parking spaces for fuel-efficient vehicles ▪ Parking dedicated for car-sharing scheme
Indoor air quality & Well-being	▪ Low VOC paint ▪ Private balconies

2 SUSTAINABILITY INITIATIVES

2.1 MASSING BUILDING CONFIGURATION

Massing building configuration is achieved as apartments are located directly above one another. This removes ceilings and floors exposed to ambient conditions and therefore improves the building's thermal performance by reducing heat losses/gains. Refer to Figure 2.

Figure 2: Massing building configuration.

2.2 DUAL ASPECT DESIGN

Dual aspect design encourages natural cross ventilation via openings of various orientations. This provides opportunities to improve thermal comfort of internal spaces during warmer summer months, without active cooling. Refer to Figure 3.

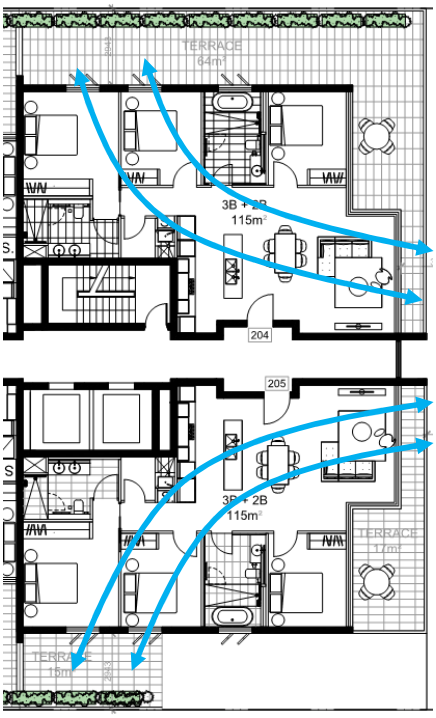

Figure 3: Dual aspect design.

2.3 SHADING

Private balconies for all apartments provide shading to the glazing within living areas, and allow ventilation during rain events.

Where windows do not have balconies above (on the northeast and southwest facades), vertical shading fins reduce the solar heat gain to these external surfaces and reduces cooling loads. Refer to Figure 4.

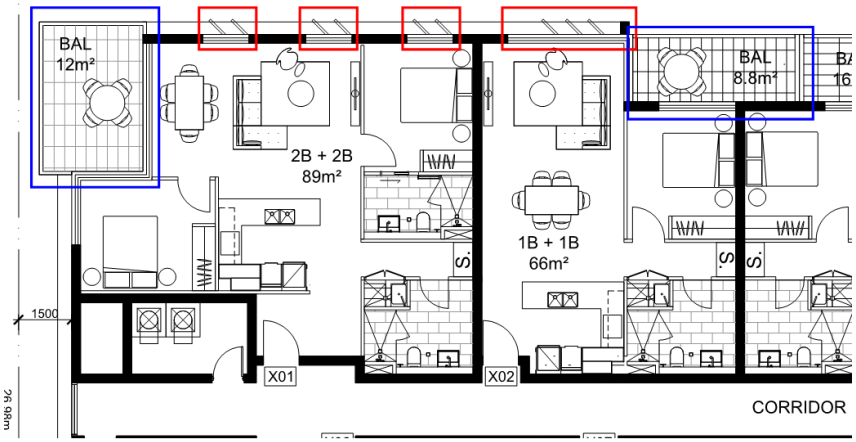

Figure 4: Vertical shading fins and balconies reduce cooling loads.

2.4 ENERGY EFFICIENT BUILDING SERVICES

High efficiency artificial light fittings and HVAC systems are proposed. This includes motion sensor operated lighting to common areas and daylight sensor operated lighting to external areas. This is expected to reduce the apartments' operational energy consumption, independent of occupants' behaviour.

2.5 WATER EFFICIENT FIXTURES

All fixtures and fittings shall be selected to minimise water consumption throughout the development. The following WELS ratings are proposed:-

- Taps with a WELS rating of not less than 5 Stars (5.0 L/min).
- Shower heads with a WELS rating of not less than 3 Stars (7.0 L/min).
- Water closets with a WELS rating of not less than 4 Stars (3.5 L/flush, dual flush).

The following table demonstrates the potential water savings expected to be achieved per person (approx. 52%) resulting from the use of the above low-flow fittings.

Equipment	Average apartment (per person)		2-4 King William St (per person)		
	Flow Rate	Daily Consumption	WELS	Flow Rate	Daily Consumption
Taps	9.0 L/min	48 L	5 Star	5.0 L/min	26.5 L
WC's	8.0 L/flush	48 L	4 Star	3.5 L/flush	21 L
Showers	15.0 L/min	135 L	3 Star	7.0 L/min	63 L
Total	-	231 L	-	-	110.5 L

2.6 BICYCLE PARKING

Secured bicycle parking is provided at ground floor and dedicated to the proposed apartment development. This encourages building occupants to utilise carbon-free transport. Refer Figure 4.

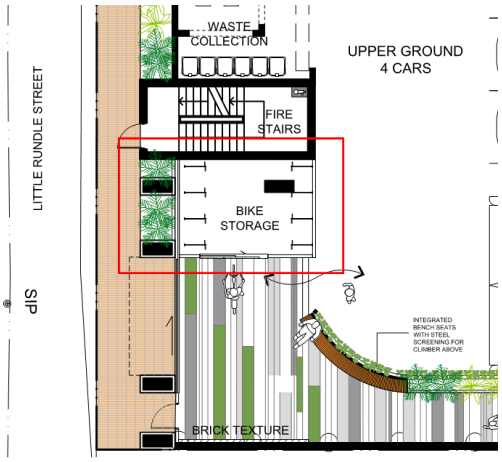

Figure 5: Bicycle car parking.

2.7 SMALL CAR PARKING/CAR-SHARE

A total of four (4) small car parking spaces will be provided within the car park at basement and mezzanine levels and dedicated to the proposed apartment development. This encourages building occupants to utilise small cars which are typically more fuel-efficient, especially within urban areas. Refer to Figure 5.

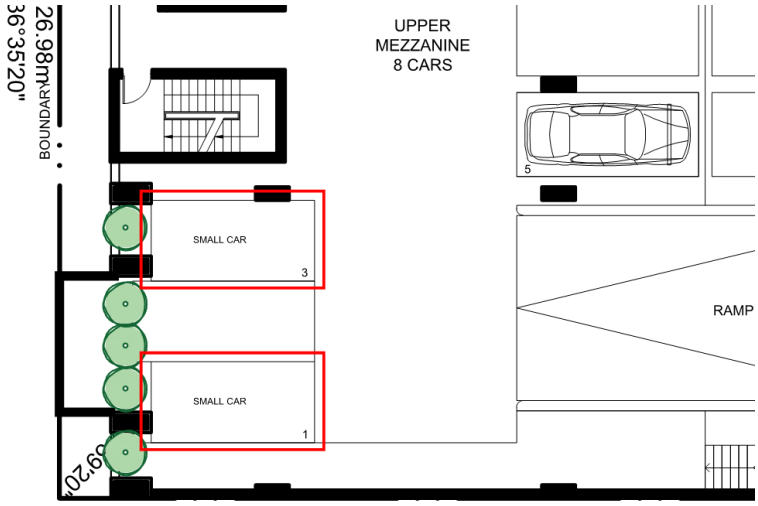

Figure 6: Car parking spaces dedicated to use by small cars.

Additionally, a permanent parking space shall be dedicated to users of the 'Go-Get' car sharing scheme, in which multiple users share use of cars. This reduces the necessity for car ownership and reduces the space required (per user) to store/park cars. Refer to Figure 6.

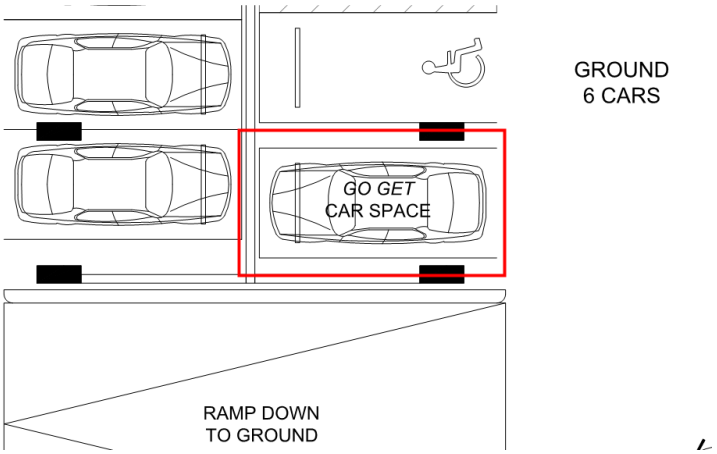

Figure 6: Parking space dedicated for users of 'Go-Get' car-sharing scheme

2.8 LOW VOC PAINT

Low Volatile Organic Compounds (VOC) paint is proposed throughout the apartment development. Paints can release VOC into the air which are proven to be harmful to human health. Thus implementing low VOC paint shall improve the internal air quality.

2.9 PRIVATE BALCONIES

Private balconies for all apartments are provided. These private outdoor spaces will be used by the residents as a place of respite, a place where they can connect with the natural environment or a place where they spend time with family or friends and are expected to have a positive impact on their well-being. Refer to Figure 7.

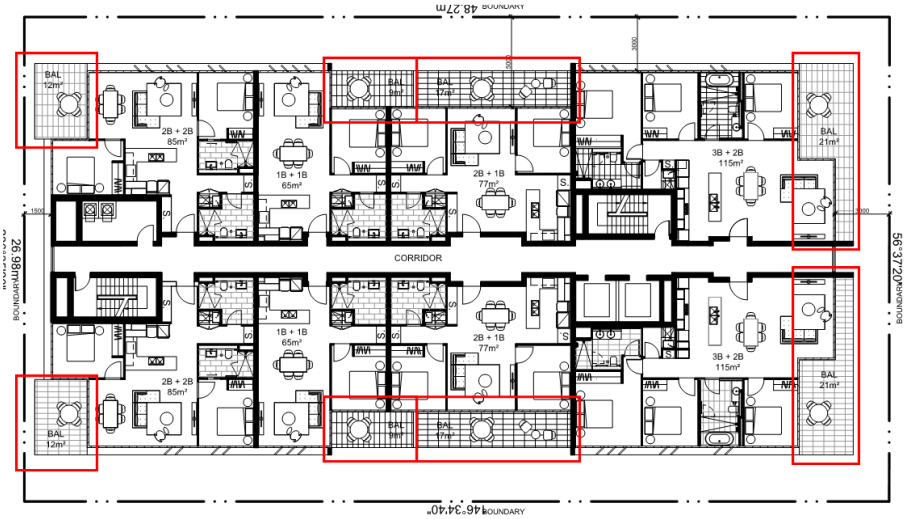

Figure 7: Private balconies to each apartment.

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APARTMENT DEVELOPMENT, 2-4 KING WILLIAM STREET, KENT TOWN

Project No: LCE12188

Services Infrastructure Report

DOCUMENTATION ISSUE REGISTER

REVISION	DESCRIPTION	DATE ISSUED	ENGINEER	REVIEWED
A	Planning Issue	10/08/2017	JZ/DC/TT	-
B	Planning Issue	29/08/2017	JZ/DC/TT	-

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1 INTRODUCTION

1.1 BUILDING DESCRIPTION

The project involves the development of the existing site at 2-4 King William Street, Kent Town comprising of ground floor and first floor commercial tenancies and 7 floors of apartments. A total of 52 apartments are proposed.

Based on project design team meetings we understand that the breakdown of the building will generally be as follows:

Building Level	Building Function
Basement	Services plant areas
	Carparking
	Bike store
	Amenities
Ground	Residential Entrance Lobbies
	Transformer Enclosure
	Waste Collection
	Carparking
	Bike store
	Amenities
	Commercial Tenancies
Mezzanine	Carparking
Level 1	Commercial Tenancy
	Carparking
Level 2 - 7	Apartments (8 off per level)
Level 8	Penthouse Apartments (4 off)

2 AUTHORITIES

2.1 SA POWER NETWORKS ELECTRICAL SUPPLY

The existing site is supplied from an external pad mount type substation owned by SA Power Networks. The substation has two outgoing low voltage supplies to residencies and businesses on King William Street. These two low voltage power supplies are owned by SAPN as part of their low voltage infrastructure. The incoming SAPN high voltage cables are installed underground extending from King William Street to the site transformer which is located on the site off King William Street (refer plan below).

Figure 1: Existing Substation Location

Due to the location of the existing transformer, it is expected that this will restrict the excavation of the new basement and therefore it must be decommissioned. SA Power Networks have advised that existing infrastructure in the street will be capable of temporarily supplying the existing outgoing feeds during construction hence negating the need to programme construction around this.

To service the proposed site redevelopment, it has been resolved during the early site/building planning phase to establish a SAPN substation consisting of 1 off 500 kVA pad mount transformer to provide adequate capacity to service the building and the existing LV outgoing feeds. It is proposed to locate the substation on King William Street façade due to close proximity to existing overhead high and low voltage cabling.

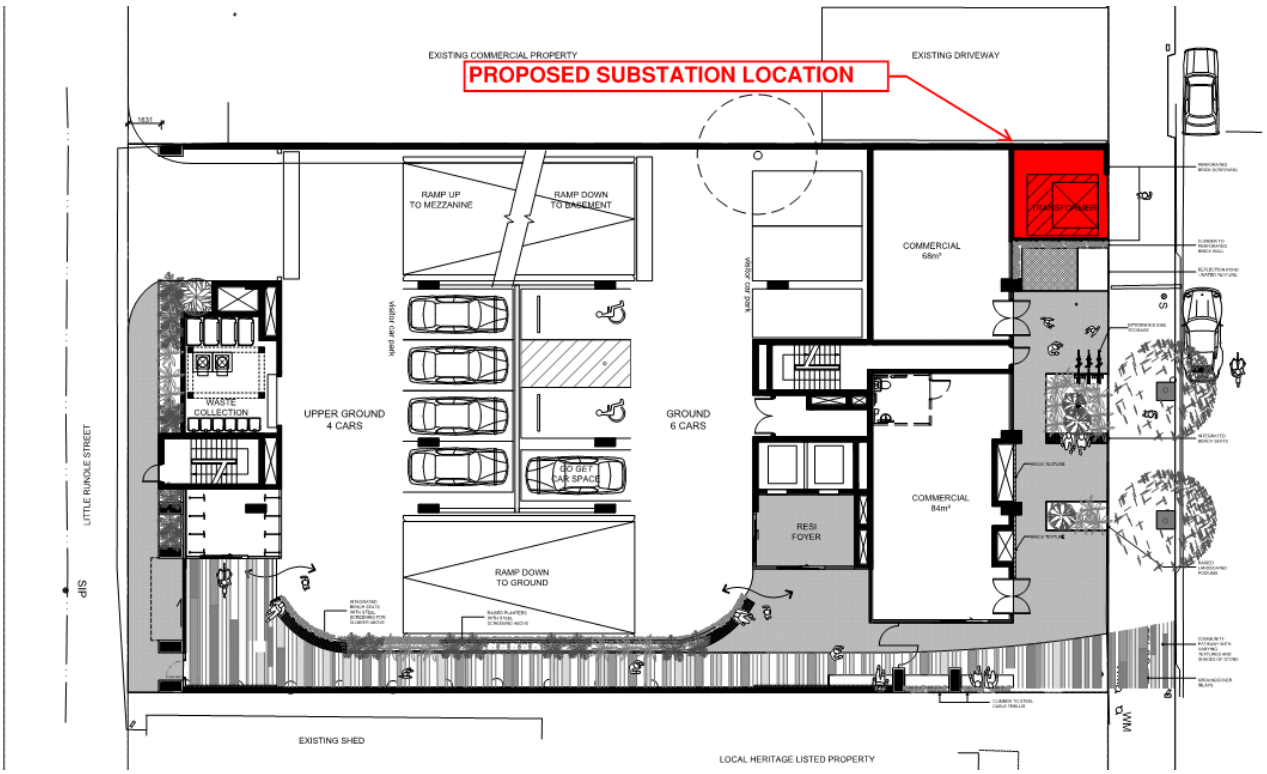

Figure 2: Location of Proposed Substation

2.2 COMMUNICATIONS

NBN Co. have provided preliminary acceptance for a Fibre-to-the-Premise solution to the development providing each apartment and tenancy with a fibre connection. It is proposed to reticulate a single optical fibre main from King William Street into a dedicated Communications cupboard. This cupboard will incorporate the main fibre termination equipment and breakout frames to service risers and upper level breakout equipment for each apartment. All internal fibre routing shall conform to NBN Co. Pathway guidelines.

2.3 SA WATER CORPORATION

2.3.1 SEWER INFRASTRUCTURE

Existing sewer infrastructure adjacent the proposed development site includes 150mm sewer mains in King William Street and Little Rundle Street (refer Figure 3 below), and the site is currently serviced by a 100mm sewer connection in Little Rundle Street. It is proposed to service the development with two (2) off new 150mm sewer connections. The existing 100mm connection in Little Rundle Street shall; be upgraded to a 150mm sewer connection, and an additional 150mm sewer connection shall be provided in King William Street.

Each connection is proposed to incorporate government inspection points located at the sites northern and southern boundaries (works by SA Water Corporation). SA Water Corporation have advised that there is sufficient capacity in the surrounding infrastructure and have provided preliminary costings of approximately $18,000 for the proposed sewer connection works.

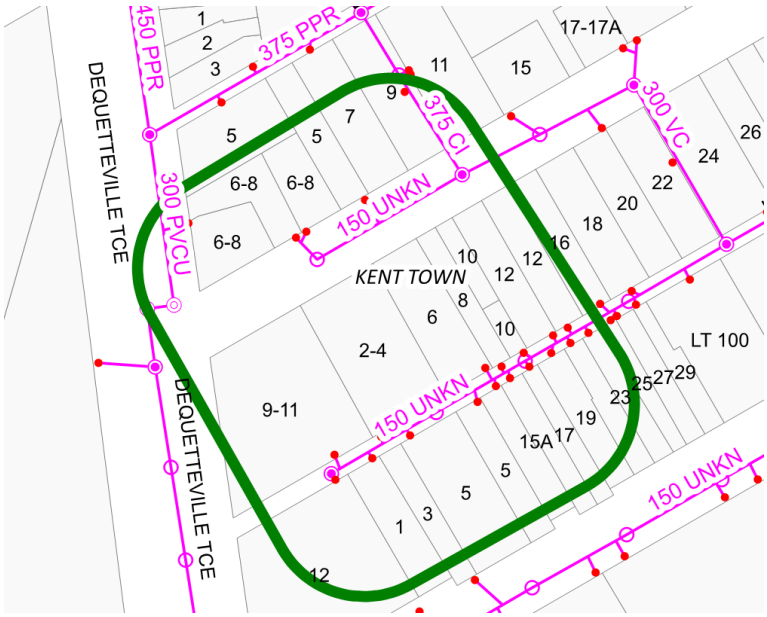

Figure 3: SA Water Sewer Mains Located in King William Street and Little Rundle Street

2.3.2 DOMESTIC COLD WATER INFRASTRUCTURE

Existing water infrastructure adjacent the proposed development site includes an existing SA Water Corporation 100mm water main in King William Street (refer Figure 4 below). We believe that the site is currently serviced by an existing 20mm water meter off King William Street. It is proposed to service the new development with one (1) off 50mm water meter connection off King William Street in cast iron footpath box. Note that the existing connection location cannot be upgraded and will be terminated due to the close proximity of an existing stobie pole.

The incoming water main extending from the water meter will extend to a break tanks and associated domestic cold water pressure pump assemblies in the basement to serve the proposed development. SA Water have advised that there is sufficient capacity in the adjacent infrastructure and have provided preliminary costings of approximately $12,000 for the proposed new water meter connection works.

Figure 4: SA Water Mains Located in King William Street and Little Rundle Street

2.4 APA GROUP NATURAL GAS INFRASTRUCTURE

Existing gas infrastructure surrounding the site includes a 50mm low pressure main in Little Rundle Street and a 40mm high pressure main in King William Street. The existing site is currently not provided with gas connections.

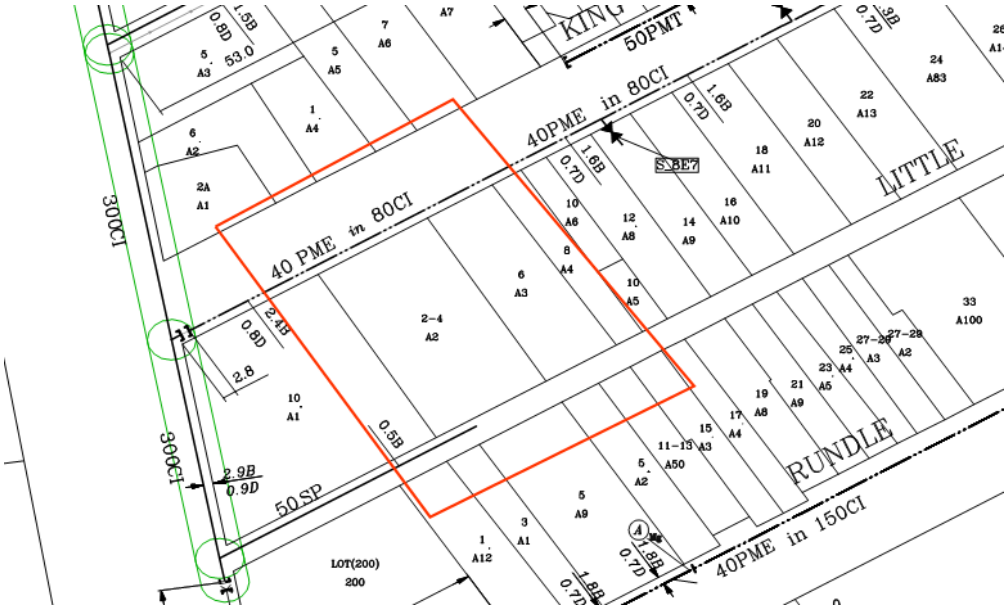

Figure 5: APA Natural Gas Mains Located in King William Street and Little Rundle Street

APA Group have advised it is possible to provide a new gas connection to the site and three (3) off gas meters to service the proposed development. The gas meters are to be housed within a 1800H x 2000W x 800D fully louvered gas meter enclosure with a 1 hour fire rating provided by the builder. Incoming APA Group gas supply pipework to the meter enclosure shall reticulate within a recessed channel in the Ground Floor slab to the approval of APA Group and the structural engineer.

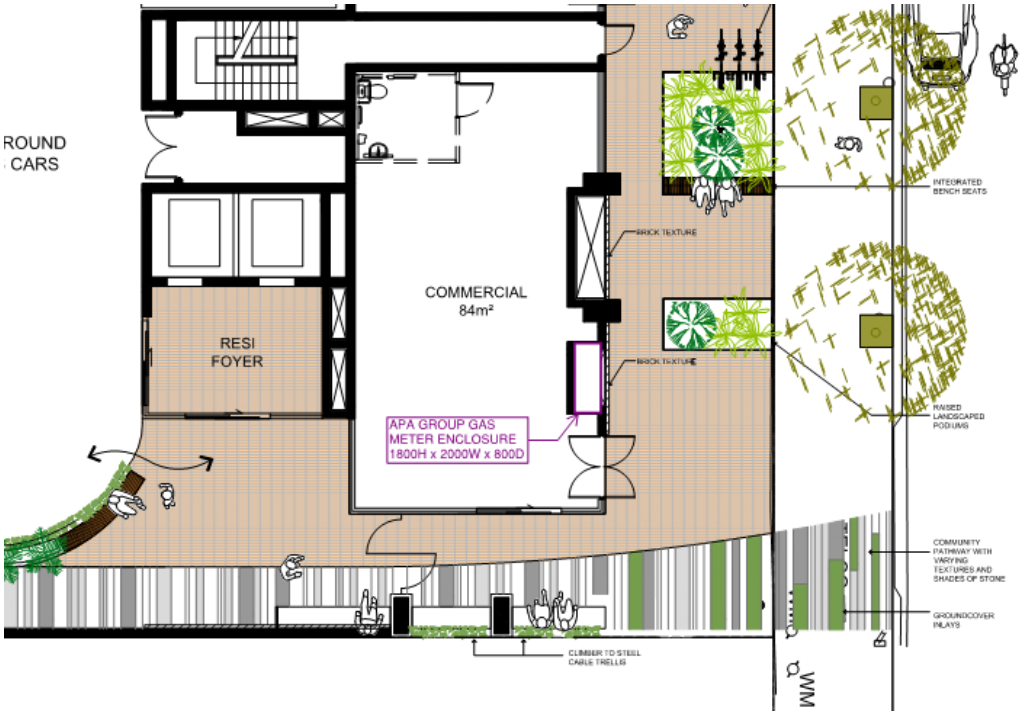

Figure 6: Proposed APA Group Gas Meter Enclosure Location

2.5 FIRE SERVICES INFRASTRUCTURE

It is proposed to incorporate a dedicated 100mm fire services connection to the existing SA Water Infrastructure within King William Street, this shall be in conjunction with on-site fire water storage tanks with total effective capacity in the order of 50 kilolitres (kL) (refer water map provided under domestic cold water section).

The site will incorporate the following:

- SAMFS booster located at street level accessed from King William Street, with 24/7 access for the SAMFS.
- Fire control centre located within the entry/lift lobby area with 24/7 access for the SAMFS;
- Fire pump room incorporating a 50 kL storage tank and two (2) fire pumps to service hydrants and sprinklers located at basement level.

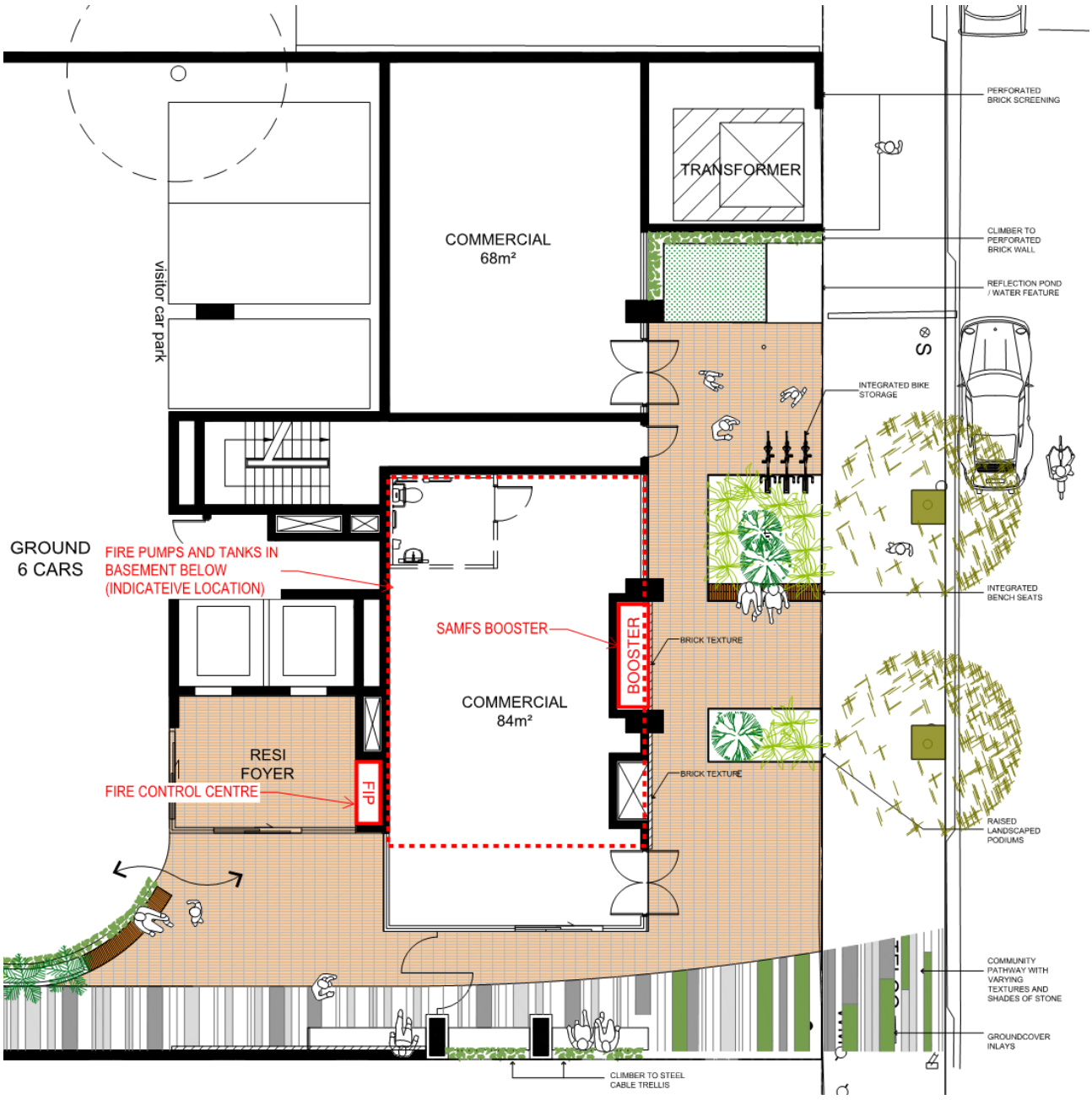

Figure 7: Fire Services Ground Major Plant

Robert Bird Group

Stormwater Management Report

2-4 King William Street, Kent Town

Issue: A

15/08/2017

Prepared For: Build Tec Group Pty Ltd

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bsi. ISO 9001 Quality Management

Report Amendment Register

Issue	Section & Page No.	Issue/Amendment	Author/ Initials		Project Engineer	Reviewer/ Initials		Date
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ISSUE ACCEPTED BY:

AUTHOR:

ROY ATHERTON
Signing for and on behalf of
Robert Bird Group Pty Ltd
Date: 15th August 2017

REVIEWER:

CHRIS WAITE
Signing for and on behalf of
Robert Bird Group Pty Ltd
Date: 15th August 2017

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1. Introduction

1.1 Purpose of Document

Robert Bird Group (**RBG**) has been engaged by Build Tec Group Pty Ltd (**Build Tec)** to provide Civil Engineering consultancy services for the 2-4 King William Street, Kent Town development. This Stormwater Management report has been prepared to support a Development Application (DA) of the project.

This report provides reference information, standards, and inputs, a description of the existing site and the proposed works, discussion on the pre and post-development catchment analysis and flood risk mitigation. This report also addressed the proposed stormwater quality treatment proposed for the development.

1.2 References and Input

The following reports, guidelines and information were used in the stormwater quality and quantity analysis, and in the compilation of the report:

- Australian Rainfall and Runoff (1987) (AR&R).
- AS3500 National Plumbing and Drainage Code.
- Norwood Payneham and St Peters (City) – Development Plan, 30th May 2017.
- Architectural drawing package DA01-09 – dated 05/07/17.
- Managing Urban Stormwater: Soils and Construction, 4th Edition, Landcom.
- Pyper Leaker Surveying Services – Surveyed on 10/03/2017, Project Ref: PL8064.
- UEC Civil Design – Adelaide City Council 2002.
- Water Sensitive Urban Design, Department of Environment, Water and Natural Resources, Government of South Australia. (WSUD).

2. Site Description and Existing Arrangement

The King William St development falls under the City of Norwood Payneham St Peters locality. The site is located at the south-western end of King William St. The site is bordered by King William Street to the north and Little Rundle Street to the south and is approximately 0.13 hectares. The site is shaded in Figure 1.

Figure 1: 2-4 King William Street Site

The existing state is predominately covered by a dozed dirt surface that slopes to the north towards King William Street. The surface levels vary from approximately RL 41.5m to 38.5m relative to the Australian Height Datum (AHD).

3. Stormwater Quantity Assessment

3.1 Design Criteria

The following design criteria and approach have been established as being the most appropriate for this project based on Council's requirements and Australian stormwater design guidelines and standards.

Table 1 – Stormwater Design Criteria (Ref. DP, 2017 & AS3500.3 2015)

Criteria	Detail
Minimum Rectangular Hollow Section Cover	0mm
Maximum Pipe Velocity	5.0m/s
Minimum Pipe Velocity	0.6m/s
Property Drainage System Design Storm Events	5 & 20 year ARI
Overland Flow Path Design Storm Events	100 year ARI

Onsite Detention is required for the development. The stormwater discharged from the site must not exceed the capacity of the existing 1 in 5 ARI storm. The post-development discharge must not be greater than the pre-development condition.

3.2 Design Rainfall

The following rainfall intensities from Bureau of Meteorology have been used in the design.

Table 1: Bureau of Meteorology Rainfall Intensity Data

DURATION	1 Year	2 years	5 years	10 years	20 years	50 years	100 years
5Mins	45.9	61.4	83.6	99.7	121	154	182
6Mins	42.7	57.1	77.7	92.6	113	143	169
10Mins	34.5	46	62.2	73.9	89.7	113	133
20Mins	24.6	32.6	43.7	51.5	62.2	78	91.4
30Mins	19.6	26	34.6	40.7	49	61.2	71.6
1Hr	13	17.2	22.6	26.4	31.7	39.3	45.8
2Hrs	8.53	11.2	14.6	16.9	20.2	24.8	28.8
3Hrs	6.67	8.73	11.3	13	15.5	19	21.9
6Hrs	4.37	5.69	7.27	8.33	9.82	12	13.7
12Hrs	2.8	3.63	4.6	5.25	6.17	7.48	8.56
24Hrs	1.69	2.2	2.8	3.2	3.77	4.58	5.25
48Hrs	0.957	1.25	1.61	1.85	2.19	2.68	3.09
72Hrs	0.671	0.882	1.14	1.31	1.56	1.91	2.21

3.3 Pre-Development Analysis

The pre-development catchments and discharge flows are indicated on engineering plan C6-01. From Survey Data and confirmed by Google Street View the discharge points are as follows: There is a rectangular hollow section towards the south-west end of King William Street that has a catchment area of approximately 100m^2. There is a uPVC connection near the north-eastern end of King William Street however connections to this pipe are unknown. It is therefore assumed that the remainder of the site (1200m^2) surface drains to the gutter before flowing approximately 100m north along King William Street to a stormwater sag inlet pit. The entire site is considered pervious. The stormwater discharge to Little Rundle Street is considered negligible as it would be at most 200mm back from the lip of road. The ILSAX model has been used by DRAINS in a pre-development model analysis.

Table 2: Existing Catchment Discharge using Rational Method

Catchment	Area (m2)	5 Year ARI Discharge (L/s)
EX CAT1	100	1
EX CAT2	1200	6
TOTAL	1300	7

3.4 Post-Development Analysis

The proposed architectural layout has been divided into catchments as indicated on engineering drawing C6-52. Two types of catchments are proposed for the post-development scenario. These are catchments which can be captured and detained, and catchments which are proposed to bypass the detention system and discharge directly to the existing roadway. The analysis is described as follows.

3.4.1 Detained Catchments

The catchments which are able to be captured are proposed to be collected and detained by the OSD tank. The Permissible Site Discharge (PSD) is the Existing Catchment Discharge. To meet the PSD from Table 2 the catchments and OSD have been modelled using the DRAINS software, and rainfall data as described in Section 3.2.

3.4.2 Bypass Catchments

Due to site constraints, it is not possible to capture and detain a portion of the developable area. This area is the frontage of King William Street and is indicated on engineering drawing C6-52. The flows have been assessed using the Rationale Method and results are summarised as follows:

Table 3: Bypass Catchment Discharge

Catchment	Area (m2)	Impervious Area (%)	20% AEP Peak Flow (L/s)
Cat 5	55	100	1

3.4.3 DRAINS Model Analysis

The pre-development and post-development scenarios were modelled using the computer drainage network software DRAINS. The model is to be revised upon completion of roof design by architect and hydraulic engineer final designs. Soil parameters and conditions are to be finalised before completion of final design.

For the post-development hydrological analysis, the proposed drainage network was modelled and peak flows have been analysed and compared to the pre-development scenarios. 20% AEP storm events were modelled by using a Rational hydrological model. The results are discussed in Section 3.4.4.

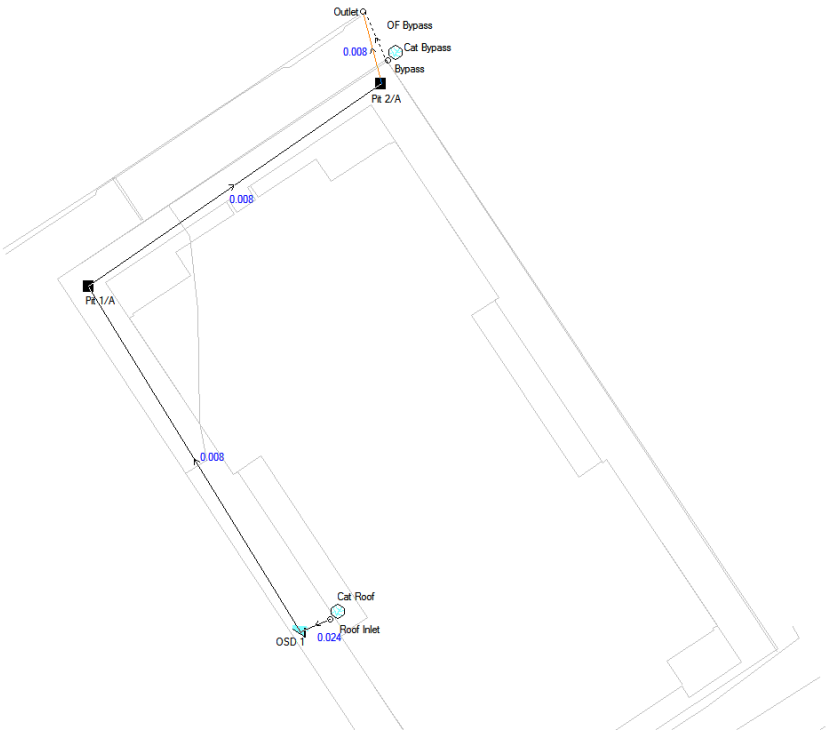


Figure 2: Post-Development with 20% AEP Design Storm

3.4.4 Permissible Site Discharge

The 20% AEP Peak Flow has been determined as described in Section 3.3 for each point of discharge. The catchments bypassing the detention system as described in Section 3.4.2. and the results are summarised below.

Table 4: Site PSD

Point of Discharge	Pre-development 20% AEP Peak Flow (L/s)	Post-development 20% AEP Peak Flow (L/s)
King William Street	7	6

3.4.5 OSD Sizing

As described in Section 3.4.3. DRAINS has been used determine the OSD volume and orifice plate sizes. The configuration is indicated on engineering drawings C6-01.

All roof catchments are to drain to the OSD, totalling 30m^3 in size. The tank is located between two columns on “Upper Level 1” opposite two car park spots where a ramp leading to the next level would be. An overflow pipe for a 0.5% AEP peak flow storm will need to be designed and constructed near the top of the tank to allow for overflow.

The orifice is sized to reduce the discharge into the street. From the DRAINS modelling it a 50mm orifice will achieve this.

Ideally the tank would be located in a location external to the building and the discharge would be under the influence of gravity. Alternatively the tank would be located in the basement and have a pumped discharge. Due to spatial constraints in the building layout, basement and height restrictions governed by the kerb invert on King William Street. RBG has been unable to design the OSD external to the building or in the basement. Coordination with the structural engineer will ensure that the structure can withstand the load of the OSD when it is full.

4. Stormwater Quality Assessment

4.1 Design Objectives

WSUD for SA lists quantified targets to be met. The water quality targets as outlined in WSUD are summarised as follows:

Table 5: Stormwater Reduction Targets

Pollutant	Target (% Reduction of average annual loads)
Gross Pollutants (GP)	90
Total Suspended Solids (TSS)	80
Total Phosphorous (TP)	60
Total Nitrogen (TN)	40

4.2 Proposed WSUD

A stormwater quality assessment is to be undertaken for the development using the MUSIC software. The assessment is to determine the quality of stormwater discharging from the site in the post-development scenario. These discharges are to meet the objectives outlined in Section 4.1 via a treatment train approach by implementation of Proprietary Devices. These devices should be placed in the pipes that lead to the OSD allowing for an easier cleaning process that could be done by one person. A description of each is given below.

Proprietary device: Utilised to treat all catchment discharge. A system such as the Stormwater360 StormFilter Cartridges system is to be installed in the tanks which is effective at removing TSS, TP, and TN to reach the reduction targets.

5. Erosion and Sediment Control

To maintain the water quality during the construction stage, erosion and sediment control measures will be installed. Soil management measures shall be in compliance with the Landcom guidelines – Managing Urban Stormwater Runoff: Soils and Construction.

The measures proposed for this development are shown in C1-01 and include:

- Sediment basin;
- Sediment fences around stockpiles and construction zones where soils are exposed;
- Catch drains/bunds to collect construction site runoff and convey flows to the settling basin; and
- Sediment protection devices on existing and proposed inlet pits i.e. filter socks.

Vehicular access shall be provided to all sediment basins to enable regular maintenance and sediment removal.

6. Conclusion

This Stormwater Management report and associated plans outline the proposed concept design principals that are intended for the management of stormwater runoff associated with the development. During the concept planning for the DA, due consideration has been given to the relevant Council requirements, best practice principles, and guidelines.

Appendix A
RBG Civil Engineering Drawings

LEGEND

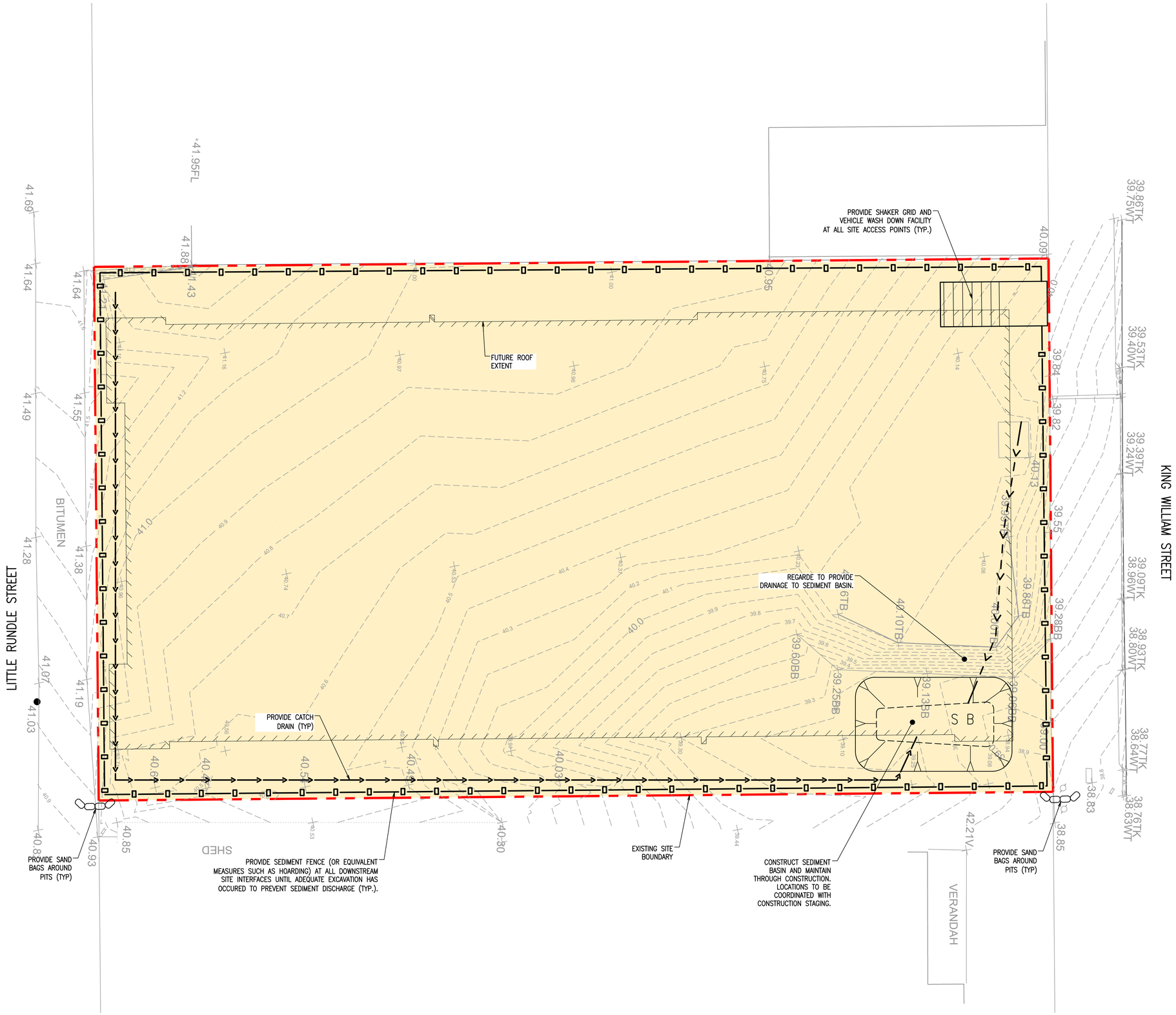
- EXISTING SITE BOUNDARY
- FUTURE ROOF EXTENTS
- PROPOSED SEDIMENT FENCE
- EXTENT OF WORK
- PROPOSED SHAKER GRID AND WASH DOWN FACILITY
- 40.8 EXISTING CONTOUR
- S B PROPOSED SEDIMENT BASIN
- PROPOSED CATCH DRAIN

PROVIDE TEMPORARY SANDBAGS AROUND PITS:

1. AFTER PAVEMENT WORKS IF CONSTRUCTION IS STILL ONGOING UPSTREAM.
2. TO EXISTING GRATED PITS DOWNSTREAM OF CONSTRUCTION WORKS.

NOTES:

1. ALL WORKS TO BE IN ACCORDANCE WITH COUNCIL DEVELOPMENT PLAN (NORWOOD PAYNEHAM AND ST PETERS) STANDARDS AND SPECIFICATIONS.



SCALE 1:100

1 0 1 2 3 4m

Rev	Revision Description	By	App	Date
1	FOR INFORMATION	RA	CW	15.08.17

DO NOT SCALE DRAWINGS, USE FIGURED DIMENSIONS REFER TO GENERAL NOTES UNLESS NOTED OTHERWISE

Structural, Civil & Construction Engineering Consultant
RobertBirdGroup
SYDNEY OFFICE
Robert Bird Group Pty Ltd
PO Box A2309
Sydney South, NSW 1235
Level 11, 151 Castlereagh St
Sydney NSW 2000
Ph: (02) 8246 3200
Fax: (02) 8246 3201
Email: sydney@robertbird.com.au
Web: www.robertbird.com
ACN 010 580 248

Client
2KW PTY LTD

Title
EROSION AND SEDIMENT CONTROL PLAN

Project
APARTMENT DEVELOPMENT
2-4 KING WILLIAM STREET
KENT TOWN, SA 5067

Scale at A1	Drawn	Design Checker
AS SHOWN	S.MANANDHAR	C.HUANG
Date	Designer	Approved
15.08.17	R.ATHERTON	C.WAITE
		Job Number 17126C

NOT FOR CONSTRUCTION

Drawing Number C1-01

Revision 1

GENERAL NOTES:

A1. THIS SOIL AND WATER MANAGEMENT PLAN IS TO BE READ IN CONJUNCTION WITH OTHER ENGINEERING PLANS RELATING TO THIS DEVELOPMENT.
A2. CONTRACTORS WILL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE UNDERTAKEN AS INSTRUCTED IN THIS SPECIFICATION AND CONSTRUCTED FOLLOWING THE DEVELOPMENT PLAN FOR NORWOOD PAYNEHAM AND ST PETERS (30TH MAY 2017) AND TO LANDCOM – MANAGING URBAN STORMWATER: SOIL AND CONSTRUCTION, 4th EDITION, MAR 2004.
A3. GEOTECHNICAL REPORT FOR EARTHWORKS AND PARAMETERS TO BE CONFIRMED.
A4. ALL SUBCONTRACTORS WILL BE INFORMED OF THEIR RESPONSIBILITIES IN REDUCING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWNSLOPE AREAS.

SEDIMENT BASIN CONSTRUCTION NOTES:

SB1. REMOVE ALL VEGETATION AND TOPSOIL FROM UNDER THE DAM WALL AND FROM WITHIN THE STORAGE AREA.
SB2. FORM A CUT OFF TRENCH UNDER THE CENTRELINE OF THE EMBANKMENT 600mm DEEP AND 1200mm WIDE EXTENDING TO A POINT ON THE GULLY WALL ABOVE THE RISER SILL LEVEL.
SB3. MAINTAIN THE TRENCH FREE OF WATER AND RECOMPACT THE MATERIALS WITH EQUIPMENT AS SPECIFIED IN THE SWMP TO 95% STANDARD PROCTOR DENSITY.
SB4. SELECT FILL ACCORDING TO THE DIRECTIONS OF THE SWMP THAT IS FREE FROM ROOTS, WOOD, ROCK, LARGE STONE OR FOREIGN MATERIAL.
SB5. PREPARE THE SITE UNDER THE EMBANKMENT BY RIPPING AT LEAST 100mm DEEP TO HELP BOND COMPACTED FILL TO EXISTING SUBSTRATE.
SB6. SPREAD FILL IN 100mm TO 150mm LAYERS AND COMPACT AT OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH THE SWMP.
SB7. INSTALL PIPE OUTLET WITH SEEPAGE COLLARS AS SPECIFIED IN SWMP.
SB8. FORM BATTER GRADES AT 2:1 UPSTREAM AND 3:1 DOWNSTREAM OR AS SPECIFIED IN SWMP.
SB9. INSTALL PIPE RISER AS SPECIFIED IN SWMP.
SB10. CONSTRUCT EMERGENCY SPILLWAY 300mm ABOVE SILL HEIGHT OF RISER PIPE.
SB11. REHABILITATE STRUCTURE IN ACCORDANCE WITH THE SWMP.
SB12. GEOTEXTILE TO BE REPLACED WITH THE SPECIFIED MATERIAL IF BASIN DOES NOT FREELY DRAIN WITHIN FOUR DAYS.
SB13. PLACE A "FULL OF SEDIMENT" MARKER TO SHOW WHEN LESS THAN DESIGN CAPACITY OCCURS AND SEDIMENT REMOVAL IS REQUIRED.

SITE MAINTENANCE NOTES:

SM1. THE CONTRACTOR WILL INSPECT THE SITE AT LEAST WEEKLY AND AT THE CONCLUSION OF EVERY STORM EVENT TO:
A) ENSURE THAT DRAINS OPERATE PROPERLY AND TO EFFECT AND NECESSARY REPAIRS.
B) REMOVED SPILLED SAND OR OTHER MATERIALS FROM HAZARD AREAS, INCLUDING LANDS CLOSER THAN 5 METRES FROM AREAS OF LIKELY CONCENTRATED OR HIGH VELOCITY FLOWS ESPECIALLY WATERWAYS AND PAVED AREAS.
C) REMOVED TRAPPED SEDIMENT WHENEVER THE DESIGN CAPACITY OF THAT STRUCTURES HAS BEEN EXCEEDED.
D) ENSURE REHABILITATION LANDS HAVE EFFECTIVELY REDUCED THE EROSION HAZARD TO INITIATE UPGRADING OR REPAIR AS NECESSARY.
E) CONSTRUCT ADDITIONAL EROSION AND OR SEDIMENT CONTROL WORKS AS MIGHT BECOME NECESSARY TO ENSURE THE DESIRED PROTECTION IS GIVEN TO DOWNSLOPE LANDS AND WATERWAYS. MAKE ONGOING CHANGES TO THE PLAN WHERE IT PROVES INADEQUATE IN PRACTICE OR IS SUBJECT TO CHANGES IN CONDITIONS ON THE WORK–SITE OR ELSEWHERE IN THE CATCHMENT.
F) MAINTAIN EROSION AND SEDIMENT CONTROL STRUCTURES IN A FULLY FUNCTIONING CONDITION UNTIL ALL EARTHWORK ACTIVITIES ARE COMPLETED AND THE SITE IS REHABILITATED.
G) FILL IN AND COMPACT ALL TRENCHES IMMEDIATELY AFTER SERVICES HAVE BEEN LAID.

SM2. THE CONTRACTOR WILL KEEP A LOGBOOK MAKING ENTRIES AT LEAST WEEKLY, IMMEDIATELY BEFORE FORECAST RAIN AND AFTER RAINFALL. ENTRIES WILL INCLUDE:
A) THE VOLUME AND INTENSITY OF ANY RAINFALL EVENTS.
B) THE CONDITION OF ANY SOIL AND WATER MANAGEMENT WORKS.
C) THE CONDITION OF VEGETATION AND ANY NEED TO IRRIGATE.
D) THE NEED FOR DUST PREVENTION STRATEGIES
THE LOGBOOK WILL BE KEPT ON–SITE AND MADE AVAILABLE TO ANY AUTHORISED PERSON UPON REQUEST. IT WILL BE GIVEN TO THE PROJECT MANAGER AT THE CONCLUSION OF THE WORKS.

SEDIMENT CONTROL NOTES:

SC1. SEDIMENT FENCES WILL BE INSTALLED AS SHOWN ON THE PLAN AND ELSEWHERE AT THE DISCRETION OF THE SITE CONTRACTOR TO CONTAIN SOIL AS NEAR AS POSSIBLE TO THEIR SOURCE.
SC2. SEDIMENT FENCES WILL NOT HAVE CATCHMENT AREAS EXCEEDING 900 SQUARE METRES AND HAVE A STORAGE DEPTH OF AT LEAST 0.6 METRES.
SC3. SEDIMENT FENCES SHOULD LAST FOR UP TO SIX MONTHS BUT REQUIRE REGULAR MAINTENANCE AND WEEKLY CHECKS. IT MUST REMAIN VERTICAL AND KEYED INTO THE SOIL. DAMAGED FENCES MUST BE REPAIRED PROMPTLY.
SC4. SEDIMENT FENCES NEED TO BE TRENCHED IN AT LEAST 150mm AND BURIED SO THE WATER FLOWS THROUGH AND NOT UNDERNEATH.
SC5. SEDIMENT REMOVED FROM ANY TRAPPING DEVICES WILL BE RELOCATED WHERE FURTHER POLLUTION TO DOWNSLOPE LANDS AND WATERWAYS CANNOT OCCUR.
SC6. STOCKPILES ARE NOT TO BE LOCATED WITHIN 5 METERS OF HAZARD AREAS INCLUDING AREAS OF HIGH VELOCITY FLOWS SUCH AS WATERWAYS, PAVED AREAS AND DRIVEWAYS.
SC7. WATER WILL BE PREVENTED FROM DIRECTLY ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR WATER HAS BEEN TREATED BY AN APPROVED DEVICE.
SC8. TEMPORARY SEDIMENT TRAPS WILL REMAIN IN PLACE UNTIL AFTER THE LANDS THEY ARE PROTECTING ARE COMPLETELY REHABILITATED.
SC9. ACCESS TO SITES SHOULD BE STABILIZED TO REDUCE THE LIKELIHOOD OF VEHICLES TRACKING SOIL MATERIALS ONTO PUBLIC ROADS AND ENSURE ALL–WEATHER ENTRY/EXIT.

LAND DISTURBANCE NOTES:

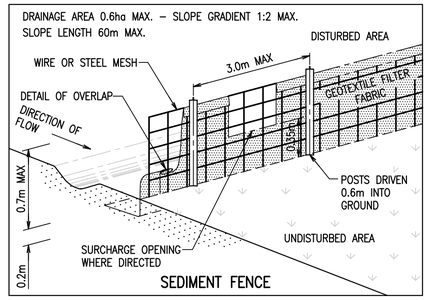
LD1. ACCESS AREAS ARE TO BE LIMITED TO A MAXIMUM WIDTH OF 10 METERS THE SITE MANAGER WILL DETERMINE AND MARK THE LOCATION OF THESE ZONES ON–SITE. ALL SITE WORKERS WILL CLEARLY RECOGNIZE THOSE BOUNDARIES THAT, WHERE APPROPRIATE, ARE IDENTIFIED WITH A BARRIER FENCING (UPSLOPE) AND SEDIMENT FENCING (DOWNSLOPE) OR SIMILAR MATERIALS.
LD2. ENTRY TO LANDS NOT REQUIRED FOR CONSTRUCTION OR ACCESS IS PROHIBITED EXCEPT FOR ESSENTIAL THINNING OF PLANT GROWTH.
LD3. WORKS ARE TO PROCEED IN THE FOLLOWING SEQUENCE:
A) INSTALL ALL BARRIER AND SEDIMENT FENCING WHERE SHOWN ON THE PLAN.
B) CONSTRUCT THE STABILISED SITE ACCESS.
C) CONSTRUCT DIVERSION DRAINS AS REQUIRED.
D) INSTALL MESH AND GRAVEL INLETS FOR ANY ADJACENT KERB INLETS.
E) INSTALL GEOTEXTILE INLET FILTERS AROUND ANY ON–SITE DROP INLET PITS.
F) CLEAR SITE AND STRIP AND STOCKPILE TOPSOIL IN LOCATIONS SHOWN ON THE PLAN.
G) UNDERTAKE ALL ESSENTIAL CONSTRUCTION WORKS ENSURING THAT ROOF AND/OR PAVED AREA STORMWATER SYSTEMS ARE CONNECTED TO PERMANENT DRAINAGE AS SOON AS PRACTICABLE.
H) GRADE LOT AREAS TO FINAL GRADES AND APPLY PERMANENT STABILISATION (LANDSCAPING) WITHIN 20 DAYS OF COMPLETION OF CONSTRUCTION WORKS.
I) REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER THE PERMANENT LANDSCAPING HAS BEEN COMPLETED.
LD4. ENSURE THAT SLOPE LENGTHS DO NOT EXCEED 80 METRES WHERE PRACTICABLE. SLOPE LENGTHS ARE DETERMINED BY SILTATION FENCING AND CATCH DRAIN SPACING.

SOIL EROSION CONTROL NOTES:

SE1. EARTH BATTERS WILL BE CONSTRUCTED WITH AS LOW A GRADIENT AS PRACTICABLE BUT NO STEEPER, UNLESS OTHERWISE NOTES, THAN THAT RECOMMENDED BY GEOTECHNICAL REPORT.
SE2. ALL WATERWAYS, DRAINS, SPILLWAYS AND THEIR OUTLETS WILL BE CONSTRUCTED TO BE STABLE IN AT LEAST THE 1:20 YEAR ARI, TIME OF CONCENTRATION STORM EVENT.
SE3. WATERWAYS AND OTHER AREAS SUBJECT TO CONCENTRATED FLOWS AFTER CONSTRUCTION ARE TO HAVE A MAXIMUM GROUNDCOVER C–FACTOR OF 0.05 (70% GROUND COVER) WITHIN 10 WORKING DAYS FROM COMPLETION OF FORMATION. FOOT AND VEHICULAR TRAFFIC WILL BE PROHIBITED IN THESE AREAS.
SE4. STOCKPILES AFTER CONSTRUCTION ARE TO HAVE A MAXIMUM GROUND–COVER C–FACTOR OF 0.1% (60% GROUND–COVER) WITHIN 10 WORKING DAYS FROM COMPLETION OF FORMATION.
SE5. ALL LANDS, INCLUDING WATERWAYS AND STOCKPILES DURING CONSTRUCTION ARE TO HAVE A MAXIMUM GROUND COVER C–FACTOR OF 0.15 (50% GROUND COVER) WITHIN 20 WORKING DAYS FROM INACTIVITY EVEN THOUGH WORKS MAY CONTINUE LATER.
SE6. PERMANENT REHABILITATION OF LANDS AFTER CONSTRUCTION WILL ACHIEVE A GROUND–COVER C–FACTOR OF LESS THAN 0.1 AND LESS THAN 0.05 WITHIN 60 DAYS. NEWLY PLANTED LANDS WILL BE WATERED REGULARLY UNTIL AN EFFECTIVE COVER IS ESTABLISHED AND PLANTS ARE GROWING VIGOROUSLY. FOLLOW–UP SEED AND FERTILISER WILL BE APPLIED AS NECESSARY.

WASTE CONTROL NOTES:

WC1. ACCEPTABLE BINS WILL BE PROVIDED FOR ANY CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHING, LIGHTWEIGHT WASTE MATERIALS AND LITTER. CLEARANCE SERVICES WILL BE PROVIDED AT LEAST WEEKLY. DISPOSAL OF WASTE WILL BE IN A MANNER APPROVED BY THE SITE CONTRACTOR.
WC2. ALL POSSIBLE POLLUTANT MATERIALS ARE TO BE STORED WELL CLEAR OF ANY POORLY DRAINED AREAS, FLOW PRONE AREAS, STREAMBANKS, CHANNELS AND STORMWATER DRAINAGE AREAS. STORE SUCH MATERIALS IN A DESIGNATED AREA UNDER COVER WHERE POSSIBLE AND WITHIN CONTAINMENT BUNDS.
WC3. ALL SITE STAFF AD SUBCONTRACTORS ARE TO BE INFORMED OF THEIR OBLIGATION TO USE WASTE CONTROL FACILITIES PROVIDED.
WC4. ANY DE–WATERING ACTIVITIES ARE TO BE CLOSELY MONITORED TO ENSURE THAT WATER IS NOT POLLUTED BY SEDIMENT, TOXIC MATERIALS OR PETROLEUM PRODUCTS.
WC5. PROVIDE DESIGNATED VEHICULAR WASHDOWN AND MAINTENANCE AREAS WHICH ARE TO HAVE CONTAINMENT BUNDS.

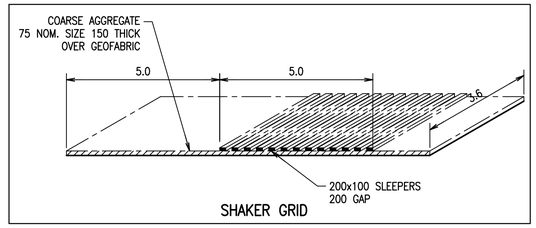


SEDIMENT FENCE

INSTALLATION

1. EXCAVATE A TRENCH 200mm DEEP.
2. DRIVE POSTS 500–700mm INTO GROUND AT A MAXIMUM SPACING OF 3.0m CENTRES.
3. PLACE AND FIX SUPPORT MESH (F52) TO POST.
4. LAY BIDIM GEOFABRIC (SF 2000) AGAINST THE SUPPORT MESH AND FIX BY TIE WIRE, STAPLES OR HOG RINGS.
5. PLACE BIDIM IN TRENCH AND BACKFILL WITH SOIL.

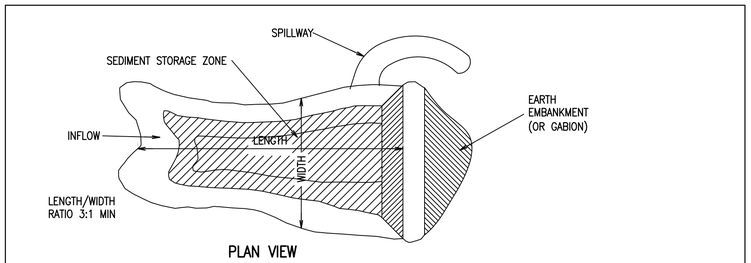
NOTE:
POSITION OF SEDIMENT FENCE AS DIRECTED BY SUPERINTENDENT. FENCE TO REMAIN IN PLACE UNTIL EXCAVATION IS BELOW FOOTPATH LEVEL. PROVIDE 2mx2m TURFED AREA ON DOWNSTREAM SIDE OF FENCE AT SURCHARGE OPENINGS.



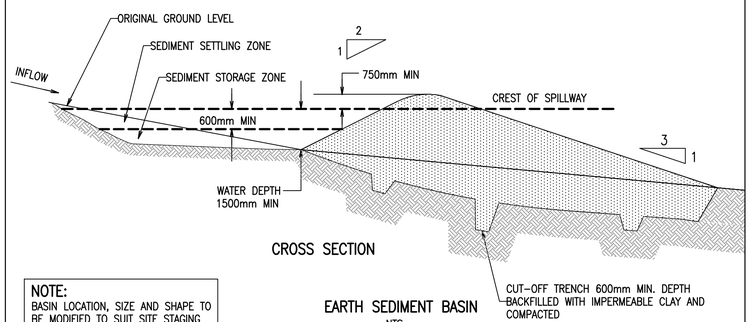
SHAKER GRID

NOTE: ONLY TO BE USED AS TEMPORARY BANK WHERE MAXIMUM UPSLOPE LENGTH IS 80 METRES

EARTH BANK WITH CATCH DRAIN (LOW FLOW)



PLAN VIEW



CROSS SECTION

NOTE:
BASIN LOCATION, SIZE AND SHAPE TO BE MODIFIED TO SUIT SITE STAGING REQUIREMENTS.

EARTH SEDIMENT BASIN
NTS

Rev	Revision Description	By	App	Date
1	FOR INFORMATION	RA	CW	15.08.17

DO NOT SCALE DRAWINGS, USE FIGURED DIMENSIONS
REFER TO GENERAL NOTES UNLESS NOTED OTHERWISE

Structural, Civil & Construction Engineering Consultant
RobertBirdGroup
SYDNEY OFFICE
Robert Bird Group Pty Ltd
PO Box A2309
Sydney South, NSW 1235
Level 11, 151 Castlereagh St
Sydney NSW 2000
Ph: (02) 8246 3200
Fax: (02) 8246 3201
Email: sydney@robertbird.com.au
Web: www.robertbird.com
ACN 010 580 248

Client
2KW PTY LTD

Title
EROSION AND SEDIMENT CONTROL DETAILS

Project
APARTMENT DEVELOPMENT
2–4 KING WILLIAM STREET
KENT TOWN, SA 5067

Scale at A1	Drawn	Design Checker
AS SHOWN	S.MANANDHAR	C.HUANG
Date	Designer	Approved
14.08.17	R.ATHERTON	C.WAITE
		Job Number 17126C

NOT FOR CONSTRUCTION

Drawing Number	Revision
C1–10	1

LEGEND

- EXISTING SITE BOUNDARY
- PROPOSED BUILDING OUTLINE (BASEMENT)
- PROPOSED ROOF OUTLINE
- PROPOSED RHS
- PROPOSED OSD TANK
- 40.8 EXISTING CONTOUR
- STRUCTURAL COLUMN.

LITTLE RUNDLE STREET

KING WILLIAM STREET

41.64 (EX)

41.48 (EX)

PROVIDE CREST IN DRIVEWAY TO COUNCIL DEVELOPMENT PLAN AND NATIONAL STANDARDS TO MITIGATE AGAINST OVERLAND STORMWATER FLOWS IN LITTLE RUNDLE STREET

CONSTRUCT NEW VEHICLE CROSSING TO (NORWOOD PAYNEHAM AND ST PETERS DEVELOPEMENT PLAN AND AUSTRALIAN STANDARDS. SAWCUT MIN. 600mm AND RECONSTRUCT PAVEMENT IN LITTLE RUNDLE STREET (TYP.)

PROPOSED OSD ON UPPER LEVEL 01

INLET CONNECTION TO HYDRAULIC ENGINEERS' DETAILS

OSD OVERFLOW DISCHARGE POINT

PROPOSED ROOF OUTLINE

visually permeable roller door

secure roller door

RAMP UP TO ONE WAY

RAMP DOWN TO BASEMENT

RAMP DOWN TO GROUND

STRUCTURAL COLUMN. REFER STRUCTURAL ENGINEERS' DRAWINGS FOR DETAILS (TYP)

UPPER GROUND

RL 41.54

LOWER BASEMENT

RL 40.00

RL 40.55

RL 39.185

WASTE COLLECTION

BIKE STORAGE

RESI FOYER

COMMERCIAL 68m²

COMMERCIAL 84m²

TRANSFORMER

BOOSTER

BRICK TEXTURE

1m 20 fall

2.5% Typ.

40.80 (EX)

39.82 (EX)

39.05 (EX)

38.900 (EX)

2 PROPOSED RHS 200mm WIDTH 150mm HEIGHT

INTERNAL DRAINAGE CONNECTION TO HYDRAULIC ENGINEERS' DETAILS

DISCHARGE TO EXISTING GUTTER

EXISTING SITE BOUNDARY

DEMOLISH AND REMOVE VEHICLE CROSSING. CONSTRUCT NEW KERB AND GUTTER TO CITY OF ADELAIDE STANDARDS. SAWCUT MIN 600mm AND RECONSTRUCT PAVEMENT IN KING WILLIAM STREET.

K&G

BITUMEN

SHED

VERANDAH

SCALE 1:100

1 0 1 2 3 4m

Rev	Revision Description	By	App	Date
1	FOR INFORMATION	RA	CW	15.08.17

DO NOT SCALE DRAWINGS, USE FIGURED DIMENSIONS REFER TO GENERAL NOTES UNLESS NOTED OTHERWISE

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Robert Bird Group Pty Ltd
PO Box A2309
Sydney South, NSW 1235
Level 11, 151 Castlereagh St
Sydney NSW 2000

Ph: (02) 8246 3200
Fax: (02) 8246 3201
Email: sydney@robertbird.com.au
Web: www.robertbird.com
ACN 010 580 248

Client
2KW PTY LTD

Title
GENERAL ARRANGEMENT PLAN

Project
APARTMENT DEVELOPMENT
2-4 KING WILLIAM STREET
KENT TOWN, SA 5067

Scale at A1	Drawn	Design Checker
AS SHOWN	S.MANANDHAR	C.HUANG
Date	Designer	Approved
15.08.17	R.ATHERTON	C.WAITE
		Job Number 17126C

NOT FOR CONSTRUCTION

Drawing Number C3-01

Revision 1

LEGEND

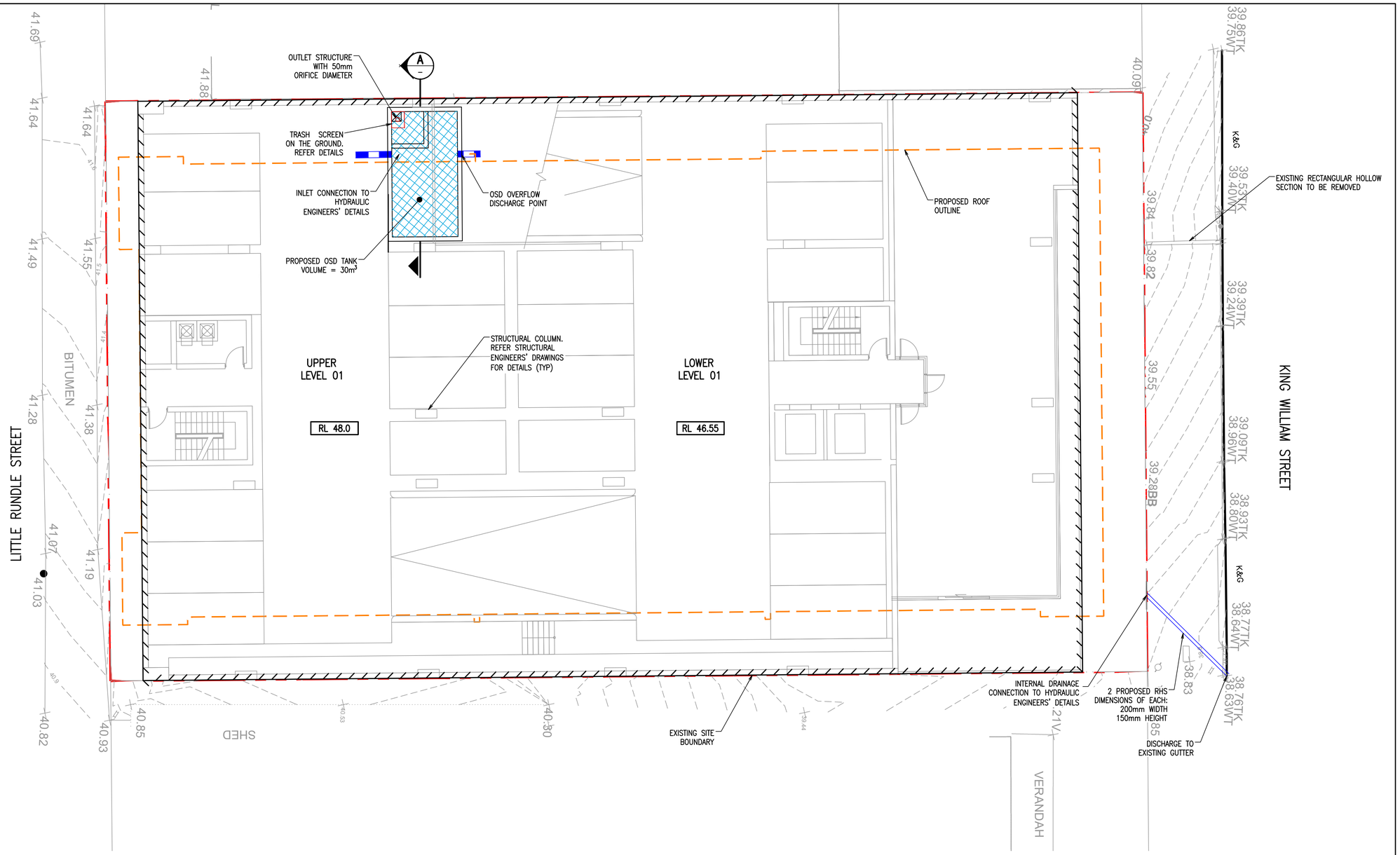
- EXISTING SITE BOUNDARY
- PROPOSED BUILDING OUTLINE (LEVEL 01)
- PROPOSED ROOF OUTLINE
- PROPOSED RHS
- PROPOSED INLET CONNECTION
- PROPOSED OSD TANK
- EXISTING CONTOUR (40.8)
- STRUCTURAL COLUMN.

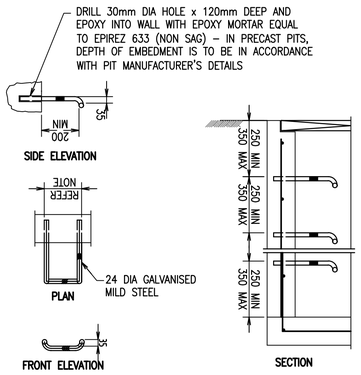
DESIGN STORM EVENTS

- MINOR STORM EVENTS ARI 20YR (5% AEP) FOR IN-GROUND DRAINAGE DESIGN;
- MAJOR STORM EVENTS ARI 100YR (1% AEP) FOR OVERLAND FLOW PATHS DESIGN;
- OSD SYSTEM IS DESIGNED TO RESTRICT THE DISCHARGE IN THE POST-DEVELOPMENT SCENARIO TO ARI 5YR (20% AEP) PEAK FLOW UNDER THE SITES "STATE OF NATURE" AND TO CATER FOR ALL STORM DURATIONS UP TO AND INCLUDING ARI 100YR (1% AEP).

NOTES:

1. OSD IS TO BE PLACED ON UPPER LEVEL 1.
   TOP OF TANK AT RL 50.5m
   BOTTOM OF TANK AT RL 48.0m
   TOTAL VOLUME 30m³.
2. REFER SHEET C6-51 AND C6-52 FOR HYDROLOGY ANALYSIS.
3. INTERNAL DRAINAGE TO OSD TANK TO BE PROVIDED BY HYDRAULIC ENGINEERS.
4. TYPICAL ORIFICE AND TRASH SCREEN DETAIL SHOWN. SETOUT OF EACH TO BE CONFIRMED.

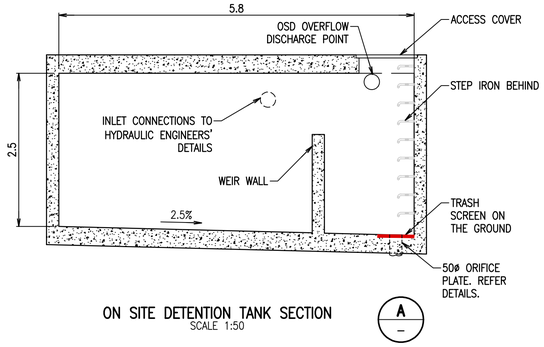




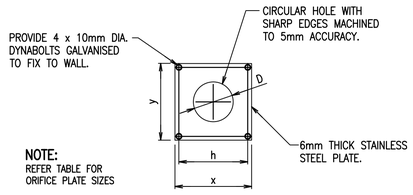
PIT STEP IRON DETAIL
SCALE 1:20

NOTES:

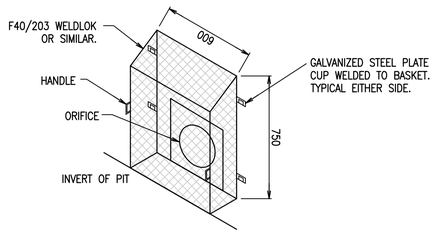
1. WHEN POSITIONED IN STRAIGHT ALIGNMENT, STEP TO BE 400 WIDE.
2. STAGGERED STEPS TO BE 200 WIDE, STEPS TO BE STAGGERED 200 CENTRE TO CENTRE FOR ALTERNATE STEPS.
3. SPACING OF STEPS TO BE UNIFORM TO WITHIN ± 8mm IN EACH PIT.



ON SITE DETENTION TANK SECTION
SCALE 1:50



ORIFICE PLATE DETAIL
SCALE 1:20



TRASH SCREEN DETAIL
SCALE 1:20

SCALE 1:100
1 0 1 2 3 4m

Rev	Revision Description	By	App	Date
1	FOR INFORMATION	RA	CW	15.08.17

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Structural, Civil & Construction Engineering Consultant

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SYDNEY OFFICE
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PO Box A2309
Sydney South, NSW 1235
Level 11, 151 Castlereagh St
Sydney NSW 2000
Ph: (02) 8246 3200
Fax: (02) 8246 3201
Email: sydney@robertbird.com.au
Web: www.robertbird.com
ACN 010 580 248

Client
2KW PTY LTD

Title
STORMWATER MANAGEMENT PLAN

Project
APARTMENT DEVELOPMENT
2-4 KING WILLIAM STREET
KENT TOWN, SA 5067

Scale at A1	Drawn	Design Checker
AS SHOWN	S.MANANDHAR	C.HUANG
Date	Designer	Approved
15.08.17	R.ATHERTON	C.WAITE
		Job Number
		17126C

NOT FOR CONSTRUCTION

Drawing Number	Revision
C6-01	1

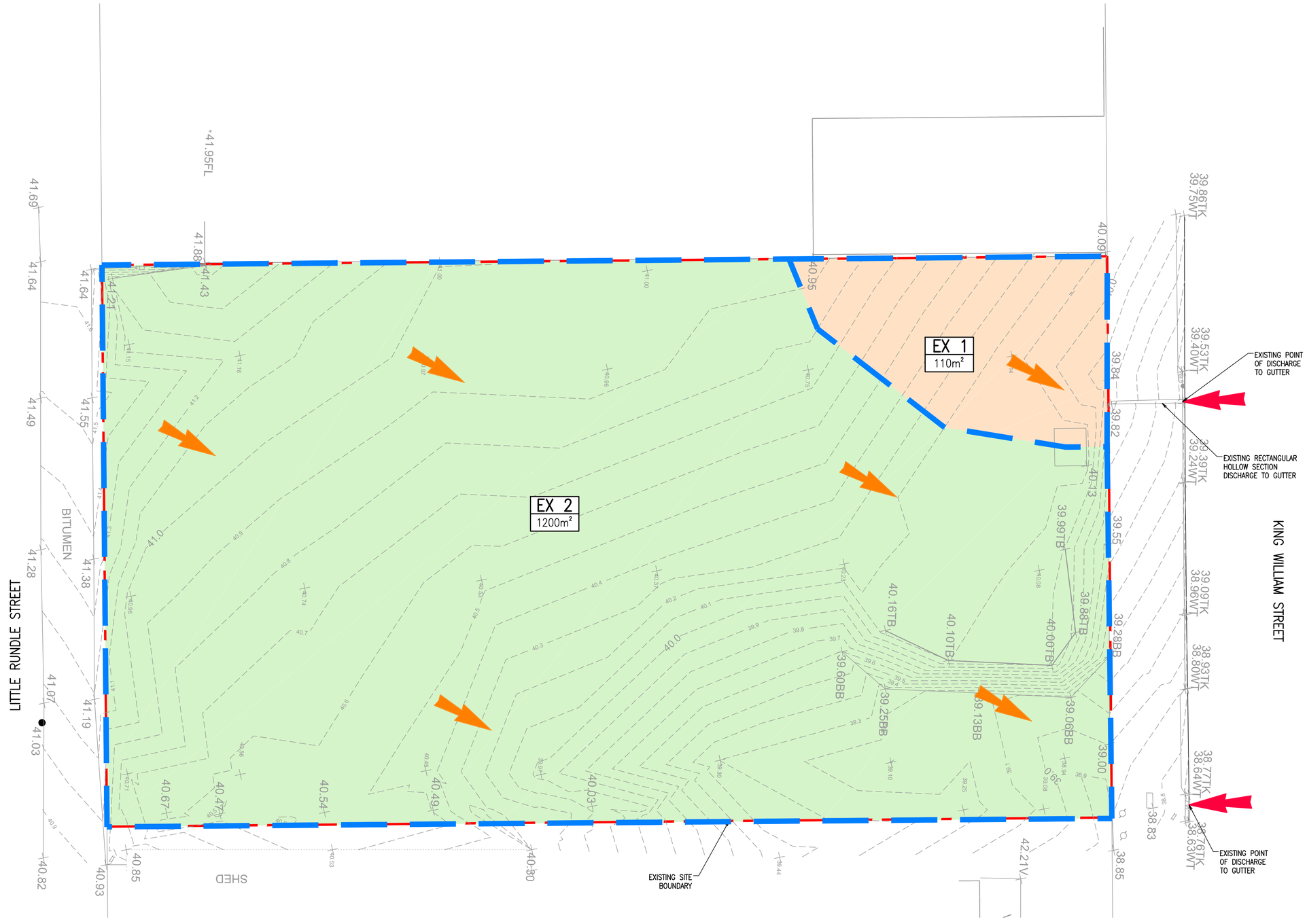
LEGEND

- EXISTING SITE BOUNDARY
- EXISTING CATCHMENT 1
- EXISTING CATCHMENT 2
- EX 1 / 100m² — PROPOSED CATCHMENT LABEL
- EXISTING OVERLAND FLOW
- EXISTING POINT OF DISCHARGE
- 40.8 — EXISTING CONTOUR

NOTES:
1. ILSAX MODEL USED FOR RAINFALL RUNOFF FLOWS.
2. SOIL CONDITIONS FOR ANTECEDENT MOISTURE CONDITIONS AND SOIL HYDRUALIC CONDUCTIVITY HAVE BEEN ASSUMED UNTIL GEOTECH REPORT IS OBTAINED.

PRE-DEVELOPMENT CATCHMENT HYDROLOGY TABLE

	AREA (m^2)	% IMPERVIOUS	% PERVIOUS	Q_5 (L/sec)	Q_{20} (L/sec)	Q_{100} (L/sec)
EX-1	110	0	100	2	3	5
EX-2	1200	0	100	7	11	20



SCALE 1:100

1 0 1 2 3 4m

Rev	Revision Description	By	App	Date
1	FOR INFORMATION	RA	CW	15.08.17

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Structural, Civil & Construction Engineering Consultant
RobertBirdGroup
SYDNEY OFFICE
Robert Bird Group Pty Ltd
PO Box A2309
Sydney South, NSW 1235
Level 11, 151 Castlereagh St
Sydney NSW 2000
Ph: (02) 8246 3200
Fax: (02) 8246 3201
Email: sydney@robertbird.com.au
Web: www.robertbird.com
ACN 010 580 248

Client: 2KW PTY LTD

Title: PRE DEVELOPMENT CATCHMENT PLAN

Project: APARTMENT DEVELOPMENT
2-4 KING WILLIAM STREET
KENT TOWN, SA 5067

Scale at A1	Drawn	Design Checker
AS SHOWN	S.MANANDHAR	C.HUANG
Date	Designer	Approved
15.08.17	R.ATHERTON	C.WAITE
		Job Number 17126C

NOT FOR CONSTRUCTION

Drawing Number: C6-51
Revision: 1

LEGEND

- EXISTING SITE BOUNDARY
- PROPOSED BUILDING OUTLINE (LEVEL 01)
- PROPOSED ROOF OUTLINE
- PROPOSED RHS
- PROPOSED OSD TANK
- PROPOSED ROOF CATCHMENT
- PROPOSED PERMEABLE CATCHMENT
- CAT 1 / 1125m² — PROPOSED CATCHMENT LABEL
- PROPOSED POINT OF DISCHARGE
- EXISTING CONTOUR (40.8)

DESIGN STORM EVENTS

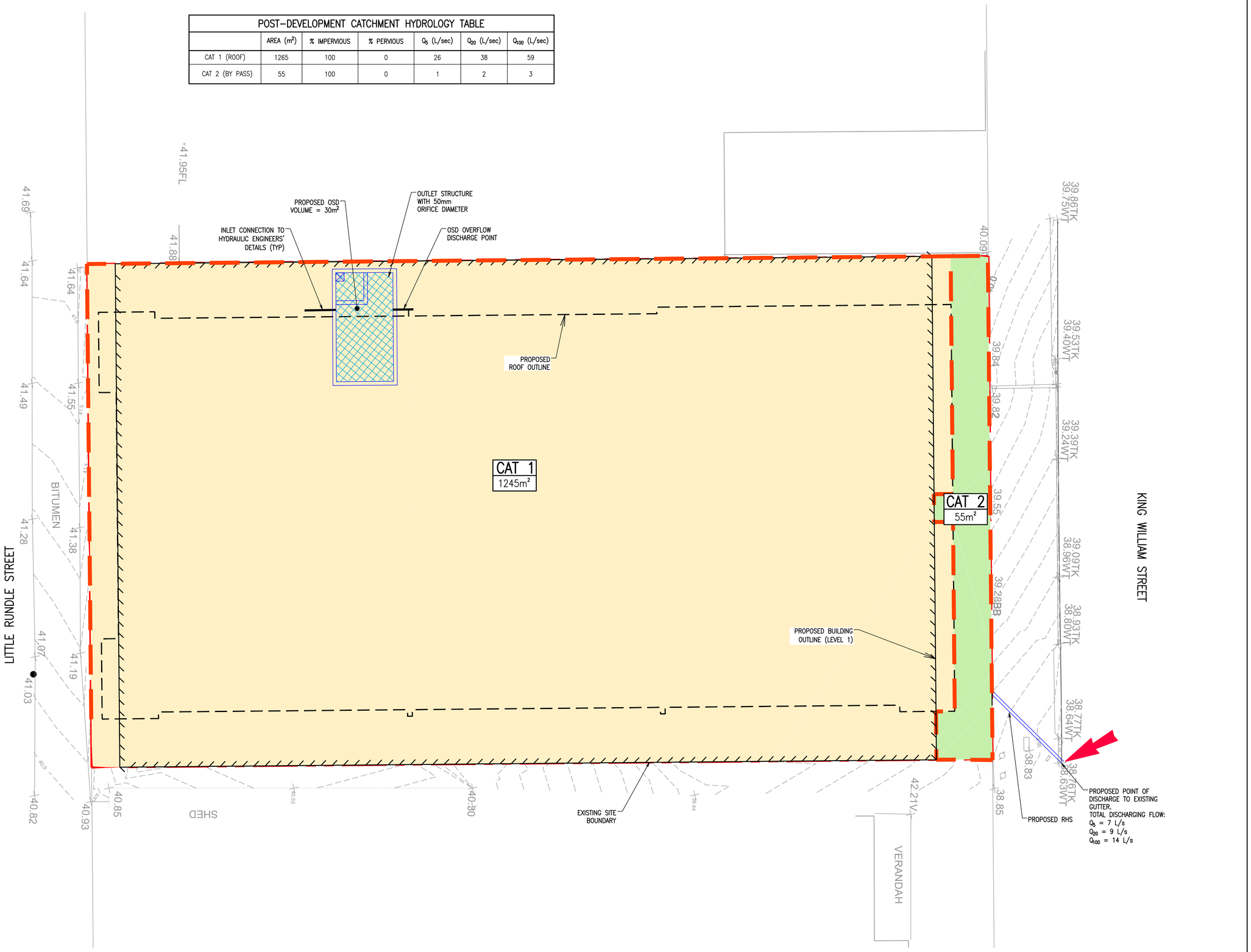
- MINOR STORM EVENTS ARI 20YR (5% AEP) FOR IN-GROUND DRAINAGE DESIGN;
- OSD SYSTEM IS DESIGNED TO RESTRICT THE DISCHARGE IN THE POST-DEVELOPMENT TO CATER FOR ALL STORM DURATIONS UP TO AND INCLUDING ARI 100YR (1% AEP).

NOTES:

- OSD IS TO BE LOCATED ON UPPER LEVEL 1.
- STRUCTURAL ENGINEER IS TO ENSURE THAT LOAD FROM A FULL OSD TANK CAN BE HELD.
- TANK IS LOCATED BETWEEN TWO STRUCTURAL COLUMNS.
- TANK HEIGHT IS SAME AS HEIGHT DIFFERENCE OF UPPER GROUND 1 AND ITS CEILING.
- INTERNAL DIMENSIONS OF TANK = 2.5m * 5.2m * 2.4m = 30m³.

POST-DEVELOPMENT CATCHMENT HYDROLOGY TABLE

	AREA (m²)	% IMPERVIOUS	% PERVIOUS	Q_5 (L/sec)	Q_{20} (L/sec)	Q_{100} (L/sec)
CAT 1 (ROOF)	1265	100	0	26	38	59
CAT 2 (BY PASS)	55	100	0	1	2	3



SCALE 1:100

1 0 1 2 3 4m

Rev	Revision Description	By	App	Date
1	FOR INFORMATION	RA	CW	15.08.17

Rev	Revision Description	By	App	Date

Structural, Civil & Construction Engineering Consultant

RobertBirdGroup

SYDNEY OFFICE

Robert Bird Group Pty Ltd
PO Box A2309
Sydney South, NSW 1235
Level 11, 151 Castlereagh St
Sydney NSW 2000

Ph: (02) 8246 3200
Fax: (02) 8246 3201
Email: sydney@robertbird.com.au
Web: www.robertbird.com
ACN 010 580 248

Client
2KW PTY LTD

Title
POST DEVELOPMENT CATCHMENT PLAN

Project
APARTMENT DEVELOPMENT
2-4 KING WILLIAM STREET
KENT TOWN, SA 5067

Scale at A1	Drawn	Design Checker
AS SHOWN	S.MANANDHAR	C.HUANG
Date	Designer	Approved
15.08.17	R.ATHERTON	C.WAITE
		Job Number
		17126C

NOT FOR CONSTRUCTION

Drawing Number	Revision
C6-52	1

Sydney Office

Robert Bird Group Pty Ltd
ABN 67 010 580 248 ACN 010 580 248

Level 11, 151 Castlereagh Street
Sydney NSW 2000
PO Box A2309
Sydney South NSW 1235
Australia

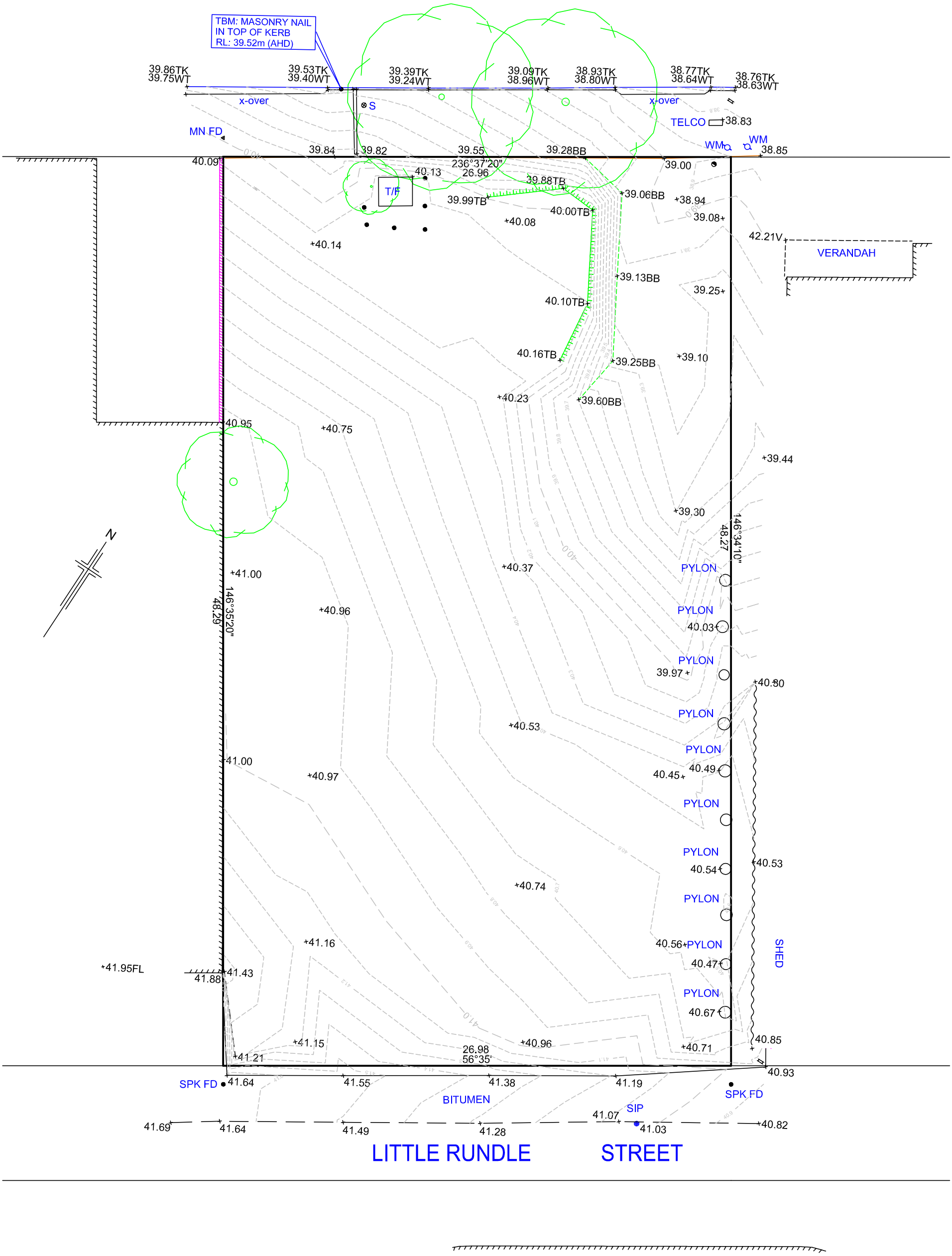
P: +61 (0) 2 8246 3200
F: +61 (0) 2 8246 3201

www.robertbird.com

A3

ALLOTMENT 2 IN F100027
HUNDRED OF ADELAIDE
CT 5077/990

KING WILLIAM STREET



LITTLE RUNDLE STREET

PRINTED: MAR. 21, 2017 FILE: 170310_PL8064_KENTTOWN_DET.DWG

PyperLeaker
surveying services
p 08 8373 3880
a 65 Goodwood Road
Wayville SA 5034
e info@plsurvey.com.au

NOTES

NOTES:
PROPERTY BOUNDARIES PLOTTED HEREON HAVE BEEN SURVEYED.

INFO

SCALE:	1:200
SURVEY DATE:	10/03/2017
SURVEYED BY:	MC
COORDS BASED ON:	MGA94
PSM 6628/14160	RL:40.84m
HEIGHT DATUM:	AHD

PROJECT

DETAIL & LEVELS SURVEY
2-4 KING WILLIAM STREET
KENT TOWN

PROJECT REF: PL8064 SHT: 1 OF 1 REV: 0

OFFICE FOR DESIGN + ARCHITECTURE SA

File No:
2014/11235/01

Ref No:
11916132

Pre-lodgement Agreement

ODASA Pre-lodgement No: PLA 2016/20342/01

Pursuant to Section 37AA of the Development Act, this Agreement obviates the need for a statutory referral to the South Australian Government Architect during the State Commission Assessment Panel (SCAP) (formerly DAC) process. The State Commission Assessment Panel refers all applicable development proposals to the South Australian Government Architect, for review and comments on design merit. The Agreement must be lodged with the development application, and the application lodged within three months of the Agreement being signed.

The Agreement between the **South Australian Associate Government Architect** and **2KW Pty Ltd** (the Proponent), signed on **28 September 2017** pertains to the development proposal for **2KW Apartments, 2-4 King William Street, Kent Town** described in the drawings listed in the schedule below, reviewed by the Associate Government Architect on 27 September 2017. The drawings form part of the Agreement.

This Agreement is not an approval to proceed with the proposal. Development Approval from the State Commission Assessment Panel must be obtained prior to commencing work.

Development description
The proposal is for a nine storey mixed use building, comprising a two storey podium with seven floors of residential apartments above. It also includes one level of basement and three levels of above ground car parking. The ground floor of the development also includes a semi-public link connecting King William Street and Little Rundle Street.

Drawing Schedule

Drawing	Drawing Number	Date	Revision
Marchese Partners			
Cover Sheet	DA 0.00	18.08.2017	-
Location Plan/ Site Analysis	DA 1.00	18.08.2017	-
Site Integration & Ground Floor Plan	DA 2.01	18.08.2017	-
Ground Floor Plan with Landscape Schedule	DA 2.01A	18.08.2017	-
Landscape Intent Plan	DA 2.02	18.08.2017	-
Basement Level	DA 2.03	18.08.2017	-
Mezzanine Level	DA 2.04	18.08.2017	-
Level 1	DA 2.05	18.08.2017	-
Level 2	DA 2.06	18.08.2017	-
Typical Apartment Level	DA 2.07	18.08.2017	-
Penthouse Level	DA 2.08	18.08.2017	-
Roof Plan	DA 2.09	18.08.2017	-

Level 1
26-28 Leigh Street
Adelaide SA 5000

GPO Box 1533
Adelaide SA 5001

DX 171

T- +61(0)8 8402 1884
E- odasa@sa.gov.au

Government of South Australia

OFFICE FOR DESIGN + ARCHITECTURE SA

File No:
2014/11235/01

Ref No:
11916132

Drawing	Drawing Number	Date	Revision
Section	DA 3.01	18.08.2017	-
King William Street Elevation	DA 4.01	18.08.2017	-
North East Elevation	DA 4.02	18.08.2017	-
South East Elevation	DA 4.03	18.08.2017	-
South West Elevation	DA 4.04	18.08.2017	-
Material Selection	DA 5.01	18.08.2017	-
Shadow Analysis	DA 6.01	18.08.2017	-
Artist Impression	DA 7.01	18.08.2017	-
Artist Impression	DA 7.02	18.08.2017	-
Artist Impression	DA 7.03	18.08.2017	-
Plot Works Design			
Landscape Details	LA-03	10.08.2017	A1

Advisory Notes
The project was presented at three Design Review sessions and one Desktop Review session, over which period the design response progressed significantly.

The subject site is located towards the western end of King William Street in Kent Town. The site is bound to the northwest by King William Street and southeast by Little Rundle Street. The site is within the Urban Corridor Zone (Business Policy Area), and its south-western boundary adjoins the Urban Corridor Zone (Boulevard Policy Area), where higher density developments are envisaged. The surrounding land uses include small scale commercial offices and tenancies, and attached and detached residential buildings, including a Local heritage listed Edwardian villa adjacent to the north-eastern side of the site. An 11 storey residential apartment development is under construction on the northeast corner of Dequetteville Terrace and King William Street, opposite the subject site.

The proposed height of the building is approximately 37 metres including the roof top plant, which greatly exceeds the 18.5 metre maximum height envisaged for the site by the Development Plan. The basement and podium volume are built to the side boundaries and set back from the King William Street and Little Rundle Street frontages by five metres and 1.6 metres respectively. The apartment floors above the podium are setback three metres from the side boundaries to the balcony edges, which I strongly support. Two metre deep inset balconies are provided for the centrally located dwellings to articulate the extended side elevations and to future proof the apartment amenity against potential adjoining developments. Acknowledging that the proposal departs substantially from the maximum envisaged height for the site, I support the proposed height on balance. In my opinion, the over height impacts are reduced by the site's location abutting the policy area that allows development up to ten storeys. Furthermore, I am of the view that the project offers significant merits to justify the over height, such as delivering high quality public realm contribution and apartment amenity that is above and beyond the minimum quantitative requirements. The penthouse walls on the top floor are further set back behind a solid parapet to reduce the apparent height of the building from the street level, which I support. I also support the proposed roof form, which in my opinion, provides a subtle contrast against the horizontal stacking below and reinforces

Level 1
26-28 Leigh Street
Adelaide SA 5000

GPO Box 1533
Adelaide SA 5001

DX 171

T- +61(0)8 8402 1884
E- odasa@sa.gov.au

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File No:
2014/11235/01

Ref No:
11916132

'base, middle and top' element definition, while being compatible with the overall expression of the proposal.

I support the provision of commercial tenancies on the King William Street frontage, and the sleeving of the above ground car parking with active use. I also applaud the provision of the publically accessible pedestrian connection through the site between the two street frontages, supported by landscaping, urban design and public art strategies. I anticipate that a building management strategy will be developed to determine the appropriate opening hours for public access, balancing the permeability of the site, user safety and residents' security and privacy. In my opinion, an opportunity exists to provide natural light into the pedestrian path, by wall perforations or sky lights, to further improve the user experience and amenity.

I support the provision of landscaping and other active uses along the Little Rundle Street frontage. I acknowledge that the technical requirements have led to the location of the transformer on the King William Street frontage. I support the provision of brick screening and landscaping around the transformer to incorporate the services infrastructure and its enclosure to the overall development.

The ten metre high masonry podium creates an articulated built form to respond to the scale and materiality of existing buildings in the surrounding context, which I support. I also strongly support the residential character and human scale the podium detailing conveys. I support the cut out expression of the northeast corner of the podium form, which in my opinion, improves the relationship with the adjoining Local heritage place.

Above the two storey podium, the residential floors have a horizontally emphasised expression. I support the design intent to deliver a building designed 'in the round'. In addition, I strongly support the architectural individuality in character and the restrained expression that responds to the fine grain character of the existing context. I support the provision of 'notched' central balconies to mitigate the bulk of building. I also support the change in finishes to the balcony slabs, soffits and balustrades to assist in further reinforcing the recessed articulation.

On levels two to seven, four apartments are located on both sides of the central corridor. On the penthouse levels, four three-bedroom apartments are proposed. I support the provision of outlook and solar access to the communal circulation space. I support the mix of apartment types proposed, including affordable housing options. I also support the proposed apartment configurations that afford outlook, functional and adaptable layouts, and access to natural light and ventilation.

The proposal includes landscaping at the street frontages, a public colonnade and the pedestrian connection through the site. I strongly support the emphasis given to public realm contribution, and the engagement of the landscape consultant with the view to deliver innovative urban design outcomes and to create a high quality user experience.

To ensure the most successful design outcome is achieved the State Commission Assessment Panel may like to consider conditions or reserved

Level 1
26-28 Leigh Street
Adelaide SA 5000

GPO Box 1533
Adelaide SA 5001

DX 171

T- +61(0)8 8402 1884
E- odasa@sa.gov.au

OFFICE FOR DESIGN + ARCHITECTURE SA

File No:
2014/11235/01

Ref No:
11916132

matters to protect the following elements of the proposal, as design details are produced in due course:

- Provision of natural light into the ground floor pedestrian path to further improve the user experience and amenity.
- Final schedule of materials and colours of building and landscaped areas.

While the Associate Government Architect has considered the impact of design aspects relating to the significant over height, the detailed assessment of whether the development plan policy is met is deferred to the State Commission Assessment Panel.

ODASA Pre-lodgement Agreement No: PLA 2016/20342/01

2-4 King William Street, Kent Town

South Australian Associate Government Architect

Signature Date 28.9.17
Nick Tridente
Associate Government Architect

The Proponent

28 SEPTEMBER 2017

Signature Date
Milly Nott
Urban Planner
Future Urban Group
Level 1/89 King William Street
Adelaide SA 5000

Representing

2KW Pty Ltd

Level 1
26-28 Leigh Street
Adelaide SA 5000

GPO Box 1533
Adelaide SA 5001

DX 171

T- +61(0)8 8402 1884
E- odasa@sa.gov.au

Government of South Australia

File Number: S/04904
Enquiries To: Mark Thomson
Direct Telephone: 8366 4567

City of Norwood Payneham & St Peters

14 November 2017

Karl Woehle
Planning Officer - CBD & Inner Metro Team
Strategic Development Assessment
Department of Planning, Transport and Infrastructure
GPO Box 1815
ADELAIDE SA 5001

by email: Karl.Woehle@sa.gov.au

175 The Parade
Norwood SA 5067

PO Box 204
Kent Town SA 5071

Telephone
8366 4555

Facsimile
8332 6338

Email
townhall@npsp.sa.gov.au

Website
www.npsp.sa.gov.au

Dear Karl,

I refer to Development Application Number 155/13/17, which has been referred to the Council for comment, pursuant to clause 2.1 of the Heads of Agreement between the Department of Planning, Transport & Infrastructure and the Council, dated February 2014.

Consistent with Clause 2.3 of the Heads of Agreement, the following Council response:

> *"will not include a full planning assessment of the application, but may include comments on any local strategic issue, policies or plans. This may include comments on proposed policy amendments, planned public realm improvements, traffic management, waste services, encroachments, local heritage issues or the like for consideration by DAC. Council may also make brief written observations in relation to planning assessment matters from a local perspective, to highlight key issues that may require further analysis / assessment by DAC officers."*

Proposed Policy Amendments

There are no proposed policy amendments that affect the proposal.

Planned Public Realm Improvements

The Council is working together with the Department of Planning, Transport & Infrastructure, to develop an Urban Design Framework for Kent Town. The framework is nearing completion and the Council has begun engaging with the developers of sites where development approvals have been granted, to facilitate outcomes envisaged in the Urban Design Framework.

The proposed development at 2-4 King William Street presents an opportunity for further collaboration, to provide integration between the public and private realm, both at the front of the site on King William Street and the rear on Little Rundle Street.

It is noted that the current plans show a continuation of the proposed pavement treatment along the eastern boundary of the site, into the footpath on King William Street. There has been no discussion between the applicant and the Council with respect to this proposal and as such, this specific treatment may not be supported by the Council.

Traffic Management

There are no local traffic management strategies, policies or plans that affect the proposal.

Waste Services

The proposal is inconsistent with City Wide Principle of Development Control 286, which states that where the number of bins to be collected kerbside is 10 or more at any one time, provision should be made for on-site commercial collection.

According to the Waste Management Plan, it is projected that the proposal will generate 13,000 litres of waste per week (excluding paper recycling, hard waste and e-waste which are to be collected infrequently), which is equivalent to 55 regular 240 litre bins. Therefore, in general terms, the proposed development generates 5 times the amount of waste that a single development should create without providing on-site commercial waste collection.

Whilst it is proposed that a commercial waste contractor be responsible for collection, it is not proposed to be collected on site. Rather, it is proposed that the collection truck park on Little Rundle Street, whilst bins (ranging from 240 litre to 1100 litre) are moved from within the site to Little Rundle Street. According to advice from Mr Frank Siow on behalf of the applicant, there is sufficient width in Little Rundle Street for cars to pass whilst this is occurring. It is proposed that the collections will occur outside of peak periods (although this hasn't been defined) and at a frequency of 7-8 times per week.

The Council is concerned that the proposed waste collection within Little Rundle Street will be disruptive to traffic movement and that there would be insufficient room for another truck to pass the waste collection vehicle. In addition, the Council is concerned that the waste collection vehicle parked in Little Rundle Street will interfere with convenient access to the adjacent property at 5-9 Rundle Street.

For these reasons, the Council is not supportive of the proposal for waste collection to occur in Little Rundle Street.

Encroachments

No encroachments appear to be proposed.

Local Heritage Issues

The proposed development is located adjacent to a Local Heritage Place at 6 King William Street; an Edwardian Sandstone and Bluestone Villa.

As the subject land is zoned for buildings up to 5 storeys in height, it is reasonable to expect that there will be a significant scale disparity between the Local Heritage Place and development on the subject land. Whether the proposed building is 5 storeys or 9-10 storeys as proposed, has little to no bearing on the heritage value of the Local Heritage Place. What is important is the relationship and siting of the proposed building, so as to provide sufficient space and maintain views of the Local Heritage Place. This approach to assessing the impact of development adjacent to a Local Heritage Place outside of a Historic (Conservation) Zone was endorsed in the decision of *Bond v City of Norwood Payneham & St Peters SAERDC 56 (10 October 2007)*.

The proposed building is considered to be well sited so as to maintain good visibility of the Local Heritage Place in the streetscape.

Planning Assessment Matters

In accordance with the Heads of Agreement, the following are brief written observations in relation to planning assessment matters from a local perspective, to highlight key issues that may require further analysis / assessment by DAC officers.

Land use

With respect to land use, the subject land is located within the Business Policy Area of the Urban Corridor Zone.

The Business Policy Area seeks to accommodate a range of commercial and light industrial uses, together with compatible medium and high density residential development.

Principle of Development Control 2 states that land uses on the ground and first floor levels of buildings should be non-residential. The proposal is consistent with this Principle, as the ground and first floor levels comprise a mix of commercial tenancies and car parking.

It appears that the Applicant has attempted to facilitate flexibility in tenancy allocation for the commercial tenancies, by labelling them "commercial". This approach is not catered for in the current legislation, however I understand it is intended to be with the new PDI Act. As such, the SCAP should ensure that land uses are designated for those tenancies (eg, shop, office) and any subsequent change will need to be handled by way of subsequent applications for development approval.

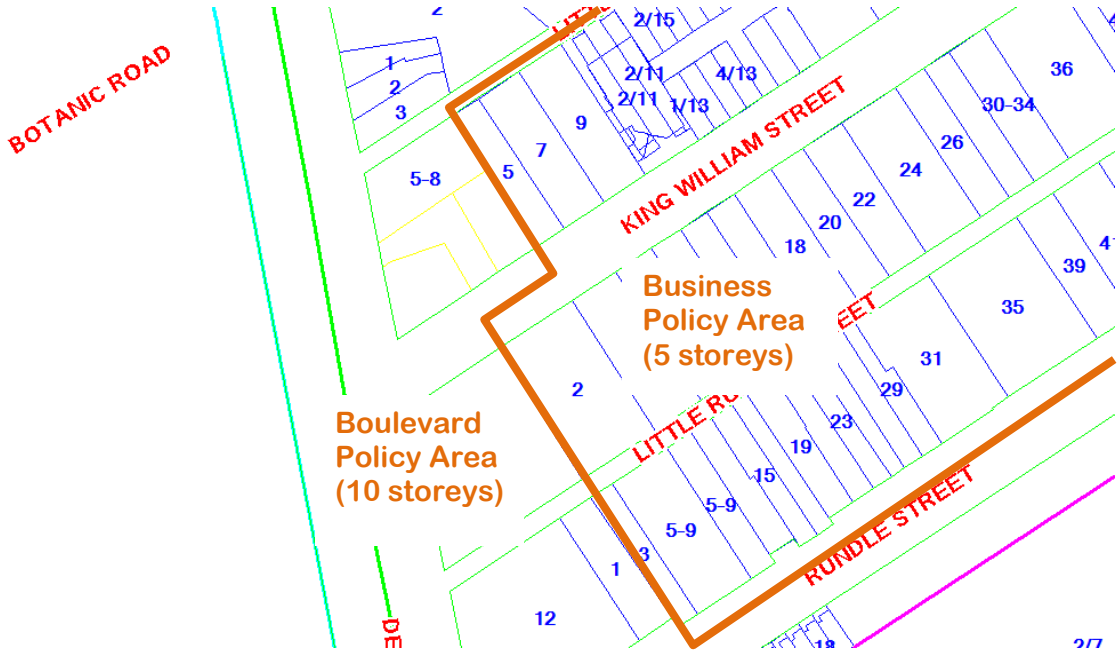
Regardless, the proposed mix of land uses proposed is consistent with the policy intent for the Business Policy Area of the Urban Corridor Zone.

Built Form Character and Setbacks

The Desired Character Statement for the Business Policy Area states that the built form will comprise buildings of up to five (5) storeys, forming a continuous hard edge along the King William Street frontage. Principle of Development Control 13 of the Urban Corridor Zone specifies a maximum height of 5 storeys and up to 18.5 metres for the Business Zone.

The proposed building presents to King William Street as a nine (9) storey building, although when counting all of the floor levels within the building, including the above-ground car parking levels, it comprises ten (10) levels, with a maximum height of 37 metres.

The subject land is located directly adjacent to the Boulevard Policy Area, where buildings up to 10 storeys and 36 metres high are anticipated. The boundary between the Boulevard Policy Area and the Business Policy Area appears to have been determined by applying the principle that only sites with a frontage to Dequetteville Terrace will be in the Boulevard Policy Area. As a result, the north-western side of King William Street, directly opposite the subject land, is located within the Boulevard Policy Area and there is currently a ten (10) storey building being constructed there.



In this context, the streetscape impact of the proposed building height is considered acceptable, as it would match the height of the building currently under construction on the opposite side of King William Street.

That said, it is also important to consider the implications of the additional building height on adjacent properties. In particular, the impacts on the properties at 3 and 5-9 Rundle Street, including future development potential, should be carefully considered. As those sites are further separated from Dequetteville Terrace, it should be assumed that they will be able to be developed in the future to a maximum height of five (5) storeys.

If the proposed building height for the subject land was in accordance with the 5 storey height policy for the Business Zone, it would be possible to achieve northern sun exposure to residential apartments at the upper levels (levels 3-5) of future developments at 3 and 5-9 Rundle Street. Whilst it is difficult to determine with the shadow plans provided (elevational shadow drawings would assist), the proposed 10 storey building would likely significantly restrict northern sun exposure to further development on those adjacent properties on the southern side of Little Rundle Street.

The Council does not consider this to be a reasonable impact. The owners of the properties on Rundle Street have a reasonable expectation that they may develop those properties in the future in accordance with the Development Plan height parameters, whilst achieving a certain degree of exposure to northern sunlight, based on the zoning of the land to the north.

Therefore, the Council considers that the rear setback of the floor levels of the proposed building above the fifth storey, should be determined based on a detailed sun shading study, so as to ensure that the properties on Rundle Street to the south are impacted by shadow no more than they would be by a five (5) storey building. This suggestion was made at a Pre-Lodgment Planning meeting for this project.

In respect to the proposed facade treatments, the proposal is considered to be somewhat inconsistent with the Desired Character Statement, which encourages cutting edge, contemporary building design, incorporating bold materials and shapes. That said, the use of traditional materials, including face brick at lower levels, is considered positive, both in terms of respecting the context of the adjacent Local Heritage Place, as well as the general Kent Town context. It is also noted that the adjacent 10 storey building under construction is similarly conventional in its architectural expression.

The location of all vehicular access at the rear of the site via Little Rundle Street is consistent with the Desired Character Statement for the Business Policy Area and achieves Objective 6 of the Urban Corridor Zone, of a safe, comfortable and appealing street environment for pedestrians of a pedestrian scale and optimises views or any outlook onto spaces of interest. Similarly, the rear of the development is considered to have been well resolved, to provide a pleasant interface with Little Rundle street through a landscaped setback and visibility of bicycle parking providing some level of interest and engagement.

Pedestrian Movement

City Wide Principle of Development Control 124 states that vehicle parking areas should be sited and designed to facilitate safe and convenient pedestrian linkages to the development and areas of significant activity or interest in the vicinity of the development.

Whilst not documented in the Development Plan, there initial work into the development of the Urban Design Framework for Kent Town has identified a clear need to improve north-south pedestrian linkages through Kent Town, due to the dominant east-west layout of the roads. In this context, the proposed pedestrian linkage adjacent to the north-eastern boundary of the site is a positive aspect of the proposal.

Traffic and Parking

With respect to the amount of car parking, Tables NPSP/8 and NPSP/9 provide the following car parking requirements for the proposal:

Component	**Car Parking Rate**	**Car Parking Required**
3+ bed apartments (16)	1.25 spaces per dwelling plus 0.25 spaces per dwelling for visitors	24 spaces
2 bed apartments (36)	1.00 spaces per dwelling plus 0.25 spaces per dwelling for visitors	45 spaces
Commercial (332m^2)	3 spaces per 100m^2	10 spaces
Total		**79 spaces**

The proposal includes the provision of 67 car parking spaces, resulting in a shortfall of 12 spaces or approximately 15%.

Table NPSP/9A states that a lesser number of parking spaces may be provided if:

- the development is a mixed use development with integrated (shared) parking where respective peak demands across the range of uses occurs at different times; or
- generous on-street parking and/or public parking areas are available and in convenient proximity, other than where such parking may become limited or removed by future loss of access, restrictions, road modifications or widening;

Mr Siow has advised that the likely visitor demand to the apartments will be low during business hours, when customer parking demand for the commercial tenancies is higher. In addition, Mr Siow has advised that the site is in close proximity to major bus services, including Go Zone services. This is a criteria for discounting of parking rates in City Wide Principle of Development Control 122. Accordingly, the proposal appears to be consistent with the Development Plan with respect to the amount of car parking provided.

A positive aspect of the proposal, is the provision of a dedicated visitor parking area of 9 spaces, outside of the secured parking area.

I trust that this response is of assistance. Please do not hesitate to contact me on 8366 4567 if you require any clarification.

Yours sincerely

Mark Thomson
MANAGER, DEVELOPMENT ASSESSMENT

BUSINESS POLICY AREA

The following objectives, desired character statement and principles of development control apply in the Business Policy Area shown on Policy Area Map NPSP/15. These provisions are additional to those expressed for the Urban Corridor Zone and the whole of the Council area in the City Wide section.

OBJECTIVES

Objective 1: A mixed use business policy area that accommodates a range of commercial and light industrial land uses together with compatible medium and high density residential development.

Objective 2: Development that minimises any adverse impacts upon the amenity of the locality within the zone.

Objective 3: A high standard of development which promotes distinctive contemporary building, landscape and streetscape design, with high visual and environmental amenity.

Objective 4: Development that contributes to the desired character of the policy area.

DESIRED CHARACTER

The Business Policy Area will continue to develop as the core area for the location of business related uses within Kent Town, with a strong focus on digital media, advertising, publishing and design activities.

Residential development may be established above compatible ground and first floor level non-residential uses. Wholly commercial buildings are also appropriate.

Retail activity, including shops will comprise smaller scale lunch bars and cafes, which serve local businesses.

While light industry and warehouses are not the primary land uses in the Policy Area, some light industry uses and warehousing may be appropriate in circumstances where it can be accommodated within high quality buildings and where it will not unreasonably compromise the level of amenity expected in a mixed-use area.

Cutting edge, contemporary building design, which incorporates bold materials and shapes, will be encouraged within the Business Policy Area. The built form will comprise buildings of up to five (5) storeys, forming a continuous hard edge along the King William Street frontage.

On-site car parking will be located behind or below buildings fronting the primary street, with access from Little King William Street and Little Rundle Street.

On-street car parking will continue to be maintained along the length of King William Street to contribute the shorter term visitor parking needs of local businesses and provide some separation between the vehicle carriageway and the footpaths.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following types of development, or combination thereof, are envisaged in the Business Policy Area and are additional to those identified in the zone:

Light industry
Service industry
Store

Warehouse

2 Land uses on the ground and first floor levels of buildings should be non-residential.

3 Shop or group of shops should have a maximum gross leasable floor area in the order of 500 square metres.

4 Light industry should comprise high technology and/or research and development related uses.

5 Further development of land used for motor repair or crash repair should rationalise and not increase the floor area or intensity of the use and should incorporate design treatments to reduce off-site impacts.

Form and Character

6 Development should be consistent with the desired character for the policy area.

7 The ground floor of buildings should be built to dimensions including a minimum floor to ceiling height of 3.5 metres to allow for adaptation to a range of land uses including retail, office and residential without the need for significant change to the building.

8 A minimum of 50 per cent of the width of the ground floor primary frontage of buildings should be visually permeable, transparent or clear glazed to promote active street frontages and maximise passive surveillance.

URBAN CORRIDOR ZONE

Introduction

The objectives and principles of development control that follow apply in the Urban Corridor Zone shown on Map NPSP/9. Further objectives and principles of development control also apply to policy areas that are relevant to the zone. The provisions for the zone and its policy areas are additional to the City Wide provisions expressed for the whole of the council area.

The Urban Corridor Zone contains the following Policy Areas shown on Map NPSP/15.

Boulevard
Business
High Street

OBJECTIVES

Objective 1: A mixed use zone accommodating a range of compatible non-residential and medium and high density residential land uses orientated towards a high frequency public transport corridor.

Objective 2: Integrated mixed use, medium and high rise buildings with ground floor uses that create active and vibrant streets with residential development above.

Objective 3: A mix of land uses that enable people to work, shop and access a range of services close to home.

Objective 4: Adaptable and flexible building designs that can accommodate changes in land use and respond to changing economic and social conditions.

Objective 5: A built form that provides a transition down in scale and intensity at the zone boundary to maintain the amenity of residential properties located within adjoining zones.

Objective 6: A safe, comfortable and appealing street environment for pedestrians that is sheltered from weather extremes, is of a pedestrian scale and optimises views or any outlook onto spaces of interest.

Objective 7: Noise and air quality impacts mitigated through appropriate building design and orientation.

Objective 8: Development that contributes to the desired character of the zone.

DESIRED CHARACTER

The Urban Corridor Zone supports a mix of compatible non-residential and residential uses at densities which reflect its close proximity to the City of Adelaide and the Adelaide Park Lands, as well as its location around Primary Road Corridors and public transport infrastructure.

Within Kent Town, the Urban Corridor Zone will play a significant role in contributing to the overall population and employment targets for the Eastern Metropolitan Adelaide Region, which are set out in the 30 Year Plan for Greater Adelaide, by providing opportunities for the development of a high quality urban environment, which supports a mix of employment generating activities and medium to high density residential development.

Several Key Development Areas are located throughout the zone and are identified on Concept Plan Fig UrC/1. The Policy Area Desired Character Statements include more detailed land use and built form outcomes for these areas. Development will mostly be focussed along the Primary Road Corridors, including North Terrace, Dequetteville Terrace, King William Street, Rundle Street, The Parade West and small portions of Magill and Fullarton Roads.

Development along the minor streets, including College Road, Capper Street and Grenfell Street, will generally be lower in scale and intensity than development along the Primary Road Corridors.

The important transport function of Dequetteville Terrace as a Primary Freight Route and North Terrace as a Secondary Freight Route, will be maintained to ensure the efficient movement of commercial vehicles around the City of Adelaide and the Inner Metropolitan Area.

Kent Town will continue to be developed as a ‘creative industries hub’ with a focus on digital media, advertising, publishing and design activities. Temporary and permanent art installations on public and private land will be encouraged, to further complement and strengthen this identity.

Along the North Terrace, Hackney Road, Magill Road, Fullarton Road, Rundle Street, The Parade West and King William Street Primary Road Corridors, non-residential land uses should be established at the ground floor levels of buildings. Residential development should only be established above ground floor uses. Along the Dequetteville Terrace Primary Road Corridor, wholly residential buildings are appropriate. On streets not designated as Primary Road Corridors, wholly residential buildings are appropriate.

Wholly commercial buildings are appropriate within the Business Policy Area and may be appropriate in other locations where they do not exceed three levels of commercial space, or on larger sites, where a number of buildings are proposed that can support a mix of land uses.

Where short term residential accommodation (including serviced apartments and tourist accommodation) is located in the same building as longer term residential accommodation, there should be a clear physical separation between these uses (such as allocating lower levels for short term accommodation and upper levels for long term accommodation).

Retail activity will be encouraged on a scale that supports the resident population and business function of Kent Town and where it does not compromise the District Centre function of The Parade.

The zone will primarily support net residential densities of between 60 and 100 dwellings per hectare, with an overall likely yield of an additional 560 dwellings to be achieved by 2040. A minimum residential density target for wholly residential buildings is specified, in order to support the achievement of dwelling yield targets, which align with the *30 Year Plan*. On sites where a mix of

residential and non-residential uses is proposed, the average floor area per dwelling should not exceed 100m². It is recognised that not all development sites will have the capacity to contribute to the overall dwelling yield target, due to the fact that development will be required to satisfy a range of design requirements, (such as the provision of on-site car parking, building height and set-backs) which may, particularly on smaller sites, be prohibitive to achieving the desired density outcomes.

Development which incorporates a significant residential component (more than 20 dwellings) will provide a range of dwelling sizes and a proportion of affordable housing.

New development will exhibit architectural merit, which favours contemporary leading edge design, particularly along the prominent Boulevard Policy Area frontages and in gateway locations. Buildings will be designed having regard to best practice energy efficiency principles, in order to reduce dependence on mechanical heating, cooling and lighting systems and include options for the harvest, treatment, storage and reuse of stormwater.

The residential component of all buildings will be designed having regard to the amenity of the occupants and will ensure that individual units have reasonable access to light, ventilation and views. Noise attenuation and air emission control measures will be included in the design of residential units where there is the potential for acceptable noise and air emissions levels to be exceeded. Residential balconies will be designed to form an extension to the main living area and will not be used for the placement of air- conditioning units, the storage of household goods, or unscreened clothes drying areas.

Structures located on the roofs of buildings to house plant and equipment, should be screened with materials that form an integral part of the design, to restrict views of the plant and equipment from the street and from nearby buildings.

Development at the interface with neighbouring zones, will have regard to the potential visual, overlooking and overshadowing impacts on the occupants of adjacent and nearby residential properties. In these locations development will transition down in scale and height towards the periphery of the zone, particularly at the boundaries with the existing Residential and Residential Historic (Conservation) Zones. At other locations within the Urban Corridor Zone, it is recognised that some level of overshadowing and overlooking will occur, however, this will be moderated through a range of design techniques, which may include separation of buildings, orientation of windows and balconies and various forms of screening.

Development adjacent to, or on the same site as a State or Local Heritage Place, will be respectful of its heritage character and setting and ensure that new development sensitively interfaces with the original building form. This may, in some circumstances, limit the scale and intensity of development on a site.

The prescribed set-backs to the street boundaries may be varied in response to specific site constraints or opportunities, such as the provision of outdoor dining areas, public realm improvements, topography or adjacency to a heritage place. Future road widening requirements along arterial roads are set out in the *Metropolitan Adelaide Road Widening Plan Act 1972.* The siting of new buildings will incorporate the relevant set-back distance required by this Plan.

Some sites within the zone could be contaminated because of previous activities. In this circumstance, development is expected to occur on a precautionary basis, where an assessment should be undertaken to verify that the site is suitable and safe for the intended use, particularly where it involves sensitive uses such as residential development.

Due to the intensity of development expected within the zone, on-site car parking will mostly be provided below grade in the basement of buildings, or at grade or above grade, behind active frontages. Where this occurs, car parking areas and car parking structures should not be visible from the Primary Road Corridors.

Little King William Street and Little Rundle Street will continue to provide vehicular access to the rear of buildings for loading and service requirements or access to car parking areas, however, opportunities to create unique public spaces and activate these laneways should be explored through

the development of adjacent land. In this context, the set-back of buildings from the Little King William and Little Rundle Street frontages will provide space for future public realm activities and upgrades.

The provision of on-site vehicle parking will be in accordance with the vehicle parking rates, which have been established for different land uses, however, some opportunity to discount these rates will be considered in circumstances set out in the City Wide principles of development control. In instances where discounted vehicle parking rates are assessed as appropriate for a new development, it is expected that a comparable increase in on-site facilities for bicycle and scooter parking is provided.

Cycling is an increasingly popular form of transport and recreation, therefore development on public and private land will consider the needs of cyclists, in terms of providing secure bicycle parking and storage facilities. Larger scale commercial developments will also provide appropriate end of journey facilities such as showers and change rooms.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following types of development, or combinations thereof, are envisaged in the zone:

Affordable housing
Aged persons accommodation
Community centre
Consulting room
Dwelling
Educational establishment
Entertainment venue
Hotel
Indoor recreation centre (including health, fitness and personal training facilities)
Licensed premises
Office
Pre-school
Primary school
Residential flat building
Retirement village
Shop or group of shops
Supported accommodation
Tourist accommodation.

2 Development listed as non-complying is generally inappropriate.

Form and Character

3 Development should be consistent with the desired character for the zone.

4 Development should be in accordance with Concept Plan Fig UrC/1.

5 Residential development in a wholly residential building should aim to achieve a target minimum net residential site density in accordance with the following:

Policy Area	**Minimum net residential site density**
Boulevard	100 dwellings per hectare
High Street	70 dwellings per hectare
Business	no minimum density

6 Vehicle parking should be provided in accordance with the rates set out in Table NPSP/9A - Off Street Vehicle Parking Requirements for Designated Areas.

7 Vehicle parking should be located to the rear of development or not be visible from public land along the primary road frontage.

Design and Appearance

8 Buildings on sites with a frontage width of greater than 10 metres should be well articulated through variations in forms, materials, openings and colours.

9 Buildings should be designed to:

(a) enable suitable sunlight access to public open space; and

(b) overlook or orientate towards public open space and defined pedestrian and cycle routes.

10 To maintain sight lines between buildings and the street, and to improve safety through passive surveillance, solid fencing should not be constructed between the front building line and the primary or secondary street.

11 Development should minimise the number of access points onto an arterial road, by providing vehicle access:

(a) from side streets or rear access ways; or

(b) via co-ordinated through property access rights of way or common rear vehicle parking areas.

12 Vehicle access points on side streets and rear access ways should be located and designed to:

(a) minimise the impacts of headlight glare and noise on nearby residents; and

(b) avoid excessive traffic flows into residential streets.

Building Envelope

Building Height

13 Except where airport building height restrictions prevail, or the interface height provisions require a lesser height, or where an alternative maximum building height is shown on Concept Plan Fig UrC/1, building heights (excluding any rooftop mechanical plant or equipment) should be consistent with the following parameters:

Policy area	Minimum building height	Maximum building height
Boulevard	3 storeys or no less than 11.5 metres, or 4 storeys or no less than 15 metres for land that is directly adjacent to or facing the Adelaide Park Lands	10 storeys and up to 36 metres
High Street	3 storeys or no less than 11.5 metres	5 storeys and up to 18.5 metres
Business	3 storeys or no less than 11.5 metres	5 storeys and up to 18.5 metres

Interface Height Provisions

14 To minimise building massing at the interface with residential development outside of the zone, buildings should be constructed within a building envelope provided by a 30 degree plane,

measured from a height of 3 metres above natural ground level at the zone boundary (except where this boundary is a primary road frontage), as illustrated in Figure 1:

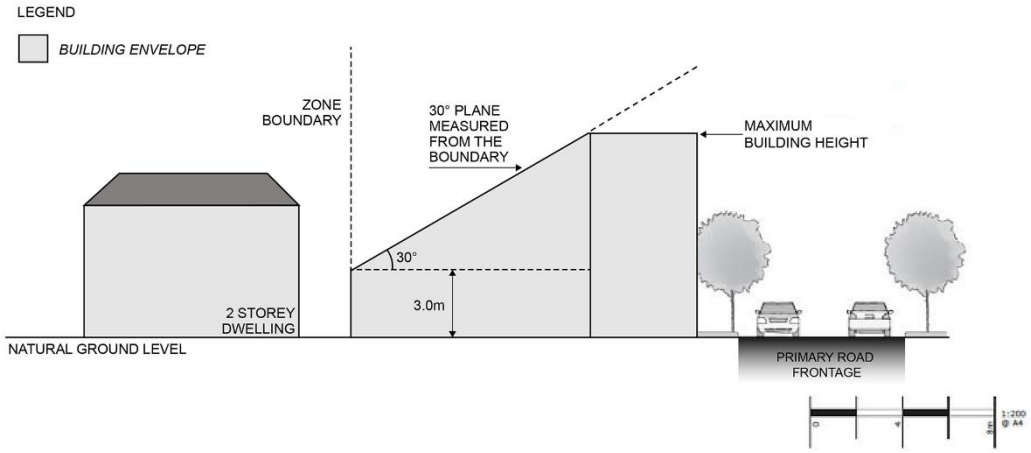


Figure 1

Setbacks from Road Frontages

15 Buildings (excluding verandahs, porticos and the like) should be set back from the primary road frontage in accordance with the following parameters:

Policy Area	**Minimum setback from the primary road frontage where it is the Primary Road Corridor as shown on Concept Plan Fig UrC/1.**	**Minimum setback from the primary road frontage in all other cases**
Boulevard Policy Area	4 metres from the Dequetteville Terrace, North Terrace, Magill Road and Fullarton Road Primary Road Corridors	2 metres
High Street Policy Area	No minimum	2 metres
Business Policy Area	No minimum	2 metres

16 Buildings (excluding verandahs, porticos and the like) should be set back from the secondary road frontage or a vehicle access way in accordance with the following parameters:

Policy area	**Minimum setback from a secondary road (where the secondary road is not a rear access way or laneway)**	**Minimum setback from a rear access way (or laneway)**
Boulevard Policy Area	No minimum	1 metre where the access way is 6.5 metres or more in width OR Where the access way is less than 6.5 metres in width, the additional width required to make the access way 6.5 metres, to provide adequate manoeuvrability for vehicles, plus 1 metre

Policy area	Minimum setback from a secondary road (where the secondary road is not a rear access way or laneway)	Minimum setback from a rear access way (or laneway)
High Street Policy Area	No minimum	1 metre where the access way is 6.5 metres or more in width OR Where the access way is less than 6.5 metres in width, the additional width required to make the access way 6.5 metres, to provide adequate manoeuvrability for vehicles, plus 1 metre
Business Policy Area	No minimum	1 metre where the access way is 6.5 metres or more in width OR Where the access way is less than 6.5 metres in width, the additional width required to make the access way 6.5 metres, to provide adequate manoeuvrability for vehicles, plus 1 metre

Other setbacks

17 Buildings (excluding verandahs, porticos, or any portion of a basement car park which is less than 1 metre above natural ground level) should be set back in accordance with the following parameters:

Policy area	Minimum setback from rear allotment boundary (where not a rear access way or laneway)	Minimum setback from side boundaries (where not a street boundary)
Boulevard Policy Area	5 metres where the subject land directly abuts an allotment of a different zone 3 metres, except where the development abuts the wall of an existing or simultaneously constructed building on the adjoining land.	For allotments with a frontage width of: (a) 20 metres or less: no minimum (b) more than 20 metres: 3 metres
High Street Policy Area	5 metres where the subject land directly abuts an allotment of a different zone 3 metres, except where the development abuts the wall of an existing or simultaneously constructed building on the adjoining land.	No minimum

Policy area	Minimum setback from rear allotment boundary (where not a rear access way or laneway)	Minimum setback from side boundaries (where not a street boundary)
Business Policy Area	5 metres where the subject land directly abuts an allotment of a different zone 3 metres, except where the development abuts the wall of an existing or simultaneously constructed building on the adjoining land.	No minimum

Land Division

18 Land division in the zone is appropriate provided new allotments are of a size and configuration to ensure the objectives of the zone can be achieved.

Complying Development

19 Complying developments are prescribed in schedule 4 of the *Development Regulations 2008*.

In addition, the following forms of development (except where the development is non-complying) are complying:

(a) Maintenance or repair to a Local Heritage Place, provided that there is no change to the external appearance of the building.

(b) Work undertaken within a Local Heritage Place that does not increase the total floor area of the building and does not alter the external appearance of the building.

(c) Subject to satisfying the car parking rates set out in Table NPSP/9A - Off Street Vehicle Parking Requirements for Designated Areas:

(i) change in the use of land, from residential to office on the ground or first floor of a building;

(ii) change in the use of land, from residential to shop less than 250 square metres on the ground floor of a building.

(d) A change of use to a shop, office, consulting room or any combination of these uses where all of the following are achieved:

(i) the area to be occupied by the proposed development is located in an existing building and is currently used as a shop, office, consulting room or any combination of these uses;

(ii) the development is located inside any of the following area(s):

High Street Policy Area

(iii) the building is not a State heritage place;

(iv) it will not involve any alterations or additions to the external appearance of a local heritage place as viewed from a public road or public space;

(v) if the proposed change of use is for a shop that primarily involves the handling and sale of foodstuffs, it achieves either (A) or (B):

(A) all of the following:

(i) areas used for the storage and collection of refuse are sited at least 10 metres from any Residential Zone boundary or a dwelling (other than a dwelling directly associated with the proposed shop);

(ii) if the shop involves the heating and cooking of foodstuffs in a commercial kitchen and is within 30 metres of any Residential Zone boundary or a dwelling (other than a dwelling directly associated with the proposed shop), an exhaust duct and stack (chimney) exists or is capable of being installed for discharging exhaust emissions;

(B) the development is the same or substantially the same as a development, which has previously been granted development approval under the *Development Act 1993* or any subsequent Act and Regulations, and the development is to be undertaken and operated in accordance with the conditions attached to the previously approved development;

(vi) if the change in use is for a shop with a gross leasable floor area greater than 250 square metres and has direct frontage to an arterial road, it achieves either (A) or (B):

(A) the primary vehicle access (being the access where the majority of vehicles access/egress the site of the proposed development) is from a road that is not an arterial road;

(B) the development is located on a site that operates as an integrated complex containing two or more tenancies (and which may comprise more than one building) where facilities for off-street vehicle parking, vehicle loading and unloading, and the storage and collection of refuse are shared;

(vii) off-street vehicular parking is provided in accordance with the rate(s) specified in Table NPSP/9A - Off Street Vehicle Parking Requirements for Designated Areas to the nearest whole number, except in any one or more of the following circumstances:

(A) the building is a local heritage place;

(B) the development is the same or substantially the same as a development, which has previously been granted development approval under the *Development Act 1993* or any subsequent Act and Regulations, and the number and location of parking spaces is the same or substantially the same as that which was previously approved;

(C) the development is located on a site that operates as an integrated complex containing two or more tenancies (and which may comprise more than one building) where facilities for off-street vehicle parking, vehicle loading and unloading, and the storage and collection of refuse are shared.

Non-complying Development

20 The following kinds of development (including combinations thereof, or more than one of a particular kind) are considered inappropriate and are **non-complying** in the Urban Corridor Zone:

Industry (other than light industry or service industry located in the Business Policy Area)
Fuel depot
Petrol filling station
Public service depot
Road transport terminal
Service trade premises

Store
Transport depot
Warehouse (other than where located in the Business Policy Area)
Waste reception storage treatment and disposal

Public Notification

21 The categorisation of development shall be determined by reference to Schedule 9 of the *Development Regulations 2008* and Section 38 of the *Development Act 1993*, except where specifically designated below.

Category 1 Development

The following kinds of development (including combinations thereof, or more than one of a particular kind) are assigned to Category 1 pursuant to Section 38 of the *Development Act 1993*, and accordingly will be subject to the public notification requirements applying to Category 1 development:

Advertisement
Aged persons accommodation
All forms of development that are ancillary and in association with residential development
Consulting room
Dwelling
Educational establishment
Light industry where located within the Business Policy Area
Office
Pre-school
Primary school
Residential flat building
Retirement village
Service industry where located within the Business Policy Area
Supported accommodation
Shop or a group of shops with a gross leasable area of 500 square metres or less where located within the Business Policy Area
Shop or a group of shops with a gross leasable area of 1000 square metres or less where located within the Boulevard and High Street Policy Areas
Warehouse where located in within the Business Policy Area

Category 2 Development

The following development is assigned to Category 2 pursuant to Section 38 of the *Development Act 1993*, and accordingly will be subject to the public notification requirements applying to Category 2 development:

All forms of development not listed as Category 1, other than non-complying development

Any development listed as Category 1 and located on land adjacent to a residential zone that:

(a) is 3 or more storeys in height; or

(b) exceeds the Building Envelope Interface Height Provision.

CITY WIDE

ORDERLY AND SUSTAINABLE DEVELOPMENT

The future development of the City of Norwood Payneham & St Peters will in part be influenced by the development of the Metropolitan area. Over the past 20 to 30 years, the Adelaide Metropolitan area has been experiencing growth to the north and south. Growth in this alignment is a product of geographical constraints created by the coast to the west and by the South Mount Lofty Ranges to the east, which is difficult and expensive to service. The introduction of an urban containment policy means that a large proportion of Metropolitan Adelaide's future housing supply, will now need to come

from urban infill, necessitating an increase in medium and high-density living in parts of Metropolitan Adelaide.

In recent times, changes to household structures, with a general decline in the average household size, and the desire to live close to the CBD, have also seen increased development within the City. This has resulted in slightly increased densities in some parts of the City and a wider variety of housing choice.

With very few broadacre land holdings remaining within the City, new residential development opportunities are likely to continue to occur as a result of small scale infill developments at various densities.

It is essential that the future development of the City addresses issues such as increased housing demand, efficient use of infrastructure and population change, while at the same time retaining the City's built heritage and valued elements of its historic character that play a major role in defining the City's character. Development should provide a wide variety of housing choice, utilising medium and high density in Zones and/or Policy Areas where it is envisaged, as well as complementary land uses such as community facilities, schools, shops and other services.

OBJECTIVES

Objective 1: Orderly and economic development that creates a safe, convenient and pleasant environment in which to live.

Objective 2: A proper distribution of living, working and recreational activities by the allocation of suitable areas of land for those purposes.

Objective 3: The provision of such facilities as are required for accommodation, employment, recreation, health and welfare.

Objective 5: Development occurring in an orderly and compact form to support the efficient provision of public services and community facilities.

Objective 7: Rational distribution of land uses to avoid incompatibility between them.

Objective 8: Compatibility of new buildings with the desired environment around them.

Objective 10: Development that does not jeopardise the continuance of adjoining authorised land uses.

Objective 11: Provision of a choice of lifestyles within the law and custom of the community.

Objective 12: Maintenance and increase of employment opportunities.

Objective 13: Provision of services to encourage and provide for visitors to the City.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Development should be orderly and economic.

2 Development should:

(a) form a compact and continuous extension of an existing built-up area;

(b) be located to achieve economy in the provision and use of public services and infrastructure; and

(c) create a safe, convenient and pleasant place to live.

3 Development should take place on land which is suitable for the intended use of that land, having regard to the location and condition of that land and the provisions for the relevant Zone and Policy Area.

4 Development should take place in a manner which will not:

(a) interfere with the effective and proper use of any other land; and

(b) prevent the attainment of the objectives for that other land.

5 Development should be undertaken in accordance with the Norwood Payneham and St Peters (City) Structure Plan, Map NPSP/1 (Overlay 1) Parts A & B.

6 Development should not take place excessively in advance of a demonstrated need for the use for which it provides.

8 Buildings and structures should not adversely affect, by way of their height and location, the long term operational, safety and commercial aviation requirements of Adelaide International Airport and Parafield Airport.

9 Buildings and structures which exceed the heights shown on Map NPSP/1 (Overlay 3) and which penetrate the obstacle limitation surfaces (OLS), should be designed, marked or lit, to ensure the safe operation of aircraft within the airspace around the Adelaide International Airport and Parafield Airport.

10 Building development should not take place where it would require substantial excavation or earthworks.

11 Buildings should be designed so as not to unreasonably overlook or overshadow indoor or outdoor living areas of adjacent dwellings.

12 Development should take place in a manner which is not liable to cause an unreasonable nuisance to neighbours or the community or significantly detrimentally affect the amenity, use or enjoyment of nearby properties by:

(a) the emission beyond the site boundaries of noise, vibration, odour, atmospheric liquid or other pollutants, waste water, waste products, electrical interference, light overspill or loss of privacy; or

(b) stormwater or the drainage of run-off from the land.

14 New development in a locality which has an unsatisfactory layout, or an unhealthy or obsolete existing development, should improve or rectify those conditions.

16 Land used for the erection of buildings should be stable.

19 Vacant or underutilised land should be developed in an efficient and co-ordinated manner so as to not prejudice the orderly development of adjacent land.

DESIGN AND APPEARANCE OF LAND AND BUILDINGS

OBJECTIVES

Objective 18: The amenity of localities not impaired by the appearance of land, buildings and objects.

Objective 19: Development of a high architectural standard and appearance that responds to and reinforces positive aspects of the local environment and built form.

Objective 20: Architectural excellence allowing for design innovation consistent with sound design principles.

Objective 21: The continued visual dominance of key reference buildings, such as the Norwood Town Hall, St Peters Town Hall, the Maid and Magpie Hotel, Norwood Hotel, Bon Marche Building, the Payneham Uniting Church and the former Kent Town Brewery Site.

Objective 22: A safe, secure and crime resistant environment where land uses are integrated and designed to facilitate community surveillance.

PRINCIPLES OF DEVELOPMENT CONTROL

28 The appearance of land and buildings should not impair the amenity of the locality in which they are situated.

29 Except where the zone or policy area objectives, principles of development control and/or desired character of a locality provide otherwise, new buildings:

(a) may be of a contemporary appearance and exhibit an innovative style;

(b) should complement the urban context of existing buildings on adjoining and nearby land in terms of:

(i) maintenance of existing vertical and horizontal building alignments

(ii) architectural style, building shape and the use of common architectural elements and features;

(iii) consistent colours, materials and finishes; and

(c) should not visually dominate the surrounding locality.

30 Buildings should be designed to minimise their visual bulk and provide visual interest through design elements such as:

(a) articulation;

(b) colour and detailing;

(c) materials, patterns, textures and decorative elements;

(d) vertical and horizontal components;

(e) design and placement of windows;

(f) window and door proportions;

(g) roof form and pitch;

(h) verandahs and eaves; and

(i) variations to facades.

31 The design and location of buildings should ensure that adequate natural light is available to adjacent dwellings, with particular consideration given to:

(a) windows of habitable rooms, particularly the living areas of adjacent buildings;

(b) ground-level private open space of adjacent dwellings;

(c) upper level private balconies that provide the primary open space area for any dwelling; and

(d) access to solar energy.

32 The height of buildings, structures and associated component parts should not exceed the number of storeys or height in metres above the natural ground level prescribed in the relevant Zone and/or Policy Area.

For the purposes of this Principle, 'storey' refers to the space between a floor and the next floor above, or if there is no floor above, the ceiling above. A mezzanine floor level shall be regarded as a floor. A space with a floor located below natural ground level shall be regarded as a storey if greater than one metre of the height between the floor level and the floor level above is above natural ground level.

33 Buildings should be designed and sited to avoid creating extensive areas of uninterrupted walls facing areas exposed to public view.

35 Unless otherwise specified in the relevant Zone and/or Policy Area, where a building is sited on or close to a side boundary, the side boundary wall should be sited and limited in length and height to minimise:

(a) the visual impact of the building as viewed from adjoining properties;

(b) overshadowing of adjoining properties and allow adequate sunlight to neighbouring buildings, private open space and solar collectors (such as solar hot water systems and photovoltaic cells); and

(c) the risk of damage to mature/regulated vegetation on adjoining properties taking into consideration potential damage to the root system.

36 Balconies should:

(a) be integrated with the overall architectural form and detail of the building;

(b) be sited to face predominantly north or east to provide solar access;

(c) be self-draining and plumbed to minimise runoff; and

(d) be recessed where wind would otherwise make the space unusable.

37 The external walls and roofs of buildings should not incorporate highly reflective materials which will result in excessive glare.

38 Structures located on the roofs of buildings to house plant and equipment, should be screened from view and should form an integral part of the building design in relation to external finishes, shaping and colours.

39 Building design should emphasise all pedestrian entry points to provide all users with perceptible and direct access from public street frontages and vehicle parking areas.

40 Buildings, landscaping, paving and signage should have a coordinated appearance that maintains and enhances the visual attractiveness of the locality.

42 Development should be designed and sited so that outdoor storage, loading and service areas, fire escapes and plant and equipment hatches are screened from public view through the use of an appropriate combination of built form, solid fencing and/or landscaping.

47 Development should not, in respect to its appearance, interfere with the attainment of the Objectives for the relevant Zone or Policy Area or otherwise impact upon the existing character of scenic or environmentally important areas.

Building Setbacks from Road Boundaries

50 The setback of buildings should:

(a) be similar to, or compatible with, the setbacks of buildings on adjoining land and the predominant setback of buildings in the locality, unless otherwise specified in the relevant Zone and/or Policy Area;

(b) contribute positively to the existing or desired streetscape character of the locality; and

(c) not result in or contribute to a detrimental impact upon the function, appearance or character of the locality.

52 Except where otherwise specified in the relevant Zone and/or Policy Area, the setback of development from a secondary street frontage should reflect the setbacks of the adjoining buildings and the predominant setback of other buildings in the locality.

Crime Prevention

59 Development should be designed to maximise surveillance of public spaces through the incorporation of clear lines of sight, appropriate lighting and the use of visible permeable barriers wherever practicable.

60 Buildings should be designed to overlook public and communal open spaces and streets to allow casual surveillance.

61 Buildings should be designed to minimise and discourage access between roofs, balconies and windows of adjoining dwellings.

62 Development, including car park facilities should incorporate signage and lighting that indicate the entrances and pathways to, from and within the site.

63 Site planning, buildings, fences, landscaping and other features should clearly differentiate between public, communal and private areas.

64 Development should avoid pedestrian entrapment spots and routes and paths that are predictable or unchangeable and offer no choice to pedestrians.

65 Development fronting an alleyway, laneway (including a service lane), or other minor or unserviced street should be located and designed to maximise safety and security.

66 Development fronting a laneway (including a service lane), or other minor or unserviced street should maximise the potential for passive surveillance by ensuring that the building can be seen from nearby buildings and the laneway/minor streets/unserviced streets.

ENERGY EFFICIENCY

OBJECTIVES

Objective 23: Development designed and sited to conserve energy and minimise waste.

PRINCIPLES OF DEVELOPMENT CONTROL

67 Development should provide for efficient solar access to buildings and open space all year round.

68 Buildings should be sited and designed to ensure:

(a) that the main living areas and the private open space associated with the main living areas, face north to maximise exposure to winter sun; and

(b) adequate natural light and winter sunlight is available to the main internal living areas and principal private open spaces of adjacent properties.

69 Development should be designed to minimise energy consumption by incorporating, where practicable, energy efficient building design elements, techniques and materials, such as:

(a) the sizing, orientation and shading of windows to reduce summer heat load and take advantage of winter sun;

(b) the use of deciduous trees, pergolas, eaves, verandas and awnings, to allow penetration of heat and light from the sun in winter and to provide shade in summer;

(c) openings designed to maximise the potential for natural cross-ventilation to enable cooling breezes to reduce internal temperatures in the summer months; or

(d) the use of colours on external surfaces such as roofs and walls, to minimise heat absorption in summer.

LANDSCAPING, FENCES AND WALLS

OBJECTIVES

Objective 24: The amenity of land and development enhanced with appropriate planting and landscaping, which uses locally indigenous plant species where possible.

Objective 25: Functional fences and walls that enhance the attractiveness of development.

PRINCIPLES OF DEVELOPMENT CONTROL

Landscaping

73 Development should incorporate open space and landscaping and minimise the use of hard paved surfaces in order to:

(a) complement built form and reduce the visual impact of larger buildings (for example locating taller and broader plants against taller and bulkier building components);

(b) enhance the visual appearance from the street frontage;

(c) screen service yards, loading areas and outdoor storage areas;

(d) define and enhance the appearance of outdoor spaces, including car parking areas;

(e) minimise heat absorption and reflection;

(f) provide shade and shelter;

(g) assist in climate control within and around buildings;

(h) allow for natural infiltration of surface waters through permeable treatments;

(i) contribute to the viability of ecosystems and species; and

(j) promote water and biodiversity conservation.

74 Landscaped areas should:

(a) where practicable, have a width of not less than two metres;

(b) be protected from damage by vehicles and pedestrians;

(c) result in the appropriate clearance from powerlines and other infrastructure being maintained;

(d) be designed to incorporate the re-use of stormwater for irrigation purposes; and

(e) include the planting of locally indigenous species where practical.

75 Landscaping should be used to assist in discouraging crime by:

(a) screen planting areas susceptible to vandalism;

(b) planting trees or ground covers, rather than shrubs, alongside footpaths; and

(c) planting vegetation other than ground covers a minimum distance of two metres from footpaths to reduce concealment opportunities.

76 Landscaping of non-residential development should be provided and maintained in order to:

(a) establish a buffer between the non-residential development and the development on adjacent sites;

(b) complement the landscaping provided by adjacent development and enhance the visual appearance and character of the area;

(c) shade, define and create windbreaks for pedestrian paths and spaces;

(d) screen, shade and enhance the appearance of car parking areas;

(e) screen service yards, loading areas and outdoor storage areas; and

(f) re-establish local indigenous plant species where it is practical to do so.

77 Non-residential development adjacent to a residential land use or zone or within a residential zone, should incorporate landscaping which includes plants of a mature height, scale and form.

78 Landscaping should not:

(a) unreasonably restrict solar access to adjoining development;

(b) cause damage to buildings, paths, infrastructure/services and other landscaping from root invasion, soil disturbance or plant overcrowding;

(c) remove opportunities for passive surveillance;

(d) increase leaf fall into watercourses; and

(e) introduce pest plants and/or increase the risk of weed invasion.

INTERFACE BETWEEN LAND USES

OBJECTIVES

Objective 26: Development located and designed to minimise adverse impact and conflict between land uses.

Objective 27: Protect community health and amenity from the adverse impacts of development and support the continued operation of all desired land uses.

PRINCIPLES OF DEVELOPMENT CONTROL

80 Development should not detrimentally affect the amenity of the locality or cause unreasonable interference through any of the following:

(a) the emission of effluent, odour, smoke, fumes, dust or other airborne pollutants;

(b) noise;

(c) vibration;

(d) electrical interference;

(e) light spill;

(f) glare;

(g) hours of operation; or

(h) traffic impacts.

81 Residential development adjacent to a non-residential land use or zone or within a non-residential zone should be located, designed and sited in a manner which:

(a) protects residents from any adverse effects of non-residential activities; and

(b) minimises negative impact on existing and potential future land uses considered appropriate in the locality.

Noise Generating Activities

86 Development that emits noise (other than music noise) should include noise attenuation measures that achieve the relevant *Environment Protection (Noise) Policy* criteria when assessed at the nearest existing noise sensitive premises.

Noise level assessment location	**Desired noise level**
Adjacent existing *noise sensitive development* property boundary	Less than 8 dB above the level of background noise (L90,15min) in any octave band of the sound spectrum; and Less than 5 dB(A) above the level of background noise (LA90,15min) for the overall (sum of all octave bands) A-weighted level.
Adjacent land property boundary	Less than 65dB(Lin) at 63Hz and 70dB(Lin) in all other octave bands of the sound spectrum; or Less than 8 dB above the level of background noise (L90,15min) in any octave band of the sound spectrum and 5 dB(A) overall (sum of all octave bands) A-weighted level.

Air Quality

90 Development with the potential to emit harmful or nuisance-generating air pollution should incorporate air pollution control measures to prevent harm to human health or unreasonable interference with the amenity of sensitive uses within the locality.

MOVEMENT, TRANSPORT AND CAR PARKING

OBJECTIVES

The main elements of the transport system are shown on Map NPSP/1 (Overlay 1) Parts A & B.

Objective 28: A comprehensive, integrated and efficient public and private transport system which will:

(a) provide access to adequate transport services for all people, at an acceptable cost;

(b) effectively support the economic development of metropolitan Adelaide and the State;

(c) ensure a high level of safety; and

(d) maintain the options for the introduction of suitable new transport technologies.

Objective 29: A road hierarchy to form the basis of development controls and serve as a guide to the investment of road funds in order to ensure a safe and efficient traffic flow and to promote the saving of fuel and time. Arterial roads will provide for major traffic movements.

Objective 30: A safe, convenient and clearly defined network of roads, paths and tracks throughout the City that also links to networks beyond the City and accommodates a variety of vehicular, cycle and pedestrian traffic.

Objective 31: A compatible arrangement between land uses and the transport system which will:

(a) ensure minimal noise and air pollution;

(b) protect amenity of existing and future land uses;

(c) provide adequate access; and

(d) ensure maximum safety.

Objective 32: A form of development adjoining main roads which will:

(a) ensure traffic can move efficiently and safely;

(b) discourage commercial ribbon development;

(c) prevent large traffic-generating uses outside designated shopping/centre zones;

(d) provide for adequate off-street parking; and

(e) provide limited and safe points of access and egress.

Objective 33: Control of the movement of traffic according to a defined hierarchy of roads which seeks to improve safety and to limit the speed and volume of traffic in local residential streets without unreasonably restricting access opportunities.

Objective 34: Development which provides adequate and safe car parking appropriate to the demands generated.

Objective 35: Provision of an effective public transport system to facilitate travel to, from and within the City.

Objective 36: Improved off-street parking facilities for The Parade District Centre (Norwood) Zone by the provision of public car parking in general accordance with the District Centre (Norwood) Core Concept Plan, Fig DCe/1.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

92 Land uses arranged to support the efficient provision of sustainable transport networks and encourage their use.

Movement Systems

93 Development should be integrated with existing transport networks, particularly major rail, road and public transport corridors, and designed to minimise its potential impact on the functional performance of the transport network.

Cycling and Walking

105 Development should ensure that a permeable street and path network is established that encourages walking and cycling through the provision of safe, convenient and attractive routes with connections to adjoining streets, paths, open spaces, schools, pedestrian crossing points on arterial roads, public and community transport stops and activity centres.

106 Development should provide access, and accommodate multiple route options, for pedestrians and cyclists by enhancing and integrating with:

(a) open space networks, recreational trails, parks, reserves, and sport and recreation areas; or

(b) Adelaide's principal cycling network (Bikedirect), which includes arterial roads, local roads and off-road paths.

107 New developments should give priority to and not compromise existing designated bicycle routes.

108 Where development coincides with, intersects or divides a proposed bicycle route or corridor, development should incorporate through-access for cyclists.

109 Development should encourage and facilitate cycling as a mode of transport by incorporating end-of journey facilities including:

(a) showers, changing facilities and secure lockers;

(b) signage indicating the location of bicycle facilities; and

(c) bicycle parking facilities provided at the rate set out in Table NPSP/10

110 On-site secure bicycle parking facilities should be:

(a) located in a prominent place;

(b) located at ground floor level;

(c) located undercover;

(d) located where surveillance is possible;

(e) well lit and well signed;

(f) close to well used entrances; and

(g) accessible by cycling along a safe, well lit route.

111 Pedestrian and cycling facilities and networks should be designed and provided in accordance with relevant provisions of the *Australian Standards and Austroads Guides*.

Access

112 Development should have direct access from an all-weather public road.

113 Development should be provided with safe and convenient access which:

(a) avoids unreasonable interference with the flow of traffic on adjoining roads;

(b) provides appropriate separation distances from existing roads or level crossings;

(c) accommodates the type and volume of traffic likely to be generated by the development or land use and minimises induced traffic through over-provision; and

(d) is sited and designed to minimise any adverse impacts on the occupants of and visitors to neighbouring properties.

114 Development should not restrict access to publicly owned land such as recreation areas.

115 On-site parking and manoeuvring areas servicing development abutting arterial roads should be designed to enable all vehicles to enter and exit the site in a forward direction.

116 Structures such as canopies and balconies that encroach onto the footpath of an arterial road should not cause visual or physical obstruction to:

(a) signalised intersections;

(b) heavy vehicles;

(c) street lighting;

(d) overhead electricity lines;

(e) street trees; or

(f) bus stops.

117 Driveways and parking areas should be designed and constructed to:

(a) follow the natural contours of the land;

(b) minimise excavation and/or fill;

(c) minimise the potential for erosion from surface runoff;

(d) avoid the removal of existing vegetation, including street trees; and

(e) be consistent with Australian Standard AS: 2890 – Parking facilities.

Access for People with Disabilities

119 Development should be sited and designed to provide convenient access for people with a disability.

Vehicle Parking

120 Development should provide off-street vehicle parking in accordance with rates contained in Tables NPSP/8 and 9.

121 Development in the nature of additions to existing non-residential premises should provide on-site car parking in accordance with the principles of development control to serve new floor area while maintaining existing car parking numbers for the existing floor area.

122 **A** lesser on-site car parking rate may be applied to applicable elements of a development in any of the following circumstances:

(a) development includes affordable housing or student accommodation; or

(b) sites are located within 200 metres walking distance of a convenient and frequent service fixed public transport stop; or

(c) mixed use development including residential and non-residential development has respective peak d**124** Vehicle parking areas should be sited and designed to:

(a) facilitate safe and convenient pedestrian linkages to the development and areas of significant activity or interest in the vicinity of the development;

(b) include safe pedestrian and bicycle linkages that complement the overall pedestrian and cycling network;

(c) not inhibit safe and convenient traffic circulation;

(d) result in minimal conflict between customer and service vehicles;

(e) avoid the necessity to use public roads when moving from one part of a parking area to another;

(f) minimise the number of vehicle access points onto public roads;

(g) avoid the need for vehicles to reverse onto public roads;

(h) where practical, provide the opportunity for shared use of car parking and integration of car parking areas with adjoining development to reduce the total extent of vehicle parking areas and the requirement for access points;

(i) not dominate the character and appearance of the development when viewed from public roads or spaces;

(j) provide landscaping that will shade and enhance the appearance of the vehicle parking areas; and

(k) where practicable, include infrastructure such as underground cabling and connections to power infrastructure that will enable the recharging of electric vehicles.

emands for parking occurring at different times; or

(d) the proposed development is on or adjacent to the site of a heritage place, or includes retention of a desired traditional building and its features, which hinders the provision of on-site parking or the most effective use of the spaces within the site; or

(e) the parking shortfall is met by contribution to a Car Parking Fund (where one is available); or

(f) the development qualifies for certification under the Green Energy rating program, or similar program; or

(g) where it can be demonstrated that it would not result in a greater demand for on-street car parking on existing streets in the locality.

123 Development should provide carparking which is consistent with *Australian Standard AS: 2890 - Parking facilities*.

126 Vehicle parking areas that are likely to be used during non-daylight hours should provide floodlit entry and exit points and site lighting directed and shaded in a manner that will not cause nuisance to adjacent properties or users of the parking area.

127 Vehicle parking areas should be sealed or paved to minimise dust and mud nuisance.

Vehicle Parking for Mixed Use and Corridor Zones

131 Loading areas and designated parking spaces for service vehicles should:

(a) be provided within the boundary of the site; and

(b) not be located in areas where there is parking provided for any other purpose.

132 Vehicle parking spaces and multi-level vehicle parking structures within buildings should:

(a) enhance active street frontages by providing land uses such as commercial, retail or other non-car park uses along ground floor street frontages;

(b) complement the surrounding built form in terms of height, massing and scale; and

(c) incorporate facade treatments along major street frontages that are sufficiently enclosed and detailed to complement neighbouring buildings consistent with the desired character of the locality.

133 In mixed use buildings, the provision of vehicle parking may be reduced in number and shared where the operating hours of commercial activities complement the residential use of the site.

INFRASTRUCTURE

OBJECTIVES

Objective 37: The efficient and cost-effective use of existing infrastructure.

Objective 38: Infrastructure provided in an economical and environmentally sensitive manner.

Objective 39: Infrastructure, including social infrastructure, provided in advance of need.

Objective 40: Suitable land for infrastructure identified and set aside in advance of need.

Objective 41: The visual impact of infrastructure facilities minimised.

The most costly and difficult services to provide are water and sewerage. Investigations show that most of the land in the metropolitan area which can be supplied with these services economically, can

also be supplied economically with electricity and gas, stormwater drainage, telephone, recycling and garbage collection and public transport services.

Routes of main transmission lines should be defined in advance of land division and the erection of buildings, to ensure that buildings are clear of easements. Care is needed in the siting of sub-stations to ensure that the appearance of surrounding areas is not marred by unsightly switchgear and equipment. When conspicuous sites have to be chosen for technical reasons, the site should be large enough to allow a screen of trees and shrubs to be planted.

Large areas of the Adelaide Plain contain no well-defined natural watercourses, and the provision of adequate stormwater drains is essential for the development of these areas. Action to overcome stormwater problems has seldom been initiated until the need has become urgent. Adequate drainage is a necessary attribute of land suitable for building, and it is in the interests of all concerned that the work involved should be the product of foresight rather than experience.

The overall metropolitan requirements for waste management will necessitate the acquisition, reservation, or identification of suitable sites for waste transfer, resource recovery, materials processing and the proper disposal of residual waste.

The priority for reclamation and remedial work on old land-fill sites should be established according to environmental hazard and the capacity to meet community needs, through new uses such as recreation areas.

PRINCIPLES OF DEVELOPMENT CONTROL

135 Development should not occur without the provision of adequate utilities and services, including:

(a) electricity supply;

(b) water supply;

(c) drainage and stormwater systems;

(d) waste disposal;

(e) effluent disposal systems;

(f) formed all-weather public roads;

(g) telecommunications services;

(h) social infrastructure, community services and facilities; and

(i) gas service.

136 Electricity supply serving new development should be installed underground.

137 Development should provide for the suitable drainage of stormwater either into the public stormwater system or using alternative methods of stormwater control (including the collection and re-use of water), where appropriate standards can be satisfied.

138 The treatment and disposal of effluent and other waste material from any development or use of land should, having regard to the location or design of the development or use, be able to be achieved without risk to health or impairment to the environment.

139 Development should incorporate provision for the supply of infrastructure services to be located within common service trenches, where practical.

140 Development should not take place until adequate and coordinated drainage of land is assured.

141 Development should enable economic and effective servicing for public transport, recycling and waste collection, fire protection and street lighting.

145 Electricity infrastructure should be designed and located to minimise its visual and environmental impacts.

STORMWATER MANAGEMENT

OBJECTIVES

Objective 42: Development sited and designed to maximise the harvest and use of stormwater and reduce run-off.

Objective 43: Development sited and designed to minimise demand on reticulated water supplies.

Objective 44: Development designed and located to protect stormwater from pollution sources.

Objective 45: Development designed and located to protect or enhance the environmental values of receiving waters.

Objective 46: Development sited and designed to prevent or minimise the risk of downstream flooding.

Objective 47: Development designed and located to prevent erosion.

Objective 48: Storage, use and disposal of stormwater which avoids adverse impact on public health and safety.

Surface water (inland, marine and estuarine) and ground water, has the potential to be detrimentally affected by water run-off from development containing solid and liquid wastes. Minimising and possibly eliminating sources of pollution will reduce the potential for degrading water quality and enable increased use of stormwater for a range of applications with environmental, economic and social benefits.

Development involving soil disturbance may result in erosion and subsequently sedimentation and pollutants entering receiving waters. Design techniques should be incorporated during both construction and operation phases of development to minimise the transportation of sediment and pollutants off site.

PRINCIPLES OF DEVELOPMENT CONTROL

147 Development should be designed to maximise conservation, minimise consumption and encourage re-use of water resources.

148 Development should be sited and designed to:

(a) minimise surface water runoff;

(b) capture and re-use stormwater, where practical;

(c) prevent soil erosion and water pollution;

(d) protect and enhance natural water flows;

(e) protect water quality by providing adequate separation distances from watercourses and other water bodies; and

(f) maintain natural hydrological systems and not adversely affect:

(i) the quantity and quality of groundwater; and

(ii) the depth and directional flow of groundwater.

149 Development should include stormwater management systems to:

(a) mitigate peak flows and manage the rate and duration of stormwater discharge from the site to ensure the carrying capacities of downstream systems are not overloaded; and

(b) protect it from damage during a minimum of a 1 in 100 year Average Recurrence Interval flood.

150 Stormwater management systems should preserve natural drainage systems, including the associated environmental flows.

151 Stormwater management systems should:

(a) maximise the potential for stormwater harvesting and re-use, either on-site or as close as practicable to the source; and

(b) utilise, but not be limited to, one or more of the following harvesting methods:

(i) the collection of roof water in tanks;

(ii) the controlled discharge to open space, landscaping or garden areas, including strips adjacent to car parks;

(iii) the incorporation of detention and retention facilities; or

(iv) aquifer storage and recovery.

152 Stormwater management systems should be designed and located to improve the quality of stormwater, minimise pollutant transfer to receiving waters, and protect downstream receiving waters from high levels of flow.

153 Development affecting, or likely to affect, existing stormwater management systems should be designed and located to improve the quality of stormwater, minimise pollutant transfer to receiving waters, and protect downstream receiving waters from high levels of flow.

154 Development should incorporate appropriate measures to minimise the concentrated discharge of stormwater from the site.

155 Site drainage should:

(a) include, where practicable, scope for on-site stormwater detention, retention and use, including the collection and storing of water from roofs and communal car parks in appropriate devices;

(b) provide for on-site infiltration where practicable, having regard to:

(i) the availability of unbuilt upon or unsealed areas;

(ii) the ability of the soils to absorb water;

(iii) the ability of the building footings on and adjacent to the site to withstand the likely effects of any retained water; and

(iv) any potential adverse impacts on the level of ground water in the locality;

(c) allow for convenient access to all components of the drainage system for maintenance purposes; and

(d) not cause damage or nuisance flows on site or to adjoining properties.

157 Stormwater detention and retention basins should incorporate indigenous vegetation in the associated landscaping, where possible, to assist with improving water quality and habitat provision.

158 Above ground stormwater detention systems should:

(a) not create or increase the risk of flooding to any building on the site or on an adjacent site; and

(b) be designed with a maximum ponding depth of 200 millimetres.

160 A development which includes:

(a) three or more dwellings;

(b) the replacement of one dwelling with three or more dwellings on one site, or on separate sites resulting from the land division of the original site; or

(c) in the case of a non-residential development, an impervious surface area that is greater than the pre-development state;

should incorporate an on-site stormwater detention system (either above or below ground) to ensure that stormwater discharged from the site and/or combined sites does not exceed the capacity of the existing or planned 1 in 5 year Average Recurrence Interval stormwater system and increase the risk of flooding to downstream properties or add any significant pollutant load to the downstream stormwater system.

161 Where it is not practicable to detain or dispose of stormwater on site, only clean stormwater runoff should enter the public stormwater drainage system.

162 Water discharge from a site should be of a physical, chemical and biological condition equivalent to or better than the water discharge from the site in its pre-developed state.

163 Stormwater from a site should not discharge into or onto a laneway (including a service lane), or other minor or unserviced street unless there is a defined underground piped stormwater drainage system which has sufficient capacity to receive the stormwater flows.

164 A dwelling, other than a dwelling located within the 1-in-100 year Average Recurrence Interval floodplain, should be sited and designed so that the finished floor level of the dwelling is a suitable height above the adjacent top of kerb level, to enable the efficient gravity-fed drainage of stormwater from all impervious surfaces on the site, provided that the finished floor level of the dwelling is no more than 700 millimetres above the natural ground level at any point along the side and rear boundaries of the site.

In instances where this can not be achieved, a lower floor level and alternative stormwater management system, such as pump and sump and/or soakage systems, should be provided. This alternative stormwater management system should take into consideration the secondary flood flows from the road reserve and provide adequate mitigation measures.

HAZARDS
OBJECTIVES

Objective 49: Development located away from areas that are vulnerable to, and cannot be adequately and effectively protected from the risk of natural hazards.

Objective 50: Maintenance of the natural environment and systems by limiting development in areas susceptible to natural hazard risk.

Objective 51: Development located and designed to minimise the risks to safety and property from flooding.

Objective 52: Appropriate assessment and remediation of site contamination to ensure land is suitable for the proposed use and provides a safe and healthy living and working environment.

Objective 53: Protection of human health and the environment wherever site contamination has been identified or suspected to have occurred.

Objective 54: Minimisation of harm to life, property and the environment through the appropriate location of development and appropriate storage, containment and handling of hazardous materials.

PRINCIPLES OF DEVELOPMENT CONTROL

167 Development should be excluded from areas that are vulnerable to, and cannot be adequately and effectively protected from, the risk of hazards.

168 Development located on land which is subject to hazards should not occur unless it is sited, designed and undertaken in association with appropriate precautions against the relevant hazards.

Flooding

169 Development, including earthworks associated with development, should not:

(a) be adversely affected by flooding or inundation;

(b) impede the flow of floodwaters through the land or the surrounding land;

(c) increase the risk of flooding of other land;

(d) adversely affect the level of flood waters on adjoining properties;

(e) obstruct a watercourse;

(f) aggravate the potential for erosion or siltation or lead to the destruction of vegetation during a flood;

(g) occur on land where the risk of flooding is likely to be harmful to safety or damage property; or

(h) increase the potential hazard risk to public safety of persons during a flood event.

170 No new buildings or structures, or extensions to existing buildings or structures, or portions thereof, should be constructed within any site which is at or below the principal flow path level of the 1 in 20 year Average Recurrence Interval floodplain.

171 The finished ground floor level of all habitable spaces should not be less than 300 millimetres above the 1 in 100 year Average Recurrence Interval floodplain.

Site Contamination

172 Development, including land division, should not take place where site contamination has occurred unless the site has been assessed and remediated as necessary to ensure that it is suitable and safe for the proposed use.

Containment of Chemical and Hazardous Materials

173 Hazardous materials should be stored and contained in a manner that minimises the risk to public health and safety and the potential for water, land or air contamination.

MEDIUM AND HIGH RISE DEVELOPMENT (3 OR MORE STOREYS)

OBJECTIVES

Objective 60: Medium and high rise development that provides housing choice and employment opportunities.

Objective 61: Residential development that provides a high standard of amenity and adaptability for a variety of accommodation and living needs.

Objective 62: Development that is contextual and responds to its surroundings, having regard to adjacent built form and character of the locality and the Desired Character for the Zone and Policy Area.

Objective 63: Development that integrates built form within high quality landscapes to optimize amenity, security and personal safety for occupants and visitors.

Objective 64: Development that enhances the public environment, provides activity and interest at street level and a high quality experience for residents, workers and visitors by:

(a) enlivening building edges;

(b) creating attractive, welcoming, safe and vibrant spaces;

(c) improving public safety through passive surveillance;

(d) creating interesting and lively pedestrian environments;

(e) integrating public art into the development where it fronts the street and public spaces;

(f) incorporating generous areas of high quality fit for purpose landscaping.

Objective 65: Commercial, office and retail development that is designed to create a strong visual connection to the public realm and that contributes to the vitality of the locality.

Objective 66: Buildings designed and sited to be energy and water efficient.

PRINCIPLES OF DEVELOPMENT CONTROL

Note: Some of the following Principles of Development Control (PDC) prescribe a measurable design solution as one way of achieving the intent of the PDC. Where this solution is met, it should be taken as meeting the intent of the principle. Alternative design solutions may also achieve the intent of the PDC and, when proposed should be assessed on their merits.

Design and Appearance

260 Buildings should be designed to respond to key features of the prevailing local context within the same zone as the development. This may be achieved through design features such as vertical rhythm, proportions, composition, material use, parapet or balcony height, and use of solid and glass.

261 In repetitive building types, such as row housing, the appearance of building facades should provide some variation, but maintain an overall coherent expression such as by using a family of materials, repeated patterns, facade spacings and the like.

262 Windows and doors, awnings, eaves, verandas or other similar elements should be used to provide variation of light and shadow and contribute to a sense of depth in the building façade.

263 Buildings should:

(a) achieve a comfortable human scale at ground level through the use of elements such as variation in materials and form, building projections and elements that provide shelter (for example awnings, verandas, and tree canopies);

(b) be designed to reduce visual mass by breaking up the building façade into distinct elements;

(c) ensure walls on the boundary that are visible from public land include visually interesting treatments to break up large blank facades.

264 Buildings should reinforce corners through changes in setback, materials or colour, roof form or height.

265 Materials and finishes should be selected to be durable and age well to minimise ongoing maintenance requirements. This may be achieved through the use of materials such as masonry, natural stone, prefinished materials that minimise staining, discolouring or deterioration, and avoiding painted surfaces particularly above ground level.

266 Balconies should be integrated into the overall architectural form and detail of the development and should:

(a) utilise sun screens, pergolas, louvres and openable walls to control sunlight and wind;

(b) be designed and positioned to respond to daylight, wind, and acoustic conditions to maximise comfort and provide visual privacy;

(c) allow views and casual surveillance of the street while providing for safety and visual privacy of nearby living spaces and private outdoor areas;

(d) be of sufficient size, particularly depth, to accommodate outdoor seating.

Street Interface

267 Development facing the street should be designed to provide attractive, high quality and pedestrian friendly street frontage(s) by:

(a) incorporating active uses such as shops or offices, prominent entry areas for multi-storey buildings (where it is a common entry), habitable rooms of dwellings, and areas of communal public realm with public art or the like, where consistent with the zone and/or policy area provisions;

(b) providing a well landscaped area that contains a deep soil zone space for a medium to large tree in front of the building (except in a High Street Policy Area or other similar location where a continuous ground floor façade aligned with the front property boundary is desired). One way of achieving this is to provide a 4 metre x 4 metre deep soil zone area in front of the building;

(c) designing building façades that are well articulated by creating contrasts between solid elements (such as walls) and voids (for example windows, doors and balcony openings);

(d) positioning services, plant and mechanical equipment (such as substations, transformers, pumprooms and hydrant boosters, car park ventilation) in discreet locations, screened or integrated with the façade;

(e) ensuring ground, semi-basement and above ground parking does not detract from the streetscape;

(f) minimising the number and width of driveways and entrances to car parking areas to reduce the visual dominance of vehicle access points and impacts on pedestrian areas.

268 Common areas and entry points of the ground floor level of buildings should be designed to enable surveillance from public land to the inside of the building at night.

269 Entrances to multi-storey buildings should:

(a) be oriented towards the street;

(b) be visible and clearly identifiable from the street, and in instances where there are no active or occupied ground floor uses, be designed as a prominent, accentuated and welcoming feature;

(c) provide shelter, a sense of personal address and transitional space around the entry;

(d) provide separate access for residential and non-residential land uses;

(e) be located as close as practicable to the lift and/or lobby access;

(f) avoid the creation of potential areas of entrapment.

270 To contribute to direct pedestrian access and street level activation, the finished ground level of buildings should be no more than 1**.**2 metres above the level of the footpath, except for common entrances to apartment buildings which should be at ground level or universally accessible.

271 Dwellings located on the ground floor with street frontage should have individual direct pedestrian street access.

272 The visual privacy of ground floor dwellings within multi-storey buildings should be protected through the use of design features such as the elevation of ground floors above street level, setbacks from street and the location of verandas, windows, porticos or the like.

One way of achieving this is for ground floor levels for multi storey residential developments to be raised by up to 1**.**2 metres (provided access is not compromised where relevant).

Building Separation and Outlook

273 Residential buildings (or the residential floors of mixed use buildings) should have habitable rooms, windows and balconies designed and positioned with adequate separation and screening from one another to provide visual and acoustic privacy and allow for natural ventilation and the infiltration of daylight into interior and outdoor spaces.

One way of achieving this is to ensure any habitable room windows and/or balconies are separated by at least 6 metres from one another where there is a direct ‘line of sight’ between them and be at least 3 metres from a side or rear property boundary. Where a lesser separation is proposed, alternative design solutions may be applied (such as changes to orientation, staggering of windows or the provision of screens or blade walls, or locating facing balconies on alternating floors as part of double floor apartments), provided a similar level of occupant visual and acoustic privacy, as well as light access, can be demonstrated.

274 Living rooms should have a satisfactory short range visual outlook to public or private open space.

Dwelling Configuration

275 Buildings comprising more than 10 dwellings should provide a variety of dwelling sizes and a range in the number of bedrooms per dwelling.

276 Dwellings located on the ground floor with street frontage should have habitable rooms with windows overlooking the street or public realm.

277 Dwellings with 3 or more bedrooms, should, where possible, have the windows of habitable rooms overlooking internal courtyard space or other public space.

Adaptability

278 Multi-storey buildings should include a variety of internal designs that will facilitate adaptive reuse, including the conversion of ground floor residential to future commercial use (i.e. by including floor to ceiling heights suitable for commercial use).

Environmental

279 Multi-storey buildings should:

(a) minimise detrimental micro-climatic and solar access impacts on adjacent land or buildings, including effects of patterns of wind, temperature, daylight, sunlight, glare and shadow;

(b) incorporate roof designs that enable the provision of photovoltaic cells and other features that enhance sustainability (including landscaping).

280 Green roofs (which can be a substitute for private or communal open space provided they can be accessed by occupants of the building) are encouraged for all new residential commercial or mixed use buildings.

281 Development of 5 or more storeys, or 21 metres or more in building height (excluding the rooftop location of mechanical plant and equipment), should be designed to minimise the risk of wind tunnelling effects on adjacent streets by adopting one or more of the following:

(a) a podium at the base of a tall tower and aligned with the street to deflect wind away from the street;

(b) substantial verandas around a building to deflect downward travelling wind flows over pedestrian areas;

(c) the placement of buildings and use of setbacks to deflect the wind at ground level.

282 Deep soil zones should be provided to retain existing vegetation or provide areas that can accommodate new deep root vegetation, including tall trees with large canopies.

One way of achieving this is in accordance with the following table:

Site area	**Minimum deep soil area**	**Minimum dimension**	**Tree/ deep soil zones**
<300m^2	10m^2	1.5 metres	1 small tree / 10m^2 deep soil
300-1500m^2	7% site area	3 metres	1 medium tree / 30m^2 deep soil
>1500m^2	7% site area	6 metres	1 large or medium tree / 60m^2 deep soil

Tree size and site area definitions	
Small tree	< 6 metres mature height and < less than 4 metres canopy spread

Medium tree	6-12 metres mature height and 4-8 metres canopy spread
Large tree	12 metres mature height and > 8 metres canopy spread
Site area	The total area for development site, not average area per dwelling

283 Deep soil zones should be provided with access to natural light to assist in maintaining vegetation health.

Site Facilities and Storage

284 Dwellings should provide a covered storage area of not less than 8 cubic metres in one or more of the following areas:

(a) in the dwelling (but not including a habitable room);

(b) in a garage, carport, outbuilding or an on-site communal facility and be conveniently located and screened from view from streets and neighbouring properties.

285 Development should provide a dedicated area for the on-site collection and sorting of recyclable materials and refuse, green organic waste and wash-bay facilities for the ongoing maintenance of bins. This area should be screened from view from public areas so as to not to detract from the visual appearance of the ground floor.

286 Where the number of bins to be collected kerbside is 10 or more at any one time, provision should be made for on-site commercial collection.

287 The size of lifts, lobbies and corridors should be sufficient to accommodate movement of bicycles, strollers, mobility aids and visitor waiting areas.

Zone Interface

288 Unless separated by a public road or reserve, development site(s) adjacent to any zone that has a primary purpose of accommodating low rise (1-2 storey) residential activity should incorporate deep soil zones along the common boundary to enable medium to large trees to be retained or established to assist in screening new buildings of 3 or more storeys in height.

One way of achieving this is for development comprising building elements of three or more storeys in height to be setback at least 6 metres from a zone boundary, and incorporate a deep soil zone area capable of accommodating medium to large trees with a canopy spread of not more than 8 metres when fully mature.

HERITAGE

The City of Norwood, Payneham & St Peters derives many benefits from its large number of intact State and local heritage buildings which define a certain character and ambience throughout many parts of the City, setting it apart from other metropolitan areas. It is desired that these places be conserved for the benefit of present and future generations, and to maintain a historic and cultural record of the settlement of the State and the Council area. The conservation of these places also enhances the attractiveness of the Council area to tourists and visitors.

For the purpose of interpreting the Objectives and Principles of Development Control a **heritage place** in the City of Norwood, Payneham & St Peters is:

- a **State Heritage Place** entered in the State Heritage Register or a place that is a provisional entry in the Register; or
- a **Local Heritage Place**.

All State and Local Heritage Places in the Council are listed in Tables NPSP/5 and 6 and their locations are mapped on Figures Her/2 to 24. The description of the heritage value of a State Heritage Place can be found in the Register of State Heritage Places. The description and extent of the heritage value of a Local Heritage Place can be found in Table NPSP/6.

In respect to a State Heritage Place (listed in Table NPSP/5), the extent of control and protection applies to all elements of the place (exterior and interior), including fencing, painting and minor installations such as air conditioning units, roof fans and exhaust fans, together with any other work that may affect the heritage value of the place.

In respect to a Local Heritage Place (listed in Table NPSP/6), the extent of control and protection applies to all external elements of the original main portion of the subject building, such as exterior walls, chimneys, facades and roof, and contiguous elements such as verandas and balconies, including balustrades and lacework, doors and windows and their frames, original materials and finishes (excluding painting) and similar features, and other specific elements as described in Table NPSP/6 that are characteristic of the building period and style of the place. In some circumstances (identified in Table NPSP/6), the extent of control and protection may also apply to the original fencing, the landscaped setting of the Local Heritage Place or components of the garden.

For the purposes of Development Plan interpretation the **main face** of a building means the closest external wall or walls of a room to the street frontage (or in the case of a building which has frontage to more than one street, the primary street frontage).

In assessing proposals involving Local Heritage Places, it is desirable that consideration be given to the existing character and appearance of the Local Heritage Place, which is proposed to be developed, and the contribution that the place makes to the heritage character of the streetscape and the locality. The character of a place is specifically influenced by design, construction materials and colours.

OBJECTIVES

Objective 110: The identification, conservation and enhancement of land, buildings and structures and their settings, which are of indigenous, non-indigenous and natural heritage and that display aesthetic, architectural, historic, social, economic, cultural, archaeological, technological, spiritual, geological or scientific significance.

Objective 111: Conservation of places and objects registered, designated or listed pursuant to the Heritage Places Act 1993.

Objective 112: Conservation of items of Aboriginal heritage importance that are subject to the control of the Aboriginal Heritage Act 1988.

Objective 113: Development that retains the heritage value of State and Local Heritage Places such that the heritage value of the place, locality and the Council area is reinforced through:

(a) the conservation and complementary development of such places; and

(b) the complementary development of land and sites adjacent to such places.

Objective 114: Development which conserves and reinforces the historic integrity of the Council area and is compatible with the desired character of the appropriate zone and policy area.

Objective 115: The continued use, or adaptive reuse, of State and Local Heritage Places that supports their ongoing retention and conservation.

Objective 116: Public awareness of heritage areas and places within the Council area that are of cultural, environmental, social, historic or architectural significance.

Development on land adjacent to land containing a heritage place

359 Development on land adjacent to land containing a State or Local Heritage Place as designated in Tables NPSP/5 and 6 should respect the heritage value, integrity and character of the heritage place and should clearly demonstrate design consideration of the relationships with the heritage place and its setting (without necessarily replicating its historic detailing) and the character of the locality by establishing compatible:

(a) scale and bulk;

(b) width of frontage and boundary setback patterns;

(c) proportion and composition of design elements;

(d) form and visual interest (as determined by play of light and shade, treatment of openings and depths of reveals, roofline and pitch and silhouette, colour and texture of materials as well as detailing, landscaping and fencing);

(e) fencing and areas set aside for landscaping, particularly on the primary street frontage of an allotment, which complement the era, style and landscaping setting of the heritage place; and

(f) garages, carports or outbuildings set-back at a greater distance from the primary street frontage than the main face of the primary building.

360 Development on land adjacent to land containing a heritage place and sited in strategic locations, such as corners or at the termination of vistas, should have a scale and visual interest in the streetscape at least equal to that of the adjoining heritage place, providing the heritage value of the place within its setting is not diminished.

361 Development on land adjacent to land containing a State or Local Heritage Place should not be undertaken if it is likely to dominate or detract from the heritage value and integrity of the heritage place by way of design, appearance or standard of construction.

OVERLAYS
AFFORDABLE HOUSING OVERLAY

The following policies apply to the 'designated area' shown on Overlay Map NPSP/1 (Overlay 6) Affordable Housing.

Where the Objectives and/or Principles of Development Control that apply in relation to this overlay are in conflict with the relevant General Objectives and/or Principles of Development Control in the Development Plan, the overlay will prevail.

OBJECTIVES

Objective 1: Affordable housing that is integrated into residential and mixed use development.

Objective 2: Development that comprises a range of affordable dwelling types that caters for a variety of household structures.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Development comprising 20 or more dwellings should include a minimum of 15 per cent affordable housing (as defined by the *South Australian Housing Trust Regulations 2010* as amended), unless it can be demonstrated that any shortfall in affordable housing from a preceding stage of development will be accommodated in a subsequent stage or stages.

NOISE AND AIR EMISSIONS OVERLAY

The following policies apply to the 'designated area' shown on Overlay Map NPSP/1 (Overlay 7) Noise and Air Emissions.

Where the Objectives and/or Principles of Development Control that apply in relation to this overlay are in conflict with the relevant General Objectives and/or Principles of Development Control in the Development Plan, the overlay will prevail.

OBJECTIVES

Objective 1: Protect community health and amenity from adverse impacts of noise and air emissions.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Noise and air quality sensitive development located adjacent to high noise and/or air pollution sources should:

(a) shield sensitive uses and areas through one or more of the following measures:

(i) placing buildings containing less sensitive uses between the emission source and sensitive land uses and areas;

(ii) within individual buildings, place rooms more sensitive to air quality and noise impacts (e.g. bedrooms) further away from the emission source;

(iii) erecting noise attenuation barriers provided the requirements for safety, urban design and access can be met;

(b) use building design elements such as varying building heights, widths, articulation, setbacks and shapes to increase wind turbulence and the dispersion of air pollutants provided wind impacts on pedestrian amenity are acceptable; and

(c) locate ground level private open space, communal open space and outdoor play areas within educational establishments (including childcare centres) away from the emission source.