1 APPENDICES

1.1 STREETSCAPE CHARACTER ASSESSMENT

Explanation

The City of Randwick is an established and built up area comprising predominantly residential development along the coastline and southern peninsular of the Eastern Suburbs. There are few areas available for new large scale subdivision and as such most dwelling house development is infill redevelopment of small sites or alterations and additions to existing dwellings. Development is required, through this DCP, to respond to the character of the existing neighbourhoods, subdivision patterns, block patterns and streetscape to ensure that the best possible solution for the site and its surroundings is achieved.

1.1.1 What is the Randwick City Context?

A Coastal City

A number of arterial routes, such as Anzac Parade, Maroubra Road and Malabar Road follow the predominant ridgelines. Land to the east of these roads slopes to the coast and both private properties and areas of the public domain enjoy views of the coastal foreshore.

Similarly some areas to the west of the ridgelines such as Anzac Parade and Bunnerong Road enjoy night time skyline panoramas of the Sydney CBD and areas to the south enjoy night time panoramas of the Port Botany Area.

Each area comprises individual and valued characteristics. Nevertheless, the City's character can be described generally by understanding the differences reflected in the northern and southern suburbs.

The Northern Suburbs

The residential 2A zoned areas of the northern suburbs of Randwick City are characterised by generally smaller allotments with smaller frontages on narrow streets. The residential development is generally denser with a large proportion of semi-detached housing on the small allotments. There are also many laneways, which were a common part of development when the northern suburbs were developed in the late 19th and early 20th centuries and were initially used as service roads. These narrow roads, laneways and small allotments give the area a fine grain grid pattern of development that is typical of older residential areas. On site parking is rare and often limited to a single carport as a large number of houses were built before the automobile was common. This does, however, vary according to the subdivisions undertaken at the time. West Kensington, for example, comprises primarily larger allotments than other areas in the north. The predominant housing materials were brick with tile roofs. The street pattern of the northern area is generally a grid street pattern although it responds to the hilly topography near the coast, with some curvilinear roads. West of Anzac Parade a grid street pattern is dominant due to the generally flat topography. The north has a greater mix of densities with large areas of medium density residential development, which also contribute to defining the character of the area. There are many heritage items and heritage conservation areas in the north including two particularly large areas known as the West Kensington Heritage Conservation Area

and the North Randwick Heritage Conservation Area, which comprise mostly federation style dwellings.

Maroubra

The suburb of Maroubra is extremely varied and displays a transition with a mix of residential and subdivision patterns from early 20th century development in the north to later 20th century development in the south.

The Southern Suburbs

The character of the southern suburbs of Randwick is significantly different to those further north. The streets are wider, there is a grid street pattern in some areas but the street system is more varied with curvilinear roads as well as cul-de-sacs, which were a common feature of the subdivision pattern from the mid 1900s. The topography is generally flatter than in the north with rolling hills and only minor changes in height, apart from Malabar where there are some steeper slopes. Being a peninsular, much of the Maroubra, Malabar, Little Bay, La Perouse and Phillip Bay areas also enjoy coastal views. The allotments are generally larger, with larger frontages and bigger houses. Most houses are free-standing with semi-detached housing being rare. Garages are standard and often accommodate two cars. Housing materials are primarily brick although timber, aluminium and fibro, which were common building materials of the 1950's and 1960's, are also evident. Unlike the north the majority of the residential area in the south is low scale residential development, with only a few small areas of medium density, creating a character which is more open. There is also a considerable amount of public housing of varying densities. The sandy soils contribute to more low scale, native landscaping. Given the large allotments, most new attached dual occupancy is occurring in these suburbs.

1.1.2 What is the difference between heritage conservation areas and streetscape character?

The features of individual dwellings define the dwelling character and most often relate to an architectural style or period. When these features and architectural elements are common along a streetscape they can create an identifiable streetscape character. A number of areas in Randwick City exhibit high consistency with respect to a particular period of subdivision and/or architectural style and this character is recognised and detailed in listing as heritage conservation area.

*Note: Applications within a **Heritage Conservation Area** are not required to undertake a **Streetscape Character Assessment**. Instead they are to refer to the Randwick Heritage DCP*

It is the areas outside of these highly valued conservation or character areas, that the streetscape character or its importance is more varied. This section provides guidance on how to assess streetscape character outside of the heritage or conservation areas.

Note: Applicants are advised to refer to the Randwick Heritage DCP for specific statements of significance, existing character values and development requirements within these areas.

1.1.3 How do you determine the streetscape character?

Streetscape character can be understood and assessed through consideration of the key street and dwelling features and elements. These features and elements include the street setting such as: the street layout and subdivision pattern, building form and setbacks, footpaths, local topographical and landscape elements. The streetscape character may also be influenced by the individual dwelling features

including building design elements such as the building proportions, height, roof forms, building materials, verandahs, window and door articulation, fencing and landscaping.

The key features and elements of the street and dwellings are to be identified and an assessment of their frequency and contribution to the "rhythm" of the streetscape made. The streetscape consistency may then be derived from the consideration of these key elements. Consistency may fall into three categories:

Consistent – the streetscape exhibits a rhythm and/or repetition of a significant number of the key street and dwelling features and elements.

Transitional – the streetscape exhibits a rhythm and some repetition of a number of the key features and elements. However, this repetition may be broken with other varying features or with consistency of features and elements that do not enhance the streetscape.

Eclectic – the streetscape exhibits a wide variety of housing settings, forms and styles and very little repetition of key elements.

Within each of the key features of a streetscape, quality may be further considered. The quality may fall into three categories:

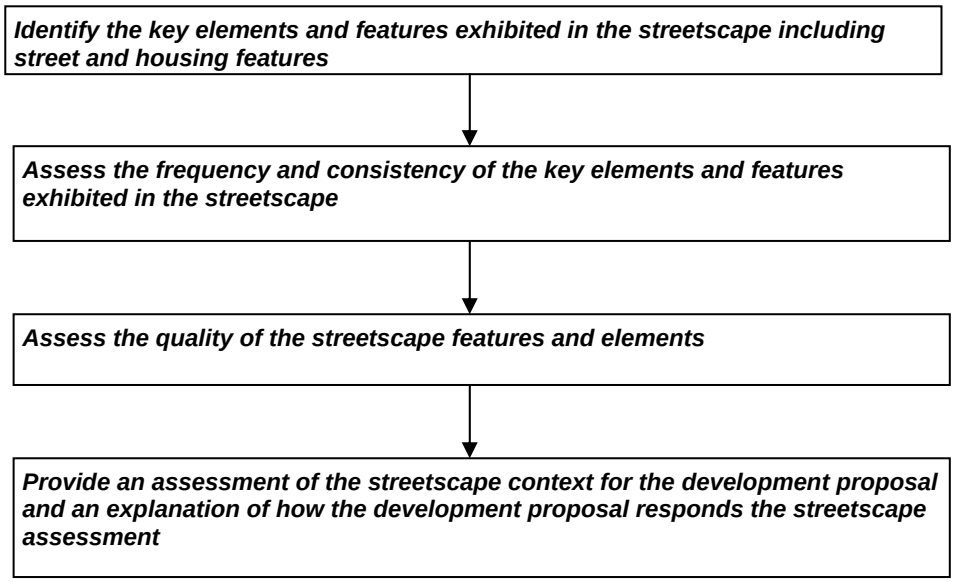
High quality – the key elements present high quality street setting and housing form, a high value of architectural integrity able to be meet modern housing needs and a degree of consistency.

Recognised Quality – the key elements present a mix of high quality and architectural integrity, or some variation of high and limited quality elements, thus with greater flexibility in the housing forms and styles likely to enhance the area and may also represent a location in development 'transition'.

Limited quality – the key elements do not present consistency or quality and an architectural integrity able to be meet modern housing needs and shows high flexibility in the housing forms and styles that will enhance the area.

The following Table 1 provides guidance on the key street and dwelling features and elements and Table 2 provides guidance on assessing the consistency and value of the streetscape.

Steps in streetscape character assessment



1.1.4 How will Randwick City Council consider streetscape character in assessing developments?

Among the aims of this DCP are for the built form of new single dwellings, attached dual occupancy development and alterations and additions to be designed to respect and enhance neighbourhoods, subdivision and block patterns and streetscapes. Most residential development within Randwick City is infill development, and thus is required to respect a wide variety of streetscapes and housing of varied architectural styles and age.

Applicants will need to demonstrate an understanding of the streetscape character and address, in the Statement of Environmental Effects, the ways in which the dwelling proposal has considered and responded to the character.

Council will require that development in areas of high consistency strongly respects that character and the key features and elements of the streetscape. In doing so the proposal need not be an architectural 'copy' but rather it should complement the key elements. Contemporary design is encouraged, while working with the streetscape.

Conversely, Council may permit greater flexibility for the design of proposals in areas of limited consistency or transitional areas. The applicant will still need to demonstrate the aims and performance requirements of the DCP have been met, however, Council may consider the streetscape features and elements may not be as critical.

Table 1
KEY FEATURES AND ELEMENTS TO CONSIDER IN STREETSCAPE ANALYSIS

FEATURE / ELEMENT	***EXAMPLES***
NATURAL ENVIRONMENT, INCLUDING TOPOGRAPHY AND SIGNIFICANT NATURAL FEATURES	
Steep coastal cliffs *Flat coastal* *Gully / Hills / sloping areas*	  Appropriate photographic image to be inserted at a later date.

STREET PATTERNS AND SUBDIVISION	***EXAMPLES***
Grid layout *Curvilinear* *Cul-de-sac* *Landscaped median strip* *Arterial road* *Split street* *Laneways* *Atypical shapes* *Frontage – wide, narrow, varied* *Standard dual frontage allotments*	     

STREET PATTERNS AND SUBDIVISION CONTINUED	***EXAMPLES***
Grid layout *Curvilinear* *Cul-de-sac* *Landscaped median strip* *Arterial road* *Split street* *Laneways* *Atypical shapes* *Frontage – wide, narrow, varied* *Standard dual frontage allotments*	  Appropriate photographic image to be inserted at a later date.

SUBURB / NEIGHBOURHOOD / STREET DETAILS	
Significant setback, no front fences – open street *Minimum setback, low front fences – closed street* *No garages to street – dominant feature* *Garage to boundary – dominant feature* *Verge width and treatment*	     

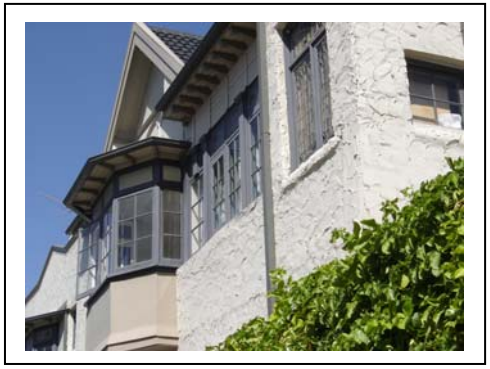
LANDSCAPE FEATURES / PUBLIC DOMAIN	***EXAMPLES***
Walkways and Stairways *Rock outcrop areas* *Split streets (above)* *Retaining walls* *Street trees / Vegetation* *Terrace gardens* *Landscape species*	     

VIEWS AND PROMINANCE	***EXAMPLES***
Views from a dwelling *Views between dwellings* *Views from the street or open space areas* *Expansive views to and from ridgelines*	     

KEY DWELLING FEATURES AND ELEMENTS TO CONSIDER IN STREETSCAPE ANALYSIS

BUILDING DESIGN DETAILS AND ELEMENTS	***EXAMPLES***
Roof form *a roof form is representative of the architectural style and may be low pitched, steeply pitched, flat, curved, and include elements such as dormers, skillions, chimneys, gables, finials, bull nose and others*	     

BUILDING DESIGN DETAILS AND ELEMENTS	***EXAMPLES***
Articulation and Proportion *The shape and modulation of the dwelling, often expressed through the size and arrangement of windows, doors and external treatments*	     

BUILDING DESIGN DETAILS AND ELEMENTS	***EXAMPLES***
Materials *The consistency and mix of materials, including:* *Brick* *Timber* *Fibro* *Cement Rendered* *Glass* *Concrete* *Aluminium* *Stone* *Terracotta* *Concrete* *Weatherboard*	     

BUILDING DESIGN DETAILS AND ELEMENTS	***EXAMPLES***
Bulk and Scale / Number of Storeys *When viewed individually as single, double storey or terraced, as well as collectively within the streetscape and including topography or " high side of the street" locations*	     

BUILDING DESIGN	***EXAMPLES***

DETAILS AND ELEMENTS	
Setbacks *The pattern and size of front, rear and side setbacks to dwellings, including detached and attached dwellings.* *The pattern of verge width and relationship to the dwellings.*	     

BUILDING DESIGN DETAILS AND ELEMENTS	***EXAMPLES***
Verandahs, porticos, balconies, terraces etc *Elements representative of the architectural style.*	     

BUILDING DESIGN DETAILS AND ELEMENTS	***EXAMPLES***
Front fences *Elements respond to the architectural style and the topography and may include, retaining walls, low fences, picket, railed, vegetation / shrub fences and no fence.*	     

TABLE 2
MATRIX OF STREETSCAPE CONSISTENCY AND QUALITY EXAMPLES

	Streetscape		
Streetscape Consistency	***High Quality***	***Recognised Quality***	***Limited Quality***
Consistent	*Consistent rhythm and repetition of a significant number of key street and dwelling features and elements* ***EXAMPLES***   *Important to reflect these features and elements in new development.*	*Consistent rhythm and repetition of key elements with generally good housing quality and architectural integrity* ***EXAMPLES***   *Important to reflect these features and elements in new development.*	*Consistent rhythm and repetition with housing quality and architecture of limited value* ***EXAMPLES***   *Greater flexibility in new development may be considered.*

Transitional	*Some rhythm and repetition of existing features and elements. More recent features and elements work well in the area.* *EXAMPLES* Appropriate photographic image to be inserted at a later date. Appropriate photographic image to be inserted at a later date. *New development focuses on those higher quality features and elements*	*Some rhythm and repetition of elements with a mix of generally good housing quality and architectural integrity – an area in transition* ***EXAMPLES***   *Consider the use of those higher quality features and elements.*	*Some rhythm and repetition of elements with housing quality and architecture of limited value – an area in transition* ***EXAMPLES***  Appropriate photographic image to be inserted at a later date. *Greater flexibility may be considered for new development.*

Eclectic	*Very little rhythm and repetition, however, the eclectic nature provides high quality housing and a streetscape character.* Appropriate photographic image to be inserted at a later date. *Flexibility in new development integrating key features and elements that may reflect a future character.*	*Very little rhythm and repetition of elements, eclectic mix of contributory housing quality and architectural integrity* ***EXAMPLES***  *Flexibility in new development integrating key features and elements that may reflect a future character.*	*Very little rhythm and repetition of elements, eclectic mix of housing styles limited housing quality and architectural value* ***EXAMPLES*** Appropriate photographic image to be inserted at a later date. *Flexibility for new development to assist in creating a future character.*

1.2 DRAINAGE AND STORMWATER MANAGEMENT

a) Developments requiring on-site detention

On–site detention (OSD) will be required for:

- All dual occupancy developments (located within the OSD policy areas as defined in Council's Stormwater Code); and
- All new and replacement residential dwellings (located within the OSD policy areas as defined in Council's Stormwater Code) where the proposed impervious areas exceed 200m^2 or the impervious area on the site exceeds 80% of the total site area.

The on-site detention and stormwater disposal system is to be provided in accordance with the requirements set out in Council's Stormwater Code and details provided in the development application.

b) Developments not requiring on-site detention

For all new dual occupancies and new dwellings not requiring OSD, stormwater runoff should be managed in the following manner.

Sites grading towards the street

- Stormwater runoff is piped to a sediment/silt arrestor pit that drains to a 5 m^2 base infiltration area/rubble pit. An over flow pipe is provided from the silt arrestor pit that drains to Council's kerb and gutter (or underground drainage system).

An infiltration/rubble pit may not be required should the ground conditions preclude the construction of the infiltration pit (ie rock and/or the water table is near the surface). If the infiltration area is not constructed (due to the demonstrated unsuitable ground conditions), all site stormwater is discharged to the kerb and gutter via a silt/sediment arrestor pit.

Sites grading away from the street (ie when stormwater cannot be discharged by gravity to the kerb and gutter at the front of the property)

i. Stormwater runoff is discharged through a private drainage easement(s) to Council's kerb and gutter (or underground drainage system). All stormwater is to be taken through a sediment/silt arrestor pit prior to being discharged through the easements(s), or

ii. Stormwater runoff is piped to a sediment/silt arrestor pit that drains to a suitably sized infiltration area. As a guide the infiltration area should be sized based on a minimum requirement of 1m^2 of infiltration area (together with 1m^3 of storage volume) for every 20m^2 of roof/impervious area on the site. Prior to the use of infiltration in rear draining lots (where there is no formal overland escape route to Council's kerb and gutter / street drainage system), a geotechnical investigation may be required to determine whether the ground is suitable for infiltration. Should rock and/or water table be encountered within two metres of the proposed base of the infiltration pit, or the ground conditions comprise low permeability soils such as clay, infiltration may not be appropriate.

Should the applicant be unable to obtain a private drainage easement over properties to the rear of the development site (to facilitate stormwater discharge in accordance with option d); and ground conditions preclude the use of infiltration (option e), consideration may be given to the use of a pump out system. Should a

pump out system be required to drain any portion of the site the system must be designed with a minimum of two pumps being installed, connected in parallel and connected to a control board so that each pump will operate alternatively. The pump wet well shall be sized for the 1 in 100 year, 2 hour storm, assuming both pumps are not working. The pump system must also be designed and installed strictly in accordance with Randwick City Council's Stormwater Code.

Note: Stormwater drainage systems must comply with the relevant provisions of the Building Code of Australia (BCA) and must not result in a nuisance or flow of stormwater to any adjacent properties.

The sediment/silt arrester pits should be constructed in accordance with the following requirements:

- The base of the pit located a minimum 300mm under the invert level of the outlet pipe.
- The pit constructed from cast in-situ concrete, precast concrete or double brick.
- A minimum of 4 x 90 mm diameter weep holes located in the walls of the pit at the floor level with a suitable geotextile material with a high filtration rating located over the weep holes.
- A galvanised heavy-duty screen located over the outlet pipe/s (Mascot GMS multipurpose filter screen or equivalent).
- A galvanised heavy-duty grate is provided with a provision for a child proof fastening system.
- A child proof and corrosion resistant fastening system is provided for the access grate (e.g. spring loaded j-bolts or similar).
- A sign adjacent to the pit stating*:*

  "This sediment/silt arrester pit shall be regularly inspected and cleaned."

All new infiltration areas should be constructed in accordance with the following general requirements:-

- Have a minimum soil cover of:
  - 300mm if the pit is located under a grassed or paved area; or
  - 600mm if the pit is located under a garden/landscaping area.
- Be located a minimum of 3.0 metres from any proposed or existing structures (closer if a structural engineer certifies that the infiltration area will not adversely affect the structure) and 2.1 metres from the side and rear boundaries.
- The 5.0m^2 base infiltration area/rubble pit (referred to in the requirements for sites grading towards the street) should also comply with the following requirements:
  - The infiltration area having a minimum base area of 5.0m^2 and a suitable means of dispersing stormwater over the area.
  - The outlet from the silt arrestor pit to the infiltration area being located at least 50mm below the outlet from the silt arrestor pit to the kerb and gutter.

It is suggested that the infiltration area may be constructed with a minimum 200mm thick layer of 20mm basalt/blue metal (or similar) that is wrapped in a suitable geotextile material covering with a high filtration rating. However, alternative equivalent methods of infiltration may be adopted.

Stormwater requirements for alterations and additions

Stormwater is discharged to the street gutter, wherever practicable.

If stormwater cannot be readily discharged to the street gutter, the stormwater may be discharged to a suitably designed absorption/infiltration system.

Stormwater drainage systems satisfy the relevant provisions of the Building Code of Australia (BCA)

Stormwater drainage systems must not result in a nuisance or flow of stormwater to and adjoining properties.

Stormwater runoff from alterations and additions may generally be connected into the existing site stormwater system provided that the existing system is:

- Operating satisfactorily without directing flows onto adjoining properties (excluding onto drainage easements); and
- The existing system has adequate capacity to manage the additional flows.

Note: Developments involving major additions may be required to provide on-site detention for the redeveloped portion of the site.