



Part D – Locality Based DCPs / Precinct Plans

Chapter D5: Griffin's Bay

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1 INTRODUCTION

1. The Griffins Bay Precinct Plan is included in Part D of the DCP. Part A of the DCP contains the Introduction. Part B in the DCP provides land use based controls including controls for residential subdivision, residential development and industrial development. Part C of the DCP provides city wide controls for specific land uses. Part E of the DCP contains city wide planning / environmental assessment control chapters which may apply to certain lands in this precinct.
2. In the event that the provisions contained in the Griffins Bay Precinct Plan in Part D of the DCP are inconsistent with the provisions of any other part of the DCP, the provisions of the Griffins Bay Precinct Plan shall prevail to the extent of the inconsistency.
3. This precinct plan should also be read in conjunction with Wollongong Local Environmental Plan 2009 in respect to the zoning and permissible uses pertaining to the subject site as well as maximum height and floor space ratio applying to the site.

2 LAND TO WHICH THIS DCP APPLIES

1. This precinct plan applies to the foreshores of Lake Illawarra, south of Northcliffe Drive and west of King Street, Warrawong. This area is known as Griffins Bay and is shown in Figure 1 below.

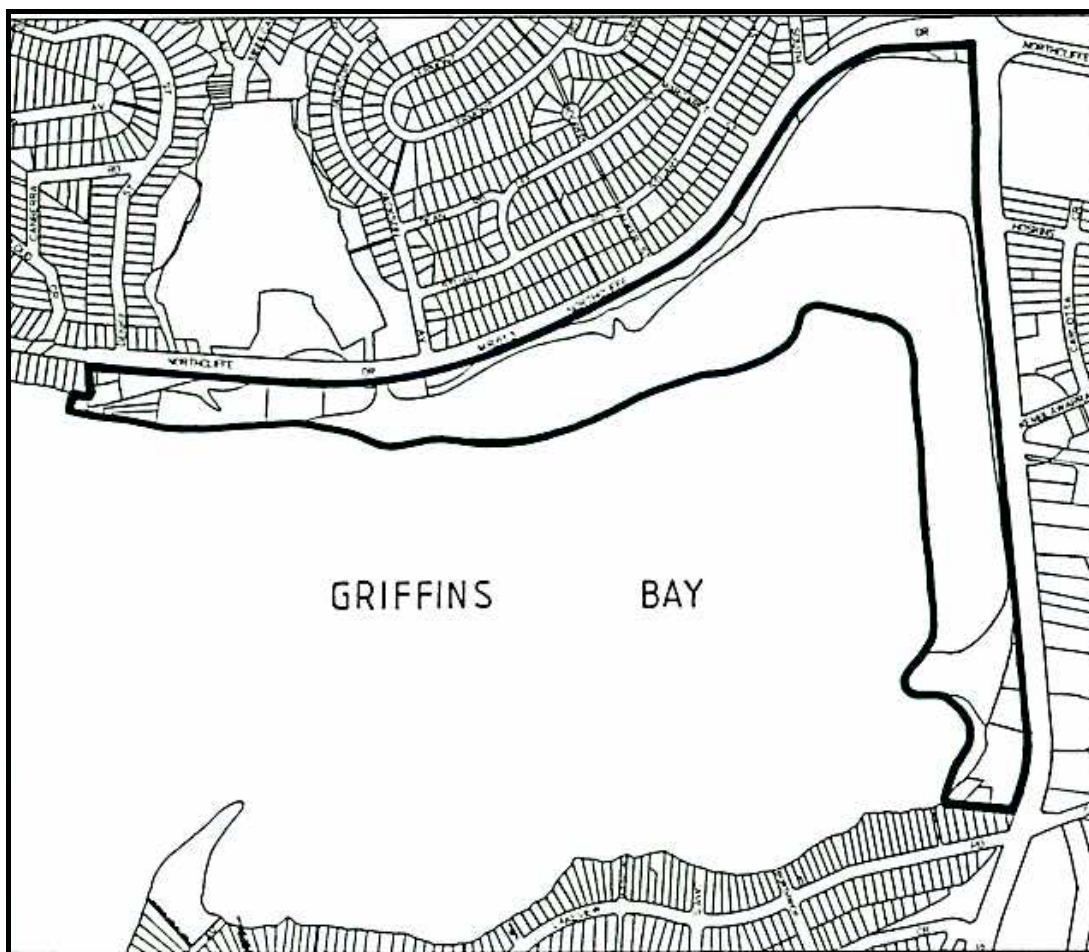


Figure 1: Land to which this DCP applies

3 OBJECTIVES

1. This plan has been developed to define acceptable land uses within the Griffins Bay area, and create a framework of building design and landscape guidelines which complement the land uses and the prominent lakefront location. This plan has been adopted from guidelines and a development concept (see Figure 2) prepared for the Lake Illawarra Authority (LIA) by the Hassell Group.

4 APPROVAL PROCESS

4.1 Developer obtains LIA consent to lodge development

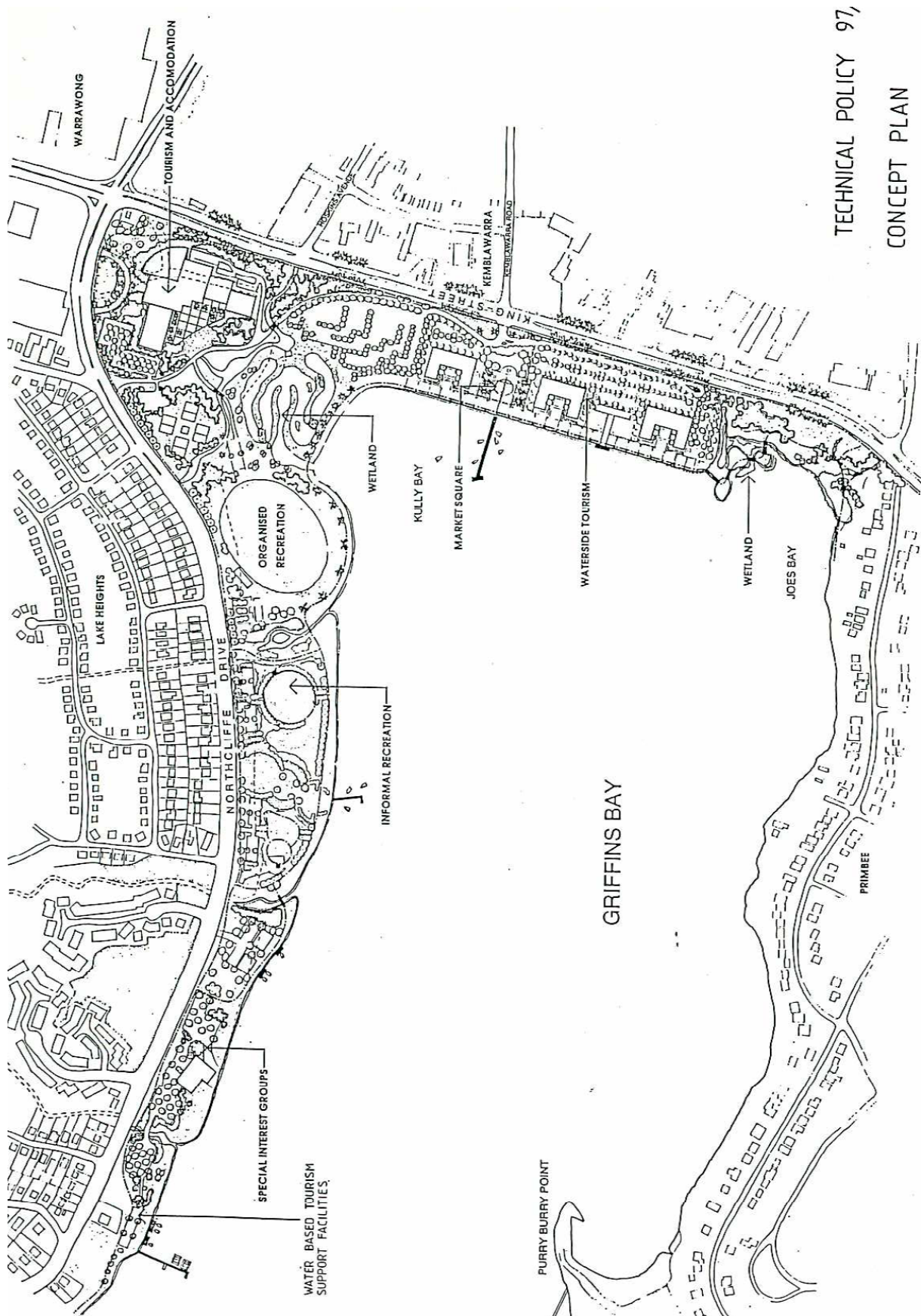
1. The potential lessee must become familiar with the requirements of the guidelines, preparing sufficient information for the LIA to form an opinion on the general nature, character and scale of the development, prior to giving its consent (as owner of the land vested in the Authority) to lodge a development application to Council.
2. Submissions: At this stage, the LIA's consent is limited to its role only as a landowner not as a consent authority for works. It should be noted that the relevant owners consent will also be required to lodge a development application relating to land not vested in the LIA.

4.2 Developer lodges Development Application and subsequent Construction Certificate Application

1. This involves preparing a development application in accordance with Wollongong City Council's requirements and obtaining its consent to the proposed development. If Council ultimately grants development consent to the proposed development, the applicant / developer would need to obtain a Construction Certificate application from a Principal Certifying Authority or Wollongong City Council.

4.3 Developer obtains LIA to carry out work

1. Once all other approvals are obtained the developer then seeks the consent of the LIA to carry out work on land under its statutory jurisdiction in accordance with the requirements of Clause 14 of the LIA Act 1987. Information required to be submitted by the developer with the application required for consent will include a copy of the approved development and building applications and any associated conditions. Once consent is given by the LIA (which may be conditions) the developer can proceed with construction.
2. This process is independent of any negotiation the LIA and the developer may have relating to the leasing of the land the subject of development approval and consents.



TECHNICAL POLICY 97,
CONCEPT PLAN

Figure 2: Concept plan

5 DEVELOPMENT PRECINCTS AND DESIGN AREAS

1. The Griffins Bay area has been divided into eight development precincts according to proposed land use. The subject precincts are grouped into 3 areas for urban design and landscape purposes and are shown in Figure 3.

DESIGN AREA	DEVELOPMENT PRECINCT	PREFERRED LAND USES	INDICATIVE DEVELOPMENT
Northcliffe Drive Area	Water based Tourism Support Facilities Precincts	Boating uses support facilities	Wetland and dry boat repair, mooring for charter recreation, vessels and house boats, servicing and victual supply and refuelling facilities, access roads and parking
	Special interest Group Precinct	Club houses and associated amenities	Club houses, access road, parking areas, outside amenity areas directly associated with club facilities, public access maintained to foreshore areas.
	Informal Recreation Precinct	Passive and informal recreation	Parks, landscaping, walking/cycle paths.
	Organised Recreation Precinct	Formal Recreation	Playing fields for organised sport, associated facilities (amenities block, parking...).
	Wetland (Water Quality) Precinct	Wetland established	Water pollution control point and associated stormwater quality improvement facilities, boardwalks, nature oriented recreation/ education access road.
Intersection Area	Tourism Accommodation Precinct	Accommodation	Motels, restaurants, related commercial entertainment, tavern, retail and recreation, access road and parking.
King Street Area	Waterside Tourism Precinct	Waterside tourism and related commercial development	Restaurants, cafes, milk cars, outdoor eating facilities, fishing and boating supplies, boat hire, public wharf, tavern, recreation facilities, ancillary commercial and retail uses, access roads and parking.
	Wetland (Conservation) Precinct	Wetland Conservation Improvements	Wetland/ sedge land restoration, interpretive/ education centre, boardwalks, nature orientated and associated facilities.

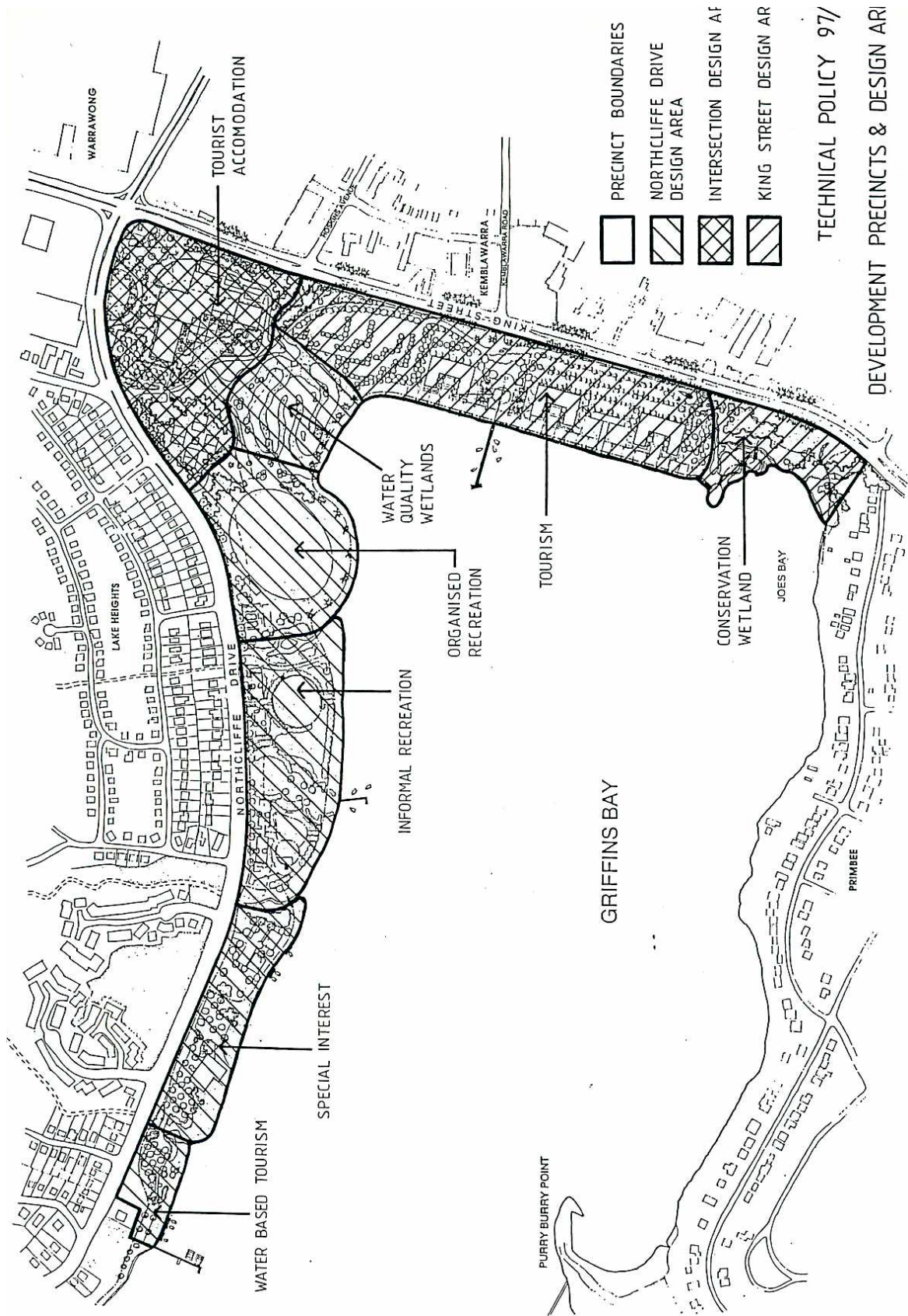


Figure 3: Development Precincts and Design Areas

6 LEASE AND LICENCE AREAS

1. Nine lease or licence areas have been identified for initial consideration (Figure 4). These areas are indicative and subject to refinement for the reasons identified above in table 1 and in consultation with potential lessees. It is stressed however, that the LIA wishes to release land for leasing in relatively large parcels to avoid a proliferation of small allotments, to maintain control over activities and design consistent over the major building elements. To this end, commercial lease areas will predominantly be upwards of approximately 1ha in area.
2. The main areas identified are as follows:

6.1 Water Tourism Precinct

1. Sites numbered 1, 2 and 3 of approximately 1ha each are located on the King Street frontage. These sites will be separated by visual access ways to maintain views to the Lake from King Street. The visual access ways will be free of buildings.

6.2 Tourism Accommodation Precinct

1. Site numbered 4 is in the order of 4 ha and is located on the corner of Northcliffe Drive and King Street.

6.3 Organised Recreation Precinct

1. Sites numbered 5 and 6 have a frontage to Northcliffe Drive. Site number 5 of approximately 1 ha, may be leased for commercial recreation purposes or licensed for sports club use (e.g. football club). Alternatively these sites may be considered as one development parcel and could be developed as a sporting or entertainment complex.

6.4 Special interest Group Precinct

1. Site number 8, located off Northcliffe Drive, is approximately 0.5 ha in area. It could be leased or licensed for a variety of uses such as water orientated club, or for sport and recreation activities.

6.5 Water-based Tourism Support Facilities Precinct

1. Site number 9 located between Northcliffe Drive and the lake is approximately 1 ha. This area could be used for activities associated with the maintenance of watercraft.

6.6 Minor Leases and Licence Sites

1. In addition to the sites mentioned above, the LA intends to offer short term leases or licences for various community and commercial uses throughout the Griffins Bay area. This could be for such activities as a floating restaurant, sail boat hire, exhibition, community events (e.g. carols by candlelight), or private functions (e.g. wedding, trade displays, club or business picnics).
2. Granting of leases or licences for such uses will be considered on the basis of their community and commercial merit.

7 DESIGN GUIDELINES AND DEVELOPMENT STANDARDS

1. General standards which affect the whole Griffins Bay area are described first, followed by their specific design and landscape guidelines for each area.

7.1 Access and parking

1. The primary internal road has been located to improve access to the site as well as providing optional traffic flow to and from King Street and Northcliffe Drive. While details of the alignment have yet to be resolved and will be determined in response to negotiation with the Roads and Traffic Authority (RTA) and Wollongong City Council (WCC), a 10m minimum setback to the road from King Street is important to ensure a quality setting for the scheme is developed along King Street. The road will be approximately 1km long, two traffic lands wide without kerbside parking. The setback from King Street will be planted with trees to form an avenue.
2. The intersection between King Street and the primary internal road must be controlled by traffic signals, and will ideally be located at Kemblawarra Road. A full traffic study will be required, which takes this into account.
3. A number of secondary roads will be required for car park access, servicing, patron drop off etc. These will be designed and developed in association with the particular development parcel. The design of all roads will be consistent with RTA and WCC engineering design requirements.

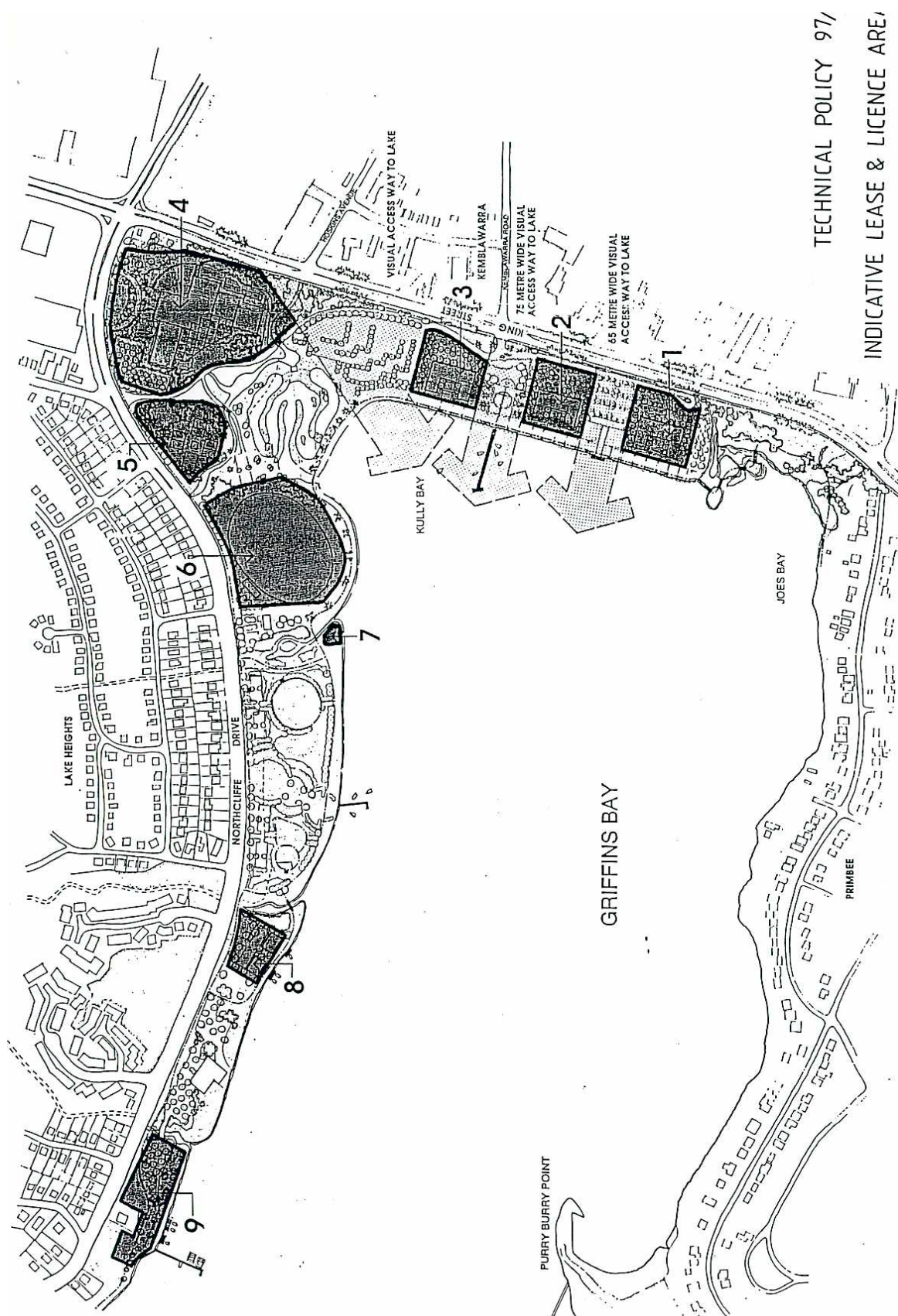


Figure 4: Indicative lease and licence areas

4. The traffic impact assessment commissioned by the LIA predicted car parking requirements of some 630-740 spaces for the ultimate development scenario, depending on the amount of car parking overlap between uses. Developers of individual sites should provide traffic assessments to substantiate proposals for overlap as part of a development application, to minimise the area of the site occupied by sealed parking areas.
5. Refer to *Car Parking, Access, Servicing/ Loading Facilities and Traffic Management* chapter in Part E of this DCP for WCC requirements.
6. The development concept makes provisions for car parking throughout the site for general community and lessee use. A car park is located adjacent to all major facilities. The size and location are indicative and require refinement through discussion between the LIA and potential developers.

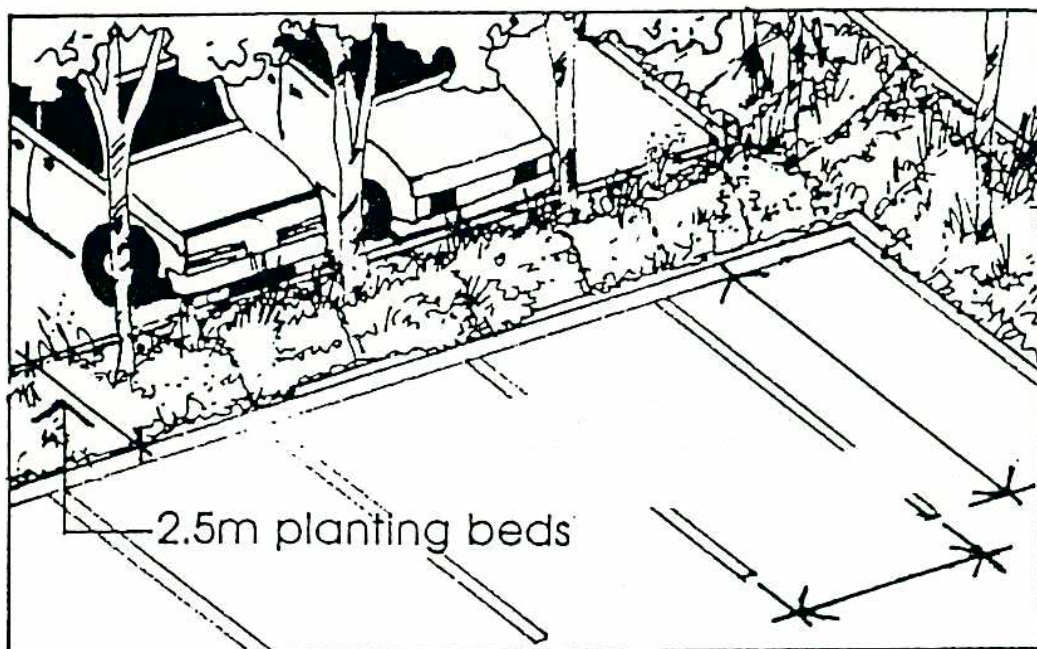


Figure 5: Car park stalls shall be separated by slightly mounted planting beds for shade and wind protection.

7.2 Pedestrian and Cyclist facilities

1. Unrestricted public access to the foreshore of Griffins Bay is the key objective of the LIA. To this end, pedestrian and cycle paths have been located around the foreshore and street frontage with connections between them at regular intervals.
2. To ensure pedestrian safety, a barrier along King Street will be required which directs pedestrians towards traffic signals where crossing is safe.
3. The majority of the main paths in the Informal Recreation Precinct have been constructed. Construction is proceeding on the pedestrian promenade adjacent to the seawall on the eastern side of the bay. A link between the promenade and the developed areas fronting Northcliffe Drive will be to integrate their development and uses with the pedestrian/bicycle trail network to ensure safe and convenient access throughout the site.

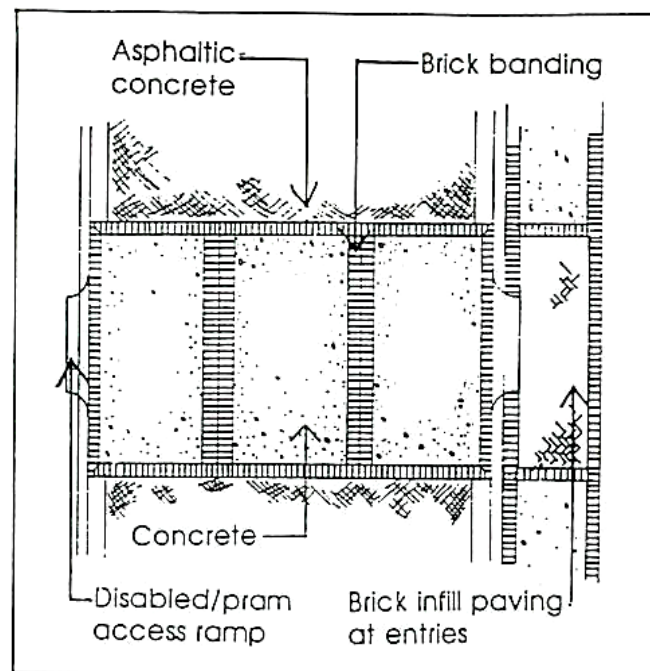


Figure 6: Pedestrian and cyclist path intersections with roads should be denoted with a change of pavement.

7.3 Building design

1. Buildings should be of similar style, character and materials to other buildings in the development. They should be well proportioned in respect to massing, roofscape, windows and balconies etc. Visual diversity should be achieved within a unity of the whole development.
2. The overall character of a building is affected by the design of the individual elements and therefore architectural detailing should be used to emphasise building quality and to reinforce the overall aesthetic character of the area. Buildings should be designed for maximum interaction with public spaces.

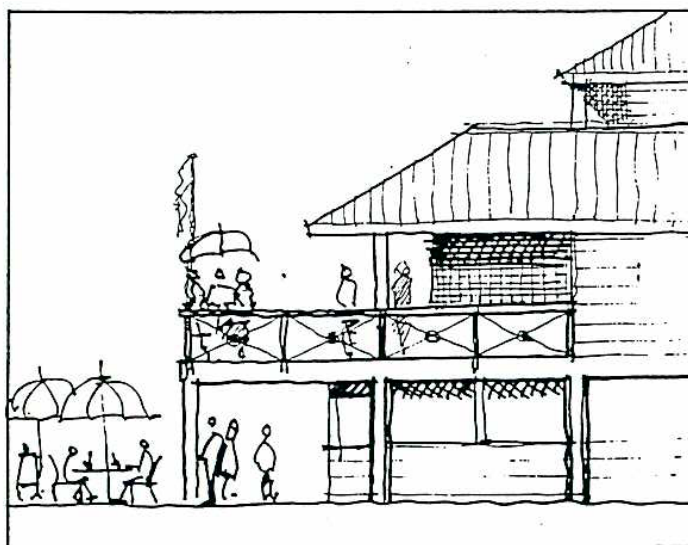


Figure 7: Roof pitch – Roofs shall be between 15° and 35° pitch. No flat roofs will be permitted

7.4 Window openings

1. All facades should be designed to accommodate well proportioned windows which relate to each other and to adjacent buildings. Openings should be maximised on the foreshore facing elevations to reinforce openness and interactions with the promenade and public areas.
2. Openings should be designed to reinforce elevated balance and a unified appearance throughout the development. Windows to toilets, stores and service areas must not be positioned facing the promenade or onto public open space.

7.5 Orientation

1. All development should address both the waterside promenade and the adjacent public spaces. Overshadowing of these areas should be minimised.

7.6 Setbacks

1. A minimum setback of 20m with an average of 30m for each building is required adjacent to the primary internal road. A setback of 10m is required between car parks and buildings.

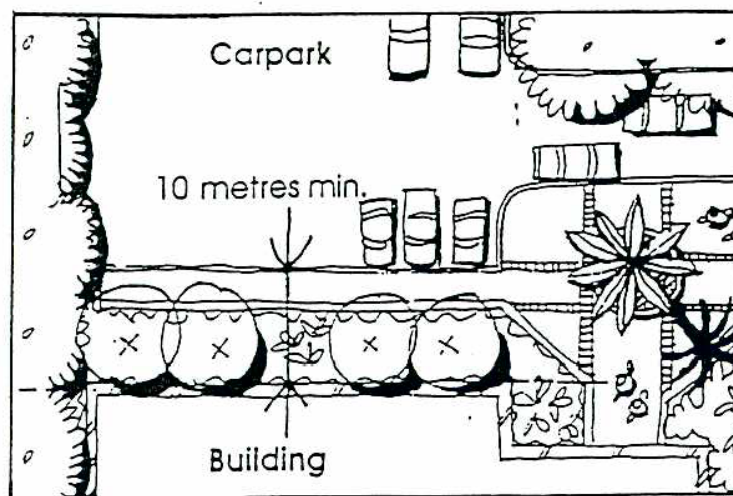
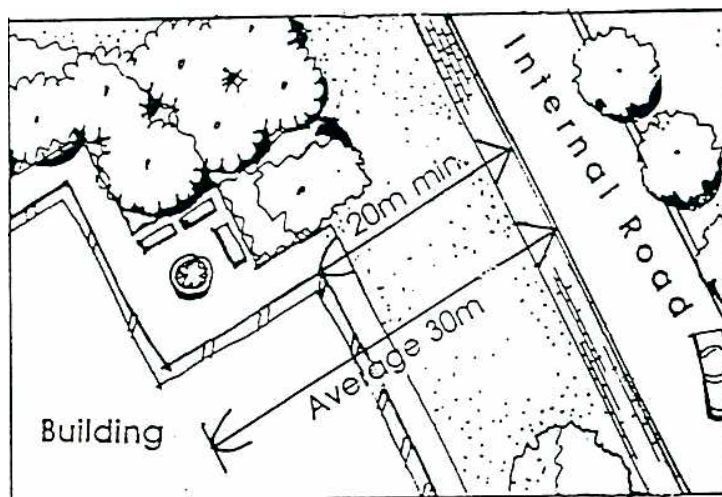


Figure 8: Setbacks

7.7 Materials

1. External materials should be sympathetic in colour, texture and range to achieve a harmonious composition in the context of a lake side environment. A limited variety of materials and colours is desirable to avoid monotony.
2. Materials should generally be durable and low maintenance and suitable to the location. Timber shall be utilised as far as possible, relating to the waterfront location.
3. Glass clad buildings are to be avoided and all glazing must have a reflectivity index of less than 10%, to avoid glare for pedestrians and motorists.

7.8 Energy efficient design

1. Consideration should be given to energy efficient design. Solar water heating would be desirable if integrated sensitively into the building roof forms.
2. Windows can be positioned to avoid over heating in summer, and the addition of balconies and awnings would protect windows and the buildings fabric from direct sunlight. Cross ventilation and ceiling fans would be preferable to air conditioners.

7.9 Public courtyards

1. Covered seating and temporary vendors/ displays etc are desirable and applications to the LIA and WCC should be made for this use. Lessees may apply to use public areas adjacent to the waters edge on a similar basis. Approval for such use will be by licence.
2. External spaces around the buildings should be suitably proportional to building height and human scale.

7.10 Floor levels

1. Nominal habitable floor levels of RL 2.5 AHD were adopted during concept planning of Griffins Bay to ensure flood protection and access for the disabled from adjacent areas in consideration of aesthetic requirements. Before lodging a development application, developers should ascertain from WCC the level of inundation under 1% AEP conditions and freeboard requirements for the particular area of land under consideration. Basements (non habitable) may be permitted within buildings subject to measures being implemented for flood protection and to overcome geotechnical constraints which the particular site under consideration may present.

7.11 Disabled Access

1. Access for the disabled to all buildings and facilities is a requirement of both the LIA and WCC. The requirements of Australian Standards *AS1438: Design for Access and Mobility* should be ascertained prior to preparing detail designs for buildings and their approaches.

7.12 Signs

1. Signage is permitted only when affixed to the buildings to which it relates. All proposals must be submitted to the LIA for final approval. No freestanding advertising/ signage will be permitted above the building eaves levels, or if deemed by the LIA to conflict with the aesthetic nature of the development.

2. Advertising signage will only be permitted if it is directly related to services and use of the building.

7.13 Landscaping

1. The quality of the landscape development and urban design detailing will be importance to the overall success of the Griffins Bay scheme. These elements will establish the setting for the building and the new character for the area. It is important that the design treatment and materials used within external areas are co-ordinated to ensure a consistent and recognisable theme.
2. The overriding landscape objective is to provide a naturalistic setting reflective of the indigenous landscape character. The formality of the settings will vary from relatively loosely structured areas designed to cater for informal recreation along Northcliffe Drive to more formal landscape treatments for development fronting King Street.
3. Landscape and urban design works consist of the following:
 - (a) Pavements and the treatment of the ground plan in general;
 - (b) Site furniture including benches, seats, barriers and fences, litter bins and signs etc;
 - (c) Planting including street trees and formal planting, general tree groups, shrubs and groundcover planting.
4. The development shall maintain a consistent co-ordinated landscape theme which will be perceived to dominate the architectural elements. The landscape will provide a setting for the buildings and be an important adjunct in raising the visual quality of the area. It is important to establish a landscape 'palette' consisting of paving, furniture elements, structures and planting. A site furniture patette for King Street and Northcliffe Drive areas has been developed using off-the-shelf items and paving materials.
5. The desired landscaping and urban design theme is one in which buildings and open space areas are elements within strong groups or separating vegetation.
6. Within this structural treatment, specific precincts could be identified through detail differentiation while maintaining the overall naturalistic landscape character of the development.

8 SERVICES AND GEOTECHNICAL CONDITIONS

8.1 General

1. A servicing strategy is currently being prepared by consultants to the LIA in consultation with relevant authorities. The purpose of the strategy is to co-ordinate services provisions to minimise future disturbance to the ground surface, to minimise the potential for duplication and to obtain cost benefits. Those contemplating development should consult with the LIA and relevant authorise together with WCC when preparing proposals.
2. The majority of services likely to be required on the site are located in easements on the opposite side of King Street and Northcliffe Drive. The LIA has provided electrical and water connections as part of park development on Northcliffe Drive frontage. The LIA and WCC have also undertaken drainage and water quality works at various locations around Griffins bay foreshore as part of continuing work programs. Further servicing will be provided by these organisations as required, in works undertaken by them.
3. Developers will install services at their cost, make contribution to relevant authorises etc, as required, depending on the level of service provision at the site, when development under consideration takes place.

4. The following sections provide a guide to the likely servicing arrangements. These will be confirmed once the LIA's servicing strategy is completed.

8.2 Water Services

1. Potable water for drinking, fire services and irrigation will be drawn from mains located along King Street and Northcliffe Drive. It is the LIA's intention that a supply from these streets be installed prior to any major private development being undertaken on site. Supplies will be drawn from a limited number of connections to existing mains to feed mains proposed on site. Individual developments will tap into this main for supplies. Irrigation is necessary in all planning areas to assist plant establishment and to help leach salt from the soil.

8.3 Drainage and Water Quality

1. Drainage for the majority of the site will be via surface collection and discharge into Griffins Bay.

The LIA is currently reviewing site drainage and water quality requirements for the site and adjacent catchments. A large water quality control pond (wetland) is proposed off Northcliffe Drive adjacent to the tourism accommodation precinct. The design of this facility is well advanced. Detailed requirements for drainage and water quality for specific sites should be determined in consultation with the LIA and WCC>

8.4 Sewerage

1. Sydney Water pumping stations are located at the corner of King Street and Northcliffe Drive and adjacent to the residential area to the south of the site at Primbee. Connections from development sites to these pumping stations will be required. The LIA is currently investigating the opportunity to provide a gravity main generally running adjacent to the primary access road to link with the pumping station at the intersection of King Street and Northcliffe Drive. Developers should discuss the requirements for individual sites with Sydney Water, LIA and WCC when considering proposals for the Griffins Bay foreshore.

8.5 Other services

1. The LIA is currently investigating the requirements for gas, telecommunications, electricity services to the various development sites. Subject to the outcome of these investigations it is hoped that mains for the various services can be located around the site along the general alignment of the primary access road. Provision should be made in the design and construction of the access road for conduit bundles to be provided at 20m intervals to ensure maximum flexibility in servicing arrangements.

8.6 Geotechnical considerations

1. Geotechnical conditions at Griffins Bay are variable due to the nature of the sediments dredged from the bay and placed on the foreshore. Potential developers should obtain the LIA and WCC to ascertain the likely conditions at specific sites. All developers are advised to carry out geotechnical investigations to ensure adequate measures are incorporated into the engineering design of buildings, structures and site works.

8.7 Soils

1. Soils at Griffins Bay are saline and lack nutrients due to their marine origin. Plant species suggested in these guidelines are salt tolerant but not to the degree required to survive in the

Griffins Bay soils unless the soils are ameliorated. As chemical and physical properties of the soil on the site are highly variable, sampling and analysis will be required in specific sites to determine the amelioration required. To date, landscape development has used a variety of techniques to ameliorate soils including importing salt free topsoil, the application of agriculture sulphur and the avoidance of using organically rich material as backfill around plants. Those responsible for development should consult a soil amelioration specialist to determine appropriate technique for their specific site.

9 NORTHCLIFFE DRIVE DESIGN AREA

9.1 Building design

1. Buildings designed for this zone should be harmonious with the predominantly naturalistic setting consistent with the waterside recreational use of the area. The buildings and associated structures will have relatively small footprints and be subservient in scale to the landscape setting. No specific building setback requirements apply to buildings in this area as they will have considerable interaction with water related activities. However, public access must be maintained to and along the waters edge and the building scale should not be visually dominate the foreshore.
2. Buildings such as kiosks, toilets, stores etc may have little functional need for elevated penetration etc. In these cases, consideration should be given to the articulation of facades facing public spaces I.e. integration of seating, or large overhangs to provide shelter. Patterned brickwork or timber detailing can also provide visual interest.
3. New buildings in this area are to be restricted to two habitable storeys. The building design should be as low as possible, so as to not obscure views of the lake from Northcliffe Drive. Pitch roofs should be incorporated at a pitch between 15° and 35°.

9.2 Landscape design

1. The landscape and urban design objective for this area is to create a parklike setting suitable for activities designated for the area. The ultimate view to the area should be one which presents a near continuous tree cover punctuated by small scale structure and grassed open spaces. Filtered views to the lake from Northcliffe Drive through the trees should be maintained through appropriate planting arrangements and management.
2. Views to the foreshore from the south and east will be characterised by a well vegetated parkland waterfront with the trees providing a screen to much of the Lake Heights residential development on the rising land to the north of the foreshore.

9.3 Planting and Landscaping

1. Planting is to be characterised by informal groups of trees and shrubs in broad planting beds elevated above the generally flat topography on gentle mounds to provide enclosure and protection. More formal feature or specimen tree planting is to be located along major paths, along Northcliffe Drive (avenue planning) and around buildings and structures. Particular emphasis should be placed on creating extensive shaded areas for sun protection which enclose open grassed areas.
2. Plant species considered appropriate to the lake side environment which will achieve the desired character are listed below in table 2. They should form the basis of planting design.

Tree Planting Generally

Casurina glauca (Swamp Oak)

Eucalyptus robusta (Swamp Mahogany)

Eucalyptus botryoides (Bangalay)

Feature Trees

Acacia longifolia var. *sophorae*

Dodonea viscosa

Melaleuca armillaris

Melaleuca ericifolia

Myoporum acuminatum

Rhagodia candolleana

Westringia fruticosa

Shrubs - Small

Correa alba

Crinum pedunculatum

Dianella caerulea

Myoporum boninense subsp. *Australe*

Neolema squamulosum subsp. *argenteum*

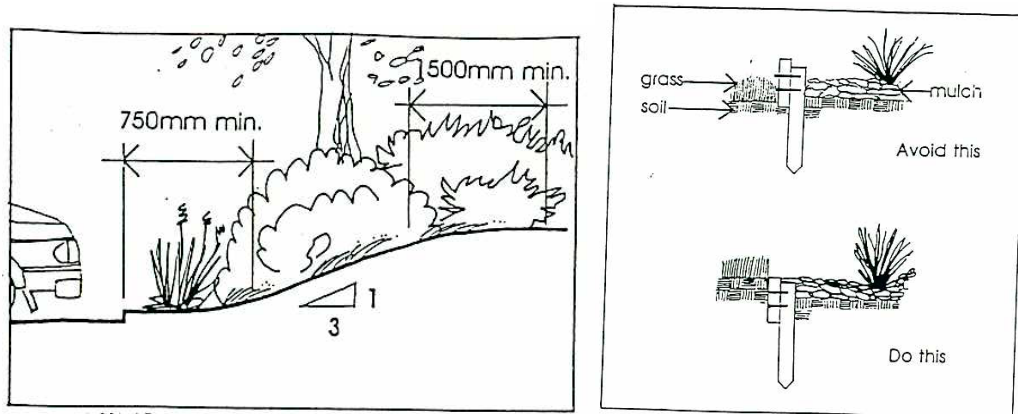
Groundcover

Hibbertia scandens

Lomandra longifolia

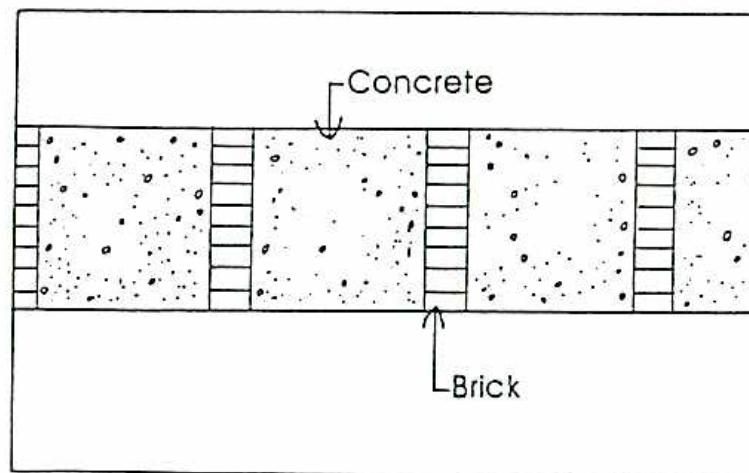
Lomandra multiflora subsp. *multiflora*

3. In addition to the above species, wetland plants will be used in the sites designed as wetland water quality and conservation areas. Species to be used should be researched to identify those suitable for the specific function. Phragmites and Typha species should be avoided due to their rampant habitat and the need to create planting variety to obtain a diversity of wetland habitats.
4. Level changes required to provide use areas or building platforms should be formed by gently sloping mulched beds (maximum grade 1V:3H) or grassed banks (maximum grade 1V:4H). Retaining walls should be avoided. Edges to planting beds should be either 'spade edges' or hardwood timber edges rather than brick edging.



9.4 Pavements

1. Vehicular pavements in areas along the Northcliffe Drive frontage should be asphaltic concrete with concrete kerbs in accordance with WCC requirements. A pedestrian/ cycle trail is proposed around the perimeter of the site to provide the main means of linking the various activity areas along the foreshore of the bay. This is to provide access to facilities within the foreshore park. Brick inserts may be used within the paths as they approach activity areas to provide greater interest. Brick paving may also be used at specified activity nodes (e.g. heads of jetties/ under picnic furniture etc).



9.5 Site furniture and small structure

1. Site furniture elements within this precinct should be utilitarian and low key with an emphasis on the use of timber components in keeping with the overall naturalistic character of the area. Hardwood timber elements combined with concrete marine standard metal fixings should be used. The use of hardwood timber should be carried through items such as seats, tables, jetties, shelters, bridges etc. Concrete litter bins are preferred over wheelie bin clusters in the lower use intensity areas and at site entries. Light standards, bubblers etc should be metal construction.
2. External lighting should be restricted to the major paths, car parks, building surrounds and picnic structures. Lights should be pole mounted fixing or fixings attached to structures.

10 INTERECTION AREA

10.1 Building design

1. Uses in this area will be oriented towards providing accommodation and associated tourist facilities. In response to this, it is envisaged that the built form will be a major focal point, being situated on the most visible point of the development corner of Northcliffe Drive and King Street. The building should act a 'gateway' to the rest of Griffins Bay development. While the built form will be a dominant feature in views from King Street, it should be articulated by having a stepped building form with smaller floor areas at higher levels.
2. The ground floor levels of the building should encourage public interaction with the introduction of cafes etc. External spaces at ground level should interact with internal activities as much as possible.
3. Architectural consideration should be given to the waterside and parkland setting with appropriate detailing of balconies, awnings etc.
4. The building form should address both lake and the street intersection and corner location. There should be a minimum obstruction of views from the surrounding residential areas to the lake and a minimum overshadowing of the adjacent parks.
5. Car parking within the building envelope should be adopted as far as possible. All external areas should contain tree and shrub planting for shade, screening and shelter and to reduce the visual scale of the development for uses of the site at ground level.
6. A maximum of 6 habitable storeys (including above ground parking levels) is envisaged. This may be increased subject to WCC's approval. A stepped building mass reducing a height to 3 storeys towards the lake is required.
7. Pitched roofs are required. Balconies and terrace levels are appropriate to the location.

10.2 Landscape design

1. The landscape and urban design for this area is to create an urban landscape setting for the most intensively developed part of the scheme. The landscape treatment shall reinforce the civic and urban character of King Street/ Northcliffe Drive address and be formal in character. Less formality and more natural character is required on the Griffins Bay side of the lease area in keeping with the lakeside orientation and the settings needed to cater for ancillary tourist related uses.
2. There will be considerable interaction between internal building areas and external spaces within this lease area which will be subject to detailed design resolution by the developer.

10.3 Planting and landscaping

1. Planting is to be characterised by formal planting of individual feature trees/ avenue trees and formal planting beds. This formality should be lessened on the lake frontage. Emphasis should be placed on the use of semi-mature and mature tall growing trees along the street frontage to provide scale transition between the building and street level. Forest/ woodland planting should be used on the lakeside side of the development to provide some screening for the privacy of guests at the complex and reduce the scale of the buildings in views from the lake. Preference should be given to the use of shade trees in activity areas to protect uses and obtain energy benefits.

2. Plants species considered appropriate to the area, which will achieve the desired character and should form the basis of planting design, are listed below. This list should be varied to suit the particular use and design theme applying to the site within the objectivities mentioned above.
3. Effort should be made to incorporate some of the indigenous Illawarra region rainforest species in more protected areas of the site. This could include the use of ferns and tree planting of Coachwood and Sassafras. Blueberry Ash, Lillipillis etc immediately adjacent to the building particularly on east and south aspects.

Tree Planting Generally

Casurina glauca (Swamp Oak)

Eucalyptus robsta Swamp Mahogany)

Eucalyptus botryoides (Bangalay)

Tristaniopsis laurina (Water Gum)

Feature Trees

Ficus rubignosa

Livistona australis

Shrubs - Small

Agapanthus orientalis

Callistemon 'Kings Park Special'

Clivea minata

Grevillia sp.

Epacris longifolia

Rhagodia sp.

Shrubs - Medium

Acacia longifolia var. *Sophorae*

Melaleuca armillaris

Melaleuca nodosa

Westringia fruticosa

Pittosporium revulution

Shrubs – Feature

Abelia grandiflora

Camelia sasanqua sp.

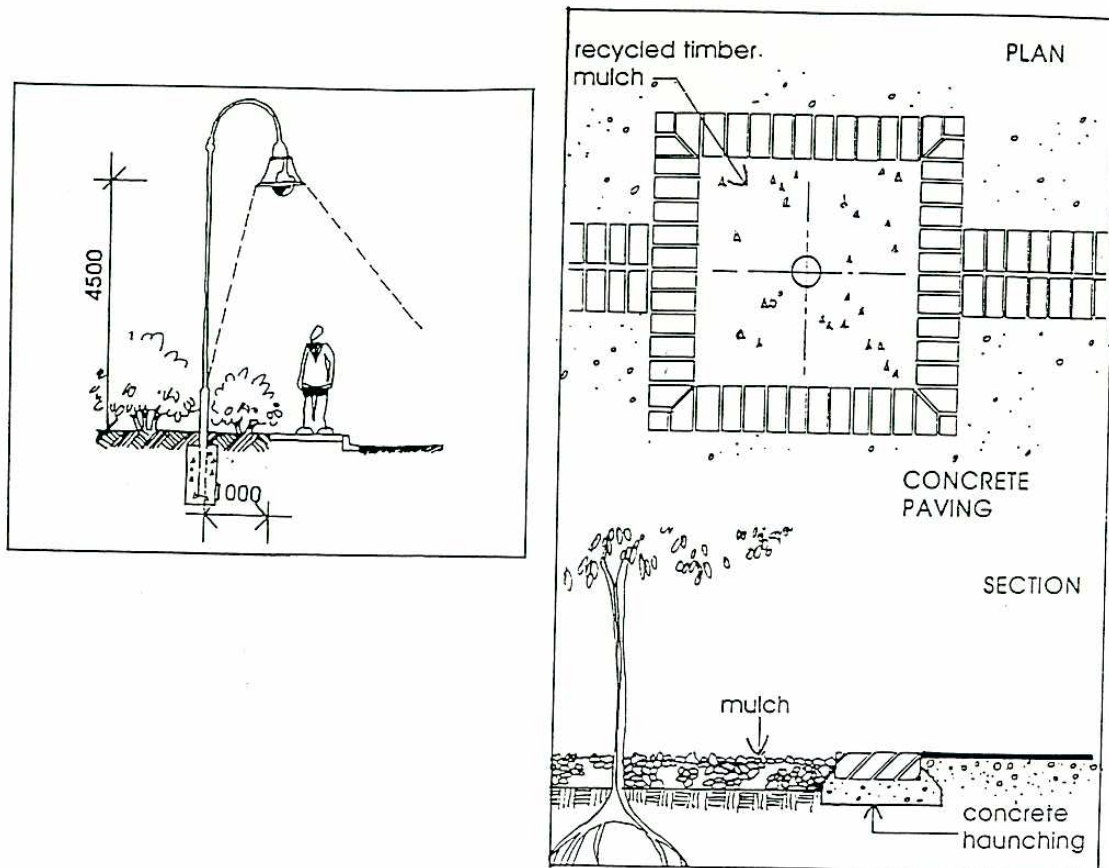
Correa alba

*Eriostenon buxifolious**Escalloria macrantha**Kunzea ambigua**Photinia glabra* 'Rubra.'**Groundcover***Grevilla* 'Royal Mantle'*Hibbertia scandens**Kennedia prostrate**Lomandra longifolia**Myoporum parvifolium*

4. Level changes required to provide use areas or building platforms should be formed by low retaining walls (up to 900mm high). Brick edging to the planting beds within the more formal areas is preferred over timber edging which should be confined to the lake shore side of the developments.

10.4 Pavements

1. Vehicular pavement treatment should vary in quality depending on the location relative to main areas of use. For public areas comprising the primary internal road and associated parking areas the surface treatment should be asphaltic concrete. Brick edged concrete should delineate pedestrian crossings. Brick paving should be used on major entries, thresholds and set down areas immediately adjacent to the accommodation complex. All roads and car parks should be kerbed and guttered in accordance with WCC requirements.
2. Pedestrian pavement materials within the predominantly private areas of the precinct will be determined in response to the desired design theme and function of the areas and is a matter for detailed design. Paving in transition areas from the accommodation complex to roadways and the foreshore should be a combination of brick and concrete. It is envisaged that brick will be used as banding in the concrete paths and at activity nodes and intersection paths. Concrete paving would be used for the main pedestrian/ cycle path with brick banding to denote proximity areas.



10.5 Site Furniture and small structures

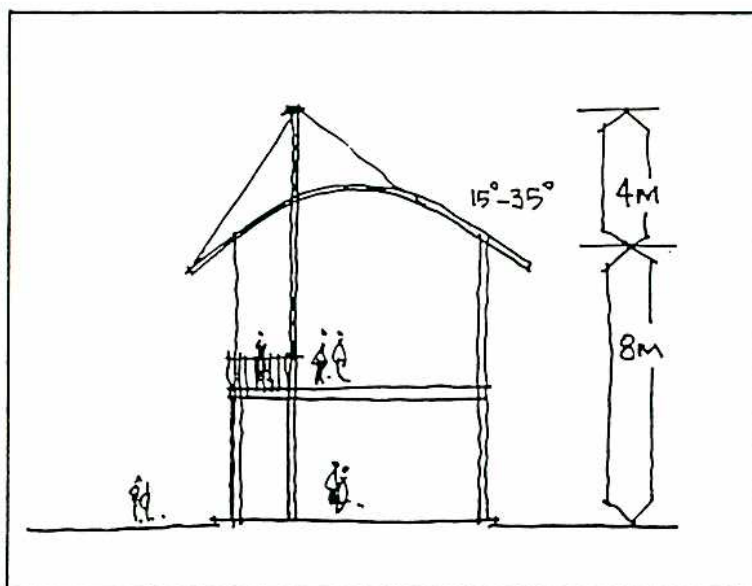
1. Site furniture elements within this precinct should be of high quality and 'civic' in character. The emphasis will be on the use of metal and timber components to a high standard of finish in keeping within the desired character of the area.
2. Materials, finishes and fixings capable of with standing the salt spray and salt soils of the area must be used. Green coloured preserved timber products shall not be used.
3. External lighting should be located along all major paths, throughout car parks and around buildings for safety and security. A combination of pole mounted and bollard lighting should be used. Bollard lighting is most appropriate to the immediate surrounds of the building.

11 KING STREET AREA

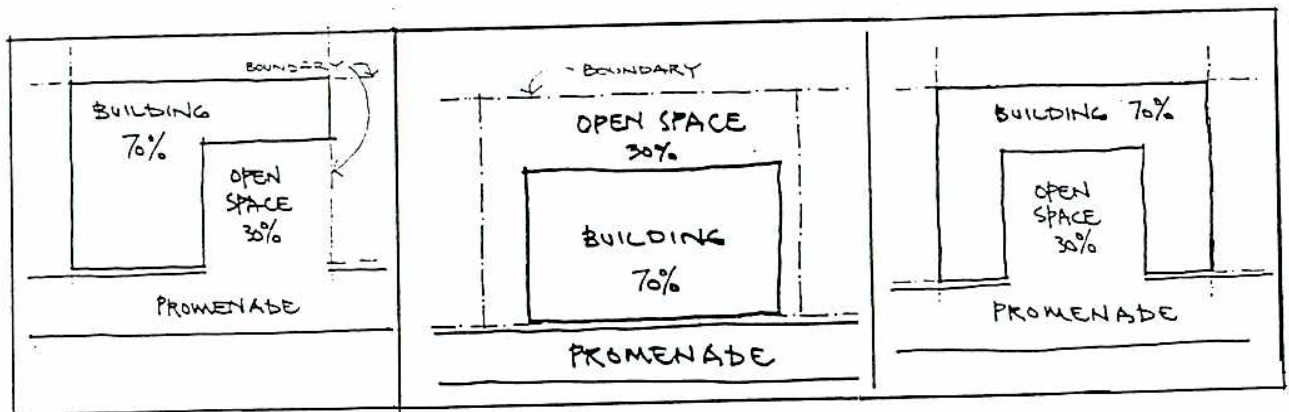
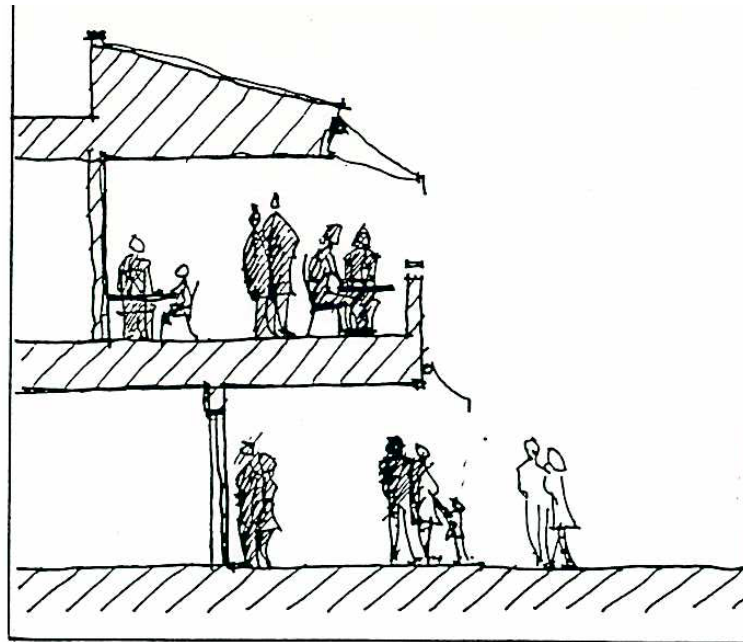
11.1 Building design

1. Buildings within the precincts along King Street will cater for waterside tourism and commercial uses including restaurants, retail and associated tourism facilities.
2. The architectural quality of buildings along the highly visible King Street frontage will play an important part in the overall success of the development. The building character must be unique to Griffins Bay, yet be in keeping with the informal and recreational aspects of the development.

3. It is essential to create a lively and attractive environment emphasising the interaction with the water and to promote associated uses. The architecture must create an atmosphere of lakeside activity by utilising maritime detailing and references, to produce a waterfront village theme.
4. All new buildings shall have an internal height of no more than 8m (measured at the ceiling level on the external wall, to the natural ground level of finishes level whichever is lower).
5. An additional height of 4m will be permitted for the vertical articulation of the building envelop and roofscape. This is in order to encourage the consideration of waterfront architectural influences on the building design, and to add interest to the building form when viewed from the surrounding higher areas.
6. Awnings and balconies should be considered on all frontages to protect pedestrians from weather, and to re-enforce a street appearance along the lakeside promenade. As far as possible the architecture should encourage maximum interaction with the promenade and plaza areas, street trading and external eating areas associated with cafes and restaurants will be encouraged.



7. Balconies at first floor should be considered to encourage pedestrian use and to enliven the upper level.
8. A set back from the waters edge of 30m is required for buildings between King Street and Griffins Bay and a 3.0m zone around the building envelope for the articulation of balconies, awnings and external non-fixed elements, such as temporary external displays and street trading.
9. The lease areas shown in figure 3: Indicative Lease and Licence Areas defined the nominal extend of the lease area. However only 70% of this site area can be built upon (buildings and car parks), the remaining 30% must be utilised as external public space for market style trading, seating, street theatre, planting etc. This external space must address and integrate with the promenade.



11.2 Landscape design

1. The landscape and urban design objective for this area is to create a waterfront character within a semi-naturalistic landscape setting. Buildings and waterfront activity areas will be set within a framework of woodland tree planting to separate the built elements and provide external spaces for public use. Construction of timber jetty, boat skid, sea wall, waterfront promenade and associated car parking areas has been commenced by the LIA.
2. Of particular importance in this area will be the maintenance of filtered views from King Street to the lake through visual access corridors between the main building groups.

11.3 Planting and Land forming

1. Planting within this area will be characterised by semiformal and formal tree planting related to directionality of the access ways and building configurations. Formal planting beds will be used within car parks, adjacent to buildings and around activity areas to provide enclosure, shade and assist in protection from the westerly winds.
2. The following list of plants should be used as the basis of design selections

Trees to car parks/ perimeter areas

Casurina glauca (Swamp Oak)

Eucalyptus robsta Swamp Mahogany)

Eucalyptus botryoides (Bangalay)

Melaleuca quinquinervia (Broadleaved Paperbark)

Feature trees to promenade and urban spaces

Ficus rubignosa (Port Jackson Fig)

Shrubs – Medium

Acecia longifolia

Eriostemon myoporoides

Melaleuca armillaris

Rhagodia baccata

Westringia fruticosa

Melaleuca ericofolia

Callistemon sp.

Grevilla sp

Leptospermum laevigatum

Shrubs - Small

Callistemon 'Captian Cook'

Correa alba

Correa reflexa

Epacris longifolia

Eriostemon buxifolius

Isopagon dubius

Groundcovers

Grevilla "Royal Mantle"

Lomandra longifolia

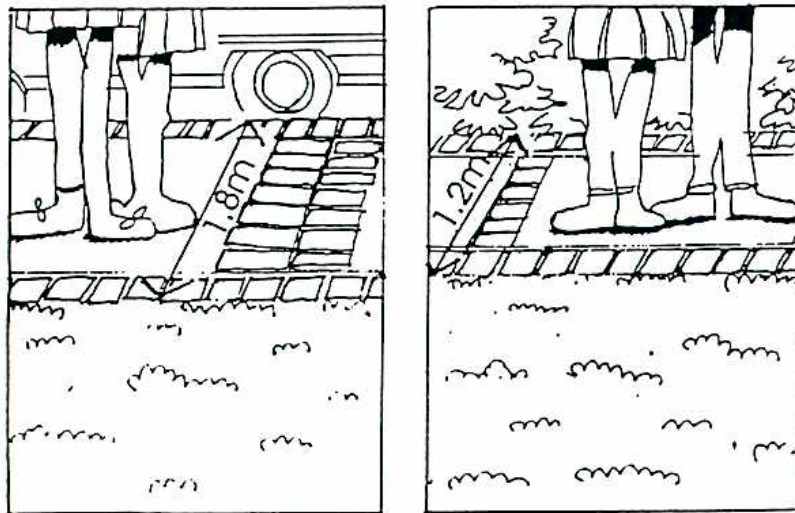
Myoporum parvifolium

Seliera readicans

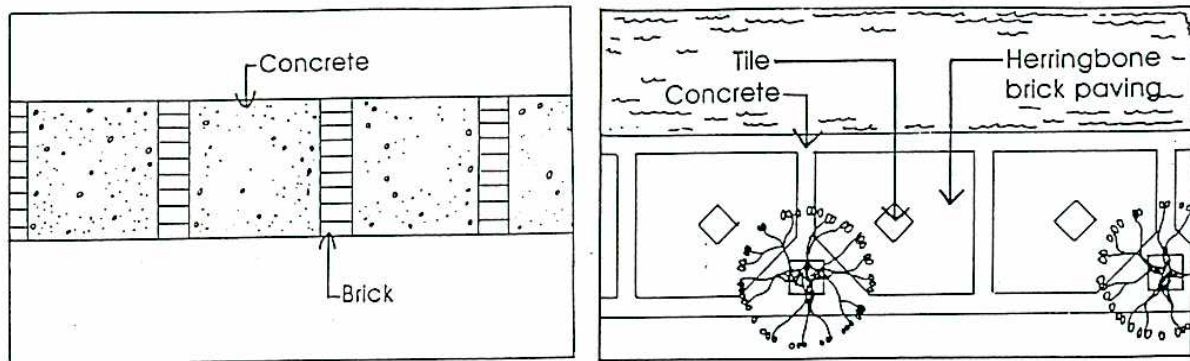
3. Level changes required to provide use areas or building platforms should be formed by gently sloping mulched planting beds (maximum grade 1V:3V) or grassed banks (maximum grade 1V:4V) where possible. Where this is possible, due to space constraints, low brick retaining walls should be used. Edges to planting beds should be brick near buildings and timber in grassed areas.

11.4 Pavements

1. Vehicular pavements throughout the area will primarily be asphaltic concrete. Brick edged concrete crossings should be provided at intersections of pedestrians/ cycle path and the roads. Road and car parks should be edged with concrete kerbs and gutters and constructed in accordance with WCC requirements.
2. A pedestrian trail is proposed around the perimeter of the site to provide the main means of linking the various activity areas along the foreshore. Much of the path installed. This is constructed in concrete to a width of 2.5m in accordance with WCC requirements. Narrower paths 1.2m to 1.8m are to be used to provide access to facilities within the foreshore park. Bricks inserts should be used within the paths as they approach activity areas to provide greater interest. The width of paths should be determined by their importance and safety requirements. Paths adjacent to roadways should be at least 1.8m wide.



3. A concrete edge/brick infill pavement has been partially constructed along the seawall fronting Griffins Bay. This promenade treatment will be extended along the quayside in layer development packages.
4. The central "Markey square" opposite the main timber jetty will be paved with brick with concrete banding similar to that used along the quayside promenade. The dimensions of the banding will be in the order to 4.8m to 5.6m squares depending on the grid adopted for adjacent buildings.



11.5 Site Furniture and Site Elements

1. Site furniture used in these areas will adopt elements from both the Northcliffe Drive and King Street intersection areas. "Civic" standard information will be used in the building lease sites and areas immediately adjacent to them (e.g. 'marekt square'). The waterfront and public spaces between the buildings will have a higher timber component than the components used in the 'civic' furniture.
2. External lighting should be located along all major paths, along the waterfront promenade, throughout the car parks and around the buildings for safety and ssecurity. A combination of pole mounted and bollard lighting should be used. Bollard lighting is most appropriate to the immediate surrounds of the buildings. Lighting mounted under awnings of buildings will be required to augment area lighting.