A Case Study in Contemporary Development: How does it measure up to the principles of classic urban design theorists?

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Abstract

This paper examines the proposal to redevelop an area in South Sydney against some general principles extracted from a selection of classic urban design theorists. The ACI site development is part of the largest redevelopment project in Australia at present, that is, the Green Square/South Sydney Growth Centre. The overall project will revitalise 275 hectares of largely redundant industrial area spanning four South Sydney suburbs.

This paper investigates the claim that the overall project will set new benchmarks in urban design and planning. Specifically it analyses the urban design principles underpinning the master plans for both the ACI site and the overall Green Square Draft Structural Master Plan against principles derived from some well known urban design theories.

Initially a set of principles for quality design is extracted from a review of the work of a range of urban design and planning theorists including Camillo Sitte, Christopher Alexander, Jane Jacobs, William Whyte, Alan Jacobs and Donald Appleyard. The second part of the paper examines the urban design aspects of the two selected master plans in the light of this set of principles.

The paper concludes that there are encouraging aspects of the master plans that appear to be consistent with classic urban design theory. However, there remain some overriding concerns that could well undermine such positive elements. In particular there are some ingrained issues that appear to characterise much of contemporary development for various reasons. The paper isolates these issues in an effort to determine what is achievable in terms of urban design given the realities of the current operation of the development industry.

1.0 INTRODUCTION

The largest major redevelopment project currently being undertaken in Australia is the redevelopment of the Green Square/South Sydney Growth Centre. The project aims to revitalise 275 hectares of largely redundant industrial area with residential and commercial pockets in the suburbs of Alexandria, Zetland, Beaconsfield and Rosebery. Significantly, the new airport rail link runs through the area and Green Square Station is to become a major commercial centre within South Sydney. It is expected that by 2020, about 20,000 residents will be living in the new suburb of Green Square, and an estimated 20,000 jobs will have been created, with 7,000 of these to be in the Green Square Town Centre (New Planner, 1999).

The masterplan which guides the redevelopment of the overall Green Square area, *the Green Square Draft Structural Masterplan, (GSDS Masterplan)* was prepared by Stanisic, Turner and Hassell (1997). Subsequent council guidelines and planning instruments covering the area and masterplans for other sites such as the ACI site and Green Square Town Centre (both prepared by Lester Firth Australia (LFA) (Pacific) are largely based on the design principles outlined in *the GSDS Masterplan*. The designs for the 11 hectare Green Square Town Centre and the 11.25ha ACI (Meriton) site were both chosen through competitions. The winning schemes are said to incorporate South Sydney's special character of heritage cottages and industrial landscape. The centre of the Green Square Town Centre development includes a large town square which features the Alexandra Canal and green open space surrounding the railway station.

The NSW Minister for Urban Affairs and Planning has suggested that:

> "with such a high quality design [Green Square] is bound to set new benchmarks in urban design and planning" (New Planner, 1999: 10).

This paper will examine claims such as that above by analysing the urban design principles underpinning both the GSDS Masterplan and the ACI Site Masterplan against some well known urban design theories.

2.0 URBAN DESIGN THEORIES

2.1 Accepted current urban design principles

Current urban design principles emphasise design criteria summarised well by Bentley et al (1985) in their design manual "*Responsive Environments*". They suggest qualities such as permeability, legibility, varied or mixed uses and visual appropriateness are of foremost importance in urban design.

Permeability or accessibility refers to the number of choices people have for routes that can be taken to travel through an area. Permeability is reduced by segregating uses and by the use of hierarchical street layouts of feeder roads and cul de sacs that have been popular in post war suburban development. Both visual and physical permeability is considered important for well designed areas.

Legibility is the quality which helps people read and understand where things are in an area. In traditional cities, the biggest buildings were the most important buildings and had the biggest spaces reserved around them. It was easy to distinguish the major public buildings from the less relevant private buildings. In modern cities, there is often little difference between important public facilities such as public administration buildings and even railway stations, from private office buildings. The most prominent sites are no longer reserved for the most important public buildings, but are awarded to the highest bidder. Skyscrapers dominate the landscape and look the same regardless of whether they are publicly relevant buildings or office buildings owned by either private or institutional interests. Kevin Lynch (1960: cited by Le Gates and Stout (1996)) pioneered studies in legible urban layouts. He suggested features such as nodes, paths, edges, landmarks and districts all contribute to legibility in an area.

While visual appropriateness is a more specialised design issue, it encompasses aspects such as infill developments respecting and continuing or complementing existing patterns in the surrounding built environment. Variety or the concept of mixed uses to create activity and reduce the need for mobility (ie the car) is a further concept that is becoming well accepted in contributing to well designed and successful urban areas.

2.2 The need to examine the urban design principles derived over time

The above principles or qualities have been derived over time, and are the culmination of the work of many urban design theorists. According to Schurch (1999) neither a well developed body of theory nor a core of practitioners has arisen in the urban design field despite numerous responses which have come in "fits and spurts" to post war development. A focussed examination of how well modern development complies with the qualities of successful urban spaces that have stood the test of time, requires more than an application of the broad concepts noted above. In order to determine a set of criteria for evaluating the quality of contemporary urban design, it is necessary to examine the work of the better known theorists and practitioners on the topic. For this reason, this paper presents a review of urban design principles that have evolved over time as the result of different contributions of various theorists and practitioners.

The following section presents the main principles of quality design of selected celebrated urban design or city planning commentators including Camillo Sitte, Christopher Alexander, Jane Jacobs, William Whyte and Allan Jacobs and Donald Appleyard. Some ideas are less than 10 years old, others date back 30, 40 and in the case of Sitte, over 100 years, however all are considered classic works that are still relevant and current at least by some commentators.

The criteria established from this review will then be applied to the masterplans for both the ACI site and the Green Square redevelopment area in South Sydney in order to analyse these examples of contemporary development in terms of urban design quality.

2.3 Camillo Sitte

Collins and Collins (1986, 20) suggest there are three milestones in the literature of the building of cities. These are the writings of Vitruvius (dating back to classical Roman times), Alberti (a Florentine writing during the Renaissance) and Camillo Sitte. Sitte (1843-1903) was a Viennese artist and critic whose published work "*Der Stadtebau*" criticised what he perceived to be the disturbing urban developments of his day. The book was concerned with the architectural essence of urban life and had an instantaneous impact on city planning. According to Collins et al (1986, 20), Sitte's work has influenced the majority of writings on the subject ever since - hence the inclusion of his theory in this discussion.

Foremost in Sitte's philosophy is a dismay over the singularity of architectural edifices. He suggests the notion of "style" is something to be avoided as it is alien to the urban context, the process of change and the totality of the city. Writing in the late 1890s, he suggests modern planning is centred on the layout of street patterns or systems (which are either gridiron, radial or triangular) and hence the intention is purely technical. In response, Sitte describes "artistic principles" or parameters designed to ensure the spatial-temporal continuum of the urban fabric and assist in the integration of modern technology and development.

2.3.1 Sitte's principles of old city plans

Sitte examined the town squares or plazas of ancient Greece and Rome, the Middle Ages and the Renaissance (especially Baroque) to determine the characteristics that gave these places a "human scale". The vast scale of city planning that was occurring even by the end of last century when he wrote on the topic had in Sitte's view led to the life of the common people withdrawing from public squares. In particular, it overlooked the unmistakable fact that "what counts . . . is the position of the spectator and the direction in which he is looking" (Sitte, 1889 - as translated by Collins and Collins, 1986: 177). His emphasis on aesthetic importance was also therefore a social concern. The principles he arrived at can be summarised as follows:

- There is an important relationship between buildings, monuments and their plazas.
- The centre of plazas should be kept free.
- Rules govern the size and shape of plazas. Town squares of big cities are larger than those of small towns. A hierarchy of sizes should exist within the squares of each town. The size (and therefore the shape) of the plaza should be in proportion to the size and height of the buildings dominating it.
- Plazas work best when irregular in shape (this also reinforces being able to keep the centre free).
- A cluster of plazas can emphasise a city's focal point.
- While straight roads with good proportion between length and width can work well and are often necessary, the curves and meanders of ancient streets are preferable where terrain or other local circumstances suggest such treatment. Enclosed streets with varied alignments are more interesting than long straight streets crossed with endless intersections.

Sitte suggests his principles promoting artistic importance need only apply to the major plazas and thoroughfares of a town or city [or suburb perhaps] to awaken civic spirit - while the broad mass of living quarters should be business like and can be turned over to traffic and daily needs.

Sitte laments:

> "It is above all the enormous size to which our larger cities are growing that has shattered the framework of traditional artistic forms at every point. The larger the city, the bigger and wider the plazas and streets become, and the higher and bulkier are all the structures, until their dimensions, what with their numerous floors and interminable rows of windows, can hardly be organised any more in an artistically effective manner. . . .
>
> The high price of building lots leads to their utmost utilisation, as a result of which a number of effective motifs have been abandoned in recent years. Completely building up each lot always tends to produce the characteristic cubic mass of modern times. Projections, porches, ornamental staircases, arcades, corner turrets etc have become for us an unthinkable luxury, even on public buildings; only high up - in the form of balconies and bay windows or on the roof - is the architect allowed to give his imagination free rein, but never below at street level where the "building-frontage line" alone dominates." (Sitte, 1889 - in Collins and Collins, 1986: 244-245)

While Sitte's comments came before the era of the skyscraper, the elevator and the motor car, they are quite applicable to the urban landscape that characterises the end of the twentieth century.

2.4 Christopher Alexander

Christopher Alexander is one of the best known commentators concerned with the fundamental nature of architecture and urban design. Alexander's theory of urban design apparently evolved from Sitte's principles. It continues the notion of timeless principles (or patterns) and the need for individual elements to contribute positively to the whole. He makes a plea for an "entirely new attitude to architecture and planning ... an alternative which will [it is hoped] gradually replace current ideas and practices" (cited by Kruft: 1994: 443).

Alexander's seven prescriptive "rules of growth" are listed below (Alexander, 1987).

- Piecemeal growth
- The growth of larger wholes
- Visions
- Positive urban space
- Layout of large urban buildings
- Construction
- Formation of centres

Alexander describes a process of urban design and construction which uses a living "pattern language" to allow order to happen organically. The process described is evolutionary rather than addition using preformed parts. In Alexander's view, the pattern languages have broken down in our time and humans have lost touch with the deep patterns which are capable of generating "life" in places where they live and work. The patterns are suggested to reflect the network of connections that are so fundamental in nature (Alexander, 1979).

Alexander and his colleagues devised over 250 detailed patterns for regions, towns, neighbourhoods, buildings and even rooms (Alexander, Ishikawa and Silverstein, 1977). The patterns are closely connected and usually a number of them are required to be used together to make a place work and the problem solving approach provides a comprehensive response to the often cited problem of "loss of community identity". Some of the major patterns are mentioned briefly below.

2.4.1 Alexander's Pattern Language Approach

Alexander suggests a population of 7,000 in which a number of neighbourhoods are clustered is the ideal size for an identifiable community group. Such a community would be defined by natural and other boundaries. Each of the neighbourhoods would also have identifiable characteristics and would include pockets of common land (shared by clusters of 8 to 12 buildings - called house clusters if residential), individually owned shops and corner grocery stores, row houses, small public squares (20m in diameter), and scattered parking area pockets. Some neighbourhoods would also include activity nodes, shopping streets, shielded parking, food stands and accessible greens (larger public areas). Neighbourhoods would be linked by a web of public transportation, networks of paths and cars and a major pedestrian promenade.

Other essential features of the Alexander approach to urban design include the need for rings of decreasing density away from central nodes (even within a neighbourhood with a population of 500) and medium densities overall (as opposed to the current trend towards high densities. In addition Alexander imposes a general limit of four storeys for any building (with limited exceptions allowed for non residential buildings). This is due to the apparent psychological effects on people who live and work in tall buildings resulting from the detachment from society that occurs the further away from the ground one lives. Above four storeys one cannot comfortably walk down, call out or otherwise feel a part of the street scene below.

2.5 Jane Jacobs

Jane Jacobs was a community activist when her ideas about the horrors of urban renewal, superblocks and skyscrapers - and the importance of streets and keeping them busy (Jacobs, 1961) - hit the planning world. She suggested that streets and their sidewalks are the main public areas of a city - and a well used street is often safer than a park.

2.5.1 Jane Jacob's qualities of streets in successful neighbourhoods

According to Jacobs, the streets of successful neighbourhoods have three main qualities:

- There must be a clear demarcation between public and private space (Jacobs suggests this is often lacking in suburban and project developments).
- There must be "eyes on the street" - this comes from orientation of buildings towards the street and plenty of windows.
- Sidewalks need continuous users and activity (shops, bars and restaurants) - this encourages people to watch.

Once again, the need for human scale in urban life is emphasised for community involvement and the kind of urban vitality that is not possible in suburban and project settings.

2.6 William Whyte

In his earlier work, *The Last Landscape*, Whyte (1968) puts a case for making greater and more intense use of space. This includes a higher density of development (yet designed so that people did not feel jammed in) and more importantly, a greater amount and better use of open space - especially smaller pockets that can be linked together. The visual quality of open space is as important as its use, so long narrow pieces of open space can be far better than single large open areas as more people have both physical and visual access to the narrow spaces.

Later, working in New York, William Whyte and his colleagues undertook a "Street Life Project". One aspect of this included a study of how people use urban public space and a set of urban design guidelines for use in public areas was produced (Whyte, 1988: 102-140). Whyte's conclusions are both simple and obvious and are summarised below.

2.6.1 Whyte's design principles for public spaces

It was observed that the amount of "sittable" space (places where people can sit) is directly related to how much a public space is used. The location of the space is also important - it should be in the heart of the downtown area, preferably on a major corner, as people need to be able to walk to it easily. At least 80% of users are likely to come from a radius of three blocks. Other points the team noted were that the shape of the space is not crucial (one of the most popular spaces in New York was a long narrow indentation in a building) and that the supply of spaces creates demand. A good new space induces people to use it and creates new habits in them - eating outdoors, walking etc. Interestingly, it was observed that people like to position themselves in well defined spaces - near steps or the border of a pool. The finding that people rarely choose the middle of a large space also supports Sitte's principle that irregular shaped public plazas work best. Finally, the relationship of the location of the space and the street is important - if the space is physically close and visually accessible to the public street it becomes almost instinctive that people enter it. Where the street functions as part of the plaza or public space, the social life of both spaces flows back and forth.

2.6.2 Whyte's principles for streets and other aspects of the city

As with Sitte and Jane Jacobs, the importance of the street and streetscape is considered paramount by Whyte and his team. Current development practice promotes overhead skyways and underground concourses in areas of high land value - which takes shoppers and pedestrians off the streets - yet the greatest urban spaces (where people stop for conversations) were observed to be street corners. A further observation is that the bulk of the right of way is given to vehicles and the least to pedestrians - which is in inverse relationship to the need.

Megastructures (self contained multipurpose complexes including hotel, office, retail and parking space) are criticised as having no sense of place - in them, people are disoriented and unable to see outside. They could be at an airport or shopping centre, or in any country in the world - they are all the same universal controlled environment. Whyte demonstrates numerous before and after examples of megacentres which borrow their sense of place from surrounding older buildings. Later when the older buildings are redeveloped, the space in and around the megacentres becomes sterile and deserted. In addition, Whyte simply notes that big buildings cast big shadows and bigger buildings cast even bigger shadows. The trend towards megacentres has also led to the dominant feature of the townscape (at least in the USA) becoming the blank wall.

Along with Jane Jacobs, Christopher Alexander and Allan Jacobs, Whyte also applauds citizen involvement in planning issues. One example he cites involved a downzoning decision in the Upper East Side, New York. Such a decision looked impossible as funding for a back up study of some 200 blocks was unavailable. However, a community group concerned that the moderate scale of the side streets should be given protection, organised volunteers to do the study themselves. They carefully recorded the height, current use and other details of existing buildings. As a result, the planning commission downzoned the midblocks of most of the side streets in this area. Future buildings could be no higher than the width of the right of way - or sixty feet - the same proportion the French laid down for Paris avenues in the 1600s.

2.7 Allan Jacobs and Donald Appleyard

Jacobs and Appleyard attack the practice of city building and rebuilding. Their particular criticisms focus on the vast areas developed by both public and private developers that result in high rise high density buildings set in open space and often present windowless facades to the street made so popular by Le Corbusier and the Charter of Athens. Jacobs and Appleyard note that this style of development pervades large housing projects around the world in inner areas as well as suburbs. The characteristics include superblocks, separate paths for people and cars, interior common spaces, housing divorced from streets and central ownership of the land. Such developments are large and best seen from a distance (from a moving car). For the pedestrian there is no diversity, spontaneity, publicness or community. The loss of much of a city's heritage leads to placelessness - citizens have no knowledge of the origins of the materials, buildings or structures around them and places become meaningless.

2.7.1 Jacobs and Appleyard's qualities of an urban fabric for an urban life

Jacobs and Appleyard make a case for participatory planning and slower growing locally based communities with development at medium densities. New development is only justified if it is better than what it replaces. They suggest a number of structural qualities for a good urban environment (Jacobs and Appleyard, 1987: 171-174). There are five physical characteristics that must all be present for positive urban life.

- Livable streets and neighbourhoods. This includes adequate sunlight, clean air, trees, vegetation, gardens, open space, pleasantly scaled and designed buildings, cleanliness, physical safety and without offensive noise. It is noted that there are many ways to deal with the detail of providing these qualities and blanket standards are often not appropriate. For instance, excessive sunlight requirements can sometimes result in buildings inordinately far from each other.

- A minimum density of development and intensity of land use. (The suggestion is 15 dwellings per acre net (or 37 dw/ha) and up to 48 dwellings per acre (118 dw/ha is possible in some areas within a city). Some minimum number of people living and using a given area of land is required if there is to be the human exchange, public life, action, diversity and community that makes up city life.

- Integration of activities - living, working and shopping in reasonable proximity (accessible by walking) to each other.

- A man-made environment that defines public space (as opposed to buildings that sit in space). As the spaces between buildings become larger, buildings tend more and more to sit in space, whereas spaces surrounded by buildings are more likely to bring people together. Publicness is emphasised and the most important public places must be for pedestrians as no public life can take place between people in cars.

- Many separate, distinct buildings with complex arrangements and relationships (rather than a few large buildings) are required. The often elusive notion of human scale is associated with this requirement. Smaller buildings (which requires smaller land parcels) means more entrances located on the public spaces, more windows and a finer scale of design diversity. A more lively public environment is the result.

2.8 Overview

Many common threads can be drawn from the review of urban design theorists above. These principles are summarised in the list below. They are discussed in more detail in the section headed *Evaluation of the Masterplans Against Current Urban Design Theories*.

- A sense of place.

- Reasonable densities.

- A limit on building heights.

- Mixed and compatible uses.

- A human scale.

- A public domain.

- Linkages and relationships within the built environment – (includes permeability and legibility).

- Compatibility with the natural environment.

- Pace and process of development.

3.0 PRINCIPAL URBAN DESIGN CONCEPTS GUIDING THE MASTER PLANS

3.1 Planning Framework

South Sydney Development Corporation shares responsibility with the council for development controls on nominated sites, including the ACI site. The Corporation includes representatives from the State Government, South Sydney Council and resident groups and has prepared design guidelines by which developers can assess their applications before submitting them to Council.

The basic principles guiding development in the South Sydney area reflect many of those listed above. This extends across the framework of planning documents and masterplans for the area. One of the stated aims for the *South Sydney Local Environmental Plan 1998 (Amendment No. 2) - Green Square*, is:

> "to facilitate the development of a vibrant and sustainable community, which is based on accessibility, reduced car dependence, a mix of land uses, friendly and safe streets, high quality public domain and active commercial centres."

This document provides the framework for the development control plan and the masterplans for the redevelopment of Green Square and other major sites including the ACI (Meriton) site. Significantly it introduces a range of four mixed use zones (that is, residential uses which also include up to either 15%, 25%, 75% or 85% non residential use) to be spread in different precincts over the major redevelopment sites.

The LEP's vision for Green Square includes the four key concepts of:

- Diversity - in mixed land uses, building types, housing choices, public spaces and employment.
- Connectivity - which applies to an accessible network of public spaces and streets and integration of landscapes with current and future buildings. The streets, pedestrian/cycling network and open space/waterway corridors are based around two main axes. These are the east-west avenue between Green Square and South Dowling Street, and the north-south links which connect to Moore Park.
- Interdependency - requiring a high quality of urban design enabling compatibility between land uses and a clear relationship between the precinct and the South Sydney Region.
- Long-term growth - the strategy should promote renewal and growth over time.

Specifically, the LEP requires that the public domain be as designed as purposefully as the built form, with buildings to support and be integrated into the public domain network. Buildings are to be of high quality design and materials and "articulated in height and mass".

The *Green Square Development Control Plan 1997 Urban Design (Amendment) Stage 1*, provides the detailed design and environmental standards and provides for a layout of public spaces and streets for the creation of a high quality public domain and buildings with an emphasis on site responsive design based on the principles of sustainable development.
As noted above, the broad principles outlined in the planning documents guiding redevelopment in this area appear to reflect important urban design qualities noted in the literature. However, as

always with urban design, it is only after an examination of the detail (not all of which is currently available), that one can gain an appreciation of the extent to which the design details are appropriate and likely to result in a quality environment.

3.2 Green Square Masterplan - Summary of the main principles

The *Green Square Draft Structural Masterplan* (Stanisic, Turner and Hassell, 1997) provides the framework for development in the overall Green Square area. It is the original winning masterplan upon which the recently gazetted Council planning documents noted above have been based. It sets out an average floorspace ratio of 1.25:1 in existing residential areas to 2.5:1 along South Dowling Street, and 3.0:1 at Green Square Station. Maximum ratios are linked to provision of public domain improvements. It suggests a gradation of building heights ranging from 2 and 3 storeys in existing residential areas up to 10 storeys at Green Square Station and 14 storeys along South Dowling Street. It suggests urban form will demonstrate an emphasis on street defining built form and courtyards, a range of mixed uses, and a recognition of identified heritage items. A major network of parkland and open space focuses on the east west axis of the site and will include a stormwater/channel system of ponds. A public domain network of streets, paths, squares and parks, new transport initiatives and the promotion of ecologically sustainable development is included.

New development is proposed to create a clear definition of public and private space with block edge courtyard type development to predominate. The concept of mixed land uses is stated as the key to realising the vision of dynamic, diverse and sustainable urban development.

The main concepts have been developed into a number of principles which form the basis of the design options. These are as follows (Stanisic, Turner and Hassell, 1997: 13-14):

- The existing positive block pattern is to be reinforced and supplemented.
- A network of significant public spaces and streets will promote accessibility.
- A diversity of built form is encouraged.
- Social infrastructure facilities which build on the unique cultural identity of South Sydney are to be established.
- Environmentally sustainable development is promoted in the design of individual buildings and the whole area. Emphasis is on water and energy management.
- Networks which improve pedestrian and vehicular connectivity and reduce car dependence are planned.
- Maximum utilisation of existing and future public transport is encouraged.
- Compatible mixed land uses will create a place with vibrant urban life.
- Improved physical infrastructure is required to support an increased population.

The primary emphasis of the design options presented in the masterplan is on the framework of public space and streets to restructure the area. The report notes that the public domain network

takes precedence over the built form as buildings "may come and go" while the life of the city takes place on the streets and in public places.

The urban form typology proposed in the masterplan area has been justified as providing for diversity, mixed usage and housing choice and includes:

- terraces, 2 to 4 storey, with roof attics,
- perimeter block and courtyard form, 4 storey,
- perimeter block, block edge and courtyard form, 6 to 10 storey, and
- slim line towers, 10 - 14 storeys.

3.3 ACI (Meriton) Masterplan - Summary of the main principles

The ACI (Meriton) site was previously used by ACI (Australian Consolidated Industries) for glass making activities and has an area of 11.25 ha.

In summary, the ACI site proposal is:

> "to establish a new legible and permeable urban form based on the extension of the existing street grid, the adoption in principle of a perimeter block edge building form and a graduation of building height to provide visual diversity and the creation of lower, more human scale buildings focussing on [the central] ACI Park". (LFA, 1998: 13)

The Masterplan summarises various options explored for the site such as where to locate the (transportable) Grissell building, the extent of the removal of facades of warehouse buildings, the appropriate mix of landuses within and between buildings and more. Appendices 2 and 3 show masterplan views of the site.

The Masterplan submitted by Meriton (1998: 37) proposes:

- 2,100-2,300 residential dwellings,
- up to 50,000 square metres of business floor space,
- 19,000 square metres of dedicated public open space, and
- 17,200 square metres of semi-public open space (combined open space is 32% of total site).

South Sydney Council has endorsed in principle the masterplan for this site as a framework for establishing and locating new roads, pedestrian and cycleway linkages, public and semi-public open space areas, drainage and other public domain improvements, building heights and envelopes.

The *ACI Masterplan* is thought to reflect the main design principles of the *GSDS Masterplan* in the following areas:

- layout of public space and streets - especially the north/south avenue,
- a range of building types and scale including residential and non-residential uses,
- height variations (from 2 to 14 storeys), and
- integration of water features into open space and movement networks.

Buildings to be retained include the AGM building (corner of South Dowling and Lachlan Streets), the Crown Crystal factory (Bourke and Lachlan Streets), a former administration building, part of the facade (and machinery) of the corner building at Crescent and South Dowling Streets, and other features including a brick chimney. The Grissell building and machinery to be retained are to be relocated.

High density (up to 204 dw/ha) redevelopment is proposed for up to 2,300 residential units. The council planning report (South Sydney, 1999b: 3) notes that the planned number of units to be constructed may be underestimated in the masterplan, given the average area used. Commercial uses will be concentrated in the retained buildings along South Dowling Street. The Crown Glass building will be a Toyota sales and service centre. Potential uses for the heritage former AGM building (over 15,000m2) include a boutique hotel, craft centre or commercial space. Other non residential uses are primarily on the site perimeter or along the new north south avenue. Activity zones in these areas will therefore be promoted by ground floor retail uses and cafes and restaurants at Central ACI Park. Of the 3.62 hectares dedicated to open space, 1,900m2 is for public uses, and 17,200m2 is for 5 semi private courtyards (mostly in the centre of block edge buildings). The former Administration building will be between two new public spaces - "Watchful Harry's Square" and "New Cross Street Square".

4.0 EVALUATION OF THE MASTER PLANS AGAINST URBAN DESIGN PRINCIPLES

Earlier, some common concepts for quality in urban environments were derived from an overview of some noted urban design theorists. This section presents a more detailed discussion of these concepts and relates them to the principles and known detail of the masterplans under study.

4.1 A sense of place

To have meaning, urban development should include elements which give identity to the location, landform, natural history, heritage, culture, customs and past and current use of the area.

Achieving a sense of place therefore requires a range of treatments from the retention, restoration or re-use of items of built and natural heritage, to a continuation of the dominant built form (where this is appropriate), the inclusion of aspects that reflect the previous landuse and life of the area and a focus on new or future identifiable place elements. The masterplans governing the redevelopment of the Green Square area include aspects of each of these factors.

The heritage strategy of the *GSDS Masterplan* is to maintain a connection with the existing industrial or landscape history of the area by establishing key defining items in the urban framework. A list of 24 items of environmental heritage in the masterplan area is provided in the plan and items of landscape value have been mapped (Stanisic, Turner/Hassell, 1997: 47).

On the ACI Site, heritage items and elements to be retained include the AGM building (Building 5), the Administrative Building (Building 1) and the Grissell Building (Building E - a transportable cast iron structure) together with the machinery and chimney stack of the Powerhouse building. The AGM building provides distinctive Art Deco architectural elements, and in particular, the landmark tower will provide an important site attribute.

Elsewhere in the report, it is suggested the opportunity to retain views along South Dowling Street of the AGM tower is provided by appropriate setback of new buildings above podium level (LFA, 1998: 28). Setbacks of new towers away from existing heritage buildings and facades can be successful, but often from an urban design aspect, the restoration of the heritage building together with appropriate space around it (without an overshadowing tower) is preferable.

The heritage items are to form the basis of the creation of a range of new urban spaces of varying scale and character. These include "Watchful Harry's" weighbridge area (directly off South Dowling Street), which could be enlarged as an urban plaza for buildings 1 and 5. This space acts as an arrival space for the buildings, provides pedestrian and cycle connections to South Dowling Street, and allows views to the Golf Course. A sketch of the proposed Watchful Harry's Square is provided in Appendix 7.

Other initiatives such as the linkage of a new water feature within the ACI site to the Alexandra Canal and other restored tributaries, and the linkages of public spaces around these will contribute greatly towards a sense of meaning and place in the public domain, by providing physical links for movement as well as links to the natural and past industrial aspects of the area.

4.2 Reasonable densities

Mixed use, mass transport, accessibility and a pedestrian realm all require a compactness and a certain number of people. Density is distinct from crowding or sprawl. Those theorists who suggest density figures (Alexander and Allan Jacobs and Appleyard) provide figures promoting medium rather than high or low density. They suggest an average of 37 to 38 dwellings per hectare - while each notes that some areas in a city can accommodate higher densities. Jane Jacobs simply suggests urban densities rather than suburban are required for vibrant urban centres.

The DCP - Urban Design (1997) which derives from the *GSDS Masterplan* proposes five neighbourhoods, each with its own thematic character. The neighbourhoods include:

- Zetland and Beaconsfield residential neighbourhoods,
- Green Square precinct,
- Victoria Park,
- Southern neighbourhood, and
- Northern neighbourhood.

This approach to community living to foster "vibrant communities" is similar to that outlined by Christopher Alexander, although, in contrast to Alexander and most other urban design theorists, the population proposed in each is far greater than the numbers Alexander promotes. Population densities proposed under the subject masterplans are actually likely to adversely impact on the ability to achieve anything like a true "human scale" of development and are well in excess of the kinds of densities urban design theorists speak of as required for vibrant urban life.

4.3 A limit on building heights

The theorists examined in this paper have definite opinions on building heights. While many promote reasonable densities (to ensure an urban flavour and enable viable transport options), without exception, they criticise buildings that are too tall. Alexander has the strongest view and imposes a 4 storey height limit on all buildings (with only occasional exceptions permitted). Before the first skyscraper was ever designed, Sitte was criticising the "modern cubic mass" of buildings that was growing ever higher to take advantage of development potential. Whyte's observations that taller buildings cast taller shadows and his example of appropriate proportion between building heights and the width of the right of way (60') shows that in some precincts with existing lower scaled heritage buildings, 18-20m is an optimal height. Similarly Jane Jacobs criticises superblocks and skyscrapers as not conducive to "eyes on the street" or a human scale of development. Finally, Allan Jacobs and Appleyard suggest that many separate buildings in complex relationships rather than a few large buildings allows the finer scale of design diversity, more entrances and windows with a more lively public domain as the result.

The *ACI Site Masterplan* (LFA, 1998: 7) states that proposed heights of buildings in *the GSDS Masterplan* "are generally based on the existing pattern of building heights", yet it proposes a range of heights from 40m (14 storeys) to 12m (4 storeys) with a majority of the [ACI] site to be within the 24m (8 storey) limit. This comment is at odds with the *Green Square Development Control Plan* (South Sydney Council, 1999a: 18) which suggests that the "general scale of [current] development in the northern [ACI] neighbourhood is low to medium rise, 1 to 6 storeys". In addition, it is noted that where energy efficiency guidelines and solar access requirements can be met, opportunities exist for higher built forms without environmental or visual impacts (LFA, 1998: 7).

While height is often considered secondary to building form in terms of urban design, the range of building heights planned for the area is at odds with more than one urban design theory. The general scale of current development of low to medium rise (1 to 6 storeys) buildings is to be exceeded in the redevelopment of the area, with new buildings predominantly 4 to 8 storeys, with taller buildings along the periphery of the ACI site (14 storeys) and around Green Square Station (10 storeys). The emphasis is on mid-rise block edge and slim line tower forms "to support clear definition of the public domain". It is questionable whether it is necessary to have slim line tower buildings to define public areas, or even announce gateways to the area. Towers are to be behind courtyard buildings or designed above a podium, with height matching adjacent buildings.

The neighbouring Moore Park Gardens tower buildings have already been constructed and have won accolades for their innovative design. However the approval of such a height has set a precedent for the ACI site, and virtually locked in the development opportunity for towers in this area, regardless of whether this brings appropriate density and environmental design to the area. The need for councils to plan ahead and allow for the concept of precedent in heights and to set appropriate floorspace ratios (including any allowances for the provision of extra public amenities and design elements) is highlighted by this issue.

The council planning report notes that the impact of the two 14 storey buildings proposed along Crescent Street may, together with the Moore Park Towers, create a wall of closely spaced tall buildings when viewed from the distance. There may also be significant overshadowing of open space and buildings to the south. It notes the potential and the likely need to reduce the height of the buildings by redistributing the floor space on the perimeter of the proposed Central ACI Park. It is interesting that the *ACI Site Masterplan* (1998, 32) proposes buildings of lower height than the general 8 storeys as appropriate for sites adjacent to the central park to provide for sunlight penetration and a more human scale.

These elements are apparently not needed in other open spaces and areas of the overall site where taller buildings are proposed. The masterplan also suggests that the 12-14 storey towers are "signature buildings" required to form a "gateway into the site", and provide variety in scale along the street between the 5-6 storey AGM building and the 3 storey Crown Crystal building. Both these objectives could be met without the need for 14 storey towers. However, the argument that such towers would provide a transition between the existing Moore Park Gardens 15-20 storey buildings is reasonable. Meanwhile, the masterplan warns that to conform to an overall height ceiling of 8 storeys would force an increase in the building plan or footprint area, diminishing other urban design qualities (1998, 42). Appendix 5 shows the proposed building heights for the ACI site.

To emphasise street corners and prevent a wall of towers in conjunction with the Moore Park Gardens development, the South Sydney Development Corporation suggests moving the 14 storey tower buildings proposed midblock on Crescent Street to the corners (Crescent St/Bourke St and South Dowling/Crescent St). It is interesting to note that in describing the current urban form of the site, the *ACI Site Masterplan* (LFA, 1998: 17) notes the Bourke/Lachlan Streets existing corner is defined by the Crown Crystal building - a 2/3 storey horizontal building with a curved street edge facade. Here, a 2 to 3 storey largely horizontal building is described as presenting appropriate street corner definition, so it has to be questionable whether 14 storey tower buildings are really required (or are even appropriate) to "define the corners" as the masterplans suggest.

In summary, the excessive height of buildings planned for some areas is out of character with current development in the vicinity and could well undermine other design qualities.

4.4 Mixed and Compatible Uses

There is general agreement that groupings of housing, retail, various commercial and recreational land uses within a compact setting, with many uses open beyond regular business hours is preferable to the zoning ordinances which set aside distinct areas for separate uses. Strict landuse zones were relevant as a reaction to the poor environmental quality endured by populations post industrial cities, but have since been shown to cause problems for accessibility and community involvement.

Appendix 4 shows the broad landuse proposed for the ACI site. Areas of activity are proposed with some on the periphery of the site, where densities are greatest and others in the centre amongst the lower density buildings.

The use of existing buildings for mixed uses is appropriate as such buildings are often less adaptable to residential use. In addition, more public use can be made of buildings which house commercial activities - more people can therefore experience the history of the area through use of the buildings.

The plan to encourage (compatible) mixed uses throughout the redevelopment area is one of the hallmark features of this redevelopment project.

4.5 Pedestrianisation

Limiting building height to four or five stories and avoiding uniformly one storey buildings and tall towers, allows both a human scale and a density which promotes a walkable neighbourhood.

Aspects of the masterplans make reference to pedestrian linkages, particularly in relation to other networks such as open space, waterways, cycling and local traffic. However, there is very little detail with respect to treatment of the currently very high levels of traffic through the area - particularly around the Green Square Town Centre. The current street network and traffic flows render the environment completely hostile to pedestrians at present. It remains to be seen whether the combination of the new airport railway, the new Eastern Distributor and other proposed road changes in the vicinity will be sufficient to attract traffic from the west and inner west away from the Green Square area and permit a more pedestrian friendly environment. Other minor aspects that do not look promising include some fairly excessive proposals for carparking in courtyards. It is suggested that parking should be below ground and along streets. Larger scale, surface parking is to be discouraged.

4.6 Human Scale

The need for a "human scale" in development appears to be a recurrent theme for many theorists and is noted widely in literature on urban design. A human scale is assisted by development at reasonable densities and a finely grained built form which usually results more from many smaller buildings rather than a few large buildings.

The masterplans examined provide some attempt towards a human scale in development, but it is very selective. Sitte's plea for a return to corner turrets, (useable) balconies and projections and porches is largely answered by the *ACI Site Masterplan* with its suggestion of such elements to reinforce the building definition and create interest and activity at street level. Such initiatives would assist in promoting the street life Jane Jacobs and others insist is required in livable areas. Overall, many of the taller buildings on both the ACI site and around Green Square could well result in precincts that lack this important quality of a human scale. (See Appendix 6 for two streetscape views of the ACI site.)

4.7 A public domain

Many of the theorists criticise postwar development and modern life for its loss of publicness, and largely unsuccessful public space area. With this is the lack of eyes on the street and general involvement in public areas. The street, pedestrian paths, parks and plazas which are owned by the public play a crucial role in urban life. They should invite various activities, be comfortable, convenient, pedestrian and useful. The paradox for urban design is that while architects design buildings (and sometimes spaces) for private clients, it is the public realm and the public face of such developments that is so crucial for quality design.

The provision of open space is a pivotal aspect of both masterplans (see Appendix 8 for a view of Green Square Town Centre). In the case of the ACI site, such public domain amenities are emphasised in order for the development to qualify for floorspace bonuses. Even so, it is noted that the provision for public open space in the ACI masterplan is 3,000m2 short of the current council requirements (ie that over 23,000 m2 of private and communal open space be provided at ground level plus 6m2 per person as additional public open space).

The hierarchy of spaces proposed such as the central park, Watchful Harry's Square and semi private spaces of the ACI site, and the network of parkland and open spaces focussing on an east west axis, the station and the water systems in the *GSDS Masterplan* is in line with philosophies of Alexander, Sitte and Allan Jacobs and Appleyard. The central courtyards of the ACI site builds on the clusters of common land proposed by Alexander, although rather than being shared by clusters of houses, they will be there to service clusters of apartment blocks. A legible and permeable built form can be promoted using such block edge courtyard development. This helps define and reinforce street edges and enclosed spaces provide secure private space. However, it is largely the accessible public spaces which provides eyes on the street.

The building interface is designed to achieve visual and acoustic privacy to the working and living areas of the building whilst allowing for street surveillance (South Sydney Council, 1999: 41). Stated objectives for the interface which encompasses the building facade and the space abutting the street and footpath are to define, express and enrich the public domain. However, mention is only made of the creation of a range of private and semi private spaces, when this is the area that requires public (rather than private) space to be of a high quality.

Concerns that the proposed ACI central park is surrounded by 3-4 storey buildings and courtyards making it appear less accessible to the public and effectively functioning like a semi private space have been responded to by council planners' comments that while the park is not bound on all sides by streets as shown in the *Draft DCP Urban Framework Plan*, it extends both sides of the north south avenue and a pathway on either side separates the public land from the private space. It is argued that this allows an appropriate level of supervision of the park without it becoming less publicly accessible (South Sydney Council, 1999b: 15).

It is noted that general urban design principles suggest that regular shape in a public space is secondary to other matters such as location, physical and visual accessibility and the amount of useable or sittable space. Details are not yet available that would indicate how useable the space might be (how much sittable space will be provided etc). Generally indications are encouraging but there are concerns that the linkages between major open space areas are not physically or visually prominent enough to encourage use of the public areas. On the ACI site, for example, Watchful Harry's Square, with its wider opening on to a main thoroughfare (South Dowling Street), is better in this regard than the central park (refer to Appendix 7). Large spaces such as the central park require definition in the form of elements such as steps and borders if they are to be well used by people, as users tend to avoid positioning themselves in the middle of a large space. However, even a large unbroken expanse of green would provide visual relief for the inhabitants of surrounding buildings.

The preferred option in the ACI masterplan for the location of the Grissell building at one end of the central park (instead of in the middle of it) is preferable for the building and its contents (heritage machinery items) and also for the public users of the park.

The masterplans devote considerable detail to the public domain and the provision of a network of public spaces. Many aspects are commendable including the use natural and heritage features as a basis of public space, and the recognition that linkages between such spaces are important. Some other aspects such as the actual amount of space provided and the visibility of entrances to public areas, in some cases (such as the public entrances to ACI park) are less impressive in terms of quality urban design principles.

4.8 Linkages and relationships in the built environment

The built environment encompasses the notions of place, human scale, mixed and compatible uses, and consideration must be given to well defined public, semi public and private spaces, the relationship between the interior and exterior of buildings and neighbouring buildings and spaces. One major area of common ground in urban design theory with regard to this is the need for many separate buildings, windows and entrances and a fine grain of urban fabric rather than tall tower blocks or large scale bland buildings.

The *GSDS Masterplan* notes the current strengths, opportunities and limitations of the existing environment and generally seeks to reinforce and supplement the positive. There is a recognition in the masterplan that many existing buildings (including many brick industrial buildings) extend to the boundary and provide strong definition to the street (although usually without the activity at ground level which contributes to urban quality). The plan required new development on site to provide a continuous definition of street edge, although articulation and variation is to be provided in the form of recessed balconies, courtyards and occasional street front walled gardens.

The current restrictions on vehicular and pedestrian movement caused by the size of the ACI (Meriton) and the Navy Stores (Landcom) sites are proposed to be overcome through the provision of a public domain network of paths, streets, open space and water ways that will increase permeability and accessibility. The *ACI Site Masterplan* (LFA, 1998: 25-26) suggests the existing street grid pattern of Redfern and Waterloo will be extended in to the site to establish a "robust and flexible structure" for development which relates the existing street patterns and provides increased permeability in the urban fabric. Certainly, the increased connectivity provided by the bike and pedestrian links (and local street network) through the site and the overall redevelopment area are very much in line with the philosophy promoted by Alexander and his colleagues.

Alexander and others (such as New Urbanists) would approve of the extension of the existing street grid into the site, however, Sitte was less appreciative of laying out streets grids as structure for development, preferring streets and lanes to follow natural contours with an emphasis on “T” intersections rather than cross roads.

The masterplans seek to justify the promotion of a "diverse and cohesive" urban form by relying on the extremes of built form currently characterising the area. The range includes small lot terraces through to large industrial sheds on superlots.

Building to the street is appropriate for major external streets but setbacks on internal streets will allow for terraces and private entries.

The South Sydney Development Corporation notes that sweeping curves and horizontal building edges form the ACI site image - such a low horizontal form should be reflected in future development. In fact, the existing buildings are:

> "essentially long continuous facades with ribbon windows establishing a strongly horizontal proportion. Corners are rounded and built to the edge of the site defining the street system. While these buildings are not considered heritage items, they are strong architectural forms, defining the street edge and contribute to the streetscape character." (LFA, 1998: 17)

The Corporation also comments that open space linkages need to be further strengthened on the ACI site - especially links to Moore Park via Amelia Street. In addition, increased permeability through the site will be best gained via an extension of Dankes and Amelia Streets.

4.9 Compatibility with the natural environment

While not mentioned by some (especially earlier theorists) ecological considerations such as climate, vegetation, geomorphology, hydrology and wildlife are noted by Alexander, Allan Jacobs and Appleyard, and are becoming widely accepted as important components of well designed human environments (whether in dense urban areas or not).

There is the suggestion of development bonuses for building and site design that takes into account climatic and environmental aspects, while a major aspect in this regard is the rehabilitation of Alexandra Canal, the restitution of other natural water courses and the use of local topography to deal with stormwater runoff on major sites such as the ACI site.

4.10 Pace and process of development

This includes an integration of land, work, people and their history and contributes to a sense of community. In particular, the participation of people in the building of their own community, and building at a slow local scale is a repeated requirement in urban design theory.

The detail provided by LFA in the ACI masterplan reflects a thoughtful approach to ensure that all elements within the site contribute positively to the whole site and link in with the overall area. The need for an approach which promotes development that contributes to, rather than negates the existing built environment is paramount in much of urban design theory (eg Alexander, Jacobs and Appleyard). Despite this, the mass scale of development, the masterplan approach, the limited community involvement and the lack of a piecemeal approach in this case is diametrically opposed to many theorists, particularly Alexander. While some design elements endorsed by Alexander are present, the all important process of participation in development and building communities at a local scale favoured theorists such as him and Jacobs, is not. Given the realities of current development trends, this aspect of urban design is often missing, particularly in large scale developments.

While practical considerations such as building form, scale, materials, streetscapes and lighting provide one approach to urban design, it has been widely noted that more innovative approaches which move beyond "interior decoration in the rain" (Kerkin, 1998: 137) considers the use of such design elements within the context of broader social, economic and political concerns of the city. This therefore requires not only direct negotiations with planners and developers about the design and use of the sites and spaces, but also working closely with communities to define and redesign urban spaces.

5.0 CONCLUSION

5.1 Final Comments

The aspects of the ACI and Green Square masterplans which encompass multiple principles are the most powerful of all. For example, the plan to re-establish the stormwater channels and link waterways and open space in the area which was once marshland (Waterloo Dam and Sheas Creek which drains to the tidal Alexandra Canal and the Botany Sands Aquifer) will assist in reconstruction of the ecosystem of the Green Square locality. It also provides the area with tangible links to its industrial and pre settlement and early post settlement history. At the same time, the public domain is enhanced, and the major through-routes of such public linkages are based on topography and natural features rather than random axes drawn for effect on architectural plans. This also helps to retain the cultural and historical significance of the area, lending meaning and instilling a greater sense of place.

Treatment of newer, elements to create identity, such as the Town Square and the area around the railway station itself, may be less successful. For example, Stanisic, Turner/Hassell (1997: 42) suggest definition of a public space and recognisable form for the railway station through the development of "built form". Details provided later suggest that this will be in the form of a 10 storey block edge building at Green Square Station.

Of greatest concern perhaps is the scale of the redevelopment of this area in South Sydney. This is a massive project (currently the largest redevelopment occurring in Australia) which will be largely completed by the private sector under a masterplan approach with limited input from the local community. While this is typical of modern development projects such an approach to development, particularly redevelopment in infill areas, is opposed to many of the principles of the theorists reviewed in this paper.

The notion of development at a human scale has been frequently referred to with various attempts to provide this. However, there is no escaping the overall high density tower effect which severely limits opportunities for the entrances, exists, doorways, windows and design details that are provided so naturally by smaller scale, more fine grained development.

On the surface, many design aspects of the masterplans are encouraging. There appears to be a genuine attempt to examine the existing built environment and take what is positive and reinforce this. Care has been taken to provide tangible links to the past. The concern is that these positive aspects may be overwhelmed by the sheer scale of development permitted by the generous FSR and the bonuses. While it is argued that the high densities fulfil urban consolidation policies, consolidation would be more effective if the highest densities were located closer to the railway station rather than at the limit of accepted walking distance - such as at the extremes of the ACI site.

If the question of densities and heights can be put to one side, the emphasis on the public domain network, which the masterplans state should take precedence over the built form, is refreshing. The plans note that buildings are not as enduring as the streets and public places where city life and interaction takes place. It remains to be seen whether or not the density of development proposed overshadows the public spaces and reduces the potential benefits that are promised.

5.2 Lessons from the case study

5.2.1 Applications for contemporary development

The examination of such a redevelopment case study is useful if it indicates some lessons for contemporary development. It is clear that the approach taken in South Sydney is in line with some accepted principles of urban design. In many cases, other redevelopment projects should be able to conform to such guidelines as well.

Principles which could readily be applied to other redevelopment projects are demonstrated by the strengths evident in the case study. These centre on the obvious effort to incorporate aspects of cultural and natural heritage into the proposed development. There is also the recognition of the positive design aspects already existing in the area and a commitment to reinforce these. An example is the strong presence of good street definition currently in the area (provided by the existing building form which is largely characterised by warehouses and terrace housing) and the proposal to preserve and supplement this in the planned redevelopment. Planning sites around natural contours and drainage linkages rather than creating designs that merely appeal on paper is also part of this. A further example is the plan to extend the existing street grid into the sites to create greater permeability and accessibility into areas that have been locked away from the public for many years. Such measures are indicative of development that enhances and contributes to the surrounding area rather than detracts from it. They are also important in promoting a sense of place – where people can easily recognise links with the past and can identify with links to the more established precincts in the area. Overall, the case study illustrates a fairly high degree of **responsiveness to the local context** – and this is a quality that should be basic to any well designed development, and particularly any infill development project.

The case study also illustrates the concept of the visual quality of open space. A particular strength for example, is the planned open space linkages along major restored waterways, which provides for efficient movement through the area. Significantly, these open space linkages also provide the longer narrower open spaces that are perceived to be so valuable as they both visual and physical access to such spaces to the greatest number of people.

To ensure a positive contribution to the character and amenity of a neighbourhood, there needs to be a **vision for the desired future character**. In this case, considerable effort has gone into working through such an overall vision for the whole vicinity, the individual sites within it, a central focus for the new suburb (Green Square Town Centre) and for the linkages between each of these. Having such a vision as a basis is an important but sometimes missing aspect of individual development projects. Quality urban design requires defined public spaces, that is, spaces surrounded by buildings to promote social contact – rather than buildings that sit in space. So while developers and architects create buildings, it is actually the public domain and how buildings relate to this which is crucially important in urban development and urban living. In the development and constant redevelopment of cities, buildings come and go but the street pattern and public areas are where urban life takes place. Consequently, as noted by Mant (1996: 6) urban design concerns urban management as much as individual projects and the two cannot be conceptually separated.

Another notable aspect of this case study is the provision of **incentives for innovation**. In this case, extra floorspace bonuses have been made available for the provision of certain open space and environmental features, for example to assist in promoting higher water quality. The use of incentives to promote quality in urban design is a complicated but potentially valuable area that could be explored to improve contemporary development policy and practice.

The current general lack of incentives for design innovation together with concern about the lack of vision and leadership for the future of urban areas are cited as two of the common barriers to quality urban design in a recent report on urban design in NSW (CDTRD Urban Design Team, 1996: 11).

Another barrier identified by this report was cumbersome bureaucratic structures and approval processes. This case study illustrates an answer to this, that is, the creation of a **development corporation** to oversee redevelopment of large areas. However, such a solution is commonly only used in large scale redevelopment projects, or for projects of political importance. The majority of development projects must go through the regular local and state agencies and approval processes (which, in the past, have often been characterised by poor integration or co-ordination).

Finally, the redevelopment of large consolidated sites promotes large scale buildings rather than the more finely grained development that automatically results from smaller landholdings and which generates interest, accessibility, activity and "eyes on the street". The case study indicates how the use of courtyard dwellings and some smaller buildings can promote these qualities. However it also demonstrates how extra permissible density will invariably be accommodated in tower buildings and larger scale buildings which could well undermine attempts for a human scale of development.

5.2.2 More ingrained barriers to quality design in contemporary development

Given the realities of contemporary development other barriers to good design are more difficult to overcome. A particular example illustrated by the case study involves the conflicts between quality urban design and the economics of development. As in this case, attempts to create a human scale in developments are often likely to be undermined by generous floor space ratios and by permitting tall tower buildings. Stricter planning controls and the avoidance of height precedents could alleviate this, but current urban consolidation policies at the state and local level, building technology and high land values creates **pressure in favour of high densities**, and maximum utilisation of a block or site.

The case study illustrates a further characteristic of contemporary development that is unlikely to change. While the proposals in the case study will be carried out over a number of years due to the sheer size of the overall redevelopment project, the approach in the case study could not be described as piecemeal. The new suburb of Green Square will not really be a slowly evolving locally based community. While community representatives are included on the development corporation, the extent of involvement of community members in designing the masterplans is unclear and likely to have been fairly limited. Urban design theorists and current practitioners note that both full participation and piecemeal growth are important components of successful urban areas and cohesive communities. Recent changes to planning legislation in NSW have in fact reduced public participation in development decisions, and claim to have reduced time frames for approval and development. The **pace of contemporary development** and the heavy **involvement of the private sector** in development undermines local participation and the slower piecemeal evolution of communities.

The analysis of the case study in this paper provides some insights into the strengths and shortcomings of contemporary development in terms of urban design. Design criteria that can be readily incorporated into development has been demonstrated. Conversely, some entrenched barriers to certain design principles have been highlighted while areas of potential use for the planning and development industry, such as innovation incentives, have also been flagged.

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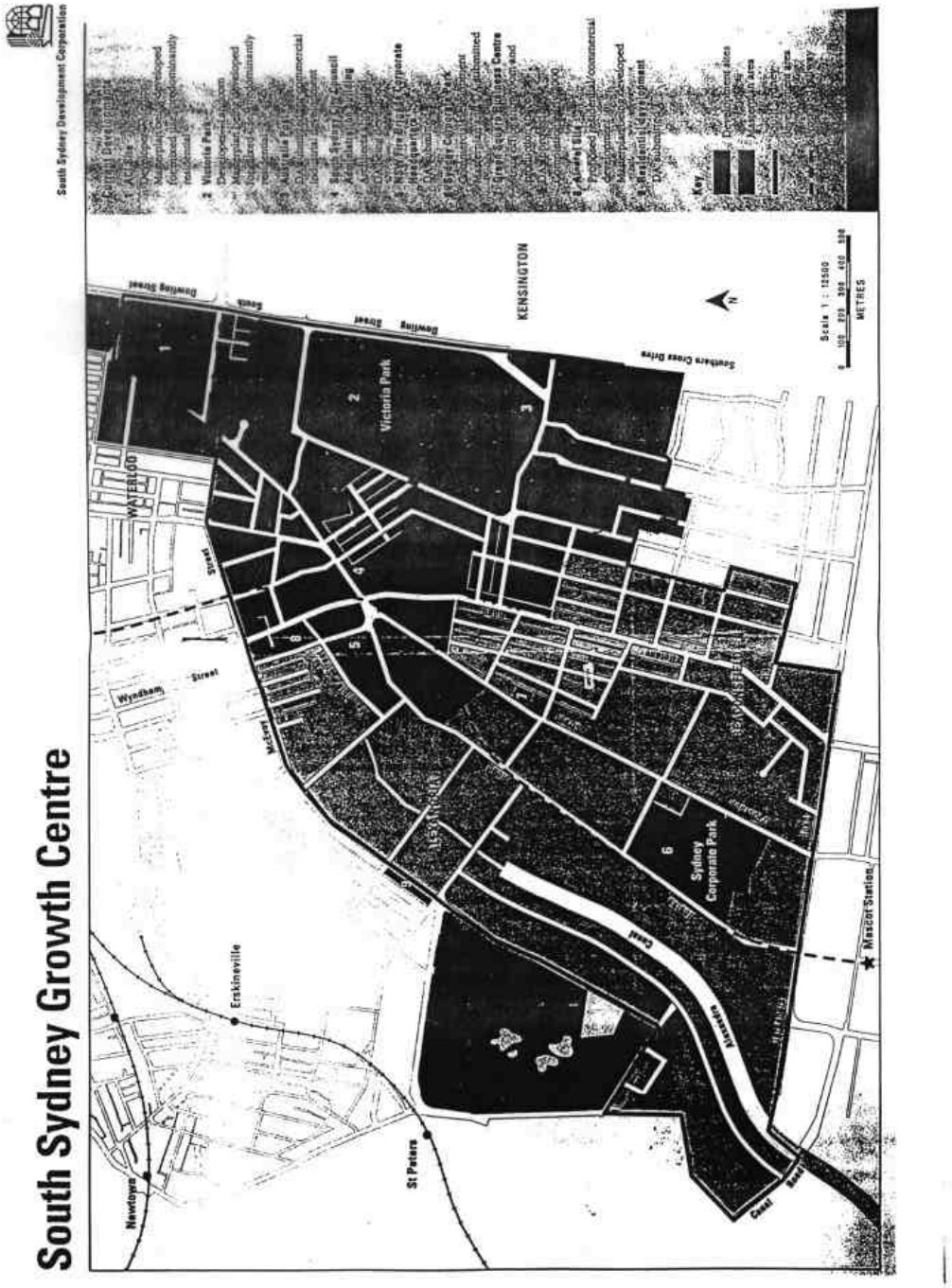
Appendix 1

South Sydney Growth Centre

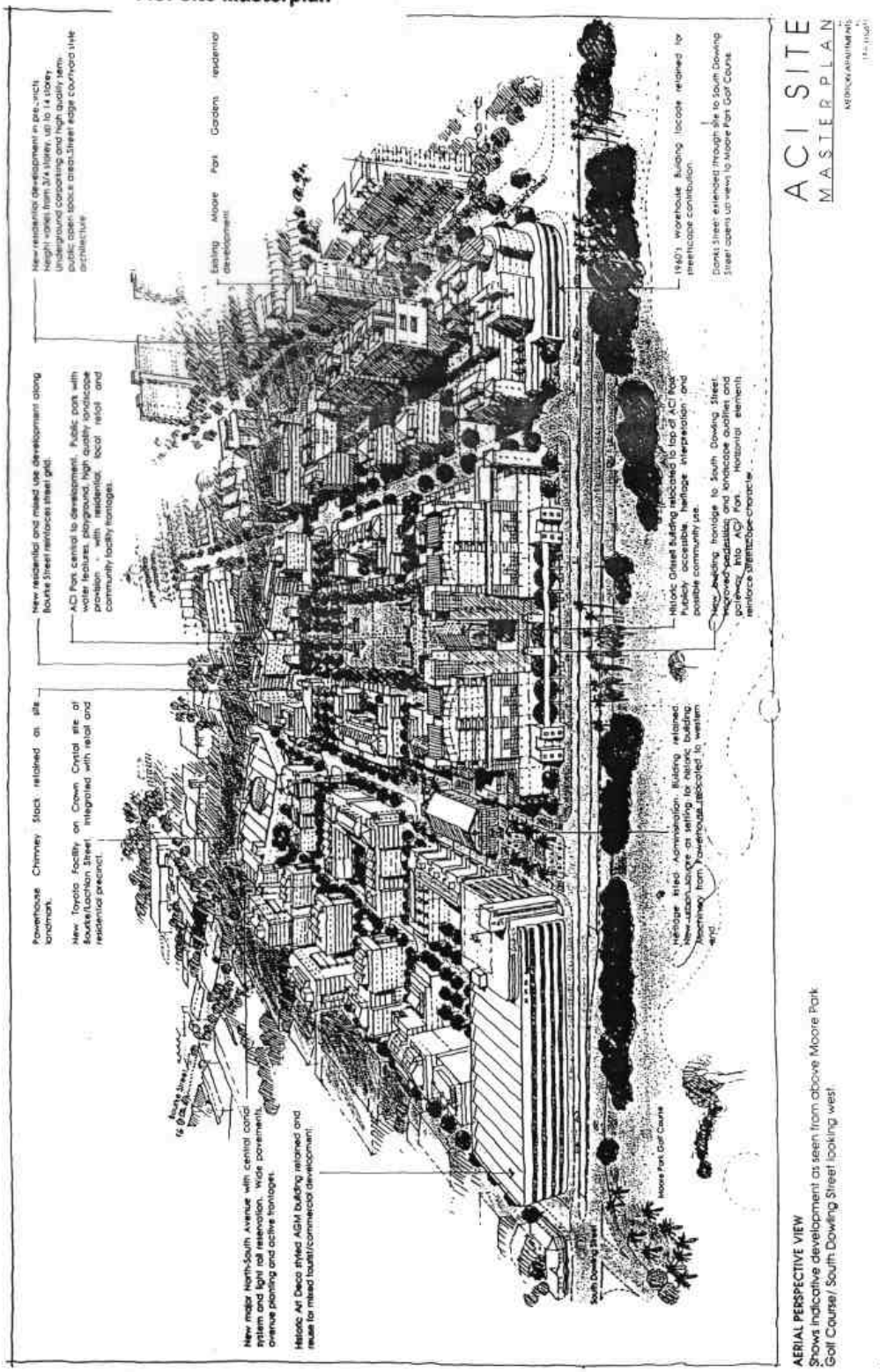
Source: South Sydney Development Corporation



Appendix 2

Source: LFA (Aust) (1998)

ACI Site Masterplan



AERIAL PERSPECTIVE VIEW
Shows indicative development as seen from above Moore Park Golf Course/ South Dowling Street looking west

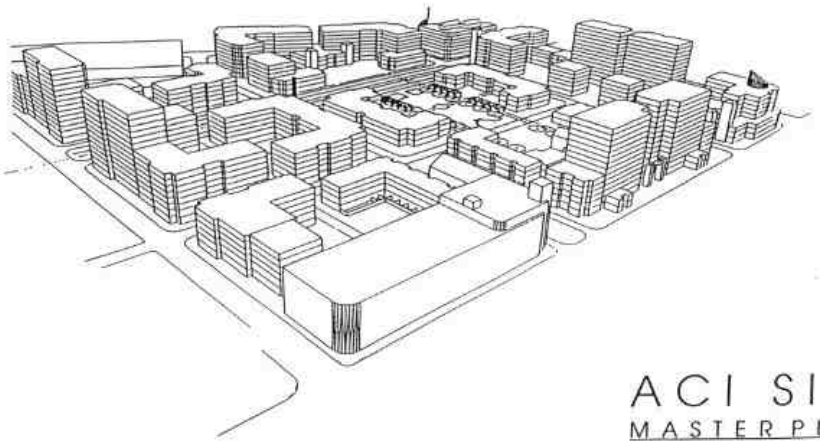
Appendix 3

ACI Site - views from three sides

Source: LFA (Aust) (1998)

View from Bourke Street looking South East.

View from South Dowling Street looking South West.



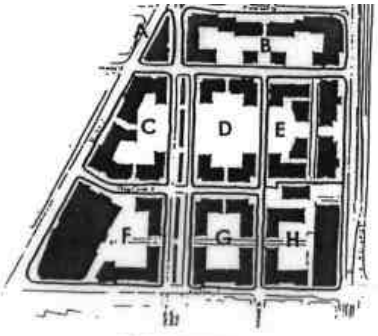
ACI SIT
MASTER PLA
MERTON APARTM

View from South Dowling Street looking North West.

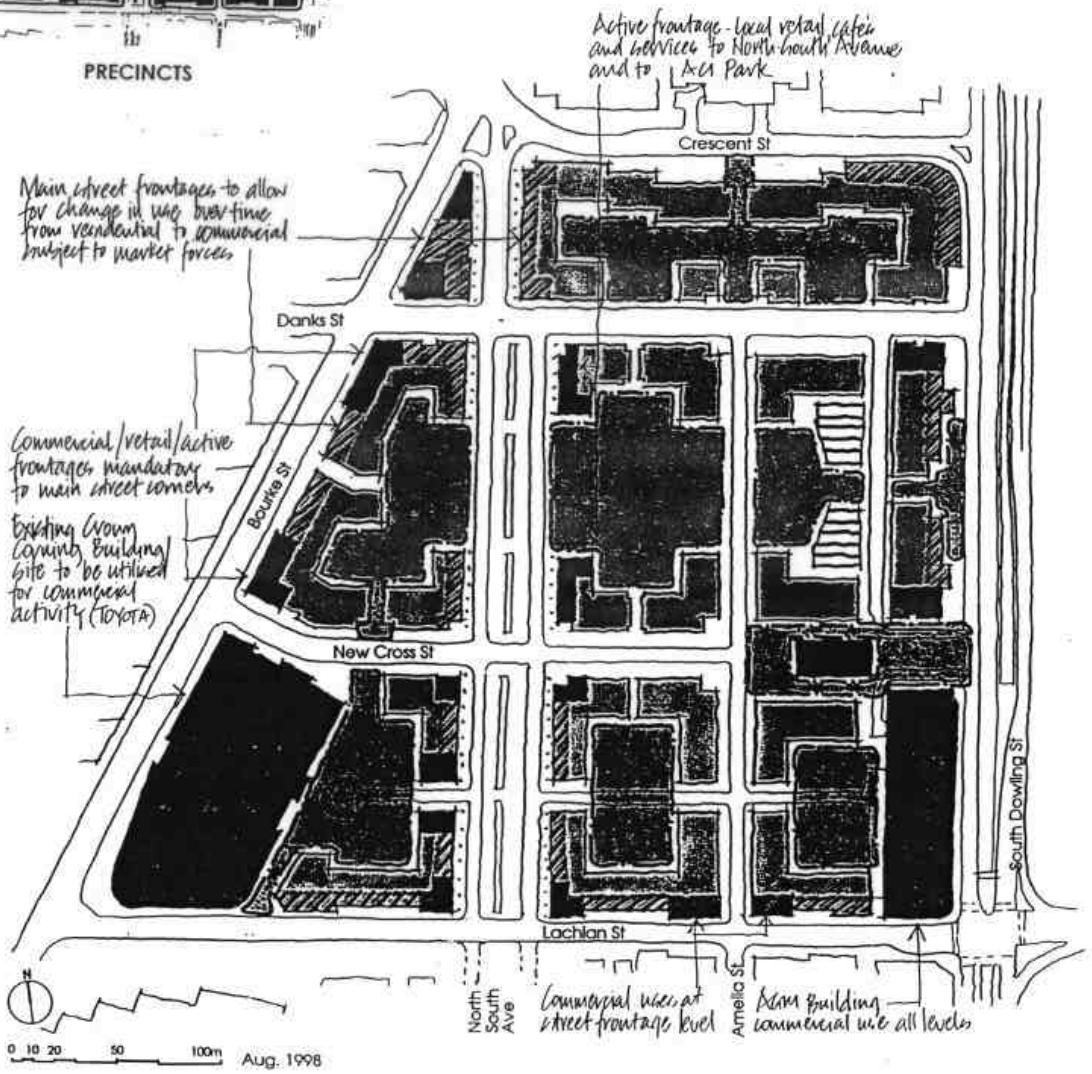
Appendix 4

ACI Site - Landuse

Source: LFA (Aust) (1998)



PRECINCTS



COMMERCIAL
COMMERCIAL / RESIDENTIAL
COMMUNITY / RECREATION
RESIDENTIAL
OPEN SPACE

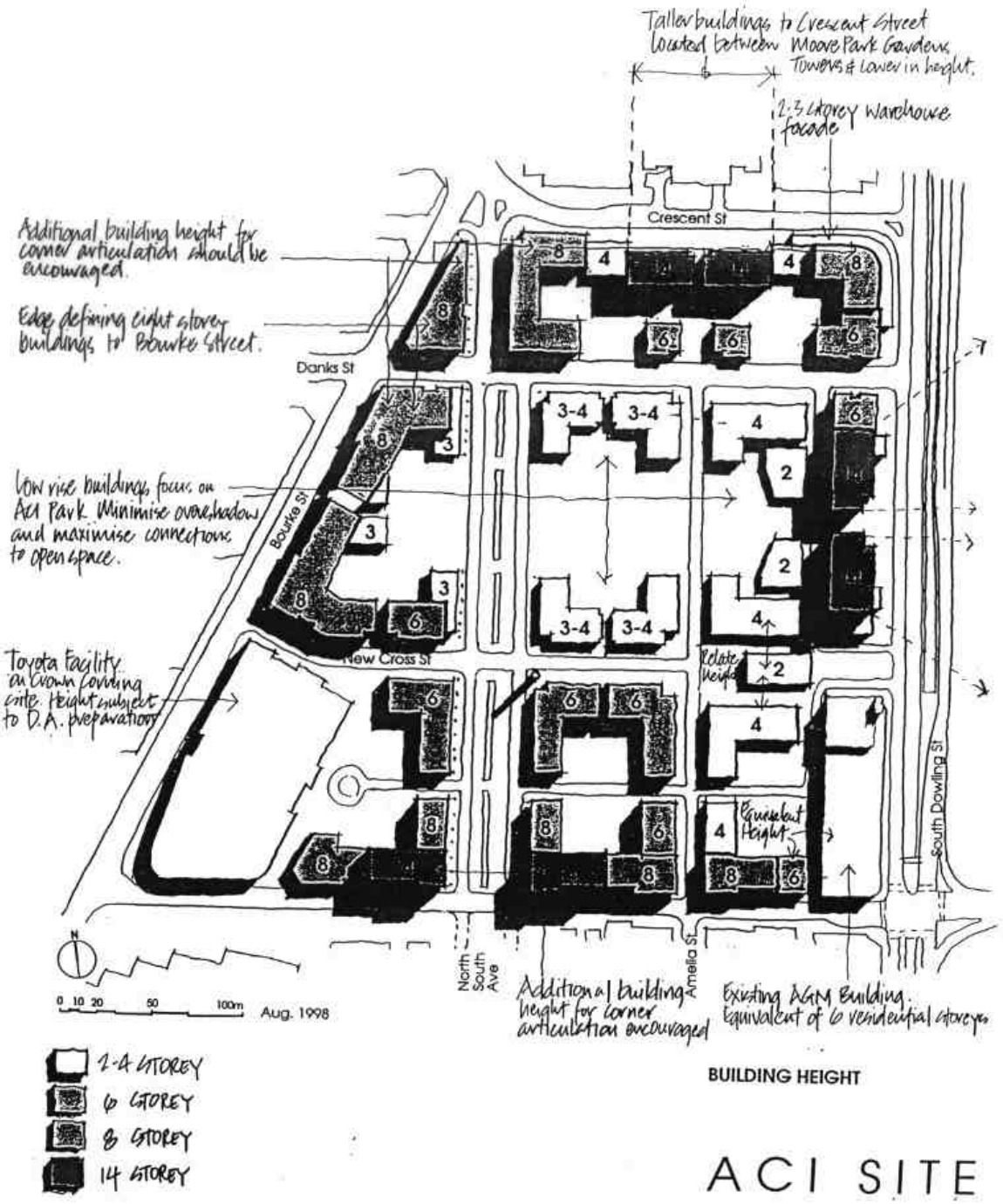
LAND USE

ACI SITE
MASTER PLAN
for
MERITON APARTMENTS
by
LFA (aust)

Appendix 5

ACI Site - Building Height

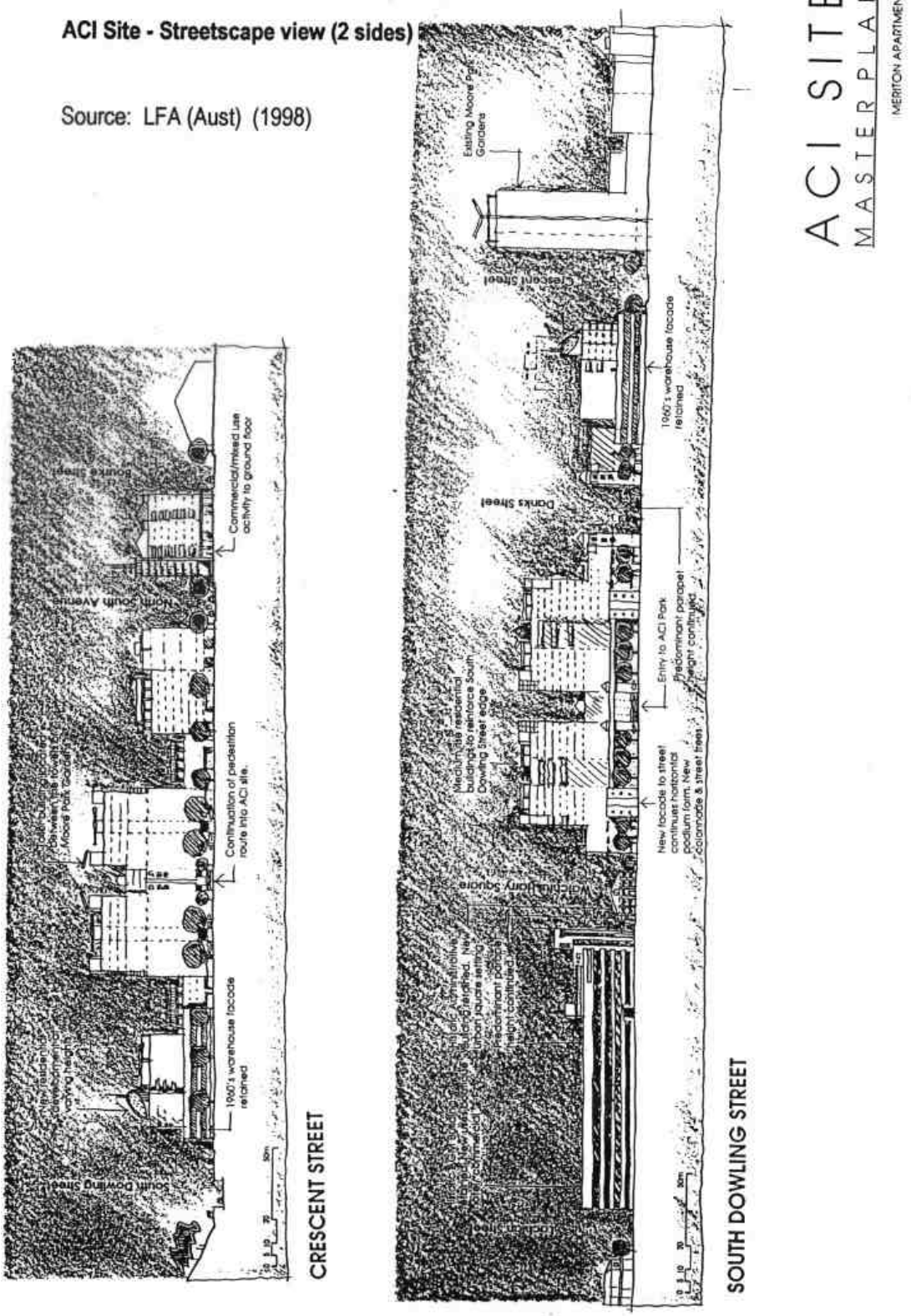
Source: LFA (Aust) (1998)



Appendix 6

ACI Site - Streetscape view (2 sides)

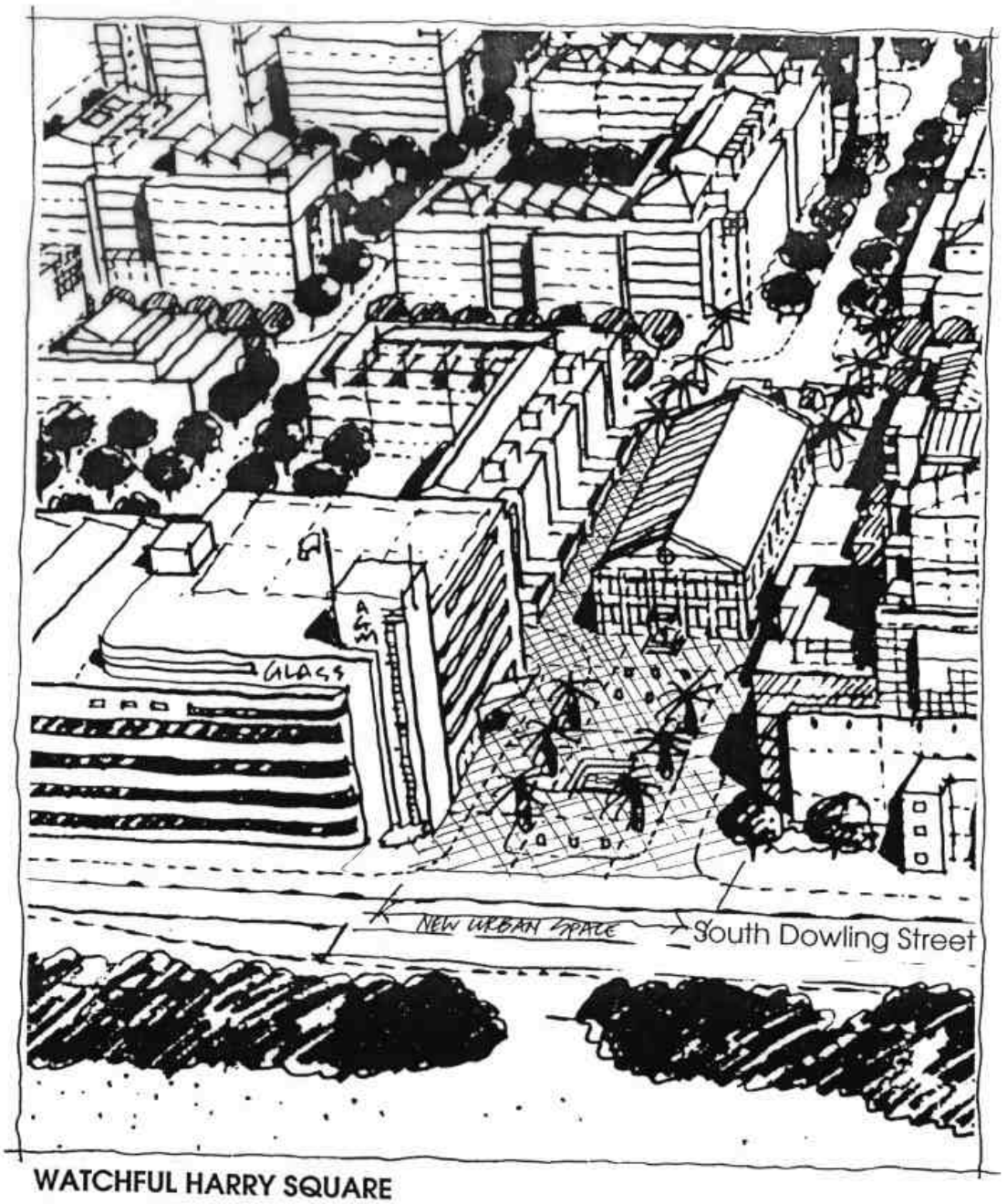
Source: LFA (Aust) (1998)



Appendix 7

Watchful Harry Square

Source: LFA (Aust) (1998)

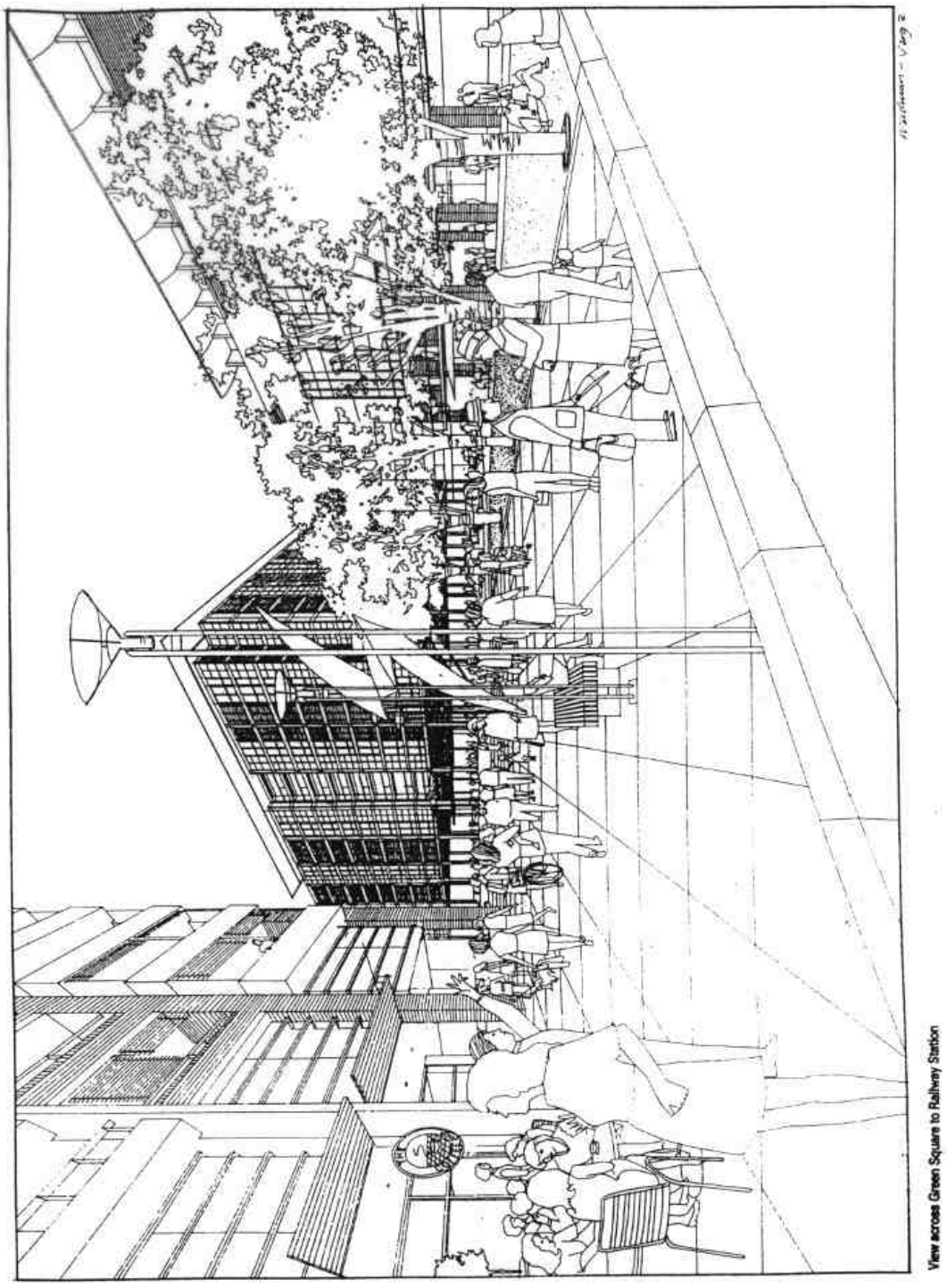


WATCHFUL HARRY SQUARE

Appendix 8

Green Square - View to Railway Station

Source: Stanisic, Turner/Hassell, 1997.



View across Green Square to Railway Station