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HOME AND INDEPENDENCE

THE LANDSCAPE DESIGN OF GROUPED HOUSING FOR THE ELDERLY

Shona McCahon 1986
ABSTRACT

This study examines how landscape design can meet the needs of people living in grouped housing for the elderly. The housing needs of the elderly are outlined and landscape design guidelines proposed. Two case studies are discussed to illustrate the guidelines and to examine the role of landscape design within the overall design process. Conclusions are drawn about this role and implications for the landscape architecture profession indicated.

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INTRODUCTION
INTRODUCTION

The home and immediate locality increasingly become the focus of every-day living in later life. As such, the home environment has a strong effect upon the functional, social and psychological well-being of elderly people. Most importantly, having one's own home is highly valued because it means independence and status at a time of life when these conditions are often threatened by the physiological and social changes of old age. Some elderly, who find that the conventional detached house and section does not suit their changed situation, find that grouped housing designed specifically for the elderly can fulfill their needs. This study explores the contribution that landscape design can make towards meeting those needs.

WHAT IS GROUPED HOUSING FOR THE ELDERLY?

In the context of this study, grouped housing refers to grouped housing developments which cater exclusively for elderly people, offering self-contained dwellings - rented or owner-occupied - in which occupants can live independently. I have limited the scope of my discussion to low-rise developments in which the housing does not exceed three stories.

There are three main types of scheme which fall within this definition:

1. Pensioner housing
   Generally government-sponsored, these schemes offer low cost, rental accommodation to elderly people on low incomes or with special needs such as a physical disability. The main purpose of these developments is to provide inexpensive shelter and until recently, they offered little in the way of communal or service facilities. Now, social rooms are often
included and government policy has given cautious support to the concept of "sheltered housing" where a warden is appointed with responsibility for residents' welfare.\(^{(1)}\)

2. Sheltered housing associated with geriatric rest and nursing homes
These are often sponsored by welfare organisations such as church trusts and tend to cater for the more frail elderly. They often provide services such as home help and a daily meal at the rest home.

3. Retirement villages
These are generally funded in the private sector by development companies or non-profit trusts. Residents purchase their right to occupancy, usually also paying an on-going fee for extra services. Therefore, these developments usually cater for the middle to upper income brackets. Some villages are quite low-key, primarily providing suitable housing but others offer a variety of extra services such as home help, house and garden maintenance, social buildings, transport and recreational facilities such as bowling greens and swimming pools. Some also have nursing homes and offer medical services associated with these.

Size in all types varies from small clusters of five to ten units to over two hundred inhabitants in some of the more elaborate retirement villages. Essentially, these developments offer living environments which are specifically designed to meet the needs of elderly people.

**WHO ARE THE ELDERLY?**

In the context of this study "elderly" refers to people aged sixty or over because this type of housing is usually available only to people in this age group. However, I use this term guardedly, since this group spans several decades, numerous states of aging and as wide a diversity of individuals as one will find in any age group.

**WHERE DOES LANDSCAPE DESIGN FIT IN?**

Landscape design in any housing is concerned with the relationship between inhabitants and their external environment. In the case of grouped housing the landscape not only provides for functional requirements (like access) but provides the connections between shared and private areas, between the development and its surroundings and influences much of the social environment between residents. These are complex inter-relationships that require careful planning at an early stage.
The landscape design of the type of grouped housing discussed here should respond to the particular needs of the elderly inhabitants. To do this certain questions must first be answered. What is aging and how does it affect one's ability to cope with the physical environment? How do physiological and social effects of aging affect one's perception of the home environment? Who lives in grouped housing for the elderly and why? Part One is concerned with answering these questions.

Broad landscape design guidelines are then proposed to demonstrate the contribution that landscape design can make towards meeting those needs. The landscape response in two case studies is compared to illustrate the guidelines, and the place of landscape design within the overall planning and design procedure is discussed. Finally, conclusions about the need for landscape design in this type of housing and its place within the overall design process are drawn.

There is little documented research about landscape needs or perceptions of elderly people and neither time nor resources permitted the collection of raw data for this study. However, a number of surveys about accommodation needs for the elderly have been carried out and there is a good deal of information about architectural design for the elderly, both of which provide certain indicators about landscape needs. Therefore, many of the guidelines in Part Two are based upon inference from these sources and, as such, may form the basis for future research.

I point out also that the guidelines in Part Two are intended to express broad design principles only, for landscape solutions will always differ in detail depending upon site characteristics and the scope of each development.

PART ONE

THE NEEDS OF THE ELDERLY
Chapter one

THE PHYSIOLOGICAL EFFECTS OF AGING

WHAT IS AGING?

Physiological aging is a life-long process of changes to the body characterised by growth in earlier life and decline in later life. By the time we reach our later years physical reserves and biological functioning begins to noticeably decline as a result of degenerative changes that develop gradually during the adult years. As this affects our ability to cope with the physical environment a brief summary of the changes that occur and their effects is included here.

Little is known about the causes of physiological aging:— to what extent it is genetically predetermined, caused by changes to the body cells or due to environmental factors such as diet or stress. The gradual loss of body cells during the adult years is thought to be a significant factor although why it happens is not understood. As one researcher puts it:

"In early life the body is endowed with tremendous reserve capacities. The loss of a hundred or few thousand cells hardly affects the performance of an organ. As age advances and losses accumulate, however, impairments develop."(1)

In general, these accumulating changes reduce the body’s reserves:— the body reacts less well to activity or stress and takes longer to recover from such demands.

Individually, the process of aging is difficult to predict. There is no typical chronological pattern. One person may be severely disabled by an age-related condition at sixty-five whilst another may still be fit and active at eighty-five. Similarly,
there is no typical symptomatic pattern since conditions that are statistically age-related such as arthritis or heart disease will afflict only some of the elderly population.

Even though each person does age differently, the typical conditions of old age can be described by looking at the older population as a whole. For the purposes of this study I have summarised the conditions that particularly affect elderly people's ability to cope with the every-day living environment.

**The cardio-vascular and respiratory systems**

Deterioration of the cardio-vascular system in some way or another is very common in the older age group. Heart disease, strokes and circulatory problems such as varicose veins have a high incidence and high blood pressure is common. The heart muscle loses strength and pumps only about 70% as much blood at rest as that of a younger person. This lower output reduces the older person's capacity for work because the heart cannot supply oxygen to the muscles as fast as in earlier years.

Respiratory function also declines due to changes in the lungs that interfere with the exchange of gases. The amount of oxygen that the blood takes up from the lungs declines from an average of 4 litres per minute at age twenty to 1.5 litres per minute at age seventy-five.

These changes generally reduce the older person's physical endurance and capacity to do exercise.

**Kidneys and adrenal glands**

The kidneys lose up to half their filtering capacity between the ages of thirty-five and eighty. They still function properly but do the job more slowly so it takes longer to cleanse the blood of the waste products produced during exercise. This means that the older person's recovery time after exertion is longer.

The adrenal glands produce hormones that stimulate the body's reactions at times of stress. Because adrenal activity declines with age, older people's ability to react quickly to stress lessens.
Muscles and skeleton

Muscle bulk tends to decline from the middle years on with a corresponding loss of strength. Some muscle fibres are replaced by "connective tissue" (5) which is less elastic and contributes to the loss of strength. Calcium loss makes old people's bones thinner, more brittle and, therefore, more easily broken. Joint stiffness is more common because of less cartilage and fluid in joints, and the incidence of arthritic disease increases. The gradual tightening of ligaments and reduction in the size of the discs in the spine results in some loss of height and a more hunched posture.

In general, these changes act to reduce the degrees of mobility and strength in older people. For many this will only affect their physical appearance and perhaps slow down their working abilities a little. For others, however, (particularly the very old) joint disease and physical frailty can be very restrictive.

Sensory diminution

Some loss of hearing is almost universal in the elderly population. Typically, high frequency sound is lost causing sensitivity to background noise which interferes with the remaining low-frequency hearing. Deafness also reduces the ability to identify between sounds and to hear sounds at lower volumes.

Visual acuity also declines because the cells on the retina of the eye become less sensitive with age. An older person can need up to eight times the intensity of light necessary for a younger person to achieve the same degree of visibility (6). The eye also tends to react more slowly to changes between light and dark. Consequently, older people are generally more susceptible to glare and less sensitive to subtle contrasts between light and shadow. In general, colour vision is less acute because the lense of the eye yellows with age. Reds, oranges and yellows are easier to pick out and blues, greens and violets less so. (7) A small percentage of the elderly population suffer degrees of blindness from such conditions as cataract and glaucoma.

The senses of smell and taste diminish due to a reduction in the number of taste buds on the tongue and thinning of the mucus lining in the nose.
In general, more sensory stimulation is required for an older person to achieve the same degree of response to that of a younger person.

Central nervous system

Given good health, age does not affect intelligence although learning ability may be slower. Problem solving and dealing with unfamiliar symbols can be less efficient but given a little more time, older people exhibit good learning skills. Verbal skills and long-term memory function is usually good, if not better, in later life. However, short-term memory failure is common, causing forgetfulness about daily activities such as appointments, place names and locations of things or places.

Mental deterioration, if it does occur, is usually due to a specific brain disease (such as Alzheimer’s disease) or to the effects of physiological disease such as the cumulative effects of numerous small strokes damaging the brain. The incidence of these kind of conditions does increase with age, however.

Other changes in the central nervous system can impair the sense of balance and motor co-ordination. Consequently, falls and unsteadiness on the feet are more common whilst some activities requiring co-ordination can become more difficult, such as the manipulation of small objects like nails or pins and co-ordinating larger movements like swinging an axe.

Temperature regulation

Older people have less tolerance to extremes of heat and cold, especially the very old, whose temperature regulation systems work least well.

Immune system

Age also reduces the effectiveness of the body’s immune system, causing greater susceptibility to infection and slower recovery from illness and injury. Thus, an ordinarily healthy elderly person’s ability to manage in his or her own home may be diminished for a significant period during convalescence even though a return to good health is likely in due course. This can precipitate a move to institutional care before it is really needed if there is no back-up service available.
EFFECT ON EVERY-DAY LIVING

Alot of these conditions are inter-related of course. The combination of reduced heart output, less muscle strength and slower cleansing of blood all contribute to a general reduction in the body's reserves and work capacity. Similarly, there can be a knock on effect from one condition to another. For instance, an elderly person may be more prone to falls due to impaired sense of balance and co-ordination. A fall is more serious because fragile older bones are more easily broken. A broken bone will take longer to heal and may not mend as well because of the body's impaired immune system.

At face value this catalogue of conditions presents a pretty depressing picture. However, it should be realised that alot of the conditions described can be medically controlled (e.g. drugs for blood pressure), prevented from developing (e.g. calcium supplement to strengthen bones) or alleviated with environmental aids such as spectacles or hearing aids. Disability and general loss of function is not inevitable. In fact, nine out of ten people aged between sixty-five and seventy-four have no significant disability and more than half those aged over eighty are not disabled.(8) Most elderly people live independently, managing their own affairs and running their own households like anyone else. Exercise is still enjoyable albeit at a less strenuous level than in earlier life and is, in fact, necessary to improve and maintain the various body systems.

Nevertheless, the body does gradually slow down as the later years pass and the level of disability rises sharply amongst those aged over seventy-five.(9) The more physically demanding tasks such as digging the garden or painting the house become increasingly difficult even for fit and active older people whilst for those with more severe conditions simpler chores like walking to the mailbox can be a daily obstacle. The onset of frailty and poorer health can alter the perception of the physical environment. As one study of congregate housing for the elderly found, there was "a pattern of increasing negativism regarding all design features...as health status declined."(10)

DESIGN IMPLICATIONS

At any one time many of the inhabitants of grouped housing for the elderly will have little disability but it is an environment that promises longer independence for those who are or will become physically restricted. Therefore it must be designed optimally for the conditions described, with the
overall aim of maximising independence and quality of life. Particular attention should be paid to the following points:

- providing a physically negotiable environment for those with restricted mobility;
- using low maintenance materials;
- ensuring the environment is legible with plenty of visual cues for those with failing vision or those prone to forgetfulness;
- providing a high standard of lighting;
- minimising background noise;
- providing plenty of sensory stimulation;
- creating a comfortable micro-climate;
- providing the opportunities for activity and exercise at a range of capabilities.

Physiological aging generally reduces the physical reserves and stamina of elderly people. However, this is a gradual process which occurs over several decades, the symptoms of which vary widely between individuals. The designer of a housing environment for the elderly needs to recognise this diversity and the time span of aging. The housing environment must be flexible: it must be manageable for the physically disabled and the forgetful and yet offer challenge and activity for the fit.

**FOOTNOTES**


3. SHOCK. p.66.

4. SHOCK. p.67.

5. MOSS. p.69


9. SALMOND. p.93.

At every stage of life there are certain demands and changing circumstances to which we must adjust. These changes include:

Adapting to physiological changes
The general slowing down and depletion of physical reserves requires adjustment: perhaps seeking a house that is easier to maintain or modifying recreational activities.

No longer being part of the work force
Retirement demands a sudden change in the daily pattern of life. Although gradual retirement and preparation programmes are now encouraged this sudden change can be difficult for those whose lives revolved around work. Of particular significance to this study, the home increasingly becomes the focus of every-day activity.

Living on a reduced or fixed income
Reduced income may limit the choice of "extras" available.

Living alone
Many elderly become widowed and must not only face bereavement but adjust to living alone. In New Zealand the average life expectancy for women is seventy-six years and seventy for men. (1) As a result of this difference women outnumber men in the over sixty-five age group and significantly more elderly women than men live alone. (2) The responsibility for home and property maintenance (traditionally a male role) is a particular problem for these widowed women.
Gradual loss of peer group friends and colleagues
Deaths of peer group friends and acquaintances is not only an increasingly frequent reminder of mortality but can lead to loneliness if the circle of companions diminishes and is not replaced.

Coming to terms with society's perceptions and expectations of old age
Old age has negative connotations in our culture, being associated with dependency and out-dated ideas. Elderly people often have to fight to retain a positive self image.

SOCIOLOGICAL THEORIES OF AGING

Is there an ideal way to adjust to these changes? How does one achieve satisfaction and well-being in later life? Sociologists and psychologists have been trying to answer these questions for some time.

A number of theories about successful aging have been put forward, the most influential of which are the Disengagement and Activity Theories. The disengagement theory argues that people respond to advancing age by cutting down their levels of activity and social involvement, effectively withdrawing from the mainstream of society and allowing younger generations to take over their previously held roles. In contrast, the activity theory suggests the need to maintain high levels of physical, mental and social activity with advancing age. Both of these theories propose one standard solution to successful aging, applicable to all older people.

Subsequent research, however, has indicated that individuals adapt to aging very differently depending on personality, their values and habits formed over the years and factors such as state of health or financial security. Eva Kahana suggests that continuity of life patterns is crucial here. As with people of any age some elderly are happiest when active or socially involved, others when relatively inactive or solitary - depending largely, Kahana suggests, upon behaviour patterns established earlier in the life span. Other research suggests that behavioural responses may vary through different stages of later life. For instance, some people initially react to retirement by restricting activities (some degree of disengagement) so that they can re-orientate to the changed situation and then develop a high degree of social activity. Similarly, disengagement may be an appropriate form of adaptation if ill health or financial insecurity places considerable constraints upon possible activities.
It is evident that there has been a major shift in emphasis. Researchers no longer look at the elderly as a group with very similar characteristics for whom one method of aging can be prescribed but as a group exhibiting great variability in behaviour.

Society's perception of old age still views the elderly as an homogenous group, however. The elderly person is typically pictured as helpless, socially isolated, lonely and economically insecure with a general loss of ability to function effectively in today's world. Elderly people tend to be seen as a social problem: a vulnerable group requiring much support from society and inevitably winding up in a state of total dependency in an old people's home.

This negative image is very much a factor of our youth-oriented Western culture which sells its products by using images of youth and places great value on things new in a rapidly changing world. Youth is equated with vitality and self-determination, old age with decrepitude and dependency. This is further reinforced by retirement from the work force in a culture that recognises status in productivity and material wealth.

Reflecting society's attitudes: a cigarette advertisement depicts youth as fun and self-determining.

The elderly person is stereotyped as decrepit and useless.
Like most stereotypes this image does have a basis in truth: some impairment of function does occur with advancing age, some elderly are lonely and some financially insecure - but it is an exaggerated, single picture which overlooks the great variability between individuals, their circumstances, personalities and states of aging. Most old people never experience the extreme situation portrayed by the stereotype.

The reality of old age, as reflected in recent surveys, is a good deal more positive. Contrary to common belief about dependency in old age, less than 3% of people aged over sixty-five are in permanent care in old people's homes or geriatric wards and almost 94% of all elderly people live in the community. Most live independently, running their own households and managing their own lives like anyone else.

Surveys of elderly people's own expectations and perceptions of themselves are also more positive. In one study of people aged over sixty-five (the age when, statistically, disability increases) 72% of those who were living in their own homes considered their health to be good even though some 77% had some disability. Retirement is generally seen positively as a reward for a life's work and most have regular contact with family and friends (although some, especially the widowed, did wish for more social contact.) As Scotts and Koopman-Boyden found, "the efforts of most people were directed to an attempt not to disengage from, but to remain engaged with the system." Those faced with financial or physical limitations strove positively to manage despite these difficulties.

In fact, most elderly people actively avoid accepting the label "old" because they, like society, perceive it as:

"a negative state characterised by sickness, disability and above all by a loss of control of oneself and one's environment."

They may acknowledge physical and chronological aging but deny that they are old in any other sense: they do not "feel old." In other words, their self perception is often a good deal more positive than the social stereotype would have it.
Although the reality is more positive than the stereotype, studies of elderly people in their own homes show that many have difficulty in coping with the running of a normal-sized home, particularly with upkeep of the garden and general outdoor maintenance.(12) Yet, living in one’s own home seems to be a very important ideal and most are determined to stay on in their own homes rather than make a change in accommodation which they see as a loss of independence and an admission that age is catching up. Health is, therefore, a major concern because future deterioration may force a change in accommodation.

This question of independence has been a central issue in the recent surveys. Despite the range of lifestyles and attitudes found among respondents, they consistently expressed the view that old people should remain independent in their own homes for as long as possible.

"Most felt very strongly about this and replies were given in some length. Generally, they thought that old people are much happier to be independent and in familiar surroundings. It appeared that people felt that moving out of their homes into other forms of accommodation - pensioners' cottages and homes - implies taking on the label of "old" and giving up many ties with normal society."(13)

If a move were to become necessary, pensioner flats or flats associated with a rest home were most favoured(14) because they offer a more manageable living environment but with independence. The options of living in a rest home or living with relatives were least preferred with the prospect of the rest home particularly disliked because respondents saw it as a total surrender to dependency with resultant loss of dignity, sense of uselessness and loss of purpose.(15)

Koopman-Boyden suggests that having one's own home is also important for reasons of status and positive self image. It is proof not only of independence but also of economic status in a society where home ownership is highly valued.(16)
1. Stereotyping the Elderly

It is all too easy to be influenced by the stereotype of the elderly as feeble and incapable. This can lead to design decisions which are based on misconceptions. For instance, the misconception that old people either cannot drive cars or are unable to afford them lead to insufficient garaging being provided at the Oak Grove development in Otahuhu. Similarly, the stereotype leads to the adoption of standard solutions which suit few, such as doing away with private gardens. Some cannot manage gardening but many others still enjoy it, provided the size is manageable. Essentially, the elderly are little different from the rest of the population in that their lifestyles and interests are varied. An environment that is flexible and allows for choice is most likely to meet their differing needs.

2. Independence

The elderly value independence very highly. An environment that is manageable despite physical restriction boosts morale and allows the individual to lead the lifestyle of his or her own choice for as long as possible.

3. The Question of "Overdesign"

The housing environment must be manageable for the physically restricted and yet avoid imparting the message that residents are considered to be in some way deficient or incapable. In this sense, housing that is bristling with environmental aids is overdesigned. A balance is needed between an environment that is easy to manage without being boring and one that is stimulating without being threatening.

The plain impersonal appearance of much pensioner housing and of old people's homes carries the message of "special" accommodation which no doubt adds to the elderly's dislike of such places because it tacitly labels the inhabitants as being different from the rest of the community. Housing for the elderly should have a domestic, homelike character which looks as much as possible like ordinary housing.

4. The Concept of Home

The need for a domestic character relates also to the importance of the concept of "home." The surveys revealed the importance of living in one's
own home:- not only, I suspect, because it means independence and status, but also because home is the place of one's making - the expression of one's identity. Moving to alternative accommodation must be a wrench for many because it means leaving the family home with its memories, familiar surroundings and expressions of individuality. The need to have control over one's environment is essential for positive morale and self-confidence to anyone and the elderly are no exception. Residents in grouped housing for the elderly should be able to make their own homes by expressing their tastes and individuality- be it interior decoration or creating a distinctive outdoor area.

Of relevance here also is that older people spend much more time in the immediate home neighbourhood due to retirement and, for some, decreasing mobility. Therefore, particular attention needs also to be paid to the relationship between the individual home and its surroundings.

CONCLUSION

Housing for the elderly should be enabling.(18) It should provide for maximum independence, be a place that can be called "home" and be sufficiently flexible that individual needs and choices can be accommodated.

FOOTNOTES

1. NEW ZEALAND OFFICIAL YEARBOOK 1985. p.137.


5. SALMOND. p.96.

6. SALMOND. p.93.


(A similar result is recorded in Scott's study of older people in ordinary accommodation where 74.6% of respondents rated their health as good.)


11. TURNBULL. p.17.

12. CHISNALL. p.48.

TAYLOR, NEALE & ALLAN. P.25.


14. SCOTTS. *Older people in ordinary and special accommodation: a survey in the Christchurch area.* p.53.

15. CHISNALL. p.51.


17. Personal communication with Mr K. Soo, Auckland Methodist Central Mission.

18. The concept of "enabling" design is discussed by Alison Ravetz in *The Disabling Professions.* She argues that designers should be facilitators rather than inhibitors of people's control over their own environments.

Grouped housing has developed as one housing option for elderly people in response to particular needs.

In the broader context, grouped housing for the elderly is a response to social and demographic changes. Firstly, the typical family structure has changed. It is thought that in pre-industrial times the elderly lived in extended, three-generational families within which their care and support was provided. Since the Industrial Revolution, however, the two-generation nuclear family has become the norm and today most elderly live separately in their own homes. The second main change is that with improved medicine and living standards more people are living to old age than ever before. In New Zealand, one in ten of our population is aged sixty-five or over. Today, with smaller families, more women in the work force (women have tended to care for aged relatives after their children leave home) and growing numbers of aged people, family care is becoming an increasingly unworkable option. Besides which, it is not generally wanted. As noted in the previous chapter, today's elderly value their independence highly and do not generally want to live with relatives. Occupants of grouped housing frequently say that one reason for moving was to avoid being a burden on family.

Together, these changes mean that there is a growing demand for housing specially suited to the needs of the aged and retired, for the elderly wish to remain independent despite the limitations that may be imposed by age.
Many older people remain in their family homes but a good many do make a change. In one survey, 47% of people aged over seventy had moved house at least once.(4) Although most select suitable accommodation on the open market, such as ownership flats, others seek grouped housing which is specifically for the elderly.

There are five main aspects of grouped housing that specifically attract residents.

1. Prolonged Independence

Prolonged independence is promised in three ways:
- the provision of suitably sized, self-contained dwellings;
- a living environment that is designed to be manageable for the frail and disabled;
- the provision of extra services such as home help, property maintenance and nursing care. (Note. These services are mainly offered in the retirement villages, less so in conventional pensioner housing.)

2. Security

Grouped housing offers security in several ways. Firstly, there is the security of knowing that the back-up services described above are available if needed. Secondly, there is the security of knowing that help is available in the event of sudden illness or injury, for many elderly in the community fear the possibility of not being found if such a crisis occurs. Emergency call buttons or warden management checks are often provided but, in addition, neighbours in a well-designed grouped situation are more likely to look out for one another. Thirdly, some of the more up-market developments provide a security guard service to protect against violent crime and burglary. This is a very real concern overseas where the elderly tend to be the victims of crime(5) but it is becoming an increasing source of worry in New Zealand as well.

3. Social Opportunities

As mentioned in Chapter Two, many elderly live alone and the circle of peer group companions tends to diminish as time passes. Grouped housing attracts a lot of people who are on their own (particularly women) and as one village reported, most (among other reasons) were "looking for some community whilst retaining their independence."(6)
4. Recreation and Lifestyle

Many retirement villages provide quite elaborate recreation facilities such as bowling greens, swimming pools, hobby rooms and barbecue areas. These developments often promote retirement and old age as an endless holiday. For some, these facilities may indeed be a drawcard. In fact, as Bultena suggests, this type of development is ideal for those who adapt to retirement by actively pursuing leisure activities because it positively advances the idea of recreation as an acceptable alternative to the work ethic.(7)

However, one overseas study found that residents universally saw these facilities as luxuries rather than a need and they would have made the move whether or not they were available.(8) Similarly, at the Parklands/Woodlands village only a core group of some thirty or forty out of the two hundred odd residents use the recreational facilities on a regular basis.(9) It should be realised that retired people do not necessarily have to be entertained and that recreation also encompasses less organised or communal activities. Gardening, entertaining, voluntary work and, of course, "doing nothing" all occupy elderly people's time depending upon their chosen lifestyles.

5. Financial Reasons

For those in subsidised pensioner housing the financial incentive of low rental is an obvious reason for moving. This is, in part, linked to the desire for independence by enabling a person to live in his or her own home despite few means. For residents in retirement villages, although a considerable financial outlay is often required, alot see this as money well spent because they gain access to facilities they could not otherwise afford on their own.

It is difficult to generalise about this. As the project manager for one village stated, residents are of "all kinds from all walks of life."(10) However, there is a high proportion of people living alone, particularly women.

Age varies but a good many move to retirement villages in their late sixties or seventies. At the Northbridge village the average age is about seventy.(11) An overseas study found the age distribution in this type of housing to be significantly weighted towards the very old (over
CRITICISMS OF AGE SEGREGATED HOUSING

Criticsisms of age segregated housing are mentioned here because the landscape design can alleviate these criticisms to some extent.

Environments of Decline

It has been suggested that by grouping the aged together, particularly where special support services and nursing homes are provided, the housing environment conveys a tacit message of inevitable decline that may have a negative effect upon inhabitants. (13) Older people's own criticisms of pensioner housing as being labelled "for the old" ties in with this.

This type of message is, in part, conveyed simply by the knowledge that residents are elderly and that there is a rest home on site but it can also be conveyed by an environment that is institutional in appearance and blatantly furnished with environmental aids. As already stated, the design of the landscape setting can do much to alleviate this sort of impression.

Limited Demand

The demand for these developments has also been questioned because the majority of our elderly prefer to live within the wider community rather than in a communal, age-selective situation and concern has been expressed about their economic viability. (14) Grouped housing does, indeed, seem to be first choice for only a few but although the majority may prefer conventional housing as first choice, the grouped situation is seen as more acceptable than moving to an old people's home. It is not within the scope of this study to discuss the
economic implications of these developments but what is significant is that there may well be residents in grouped housing who would not seek a communal environment, given good health or adequate funds. Sound landscape design should ensure that privacy and choice of lifestyle is not compromised for these people.

**Age Segregation**

Sociologists suggest that it is undesirable to isolate a particular age group from the wider community as this can distort the social fabric both in and out of the housing development and reduce the benefits of inter-action between age groups.\(^{(15)}\)

However, integration with the surrounding community is thought to be better when the developments are small-to-medium sized (up to fifty or sixty units) and located for easy access to community facilities.\(^{(16)}\) Advice on site selection may be part of the landscape architect's brief and these aspects should be important considerations in that advice.

There can be little doubt that age-segregated housing would have a social impact if the majority of elderly people did live in such developments. However, it is only a minority who do choose this option and for these people the grouped housing situation does provide for specific needs. Studies of resident satisfaction indicate a high success rate. In the case of one Australian study, the majority stated that they would make the same choice again.\(^{(17)}\) The results of these studies indicate that a suitability selection process applies: that those who choose this housing type do so on the basis of a positive choice, opting for an arrangement that suits their expectations. It would seem then, that age-segregated housing can be a satisfactory choice for some elderly and, as the Whitehouse Conference on Aging concluded, the issue is "not to decide whether segregation or integration is better, but to...provide as wide a choice as possible for the older person."\(^{(18)}\)

**CONCLUSION**

Grouped housing has developed as one housing option for the elderly which attracts residents as an environment that promises prolonged independence, security and social opportunities and, in some cases, financial benefits. Such an environment encompasses both the architecture and landscape, both of which must be consciously designed to fulfill these needs.


9. Personal communication: BATH, MR. (Secretary to the Parklands/Woodlands Trust. Personal communication.)

11. Personal communication.

   WING, MRS. (Secretary to the Northbridge Village. Personal communication.)


   (Comments of sociologist, Koopman-Boyden, P.G.)


14. BYRNES. p.23. (Comments of sociologist, Koopman-Boyden, P.G.)

15. BYRNES. p.23.

   THE EXTRA Years. p.64.


16. GOLDENBERG. P.173.


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PART TWO

THE LANDSCAPE RESPONSE
Chapter four

DESIGN GUIDELINES: SITE SELECTION AND PLANNING

Selection of a suitable site and the planning of the overall layout and character are the first steps in the landscape design.

Site selection will obviously be governed by land availability and cost but certain other criteria are important for housing the elderly.

1. Location within the wider community
As noted in Chapter Two, the elderly need to feel a part of the wider community and not a special group cut off from "normal" society.

Therefore, shops, medical rooms and community facilities like libraries or churches should be within easy walking distance or easily accessible via public transport. This is confirmed by the Hanover Housing Association in England which has built a good many housing schemes for the elderly. It found that sites within easy reach of community facilities tended to work best because residents had greatest choice and flexibility of activities.(1) (Not all residents will have cars and a good many of those without may not be driving due to frailty.) A site which is accessible only up a long steep slope should be avoided as the less robust who don't have transport will be isolated.

2. Site topography
Level sites are usually recommended for housing the elderly and certainly sites with steep slopes should be avoided. However, gentle contours can be manageable for the less able residents provided access routes are evenly graded and do not slope for
too great a distance. Gentle slopes also have advantages because they can be manipulated to enhance views, create interest on site and step down dwellings to retain privacy and views out.

3. Micro-climate
Because of elderly people's increased sensitivity to temperature extremes sites should be sunny, sheltered and free of frost or fog pockets.

4. Noise
Whether or not background noise should be avoided is a debatable point since an overly-quiet environment can lack stimulation. Some elderly people I spoke to liked a location beside a busy road despite the noise because they liked the activity and felt less cut off from the world. However, surveys of people in grouped housing reveal a general appreciation of quiet (though not necessarily dull) surroundings.(2) Therefore, location directly adjacent to major traffic routes or noisy industry should usually be avoided because the low frequency rumble will interfere with the lower frequency hearing that most elderly people retain. A site near a busy road may be acceptable, however, if a reasonable set-back from the road is possible, (since most noise reduction occurs within the first thirty metres of source)(3) or where sound barriers can be introduced (see next chapter.)

5. Special features of interest
Elderly people tend to spend a lot of their time in and around their homes, so sites with features which can provide daily interest and stimulation are especially desirable. Such features could include:
- water with its changing patterns and wildlife;
- views out to nearby areas of activity:— a road, park or shopping centre; or
- attractive long distance views.

Kevin Lynch describes site planning as "the art of arranging the external environment to support human behaviour."(4) In the case of housing for the elderly the layout and overall character must be responsive to the specific physical and social/psychological needs outlined in Part One.

Spatial Hierarchy
Understanding and designing for territorial behaviour is crucial to the success of any grouped housing scheme because it is a communal situation where inhabitants have an interest in both their
individual dwelling spaces and the shared space that connects them. Establishing a spatial order clarifies ownership and, in the case of designing for the elderly, importantly contributes to the needs for independence, security and community.

At the wider level the housing scheme forms a neighbourhood territory. The concept of neighbourhood is particularly important in the context of this study because, with advancing age the sphere of everyday activity tends to contract increasingly into the home and local area. Whether or not inhabitants feel they (as a group) have exclusive rights to the overall site and can use it comfortably as an extension of their own homes will influence the extent to which a sense of community, security and belonging will develop.

At the smaller scale territoriality is evident in the sense of personal ownership which occupants feel for their individual dwellings and the space immediately around them. As noted previously, having one’s own home is very important to elderly people because it is the physical expression of independence, status and individuality - all of which contribute to a positive self-image and sense of well-being. Most of the people in the type of housing discussed here move from larger, detached homes where they have built up a whole emotional fabric of attachments and memories around a home environment shaped to their lifestyles and tastes. To move from this home is not just a recognition of advancing age (difficult enough for some) but a severance of these home ties. Furthermore, this particular move requires adaptation to living in a much more communal situation than most New Zealanders are accustomed to (with our quarter acre section tradition of housing.) It is therefore important that the grouped housing development is a place where residents can put down roots, have a place they can really call their own and, as Hayward puts it, "feel some attachment."(5)
Territoriality has often been over-looked as an important consideration in housing for the elderly, however.

In this scheme, for instance, the tiny strips of flower garden outside the dwellings is a token gesture towards the need for privately "owned" territory which fails to provide an effective transition between the privacy of the dwelling interior and the shared area around. It is too small to be usable for outdoor activity and although there is plenty of space to take a chair out onto the lawn people will generally not do so in this kind of setting because they feel exposed and intrusive in an area which is not clearly their own. People feel more comfortable about using space outside their homes if it clearly belongs to them. (6) This is supported by the experience of the Hanover Housing Association which found that open-plan landscape treatment like this was not popular. Residents disliked both their doors opening straight into communal areas and openness between adjacent dwelling units. Some screening between units to define individual areas and even quite small private areas like porches and verandahs made a considerable difference to this but small patios and gardens were most favoured. Similarly, outdoor balcony space seemed desirable for occupants of apartments above ground level. (7) The open, parklike landscape treatment here looks like public land (as evidenced by the cycle barriers deemed necessary to repel intruders) imparting little sense of ownership, community or security in its impersonal character.

Private space

Although the elderly in grouped housing generally want small, low-maintenance properties they still
appreciate having their own outdoor areas where they can...

- express their sense of identity and ownership (the public evidence of independence);
- gain some privacy;
- enjoy being outside in the sun and air, and
- carry out household chores such as clothes drying and storage of rubbish.

*Private space is important for outdoor living and expression of ownership.*

Open-plan landscape treatment has no doubt been adopted in a lot of instances so that maintenance demands on residents will be minimised and a sense of community promoted by the predominance of shared space. Yet, individual yards can be a usable size without being a maintenance burden (see p.60 later) and, as people tend to stay inside their dwellings when they are diffident about using impersonal areas, the open-plan landscape may in practice discourage social interaction.

Personal yards can facilitate social contact and neighbourliness. For one thing, potential conflict between neighbours about ownership of outdoor areas is minimised by clear display of territory. Furthermore, a liveable private yard will invite people outside, thereby increasing the chance of informal encounters with neighbours - chatting over the fence or exchanging a word as they pass by. This sort of encounter occurs more easily and with less intrusion of privacy than having to take the definite action of visiting the completely private sphere inside the dwelling.

Therefore, sufficient private space should be allocated to provide for privacy, outdoor living and functional uses of private yards. A minimum of three to four metres is required between the dwelling and shared space to provide an effective barrier between
public and private. It is also a minimum usable area where one can bring out a chair and still have some distance between oneself and shared territory.

Where cost and space allows, private yards should be large enough to accommodate a clothesline. Outdoor clothes-drying should always be provided as an energy-saving measure since the cost of machine-drying can be prohibitive to people on fixed incomes (especially those in pensioner schemes who have very limited means.) Some schemes, especially public-funded ones, provide communal drying areas which have advantages as a social contact point and cost-saving measure but carrying heavy, wet clothes can be difficult for the less able. One district nurse I spoke to reported a lot of complaints from residents of such schemes about either the lack of drying facilities or difficulty in getting to them. Where individual drying is allocated, rather than have clothes strung across the front entrance as I observed in at least one scheme, a small back or side area should be provided which also serves as a convenient storage place for a rubbish tin.

Semi-private space

Semi-private space exists where a shared area is perceived as "belonging" to a small group within the whole scheme—a perception which is often achieved by the physical association of grouping dwellings.

Experience has shown that clustering dwelling units together in small groups encourages neighbourliness. Robyn Goldsmith, Research Worker, noted about Council flats for the elderly, "where there are only five or ten semi-detached units, usually with little gardens or lawns in front, people seem more inclined to get to know each other, and to help out...".(8) In larger developments, therefore, it is desirable to organise the housing into smaller groups within the whole.

Crescents, U or L shaped clusters clearly define areas shared by a small group of neighbours. These neighbours get to know one another by sight at least and share a common sense of responsibility for their housing cluster. This effect has been described by Mr Mercer, resident and part-time manager of Liston Village:

"Phase I of the village was built as ten units in two rows, one behind the other. Phase II was built as fourteen units in a circle. There is a much better community spirit in Phase II. In fact we are almost two villages."

(9)
This layout and the associated sense of community has security benefits. Firstly, neighbours tend to look out for one another and notice signs of sudden crisis such as unusual absence, drawn curtains or uncollected mail. Secondly, the perimeter of the buildings creates a threshold into an area overlooked and enclosed by numerous dwellings which outsiders sense to be semi-private. Strangers and suspicious behaviour are much more noticeable because residents know who "belongs" and are more likely to be observed because of the number of overlooking windows.

Within semi-private areas facilities can be designed as natural meeting points. Provision of seating and shelter at grouped mail and milk boxes, for instance, is more likely to attract use than a seat set in a purely "amenity" area because there is a reason for sitting there. Similarly, seating at communal clothes-drying areas or vegetable allotments can provide both a chance for a "breather" and a neighbourly chat in the course of shared activity.

Semi-public spaces are those areas perceived as belonging to the whole grouped housing scheme. These include the areas around communal and administration buildings, recreational facilities such as bowling greens and amenity space which is not semi-private.

Again planning for community is a key to meeting the needs of elderly inhabitants.

These areas demand something of a special trip beyond the home unit with a particular purpose in mind (even though they will be close at hand.)
Therefore, there is more likelihood that they will be used if they coincide with the main patterns of movement especially at focal points where commonly used paths converge because people may pause (if only to watch activity) as they pass by.

Furthermore, the more attractions that these areas offer the more likely they are to be used. For instance, locating a community room, outdoor seating and an activity like bowling together will attract people for a variety of reasons:- to chat or pursue a hobby in the community room, to participate in the sport offering or to simply sit and observe what's happening. Main entrances can also be developed as a focal point where there is the attraction of activity to be observed.

Bowlillgreen and overlooking community building become a central focus: (Artist's impression of the Hillsborough Heights Village, Auckland which is now nearing completion.)

These central facilities should be located within easy walking distance of all dwellings. This will therefore usually be a central location which can be developed as a focus for the whole scheme, uniting it as a distinct neighbourhood in which all residents have a common interest and sense of belonging.

Open space and outlook

Open space, whether it is semi-private or semi-public, provides for privacy and outlook. In grouped housing situations where individual yards are small and housing quite dense, this is particularly important. Hanover surveys found that elderly residents most consistently disliked looking directly across at other dwelling units at close
range. (13) A minimum distance of 12 metres should be allowed between opposite yards to avoid excessive overlook into personal areas and dwellings. (14) However, the space should not be so large that the sense of enclosure that defines common ownership is sacrificed.

It is unlikely that open space will be used much for sitting. My observations indicate that people prefer to sit out in their own yards, a point also made by Mr Mercer:

"There are three general outdoor areas but people prefer to sit out in their own patch."

Therefore, open spaces should be planned primarily for a pleasant outlook, access to dwellings or for specific activities such as an organised recreation (e.g. croquet or functional uses e.g. a garage court.)

Park-like, green spaces are often provided and these can certainly provide an attractive outlook but the following observations indicate that activity and things to watch are just as important.

As Kevin Lynch points out,

"People are most interested in other people." (12)

This is corroborated by the observations of Bite and Lovering, two landscape architects involved with the landscape design of old people's homes. They found that areas which were apparently pleasant were rarely used if there was little activity to join or watch (particularly people coming and going).
Another designer observes,

"It is an error – proved false over and over, but still persisting in some circles – to assume that the proper environment for the elderly is a quiet, peaceful setting amid the beauties of nature. For some elderly this may be accurate. But for most, we have learned that, as persons age and take part less frequently in community life, their desire to observe activity increases."(14)

Therefore, "amenity" areas may give the best value if they are not only attractive to look at but also provide the interest of people coming and going – not just residents, but visitors, management staff and service people like the milkman. Outlooks which include circulation routes, entrances or recreational areas should, therefore, be an objective wherever possible.

This central green has added interest as a main circulation route. Norman Kirk Courts, Christchurch.

A croquet lawn provides both activity to watch and an attractive outlook. Woodlands Village, Waikanae.

Site circulation

1. Pedestrian access

The overall site layout should be compact so that facilities are accessible on foot for the less mobile. Clustering of housing groups has advantages because it is a compact arrangement within which shared facilities such as mail boxes or clotheslines can be easily reached. Clusters can also be easily organised around a central focus so that the distance between each cluster and central facilities is minimised.

In larger developments some longer routes to central facilities may be unavoidable. In these cases resting points should be provided along the route with seating and some shelter sited, if possible,
with an interesting view (perhaps at the junction of two paths where people are passing by, perhaps at a vantage point of a distant view.)

The social potential of pedestrian access as the place where people meet as they come and go, should also be exploited to increase the opportunities for social contact, should residents wish to take advantage of them. The importance of locating activity areas near access routes has already been noted. Siting paths past front yards can also facilitate informal social exchange between private and shared territory.

2. Vehicle access

The extent to which vehicle access and garaging is provided will depend to a large extent upon the expected type of inhabitants. Studies show a definite decline in car ownership and use amongst the elderly with lower incomes or of advanced age.(15) Therefore, it may be reasonable for pensioner housing schemes to make relatively little provision for the car because potential residents, being in the lowest income bracket, are unlikely to own many cars. Conversely, the up-market retirement villages which tend to cater for the better off and encourage people to move in during their early retirement, will need to provide much more comprehensive vehicle access to satisfy their expected market.

Grouped housing offers the opportunity to diverge from the suburban norm of drive-on access to individual dwellings with the resultant domination of the car in the whole layout. Garaging for each cluster can be conveniently located at the perimeter, for instance, with pedestrian access only to the individual dwellings. This sort of arrangement has certain social benefits:

- the garaging area becomes a natural meeting point as residents come and go and an area of common activity (e.g. cleaning the car);
- pedestrian-only access within the cluster is likely to increase casual encounters between neighbours;
- because only about half to three quarters of elderly people own cars the cost benefits of having garaging in every unit may be questionable. By having garaging grouped separately, those without cars need not bear the cost of the facility whilst those with cars can arrange for use of a garage for as long as
they continue to drive (then relinquishing use: a flexible arrangement that can be adapted to need);

-the reduced roading can facilitate a more compact layout (with cost benefits also.)

Nevertheless, Davey's study of medium density housing (including schemes for the elderly) indicated that there was greatest resident satisfaction with schemes that bring the car right to the door of units. This has practical advantages for elderly inhabitants because they have less distance to carry groceries from car to home and can get in and out under shelter.

Whatever option is adopted, convenience and accessibility to dwellings must be the primary considerations.

Vehicle circulation should not necessarily be excluded from the site for reasons of quiet since cars provide motion and interest to watch. This can reduce feelings of the scheme being cut off from the world. However, traffic should be excluded from narrow spaces which have continuous walls on each side as the noise will reverberate and distort — an effect which can be disturbing to those elderly who have trouble identifying between sounds.

3. Entrances on and off the site

Both vehicle and pedestrian entrances to the site should be planned to facilitate security. A survey of Council flats in Wellington reported that "alot of tenants (felt) nervous with non-tenants 'hanging around'" as a result of outsiders using their site as an access route. (16) A definite threshold between the public street and the housing development should be created by elements of enclosure, change of materials or character and, if possible, the awareness of overlook from nearby buildings. This will denote private ownership and discourage non-residents from using the site as a short-cut or through route.

Legibility

Special attention should be paid to ensuring that the whole development is clearly legible for residents with failing eyesight and those prone to confusion. The purpose of outdoor spaces should be clearly readable with plenty of landmarks to aid orientation.
The most important factor here is to avoid monotony in the appearance of buildings and outdoor spaces. Symmetrical and repetitious elements can be ambiguous. (Which way is my block of units? Which is my door?)

*Monotony can make orientation difficult.*

Variety in the treatment of building and landscape elements should be manipulated so that different parts of the site are clearly recognisable. Detailed design for legibility is discussed in the next chapter but at the site planning stage the following aspects should be considered:

- grouping of buildings and planting to form distinct visual units;

- planning a logical overall layout so that the progression from the public street to semi-public site facilities and circulation routes to semi-private clusters is clearly readable.

*Grouping landscape elements into visual units can aid orientation.*

**Micro-climate**

Micro-climate at the overall site level is important because of older people's reduced tolerance to temperature extremes. Naturally sheltered sites are hard to come by in New Zealand so planning for shelter will usually be needed.

Shelter planting needs to be carefully planned because large trees are perceived as threatening by some elderly people.(16) It should be kept at a distance from the dwellings where it can break the main force of prevailing winds and provide an attractive middle-distance back-drop to the development without over-powering the small-scale domestic character which is desirable for this type of housing (see next heading.)
The cluster arrangement of buildings has advantages here also as a means of enclosing sheltered spaces close to dwellings.

The usual principle of orientating dwellings with both indoor and outdoor living areas towards the north is particularly important both for general comfort and energy conservation. (For occupants of pensioner housing, in particular, power bills can significantly erode limited incomes.)

Character and the Sense of Place

With advancing age the home territory becomes increasingly important in every-day living. Therefore, particular attention needs to be paid to the quality of life that the housing environment offers:

- the range of experiences it can offer in the immediate vicinity;
- the contribution it can make towards a positive perception of the grouped housing environment.

The overall objective of landscape design should be to combine the functional elements into something that is more than merely the sum of the parts - to create a sense of place that elicits positive reactions from both residents and visitors alike. "Sense of place" is an intangible quality relating to the distinctive character that defines a place as a clearly recognisable entity in its own right. To elicit a positive response this character should fit both its purposes and its setting.

Perception: home or institution?

As suggested in Chapter Two, the overall character of housing for the elderly affects how people (both old and young) perceive it. The plain, repetitive layout and bland landscape treatment of alot of the older pensioner housing has deservedly earned it a poor reputation for it labels such developments as being peculiarly for the old and has connotations of institutionalism.

Therefore, the character should be essentially domestic, lending itself to a lived-in appearance which speaks of community. Both private and shared areas should invite use and be arranged around every-day activity. The scale of spaces and structural mass (both buildings and planting) should be attuned to the human level since, for those elderly who have difficulty in coping with the
physical environment, large-scale features can be threatening. Institutional appearance should be further avoided by variety in spatial experience, visual character and plenty of sensory stimulation.

A unifying framework

Although variety and stimulation are desirable the housing development should hold together as a recognisable unit which residents can identify as the distinctive home territory in which they share. As Nan Fairbrother puts it, "A landscape needs a linking element which flows through the entire design and ties it together as a unified whole."(18)

A framework of structural planting and architectural form can provide this continuity within which individual expression and variety of detailed elements can provide a diversity of interest. The result is a sense of place. Woodlands village is a good example of this. A backdrop of swamp forest and thickly planted sand-dunes spatially define the neighbourhood territory within which the houses conform to broad requirements of colour scheme and external architectural style whilst still displaying individuality.

Integration with surroundings

As noted previously, elderly people are very conscious of the idea that special housing for the elderly is cut off from normal society. This perception is visually reinforced by developments that stand out from the surrounding area. The scale and character of buildings and planting should be similar to those of the surroundings.
A marked difference in scale can inhibit visual integration with surroundings.

An "open-plan" treatment in an area characterised by boundary definition prevents visual integration.

CONCLUSION

At the site selection and planning stage special attention is required to ensure that the overall site is compact, convenient and comfortable for those inhabitants with physical restrictions. As a communal situation, careful siting of the buildings and planning of the spaces between them is needed to ensure that privacy and freedom of action is retained whilst providing opportunities for social involvement. The whole scheme should be designed to encourage a sense of neighbourhood with easy access to the wider neighbourhood of the surrounding community. The landscape setting should elicit a positive response by enabling residents to have control over their own home territories and by creating a sense of place which is home-like and interesting in character.

FOOTNOTES


2. PAGE & MUIR. p.28.
3. PROTECTING buildings from traffic noise.  
   Christchurch City Council Planning Information Booklet no 6, 1981.

4. LYNCH, K. Site planning. 2nd ed.  


6. LAWTON, M.P. Planning and managing housing for the elderly.  

7. PAGE & MUIR. p.48.

8. REPORT on the needs of elderly people living in council flats.  

9. Personal communication:  
   MERCER, Mr. (Resident and part-time manager of Liston Village, Auckland. Personal correspondence.)

10. PAGE & MUIR. p.41.

11. THE INTERFACE between public and private territories in residential areas. p.23.  

12. LYNCH. p.200.


14. GELWICKS, L.E. An architectural program.  
 p.75. In: Donahue, W.T.; Thompson, H.M.; Curren, D.J.; editors. Congregate Housing for older people: an urgent need, a growing demand.

16. REPORT on the needs of elderly people living in council flats. p.3.

17. Personal communication.

(Several landscape architects. Personal communications.)

CHAPTER FIVE

DESIGN GUIDELINES
THE DETAIL LEVEL

At the detailed level grouped housing for the elderly should be designed optimally to cater for the physiological changes of age. It should enable prolonged independence and enhance the quality of life.

Changes of level

Sudden changes in grade should be avoided because an unexpected pace up or down is the sort of situation where those who are unsteady on their feet may trip and fall.

All steeper changes of level involving steps or ramps should have grab rails. Such rails should be integrated into the setting as much as possible so that they appear as if they would be there whether or not this was old people's housing. Plain-styled, shiny chrome or stainless steel finishes are to be avoided as these have the institutional appearance of hospitals. Rails can be made into positive features by painting them bright colours or incorporating them into fencing or planters. Otherwise they should be integrated with the architectural character of the development by matching up colours and/or materials.

Ramps should always be provided as an alternative to steps and should be easily accessible as part of the main pedestrian circulation pattern. The usual recommended maximum grade of 1:12 is too steep for frail elderly whether in a wheelchair, or mobile but unsteady on their feet. Therefore, aim for a maximum ramp gradient of 1:15.
Because older eyes are not as sensitive to subtle differences in light and shadow, reliance on small shadows to warn of changes in level may be insufficient. Instead, bolder methods such as changes in materials or colour contrasts should be employed.

Changes of level should be clearly marked.

Paving Materials

Hard, non-slip surfaces should be used on all main pathways and courtyard areas and should have a level finish. In situ concrete and asphalt meets these requirements but over large areas can have an impersonal, "public" kind of appearance. Unit paving, on the other hand, has a more domestic character appropriate to a housing environment but it must be laid with a high standard of workmanship to ensure it has an even surface without uplifted edges or wide sunken joints. Glazes and smooth surfaced paving units should be avoided at all costs because of their slippery nature.

If some relief from hard paving is desired, use alternatives such as grass, gravel or rough-cut stone only on secondary routes where a direct, even surfaced alternative is available. This sort of treatment can, in fact, denote the difference between main access routes and "amenity walks" on site.

Care should be taken to avoid planting trees and shrubs that will drop slippery leaves or fruit onto paving and create a potential hazard.

Clothes-drying areas (especially communal areas) should be accessible on hard paving so that wheeled laundry baskets can be pushed easily to the clothesline or, for those carrying their washing, a firm, non-hazardous footing is available when visibility of the ground is obscured by the clothes basket. Although grass or gravel may be desirable
directly under the line for drainage, hard paving should extend alongside it down its length. As already mentioned, these areas should be close to dwellings to reduce the carrying distance.

**Furniture and Fixtures**

**Seating**

Seating should be located at places where there are things to watch and there is a clear reason for sitting:

- at the main entrance to the development where people may wait for visitors or transport and watch comings and goings;
- at the junctions of the main routes on site where a rest stop may be required and views of movement on site are available;
- overlooking a view or activity area.

Portable, light-weight outdoor seating has advantages in that it can be moved to areas of sun, shade or shelter depending on conditions. In communal areas where storage in the community building can be provided this type of seating may well be the most useful but in less frequented spots or places open to the public, fixed seating will be needed.

Such seating should be easy to get in and out of. It should not slope backward or be too low or high for this reason. It should always have a back and the seat should not be so deep or shallow that the back and tops of legs cannot be supported fully. Stone and concrete, a cold seating material for any age group, should be avoided in view of elderly people’s greater sensitivity to cold.

**Clotheslines**

These should be easily reached without excessive stretching. Some elderly people find adjustable lines difficult to manipulate so a range of heights should be provided in communal areas and suitable adjustment made on individual lines.

**Mail and milk boxes**

Similarly, these should be easily used without stretching or stooping. They should be at a height where their contents can be easily seen and should have simple fastenings.
Gates
These should have easily manipulated catches (from both sides) located at about waist height.

Storage
Residents in housing for the elderly often complain about inadequate storage facilities especially for bulkier items.(3) Therefore, in liaison with the architect, the landscape architect should ensure that there is walk-in storage, easily accessible from outside, for such things as gardening equipment, workshop tools and outdoor furniture. Obviously, where there is garaging, storage can be incorporated into it.

Signs
The following points should be taken into account:

- lettering should be simple, clear and have clean edges against a distinctly contrasting background;

- the main entrance sign to the development should have a definite street number and address as well as the particular name of the housing group as this can aid residents and visitors alike to locate the development in the street;

- avoid including the name of the funding organisation in the entrance sign (e.g. St Stephen’s Charitable Trust) as this again carries connotations of "abnormal" housing.

Space allocation for garaging
Turning circles for access to garages and car ports should be designed on the generous side to compensate for physical stiffness (looking over the shoulder can be more difficult, for instance,) and slower reactions.

As already noted, large trees often cause anxiety for older people because of their dominating scale. Experience in pensioner schemes has found that even quite small and lightly branched trees are disliked when located close to dwelling units - prompting occupants to get to work with the secateurs if complaints have no effect!(4) Therefore, alternative methods of softening hard building lines and providing green shelter close to buildings should be employed such as using trellises or pergolas with flowering creepers to create cosy, unthreatening corners close to buildings.
One landscape architect who has been involved with landscape work for several pensioner housing schemes commented that residents had a marked preference for essentially "garden" type planting with a lot of colour such as bedding plants, herbaceous perennials and flowering shrubs (especially species with perfumed flowers like daphne.) They consistently disliked more "designed" planting schemes incorporating such species as grasses (Carex ssp, for instance), hebes and senecio. This ties in with the principle of creating a domestic character, for this latter type of planting is often seen in public areas. Obviously, maintenance is a constraint where bedding and herbaceous borders are concerned but efforts should be made to choose species that fit the preferred character for areas close to dwellings at least.

"Domestic" type planting with plenty of flowers, colour, and perfume is generally preferred.

Planting of a more "public" character is often disliked by pensioners.
As Kevin Lynch says,

"A place affects us directly through our senses - by sight, hearing, touch and smell", and
"sensing is indispensable to being alive."(5)

The physiological effects of aging reduces older people's sensory responsiveness but this does not mean that sensory experience is less important. Rather, special attention is required to provide sensory stimulation, not only to aid sensory function but to enrich the quality of life.

**Noise**

Noise is the one sense for which a lot of stimulation may be undesirable. Loud, low-frequency noise such as that of traffic can be irritating for older people because it interferes with the low frequency hearing that most retain. Where such noise may be a problem, the following measures can be taken:

- set dwellings well back from the noise source (since most reduction occurs close to the source);

- provide a noise buffer. To be effective this should be located close to the noise source. Dense mass is the most absorbant buffer so masonry or concrete walls and land form are the most effective materials. Planting is less effective and must be at least several metres thick, of dense small-textured foliage and be evergreen to have much appreciable effect.(6) The buffer must be continuous right across the direction of the noise;

- orientate the buildings and outdoor living areas away from the noise source;

- separate noisy areas such as garage courts from quiet living areas;

- where reflectivity off walls is a problem this can be reduced by using rough-textured building materials or creepers.

**Micro-climate**

As mentioned in Chapter Four, buildings can be arranged to enclose sheltered courtyards and pathways. The micro-climate can be further moderated by the use of fencing and creeper-covered pergola structures which can provide attractive, easily maintained shelter at an acceptable scale close to buildings.

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Heat traps should be avoided, however. Shelter from strong winds is desirable but some air circulation should be maintained to modify summer heat. Roofed-over porches and verandahs, awnings, small shade trees and pergolas should be used to provide shade and, especially in the case of plants, cooling effects in otherwise heat-reflective paved areas.

Covered walkways on main access routes may be desirable in the type of "sheltered housing" often associated with rest homes where the occupants are usually more frail and go at least once daily to the administration buildings for meals. Where this is provided the walkway should again be integrated into the domestic character of the housing to reduce the impression of institutionalism. (Covered walkways are most often seen in public buildings like schools and hospitals.) This can be done by techniques like using the structure to support a climbing garden or developing it as a continuous verandah between dwellings.

Lighting

The design of lighting demands special attention because of the reduced visual acuity associated with old age.

Sudden changes from very bright areas (such as a sunny paved patio) to deeply shaded areas should be avoided - especially where there are changes in level or where residents are likely to pass rapidly from one to the other such as on main paths. Balance and footing may be temporarily lost while the eye adjusts (more slowly) to the different lighting
condition. Instead, gradual change in lighting is desirable. Dappled shade can act as a transition between the two extremes or use of light-coloured, reflective surfaces in permanently shaded places can reduce the degree of contrast.

In sunny areas highly reflective materials should be avoided because older people are also susceptible to glare. Large areas of concrete or smooth, pale walling can be particularly blinding. In these sort of areas darker, light-absorbant colours, textured surfaces or, if design requirements preclude this (like the desirability of having glass on a north wall to heat indoor areas) eaves, small trees or pergolas can be used to reduce the reflective area with shade. Obviously, deciduous plants are particularly useful since they allow more sun through in winter when glare is less of a problem.

For night-time, higher intensity lighting should be provided than is normal and should be spaced so that the light cast from each source overlaps with the next to avoid patches of low-lit areas. Light sensitive switching is desirable as this is responsive to seasonal changes and unusual darkness such as gloomy weather.

Low-level lighting on pathways has advantages because:

- it casts the brightest light on the ground where it is needed;
- it reduces the possible nuisance that the higher intensity lighting may create in nearby dwellings.

Adequate lighting should be specifically provided at:

- changes of level;
- main pathways and entrances to the development;
- directional signs;
- particular features that aid orientation.

Legibility

The need to plan for a legible environment to aid the poorly sighted and residents prone to confusion was discussed in the previous chapter. The
desirability of distinctive features and character to aid orientation was noted.

At the more detailed level the following elements can be manipulated to denote function and location;

- varying the dimensions of spaces and the widths of paths;
- using colour and contrast to emphasise important features;
- using changes of level (e.g. "I live in the group on the rise");
- varying wall surfaces of buildings and fences in particular areas;
- using several heights and shapes of roofs.

Variation of landscape elements can create landmarks to aid orientation.

These elements should be applied to create different characters that reflect the function of areas:

- Administration and community buildings can have a more official or public character to distinguish them from the domestic nature of the dwelling units.

- Semi-private spaces can have a more intimate and small-scale character than the public open spaces.

- Main pathways can be visually denoted by greater width and perhaps more uniform paving in contrast to semi-private paths which can be narrower and perhaps have detailed unit paving.
Front and back entrances can be differentiated by different details and clear orientation of front entrances towards the main paths and spaces.

Encouraging individual expression of ownership also aids legibility because people's residences can be identified by their personalised outdoor areas.

In other words, the visual appearance of the landscape should speak for itself. Signs should be kept to a minimum because they tend to give an institutional impression.

Sensory Stimulation

Sensory stimulation should be consciously designed in order to heighten awareness and enjoyment of the environment at a time of life when perception of the physical world may be negatively affected by physical restriction and depleted sensory responses.

The points noted about variation of elements for legibility and the preferred type of planting already go part of the way. Over and above this, opportunities for inviting observation and exploration in the vicinity of the home environment should be exploited.

A variety of spatial sensations can be introduced in the course of meeting functional requirements. Differing characters of spaces can not only denote their intended use but introduce visual variation.
Landscape elements should be consciously designed to provide sensory stimulation.

Choice of bright colours and detailed materials can be sensory stimulants.

Plants should be chosen for both their functional properties and the richness they can offer in terms of texture, form, colour, perfume and seasonal interest.

Where the site allows, challenge can add a further dimension. At Selwyn Village, for instance, a pathway which leads down to a nearby beach is popular as an easily-reached outing offering swimming for the fitter and attractive views of Waitemata Harbour through native bush for the less fit.

The Lions Walk. Selwyn Village.
A special note about the design of private yards is included here because they are the areas where residents exert most control. As such, key issues of prolonging independence, coping with maintenance and establishing a home base specifically centre upon these areas.

**Definition of Edge**

For private areas to work properly the edges must be clearly defined so that the difference between private and public is obvious. Various factors can be manipulated to achieve this, some of which can be quite subtle, and yet still work effectively:

- Pathways, as recognisable public territory, can be used to define edge. To venture off the path is to intrude into private space;

- Screening extending from the dwelling to the public area can reinforce this by creating a spatial threshold. It also separates neighbouring yards;

- Changes of material can indicate a change in ownership. Materials with small-scale detail, such as unit paving, can reinforce the domestic character of private space in contrast to more uniform materials used in shared areas, like asphalt or in situ concrete.

- Fencing is often discouraged in housing for the elderly, presumably in support of the open-plan principle. Yet it need not isolate residents and can provide, in addition to a clear edge, added interest and variation in the elements of enclosure. Besides which, some people like to have an outdoor area where they are completely private. In pensioner housing schemes where cost may be a limiting factor this choice may not always be available but in retirement villages, where dwellings are generally privately owned, this choice should be available.

**Low Maintenance**

Yards which are big enough to provide privacy and allow comfortable outdoor usage do not necessarily present a maintenance problem. Most are, after all, considerably smaller than the conventional suburban house and section from which most will have moved and a lot of residents still derive pleasure from looking after a garden which is a manageable size. Also, low maintenance can be designed for.
Low-maintenance yards can facilitate outdoor living. Bishopspark, Christchurch.

-Lawn can be dispensed with altogether and replaced with hard surfacing instead, either as a patio or as verandahs and porches.

-If lawn is desired by the resident its maintenance can be part of the general mowing regime for shared lawn areas. In fact, a lot of retirement villages provide maintenance assistance as part of their general grounds maintenance service.

-Low maintenance ground covers, shrubs and small trees can be selected to soften otherwise "hard" materials and provide interest but not require intensive cultivation or weeding.

-Raised planter beds can be tended without heavy physical work or stooping - even from a wheelchair. They have the added advantage of creating interesting changes of level, bringing plants up to a level where they can be easily viewed and of defining ownership.

Flexibility

Flexibility and freedom of action should be the over-riding principle in the design and management of private areas. Studies of grouped housing for the elderly show that there is greatest resident satisfaction where choice is maximised and the environment perceived as non-restrictive. (7) Again, this relates to the general preference for the detached housing type where there is flexibility to adapt each property to individual needs and express individuality. Therefore, restrictions of the following should be kept to a minimum:
-Personalisation: individual choice of the features and colours in private areas allows freedom of expression and contributes to the overall character of the housing scheme by adding interest and a lived-in appearance.

-Privacy: The need for privacy varies between individuals. The choice to have an open or a screened private yard should be available where possible.

-Maintenance: choice about the degree of maintenance is desirable so that occupants can look after their own gardens (or not) as need or inclination dictates. As the years pass and physical reserves decline the option should be there to reduce the responsibility for maintenance as capability changes.

Obviously the degree of choice will depend to a large extent upon the type of housing scheme. In government-funded or rental situations the choice about expensive items like fencing or maintenance may be limited by financial and management constraints. Within these constraints, however, expression of individuality should be allowed as much as possible to facilitate residents making their own home bases. Also, as these types of schemes often have standard construction for cost reasons, distinctive private spaces can relieve the monotony of repetitive architecture and layout.

In retirement villages, where individual ownership of dwellings is usual, choices are usually less constrained. Often, for reasons of visual unity, there are requirements that colour schemes and architectural style conform to certain rules but within this framework considerable freedom of choice should be allowed. As noted previously, Woodlands Village is a good example of this. The architectural style and colours of the dwellings are consistent within a general framework but every property is distinctive.

Alot of the suggestions in this chapter, such as fencing of individual yards or the use of unit paving, are relatively expensive. Cost will always be a constraining factor and, in reality, compromise between the ideal and the economically feasible will be necessary. However, the underlying principles of functionalism and quality of life can still be achieved with considered trade-offs. For instance, the use of unit paving may have to be limited to selected areas (e.g. entranceways) and less expensive
in situ concrete used as the main paving material. Similarly, herbaceous planting may have to be limited to focal points as a highlight to the less preferred character of lower maintenance planting. Judgement will always have to be exercised as to the extent that added detail can be justified in terms of cost and design effectiveness.

CONCLUSION

At the detailed level, landscape elements must be designed to maximise independence by ensuring the environment is manageable for those with physiological restrictions. It is also desirable for social and psychological reasons that, within cost constraints, detail should communicate a domestic and comfortable character which is clearly legible and yet provide variety and sensory stimulation.

FOOTNOTES


2. REPORT ON the needs of elderly people living in council flats. p.4. Wellington City Council: Housing and Community Services Committee, 1983.

"Another oft-mentioned problem was the bad design of both milk and letter boxes."

3. REPORT ON the needs of elderly people living in council flats. p.4.

4. Personal communication.


6. PROTECTING buildings from traffic noise. Christchurch City Council Planning Information booklet no. 6, 1981.

PART THREE

TWO CASE STUDIES
Chapter six

NORTHBRIDGE AND THE ALICE STREET FLATS

How do the guidelines suggested in Part Two relate to the practicalities of real situations and how does the landscape design fit into the overall design process? Two case studies have been selected to illustrate this.

The main case study is Northbridge, a relatively large retirement village, which despite complex site requirements works reasonably well because the relationship between the built form and the external spaces was planned from the beginning.

The second study, the Alice Street flats, is a much smaller scheme with less complex site requirements. Yet it succeeds less well in providing for the needs outlined in Part One because the landscape appears to have been fitted around the dwellings instead of being planned as part of the whole living environment.
Northbridge

Northbridge is a retirement village of 138 apartments located on the North Shore of Auckland. Residents purchase their apartments and pay for additional services by way of a lump sum contribution to the scheme and a monthly charge. The dwelling units are located in 2 to 3 storey blocks with about 10 to 20 apartments per block. The scheme is administered by a non-profit trust company and includes a rest home and hospital.

SITE SELECTION AND PLANNING

The site

Finding enough land at a suitable price close to services and community facilities for this size development is never easy and Northbridge is something of a compromise. The site is about a mile from the nearest shopping centre (too far for the less able to walk) but a public bus service comes to the site and a special church bus provides weekly transport to Takapuna.

The 11 acre site slopes gently to the south-west, dropping steeply at the edge to a mangrove swamp known as Tuff's Crater beyond which a distant view of Auckland city is visible. The site is sunny but exposed to the prevailing cold, wet southerly wind so that special attention to the provision of shelter has been required.

Akorangi Drive, a busy road, borders the eastern boundary but there is sufficient set-back with drive-way and garages to reduce noise in the nearest units. One resident said that she preferred proximity to the road in any case, because of its activity and connection to the wider community.

Spatial hierarchy

The buildings are the main structural elements of the site and their layout has created a series of semi-private spaces throughout. All of these spaces are overlooked by numerous apartments and because of this and the sense of enclosure created, there is a definite feeling to outsiders that this is private property. The residents I spoke to all said they
Building form encloses a series of semi-private spaces. They felt secure because of this. They know their neighbours quite well, help each other out in times of illness and generally express satisfaction with the degree of community.

All apartments have individual outdoor living space either as small garden/patios at ground level or as balconies in upper apartments. Judging from the number of chairs and personalised elements it is evident that the opportunity for indoor/outdoor living and the expression of individuality is well utilised. These private areas open out onto the semi-private spaces, facilitating casual exchange between neighbours.
There is no outdoor drying, either individual or communal. These residents tend to be reasonably well-off so power bills may not be a concern but a survey might be useful to find out whether outdoor drying would be appreciated and, if so, the possibility of providing some screened drying areas investigated.

The semi-public areas are confined mainly to the administration building and bowling/croquet green.

The administration building incorporates a social room, billiards, workshop and hairdressing salon. It is not located centrally within the village part of the site but has a logical location at the main entrance where it also forms a useful division between the village and the rest home/hospital wings. As the place where visitors arrive and a lot of interest occurs with coming and going the potential of this area could be better developed by including a sheltered sitting area with a clear view of the main entranceway.

The bowling/croquet green is located in one of the least frequented or accessible parts of the site down the steep, south-west slope. Consequently, its potential as an outdoor focal point for communal activity is rather under-exploited. However, it is acknowledged that site constraints forced a compromise here since construction costs and access requirements to dwellings would have placed greatest demands on the level part of the site. To complement the steep vehicle access here, a gently-graded, hard-surfaced track down to the green with seats for "breathers" could make the green more accessible and provide a challenge similar to the Lions Walk at Selwyn Village, with views out over Tuffs Crater.

The administration building and main entrance.

The bowling/croquet green.
Open space and outlook

Despite the high dwelling density Northbridge has succeeded in achieving enough open space to provide some privacy in the dwellings and a pleasant outlook even though most do look across at other buildings. Again, compromise has been necessary, since the required density and need to provide shelter from the southerly made it difficult to exploit the attractive views to the south and south-west on much of the site. I do wonder, however, whether views over Tuffs Crater (to the west) could have been obtained for more of the site had the overall orientation of the development been different. Nevertheless, most outlooks are pleasant. The main circulation routes pass through the open spaces so most outlooks do include the interest of people passing by in addition to the "amenity" aspects of planting.

Site circulation

Overall, the site is reasonably compact with perhaps 300 metres between the administration building and the furthest apartments.

The pedestrian-only circulation across the central site provides the opportunity for residents to meet as they come and go and ensures a reasonable level of human activity on site.

Pedestrian-only access in the central site ensures social encounters and human activity.

The main problem with pedestrian access has to do with the changes of level resulting from the combined slope of the site and the height of the upper level apartments.
Extensive ramp and walkway structures provide graded access to the upper stories which is manageable for most. However, one couple reported that the more frail do have some difficulty with the ramps. They, who live in the top storey of the highest block, effectively have four stories to climb from the garages under their block. They initially welcomed the stairs as a form of exercise but now, with poorer health, have had to change their garage to the far side of the site so they can approach their apartment with only one change of level. In response to pressure, a lift has now been installed to service this block but as it is only accessible from the garages by either a long, graded walk around the block or two flights of steps, it is of limited help in its present form to those who really need it.

Legibility

Although the blocks are architecturally similar they can be distinguished by differences in orientation and their identification with the spaces they create. Residents say they have no difficulty in finding their way about but their visitors do have trouble locating individual apartments at the upper levels.

Micro-climate

The open spaces in the central site are pretty well sheltered by the enclosing buildings although the head groundsman reports wind funnels which he is now trying to relieve with shelter planting. Similarly, only now, (eight years after construction) has shelter planting been put in on the exposed southwest slope and around the bowling/croquet green. Although availability of finance was a constraining factor, shelter planting should be a first priority because it takes time for it to mature sufficiently to have a modifying effect.

Character and sense of place

Northbridge succeeds well in creating a comfortable and lived-in character. The scale of the buildings has been brought down to the human level with varied architectural detail and lush planting whilst the variety of spaces and planting treatment gives an interesting environment that belies institutionalism. The architectural similarity of buildings and sweeps of lawn tie the whole together as a unified whole.
Changes of level

All steps and ramps have been well provided with railings. The railings to the upper building levels are visually dominant but have been made into a positive feature by using them as a framework for lush creepers which soften the building lines. In situ concrete steps as well as ramps have been built between the lowest block and the level part of the site. These are often densely shaded and, bearing in mind the elderly person's reduced visual acuity, could be improved by painting white warning strips on the step edges.

Paving materials

Cost would have ruled out extensive unit paving and instead in situ concrete provides suitably safe pedestrian surfacing, the uniform character of which has been relieved by varying path widths between major and minor routes and the varied detail of adjacent planting. Vehicle access has been functionally differentiated with contrasting asphalt and, where residents have had their individual yards unit-paved, a more intimate character appropriate to personal areas has been created.

Furniture and fixtures

Most seating is portable in private yards. However, benches around the bowling green have been provided which could be better suited to elderly bodies with the addition of back supports.

Mail is delivered to the door but there are grouped milk boxes. These have a very low bottom level which may be difficult for the less agile to get down to.

Front-opening storage boxes for tools are shared between units but I noticed a number of patios were used for tool storage. A survey of storage needs might also be useful to see whether these boxes are adequate.

In a larger site such as this some signs to aid orientation are unavoidable. These are easily read with clear contrasts and lettering although the stark black and white is somewhat "official." The main entrance sign is simple and has avoided naming the trust but a definite road number in the official address may help visitors to locate the site which is on a fairly long road with a number of institutions on it.
Soft landscape

The planting character is generally of the type preferred by the elderly. Smaller flowering trees such as flowering cherries and paulownia have been used, creepers create shade and interest near buildings and a lot of flowering and perfumed species are evident such as jasmine, daphne, agapanthus, hibiscus and citrus. Residents I spoke to expressed pleasure with this character since it provides the kind of domestic setting that most chose for their own homes previously.

This character has been achieved despite considerable site difficulties, as the soil is a poor clay which drains badly in winter and sets hard in summer. This has been compounded by the earthmoving and construction process. Fill, which was pushed out towards Tuffs Crater, appears to have formed a clay pan which hinders overall site drainage, whilst an area in the centre of the site which was used for concrete batching has proved a major trial because of the compaction and concrete waste. These problems may have been reduced if a landscape architect had been involved from the beginning of the scheme to introduce site protection and drainage measures.
These problems, combined with the high maintenance requirements of the "garden" type planting have been costly. The new head groundsman is now introducing native species (which do well on this soil) into the shady corners of the site as a low maintenance measure where planting is less visually obvious.

The sensory environment

Noise nuisance has generally been avoided by keeping vehicle access to the perimeter and by the set-back from the road.

Trellises around private yards and deciduous trees provide shade and shelter.

Micro-climate at the detailed level has been well handled with the use of trellises, awnings and small deciduous trees to shade heat traps in summer.

Lighting

Low level lighting bollards plus lighting on the buildings and ramp structures provide thorough illumination. The main lighting problem relates to contrast conditions during the day between the densely shaded, covered walkways and the often brightly sunny spaces adjacent. One resident comments that he finds this transition unpleasant because it takes several seconds for his eyes to adjust. The provision of a gradual transition by introducing dappled shade or semi-opaque screening at main entrances to the walkways may improve this.
Legibility

Overall, the varied spaces and character provide a legible environment. However, the difficulty of locating apartments is something of a problem, particularly because of the extensive walkway structures at upper levels to which access is not always easy to find. It may help to give each block a particular name with a separate numbering system and perhaps pick out railings and fire hose boxes in a different colour on each main block. Residents could then tell visitors, for example, "I live in Mansfield, the block with the scarlet features."

Sensory stimulation

Northbridge succeeds very well in providing sensory stimulation. A range of experiences have been achieved through the series of clearly defined spaces with glimpses from each into others which invite exploration. Small enclosed spaces associated with the walkways contrast with open sweeps of lawn. Planting has been chosen for colourful flowers, textural variation, fruit and perfume while the use of creepers on the walkway structures both softens the buildings and gives a lush impression. The bright colours which elderly people tend to see best have been used extensively to pick out features.
Private yards

A good deal of flexibility has been allowed in the private outdoor areas. At ground level residents can choose whether to have a small or larger area, whether to maintain their own gardens or not, and can introduce their own furniture, paving or screening as desired. Private yards are set back from circulation routes for privacy and although they are often partly open to view, shrubberies create thresholds into private spaces.

Private yards and balconies are varied: some open to view, some screened for privacy, some maintained by residents and others tended by grounds staff.

The design process

The overall functioning and spatial definition of the site mainly works well because the layout of buildings and site circulation was planned at the conception of the scheme by the architect (although I wonder whether views of Tuffs Crater might have been made more of a feature for the whole site.) The detailed design of the grounds was initially unplanned but the management soon found ad hoc development to be unsatisfactory and had a master landscape plan drawn up. This enabled consistent development despite staff changes and made for easier financial planning for future maintenance and development. However, as noted, the problems of soil conditions, high maintenance and delayed shelter planting might have been overcome sooner had the landscape been planned in conjunction with the architectural design.
CONCLUSION

Cost

Compared to most pensioner housing Northbridge has had fewer financial constraints. Being a non-profit organisation, it has had only limited capital available, however, and has had to build the scheme in stages awaiting finance for further development from purchase of completed apartments. Here, also, a landscape plan from the beginning may have offered advantages as priorities could have been assigned to such aspects as shelter planting and further development staged under a management plan on a long-term budget.

The monthly service charge from residents is certainly needed since the maintenance costs are high. Three full-time grounds staff are employed and it takes one man three days to mow the lawn areas. As stated, the new head groundsman is now trying to reduce maintenance costs with the introduction of low-maintenance, native species in difficult areas and is also keen to pave a lot of the lawn in private gardens since this fiddly mowing is very time consuming. Although initially expensive this may have long-term cost savings in terms of labour costs.

Overall, Northbridge has succeeded in providing for the needs outlined in Part One. With the exception of some aspects of access and fixture design, independence is assured despite the restrictions of age. In addition, the scheme works well as a community, providing security and social contact whilst allowing residents flexibility to establish their own home environments and independent lifestyles. In total, the landscape elicits a positive perception as a comfortable and interesting living environment which simply looks like high quality housing rather than housing "for the elderly."
PROPOSED PENSIONER UNITS
ALICE ST.
ALICETOWN

LOWER HUJT CITY COUNCIL
A.N. GRIGS
CITY ENGINEER

D.P. 60 - 300 x 300 ft paving strip on
head of sand swalegrade as torpoid

ALICE ST.

BUCKLEY ST.

3050 type 'A' fence

clothes line

screen planting

orpholos paths

clothes line screened by planting

300 wide swalegrade later

200 x 300 ft paving strip on
head of sand swalegrade as torpoid

LOWER HUJT CITY COUNCIL
A.N. GRIGS
CITY ENGINEER

PROPOSED PENSIONER UNITS
ALICE ST. ALICETOWN

M 3540
The Alice Street Flats

This brief case study illustrates the need for site planning as part of the landscape design even for very small schemes which do not pose the same site complexity as Northbridge.

The Alice Street flats were built in 1981 and consist of seven single-storey, semi-detached units on a small flat site of approximately 300 square metres. They are administered by the Lower Hutt City Council and were funded by a Housing Corporation subsidy and loan, supplemented by a private loan when construction costs exceeded this finance. Residents are not well off and rent their units at a minimal charge.

Site Planning

The problem here was to fit in as many units as possible with one car park for every two units (as required by the District Scheme) on a very narrow site.
The dominance of drive-on access and glimpse of the other street encourages intruders.

The buildings, car parking and most paths have been built as shown on the plan but none of the planting nor the unit paving areas have been implemented because of lack of funds. Instead, these have been laid in lawn. Consequently, although screening was planned, the site is very bare and exposed to the street.

The layout has provided for individual outdoor living in porches and small set-back areas from the paths but residents in the units close to Alice and Buckley Streets said they didn't sit out (although they would like to) because they lacked privacy from the street. They also feel that the access paths pass too close to their windows (only about two metres.) It was significant that I only observed a resident using her porch outside one of the middle units where there was a degree of privacy. The clothesline next to Buckley Street is rarely used because the residents who share it feel that it is too open to the street. The lack of screening also gives a clear view from one street to the other and tenants complained about the public using their site as a short-cut.

Thus, in its present form, this scheme fails to provide for the needs of security and establishing a clear home territory. The lack of planting is partly responsible for this but it also appears from the plan that the shared spaces and circulation have not been planned as such but simply fitted into the left-over spaces around the buildings. I doubt whether the two unit-paved areas will be used if they are put in, remembering people's preferences for using their own spaces. The layout generally provides poor outlook, especially for the two central units which look directly at the back of other units.

I suggest that had the outdoor spaces been planned as part of the whole living environment better privacy and use of the land could have been achieved.

For instance, the units could have been sited so that they open into a main space which is private from the street and large enough to provide adequate set-back between the dwellings and main path. With the main path overlooked by all the units and the creation of obvious thresholds from the street to signal "private property", intruders could have been better discouraged.
A main space is created to provide a pleasant outlook and a communal focus.

Back yard spaces with clotheslines are enclosed for privacy.

Thresholds between public and private.

**Key**
- Shrubs & groundcover
- Gravel
- Clothesline
- Pathing

**Scale:** 1:250

**Alice Street Flats**
**Alternative layout**
Moreover, this layout could have given all units a pleasanter outlook. The main space could have been developed as an attractive focus on an otherwise featureless site by exploiting the view towards the trees and shrubs on the adjacent property: with extra planting to reinforce this feature. The linear nature of the site and this main space could have been relieved by manipulating this planting feature to create two areas within the whole - also providing an interesting succession of spaces across the site.

Although initial expenditure on planting would still have been required, the extent of paving could have been reduced, thereby making some money available for planting. (The total paved area on the site now totals approximately 320 square metres compared to approximately 200 square metres on the suggested alternative.) Besides which, planting costs should be budgetted from the beginning since planting does not just "pretty up" a site but fulfills functional requirements.

General comments

In other respects this scheme works well in that it is close to shops and transport, has well-designed fixtures (waist-high mailboxes and adjustable clotheslines which these residents manage easily) and achieves a sense of neighbourliness because of its small size. The units are of a suitably small scale which fits into the suburban surroundings, with colourful doors and sunny living areas.

However, the lack of planting and screening (in addition to causing privacy problems) makes the site stand out as different in the street scene and exposes the southern units to the cold southerly. Planting with low-maintenance species of a domestic character with plenty of flowers and perfume such as flowering cherries, viburnums and periwinkle groundcovers could reduce the privacy and exposure problems whilst improving the environmental quality of the existing layout.
Conclusions

These two examples have obviously had very different site problems, requirements and budgets. Northbridge is a much more complex site and has had considerably more finance available for site development and ongoing maintenance than Alice Street.

The Design Process

However, comparison of the two schemes does highlight the desirability of planning outside spaces as part of the overall design process from the inception of a scheme. At Northbridge the site layout was planned from the beginning to create spaces that generally work both functionally and aesthetically, even though the detailed design was done at a later stage. At Alice Street the opportunity to make something special of the site was missed due to insufficient attention to site planning.

Cost Benefits

Early landscape design and implementation can also have cost benefits in the long term. For instance, Alice Street has a large area of paving which could have been reduced had site circulation been planned more efficiently. Also, initial saving on planting expenditure has resulted in five years of mowing for all soft areas, some of which (being originally intended for planting) are fiddly and time-consuming to do. Had finance been budgetted for planting at the beginning, the planted areas would now be virtually maintenance-free and mowing costs reduced. In terms of total development costs ($133,000) the planting and fencing would have been a tiny fraction which could have been justified by long-term savings in maintenance costs.

The Time Factor in Landscape

Another point that emerges from these examples is the time factor in landscape work. Structural planting for shelter and screening takes time to become effective and therefore should be established as soon as possible even if finance for more detailed planting work is not immediately available.
Integrated Design

To meet the needs outlined in Part One both the architecture and landscape must be designed together as a total living environment and sufficient funds budgetted from the beginning for landscape development. This is illustrated by the recognition of the need for a comprehensive landscape plan by the Northbridge management. Similarly, the Lower Hutt City Council has recognised this need and has consulted landscape architects in the design of more recent housing schemes.
CONCLUSIONS
Grouped housing for the elderly promises an environment that is designed to meet certain needs of the older age group. As part of the housing environment the landscape must be designed to meet these needs if this promise is to be fulfilled.

These needs arise from the physiological and social/psychological changes common to later life.

The physiological changes of aging can reduce the older person's ability to cope with the physical environment. Although these changes vary widely between individuals certain conditions are statistically more common in the elderly population. In broad terms these are:

- changes to the body systems which reduce physical stamina, co-ordination and can limit mobility;
- diminution of sensory functioning;
- higher incidence of conditions that can cause confusion and difficulty in orientating in the environment;
- increased sensitivity to temperature extremes and susceptibility to illness.

Although the majority of older people are not significantly affected by these conditions the grouped housing environment must be designed optimally to provide for those inhabitants who are restricted.
Aging also has social and psychological implications:

- adaptation of lifestyle and accommodation may be necessitated by physiological aging;
- adjustment to retirement and living on a reduced income is often required;
- many elderly must adjust to living alone and losing friends with the deaths of spouses and peers;
- a positive effort is often required to resist the negative connotations associated with old age.

Elderly people are a diverse group who adapt to these changes in many different ways, depending on personality and circumstance. However, retaining independence is consistently seen as crucial: a value important to any age group but particularly significant in later life because it may be threatened by physical and financial restrictions. Being able to live independently in one's own home is fundamental to this and the home becomes significant psychologically as the outward expression of individuality and status.

Thus, the question of accommodation emerges as a key issue for the older age group. Even though a conventional detached house and section may become a burden many resist moving because they perceive "special accommodation" as eroding their independence and morale. Therefore, housing for the elderly must enable inhabitants to live independently in homes which they clearly perceive as their own and must aim to create an environment which is manageable without being so over-designed that it is perceived as "old people's" housing.

Those elderly who choose the grouped housing option do so in the expectation that some or all of the following needs will be answered:

- that prolonged independence will be assured through a specially designed environment which enables inhabitants to establish and maintain their own homes and lifestyles even in ill-health;
- that there will be the security of prolonged independence, assistance in times of crisis and reduced chances of crime;
- that there will be social opportunities;
-that recreational opportunities will be available; and

-that there will be financial benefits.

**THE LANDSCAPE RESPONSE**

The landscape is an essential ingredient in meeting these needs for it is at once a functional and a social environment. Elderly people need to be competent beyond the interior of their dwellings despite the physical restrictions of age. The external living environment is their connection to the outside world where they should be able to publicly express their identity, chat to neighbours, do messages and confidently come and go as they please. The landscape is also the public face of the grouped housing scheme. Whether it bears the stamp of "special" housing or whether it has a comfortable, lived-in character will have a very real bearing upon both the residents' and general public's perception of such housing and will affect the quality of life for residents.

Initial site selection and planning are crucial to establishing a sound landscape framework.

Sites should be:

- readily accessible to the wider community;
- suitable for the physical restrictions of old age;
- inherently attractive or interesting (if possible) because the elderly spend so much of their time in and around their homes.

Site planning should provide for the following:

- a spatial hierarchy that recognises people's territorial instincts so that inhabitants can establish both their own homes and develop a sense of neighbourhood. This spatial order can importantly meet the needs for independence, security and social opportunities;
- an overall layout that is functional, compact and convenient for those with physical restrictions;
- a clearly read environment that aids orientation;
- a structural framework designed to create a comfortable micro-climate;
-a sense of place that elicits a positive response and provides plenty of sensory stimulation.

These aspects must be carried through to the detailed level of design, including:

- choice and design of materials and fixtures to ensure manageability;

- a planting character which recognises many older people's preference for "domestic" type plants;

- a sensory environment which compensates for diminution by manipulating features to be at once physically comfortable, legible and stimulating;

- design of private yards to be both manageable and permit maximum freedom for residents to express their sense of ownership and lead their chosen lifestyles.

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Landscape design can significantly contribute to meeting the needs of inhabitants in grouped housing for the elderly. As illustrated by the case studies, however, it is crucial that the landscape be planned as part of the total living environment from the inception of a scheme if its potential is to be fully realised. Ideally, the inside / outside relationships should be worked through as a team effort between architect and landscape architect and the overall concept of site topography worked out at this stage. The detailed design of earthworks and road construction can then be worked through with engineer and surveyor so that the overall design intentions can be achieved.

To ensure this involvement in the design process the landscape architecture profession must demonstrate its usefulness to both the site developer (as the client who pays for the service) and the other design professions (who will often be the main consultants responsible for site development.) This involvement can be justified in terms of:

- the contribution that landscape design can make towards meeting the needs that these housing developments promise to fulfill;

- cost savings both initially (through efficient site planning) and in the long-term (by minimising on-going maintenance costs and
providing management plans to enable forecasting of future expenditure on maintenance.)

IMPLICATIONS FOR THE FUTURE

We have an aging population. Only a small proportion of the elderly choose to live in these grouped housing schemes but as more live into very old age (over seventy-five) when the incidence of disability and frailty increases it could well be that demands for specially designed accommodation will grow. The elderly in poorer health have been found to be more critical of their living environments (see p. 9). Consequently, there will be increasing pressure upon these developments to be well designed - a challenge to which the landscape architecture profession will have to respond if it is to become more involved in designing these schemes.

As I noted in the Introduction there is little documented research about the landscape needs and perceptions of elderly people so that many of my suggestions are based upon inference from other research. Study of both residents in these grouped housing schemes and the elderly population as a whole could clarify their preferences and perceptions to provide a firmer base for future design decisions.
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