Title: The Environmental Qualities of Lowcost Housing Schemes.

A Case Study of the Environment of a Typical Superblock at Hanover Park, Phillipi, Cape, in February, 1973.

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Coloured Housing in Cape Town, 1969

PART 1
LOWCOST HOUSING
INTRODUCTION
BACKGROUND

1. Introduction and Background to Lowcost Housing

1.1 Why "Lowcost Housing"?

120,000 coloured families live in greater Cape Town (1970)[8]

33,200 coloured families live in City Council's housing schemes (1972)[11]

15,000 coloured families are registered on the waiting list for City Council's housing (1972)[11]

5,600 coloured families still live in District 6 (March, 1972) and will be moved under the Group Areas Act.[11]

R132.16 is the mean income per month for the coloured household of greater Cape Town (1970)[7]

R115.83 is the medium income per month for the coloured household of greater Cape Town (1970)[7]

R14.40 is the mean rent spent by the coloured family per month, or 11% of the mean income. (1970)[7]

R1,500 should be the cost of a dwelling for which the average coloured family can afford to pay rent (at current interest rates) (1970)

5 persons is the mean size of the coloured household (1970)[7]

30 m^2 is the minimum area of a dwelling for five persons (Slums Act[9])

R50 is the maximum construction price per square meter which the average coloured family can afford (including the costs of land and services)

R60 is the minimum construction price per square meter as supplied by the building industry (excluding cost of land and major services)

Thus the average coloured family cannot afford shelter at current market prices. They are forced to live in overcrowded dwellings in town or in tin shacks on the fringe of the town.

Overcrowding and uncontrolled settlements create slum

conditions, which adversely affect health and social stability of the population, which in turn create high social costs to the community in toto reflected in health welfare and crime statistics plus the loss of productive capacity through a weakened and unstable labourforce. Thus the community or the Government finds it profitable and desirable to subsidise coloured housing through the local authorities with the combined advantage to be able to implement the policy of racial separation into different housing areas.

As the cost of the housing must be low, in order to reduce the burden to the community to a minimum, the housing standards are kept at the lowest level required for social stability. (Mainly through improved health standards.)

This is a somewhat crude explanation of the reasons why "Lowcost Housing" has to be built. It also illuminates the importance to define a "minimum standard".

1.2. Rate of Construction

Studies by Cilliers [12] suggests a required construction rate of 10,000 dwellings annually over the next few years. The City Engineer [11] estimates an immediate demand for 24,200 dwellings. The present yearly output of Council dwellings amounts to approximately 2,500 units per year, which just takes care of the natural increase and in migration .[11] The total production rate of low-cost housing will never be able to satisfy the demand with the present rate of investment and production methods. The building industry's capacity is limited and the most economical use has to be made of it. The same applies for capital resources, which have to be distributed over all sectors of the economy.

1.3. Scarcity of Land

The scarcity of land, which can be developed at low costs, which is suitable for residential use and which is

situated in close proximity to the major centres of employment, constitutes presently the most limiting factor for the development of lowcost housing at the required scale.

The distribution of land uses is not only governed by economic factors, but also by a very rigid thus inflexible framework of group areas, which does not allow a free flow of land and housingstock.

1.4. Old Housingstock

Low income groups which would tend to use old housingstock in close proximity to job opportunities are forced to live in outlying newly built townships. As there is no market any more for this old housingstock, it reached the end of its economic life and has to be replaced by new housingstock, which satisfies the more affluent needs of the priveleged population groups.

1.5. Group Areas Act

In the near future this policy will force another 12,000 coloured families [11] to leave their homes and the surrounding they once were able to choose for themselves, or into which they had been born. In exchange they will live in newly erected townships, an environment which they will share with neighbours with whom they had, prior to their move, three things in common:

1. the skin colour
2. the income
3. the date of application for housing or the date of notice by the police to move

These are the sole criteria according to which the population for the new township are selected by the authorities.

1.6. Allocation criteria and available data

One half of the new housingstock has to be made available for families removed under Government legislation. The other half of the new dwellings is available to the

local authorities to be allocated to applicants on the housing lists. Since most of the families removed under the Group Areas Act do not apply for a dwelling prior to their removal, their identity and family characteristics are not known to the local authorities at the planning stage of the new township. Thus for about 30 to 40% of the new population no detailed data for planning purposes are available, which would be necessary to draw accurate schedules of requirements to meet the needs of the population and to be able to fulfil them within the very tight and inflexible limitation imposed by the scarcity of land and the capital available for the new developments through Government funds.

1.7. Population Structure

The population of new townships originates from three distinctly different housing environments.

1.7.1. Coloured families who are affected by Group Areas Act and who are forced to seek alternative accommodation. The majority occupy dwellings in the older developed areas of the City and whereas dwelling quality might often be sub-standard they have, in the main, been accustomed to a wide range of urban services and proximity to the place of work. The housing environment they occupy is often of a markedly higher quality than the one they would be offered in housing schemes. [13)]

1.7.2. The second category comprises families who occupy privately owned houses in Coloured Group Areas, and who bear with overcrowding because of the lack of alternative housing of a suitable standard for their needs. [13)]

1.7.3. The third category is made up of families occupying shack or 'pondok' areas. Although these families are by no means a homogeneous group they do by and large form the lowest economic group among the Coloured people with incomes which put them in the sub-economic or lowest economic category for housing purposes. [13)]

1.8. Social Repercussions

As explained above, the selection of the population for new townships are governed in the first place by income and date of application. According to the principle "first come first served" no choice of the tenant and his neighbourhood can be made. A random selection of people from often greatly different social background takes place. Some of the factors which lead to social unrest are: loss of social security within the extended family, loss of social status particularly amongst Group Areas Act removals, increase of financial burden through longer and more expensive fares, loss of schooling facilities for children, loss of cheap shopping sources, loss of amenities and leisure facilities. Particularly hard hit by these changes are people from the first category (see 1.7.3.) and some of the people from the second category. People from the third category do usually have to shoulder a higher bill for rent, pay for electricity, etc. but feel compensated through the social uplift in the new environment, offering them amenities like water, sewerage, electricity and a proper "brickbuilding" which they never experienced before. On the other hand they often find the financial burden and the regular payments, which have to be made, as well as the change of the behavioural pattern of the neighbours surrounding them a great stress, which often results in conflict with their surrounding.

1.9. The lack of facilities mainly for social contacts and leisure time, overcrowding in dwellings and undesirable neighbourhoods coinciding with a high proportion of children seem to be the obvious causes of social unrest.

The relationship between the physical environment and social grouping is extremely complicated and unfortunately it is difficult to lay down guide lines for design goals.

It would appear that what is of the utmost importance is the best allocation of families to dwellings, so as to ensure, at the minimum, compatibility and ideally a similarity in background. [13)]

1.10. Political representation at local Government level was abolished in August 1972. There is no Coloured Councillor representing the Coloured Ratepayers in CCC any more. They were replaced by local management committees which have an advisory capacity at the CCC, but do not have any vote to participate in the decision-making process of their affairs.

No local management committee has been elected as yet for H.P. Thus the population of H.P. has no way to voice their opinion, proposals, distress to anybody who could represent them in an independent capacity. Also there is nobody who would be able to guidecommunity activity and reduce social friction, which is particularly important at the beginning of the occupation until such time as the community has partly settled and can organize a finer web of social relationship supported by cultural, welfare and Government institutions.

1.11. Citizen participation with the planning process of new townships is non-existing. The local authority adopts a totally patriarchal policy in the planning approach, which is guided by Government and local regulation, rules and standards. Individual adjustments of the planning goals are governed by statistically gathered socio-economic data on a macro scale. Opinions of official institutional bodies are eventually taken into consideration. Citizen information or any form of public relation management does not exist. The population of existing or new townships are neither asked to participate nor informed of planning proposals and policies concerning their environment, which affect their way of life.

1.12. The planner is responsible towards the local authority, in whose hierarchical structure he is working. The local authority in turn is responsible to the Government, which finances mainly the housing schemes, and towards the citizens of Cape Town represented by councillors controlling the local administration.

The actual clients, the population for which the planner plans, are not represented at the council. The clients do not assume any power or can delegate any power to anybody representing their interests.

The planner remains anonymous within the local authority. He has no responsibilities towards the people he is planning for, yet his proposals have the most powerful influence and consequences for his "clients". Consequently a very high ethical and professional standard on the part of the planner is needed.

1.13. The changing economic and social conditions are not fully reflected in the present planning standards, which are based on the "Housing Code" of the Department of Community Development,[5] the "Minimum Standards of Housing Accommodation for Non-Europeans", National Housing and Planning Commission,[10] and the "Manual of Standard Requirements" for Master Plans and Township Layouts for Indian and Coloured Communities.[1]

1.13.1. The Housing Code[5] is amended frequently, but no allowance has been made for the rise in the cost of living. It is however the money income which is a main criterion for the assessment of rent and eligibility for lowcost housing. The relevant tables are contained in the Housing Code and have been amended the last time in May 1970. The cost of living according to the local office of the Department of Statistics, has changed from 100 in April 1970 to 121.4 in March 1973. Thus people, whose money income has increased and who had previously been within the required income-limits, face eviction if they already live in housing schemes or have become ineligible for lowcost housing. This is so despite the the fact that their real income has not changed and thus are as little in the economic position to satisfy their housing demand on the private housing market as in 1970.

Increased capital costs, maintenance and service costs led recently to general increases in rent.

Except for capital costs increases in rent do not seem to be justified, as with the increase in living costs one should reasonably well expect that money income rises. Thus rise in money income would be reflected in higher rent, which should already compensate for increases in cost of maintenance and services. Otherwise the need for general increases of rent can be taken as a result of increase in the cost of living at a greater rate than increase in money income. Thus people become poorer in lowcost housing schemes, which will decrease the standard of living, because a higher portion of the income has to be spent on housing, and less can be spent on amenities and environmental improvements.

1.13.2. The Minimum Standards of Housing Accommodation [10] was formulated by the National Housing Commission in 1951. South Africa's way of life and economy has somehow changed over the last 22 years since those minimum standards were approved and were applied without any change. Already in 1953 Calderwood [14] remarks on the Minimum Standards:

" ... in the 1-room and 2-room units, at maximum occupancy of 3 and 5 persons respectively, cases can arise of mixed sexes ..."

Further, children under the age of one year are not regarded as persons in the room occupancy schedule. This is hardly realistic, because it is impossible for a family with small children to find within a short period of time alternative accommodation once children cannot be accommodated any longer in the bedroom of the parents.

1.13.3. The Manual of Standard Requirements [1] was issued in July 1967 and deals mainly with landuses and space standards. J.H. Niemand writes in the forward [1]

"Planners must be acquainted with the habits, customs and characteristics of the different groups ... and take them

into account in their planning ... The economic conditions existing in the communities must also be taken into account ... careful economy has to be exercised in the planning, to ensure that the inhabitants will be able to enjoy the privileges and amenities of modern ways of life, and still keep up their payments of rents, rates and so forth."

The urban scene has significantly changed in S.A. over the last few years. Rapidly increasing industrialisation, mechanisation of agriculture and the attraction of the urban scene through better job opportunities, higher wages, educational and leisuretime facilities, better services etc. brought about an innigration, which, combined with high birthrates of the coloured population, low educational standards and thus restricted earning power, result in a notorious high demand for the development of housing schemes. Since land close to the city becomes too costly and scarce, new housing schemes are pushed further out to the fringe of the metropolitan area. In order to solve the pressing housing proplem the scale of the housing schemes has changed e.g. from H.P. with 6,000 families, the latest development of the CCC, to Mitchell's Plain, which is supposed to house 50,000 families. It always has to be borne in mind, that the main bread winners of those families earn less than R225 per month. In other words these low income families cannot afford to live so far from their centre of employment. Against this, local authorities cannot afford to finance all the services and amenities required with increasing distance from the centre. Thus increases in population densities without lowering the housing standards to reduce sprawl and excessive use and waste of land has to be investigated and guarded against if necessary.

1.14 Flexibility of Approach

The Manual [1] is a static set of rules which was established to maximize benefits to a static society. Since society is not static but evolutionary, these rules

become an obstruction to the goal towards maximum benefits, and will have to be amended. The process of amending requires data, which are not readily available. They have to be collected, which takes time. Until the Manual [1] has been amended and all the amendments have been approved, it will already be outdated again. Thus a more flexible approach to the planning of housing schemes has to be found, which allows for a changing society and will be able to come closer to Mr. Niemand's standards. [1]

1.15. The Land and its Natural Limitations

All the coloured townships are located in the Cape Flats, between the Southern and Northern suburbs, which are located along the major transportation routes.

"For a long time the Cape Flats acted as a formidable barrier to urban expansion and its special character was a major determinant in the growth process of metropolitan Cape Town in its formative stages .... During most of this period it remained as unalienated Government waste land, being unsuitable for normal farming operations of the time owing to the sandy nature of its topsoil and its thin clothing of vegetation. It was inaccessible to wagon transport in the absence of hard roads ... Overgrazing and firewood collection upset the delicate natural ecology. The removal of the Mediterranean-type flora resulted in shifting sands of the true desert ..." [15]

Through the efforts of 19th. century settlers, supported by a series of ordinances to combat the removal or destruction of shrubs, trees and bushes, most of the Cape Flats could be stabilized and used for agriculture. Prior to that the forestry department established a topsoil with the help of the leguminous rooikrans and Port Jackson wattles from Australia.

Only shortly before World War II the National Route 2 was constructed and was the first direct hard road across the centre of the Cape Flats. [15]

South-easter.-
Site bulldozed, ready
for construction, 1971.

Plate 1 .Hanover Park Block F

The landuse on the Cape Flats was mainly limited by its sandy and windy nature. It was available for low-cost housing in large areas at a comparatively low price. It was conveniently closely located to the centre of Cape Town, of which the "Garden City" Pinelands took advantage as a middleincome township as well as the CCC for its lowcost housing schemes.

1.16. The development of the land for lowcost housing has been signified by the radical change of the natural and rural environment. The sites were bulldozed and the sanddunes levelled. The vleis were filled and the entire vegetation erased. Very few trees had survived the combined onslaught of removal of ground cover, levelling, lowering of groundwater table through storm-water canals and ill-treatment through wood collecting site workers and new inhabitants.

Once the buildings had been erected no provision had been made to stabilize the ground. Airborne sand is characteristic of all the new housing schemes, particularly during Summer time, when the Southeaster blows. Indiscriminate destruction of the natural ground cover and under estimation of required funds for site works led to a desert like environment, as it had been two centuries ago.

The Director of Parks and Forest did write in his comments on the first draft of the Report on the CCC newest development Mitchell's Plain: "... a very delicate ecological balance exists at Mitchell's Plain which will be destroyed by the building of this satelite city, and therefore, a greatly modified environment will have to be created. Apart from the social and physical benefits that accrue from landscaped recreational facilities ..., it is imperative that these areas are completely stabilized concurrently with building operations to prevent the formation of driftsands. I cannot stress this point too strongly as previous experience at Steenberg/Retreat has shown that houses were buried to their eaves in driftsand. Many houses could

Site after construction, 1971.

Plate2. Hanover Park Block F

only be entered via the windows as the doors were blocked with sand up to sill height ..."

In townships which had been established years ago like Bonteheuwel (10 years) the sand is still a great nuisance wherever the ground has no chance to establish topsoil and a vegetational cover mainly through excessive use by pedestrians and lack of stabilisation.

Large areas of the Cape Flats used to be vleis, which is also indicated by their names such as: Jakelsvlei (now Heideveld-Township), Groenvlei (now Hanover Park-Township), Drueirvlei (now Manenberg-Township). The siting of these townships on drainage areas creates problems in Winter through flooding or very low water tables, causing dampness mist and inconvenience.[16] Temperature inversions frequently cause pockets of cold air containing smoke from industries and domestic fireplaces during night time and often lasting till late in the morning, until the sun radiation or the wind dissolves them. During the Winter half-year the early morning sun is hampered in its effectiveness to warm up the dwellings until the surfact moisture has evaporated.

South-easter.-
Site after occupation, 1971.

Plate 3. Hanover Park Block F

PART 2
THE SURVEY

THE SURVEY

1. Scope

The Scope of Survey is to collect information to be able -

a) to improve living conditions and allow for changes in existing townships.

b) to improve the design of the residential environment in new townships.

I had assumed that an essential part of planning - particularly long term planning - is to establish not only base data for the initial planning process and its execution, but also to see the effects the planning had on the population for which the effort had been undertaken; also what changes on the environment had been caused through planning and what effects the environment on the population has and vice versa. I feel that through this information it will be possible to establish a link between the past, the present and the future development of the housing environment. Further to that it had been experienced, that a planning process is usually interrupted by the gap between the conceptual planning and the detailed planning stage.

The conceptual planning of housing is strictly governed by regulations and statistical population data, economical consideration, social stratification and existing environment. It becomes almost a mechanical process with very restricted elasticity. The available information exhausts itself in the allocation of land uses and the design of a network of services which satisfy the community needs at large.

Once the stage has been reached where the detailed planning of housing areas is approached, very little information is left to deal with the community in detail at the scale of a

superblock or a neighbourhood. The minimum standards and other general regulations, which vaguely follow the local townplanning and building regulations, plus the expected family structure and the economic constrains extracted from the C.C.C. waiting list for housing are presently the sole parameters on which the planner and designer develops the individual housing layouts. It is left to his imagination and subjective impressions to plan the environment, by which the individual inhabitant is affected most, and which has the strongest influence on his behaviours - his dwelling, the plot, the street, local services, other buildings and micro climatic conditions. The common argument, that one cannot plan the environment in detail, and that it largely depends on the inhabitants and what they make out of it can only be taken as an easy excuse to escape the obligation to plan an environment which is the optimum one is able to achieve through very careful negotiation and analysis of existing conditions.

The responsibility of the planner for his creation does not end with its birth. The population of lowcost housing - particularly rented accommodation - is not in the economical and political position to adjust its environment to its needs as easily as its more affluent counterpart in similar condition. Thus a continuous surveillance of existing housing schemes is required to make appropriate adjustments of the environment possible and improve the living standards, which is the original aim of any housing programme.

A humble effort had been made to grasp a glimpse of this goal through the survey of Block F of Hanover Park.

2. Survey Area

Hanover Park is the newest township within the Municipal boundaries of Cape Town. It is situated in the Cape Flats

see Appendix 2.2.1. It had been built on an area lying between Penlyn, Pinati and Portia Townships on the west side, Hein Road on the east side and Lansdowne Road on the south side. About 6,200 dwellings were built on a gross area of 748 acres (300 ha) excluding the land for expressways and the railway reserve totalling 40 acres (16 ha). The land had been used as farmland mainly for dairy and vetetable farming, supplying the nearby Cape Town Market. It had been interspersed with low lying depressions and vleis, some of them still can be seen north and south of Lansdowne Road.

Block F, the survey area, contains about 7.5% of all the dwelling units built in Hanover Park Township, which was designed on the concept of superblocks.

Block F had been occupied for about 2 to 2.5 years at the time of the survey (see Appendix 2.2.2.). It was assumed that the population had become acquainted with their environment and is able to supply a reasonably accurate and critical picture of its experience of it.

The survey area consists of a residential area with 457 dwelling units located in six different house-types (see Appendix 2.2.3.). The other landuses zoned within the block are still vacant, except an area, which had been zoned "Municipal purposes" plus an adjoining area, which is taken up for a construction yard for precast concrete elements used in the construction of houses. The landuses immediately outside the boundaries of the block can be seen on Appendix 2.2.4.

3. The Sample

A sample of 20% of all the dwellings was chosen in order to secure an appropriate sample distribution of each dwelling

type and house type. The dwelling numbers were used for the selection of the sample. Every fifth dwelling number of each house type was marked as a sample. The dwelling numbers gave an even distribution also in regards to ground or upper floor as can be seen on Appendix 2.3.1.

4. Population Survey see Appendix 2.4.1.

4.1. Contents

a) Family Characteristics
b) Place of Work
c) Occupation
d) Income

In addition, the following information has been tabled:

House type
Number of rooms
Date of application
Date of occupation
Rent per month
(as per 1970)

4.2 Source of Information

The information needed for the population survey was extracted from the C.C.C. housing files in H.P. in February 1973. This information consisted of family characteristics, place of work, occupation, income, rent, and date of occupation. The housing file was reasonably up to date. It is the obligation of the tenant to register any changes of the family characteristics and income, but failure to do so leads to discrepancies which were noted and corrected at the interviews.

4.3 Family Characteristics Table

The dwellings surveyed were, without exception, occupied by one family or by a household consisting of an extended family. It was quite often found that the daughters brought up their illegitimate children as the extention to the family. (See Analysis 7.3.)

4.4. Place of Work Table

The Place of Work Table notes all the economically active persons. (See Analysis 7.4.). Wherever the full information could not be extracted from the housing file, it was added at the interview.

4.5 Occupation Table

The occupation of all the economically active persons has been entered in the occupation table. This is reflected in the high percentage of persons employed in service occupations e.g. housemaids. (see analysis 7.5.)

4.6. Income Table

The income table as noted in the housing file only states the income of the registered head of the family, which is needed for the assessment of the rent. Thus this does not reflect the household income.

The number of workers per family was corrected at the interviews. Because of the reluctance of the population it is almost impossible to establish an income level. Data on the economic active portion of the population was regarded as an important information to establish an approximate income level. (See Analysis 7.6.)

5. Land and Building Survey (see Appendix 2.5.1. and 2.5.2.)

5.1. Contents and Scope

The Land and Building survey is concerned with the present condition of the physical environment and is grouped in three main parts:

a) Access
b) Plot
c) Dwelling

This survey is designed to expose discrepancy between the initial planning criteria and the reality. It ought to give valuable information on individual adjustments and changes of the environmental conditions through the activity of the population.

6. Opinion Survey (Interviews) (see Appendix 2.6.1. and 2.6.2.)

6.1. Contents

The opinion survey of the population has a similar structure as the physical survey to allow easier comparative analysis of both -

1 & 2	Internal Space and Quality Standard (Dwelling)
3	External Space Standard (Plot & Communal Space)
4	Access
5	External Miscellaneous (Activity patterns and desires beyond the boundaries of the block)

6.2 Interview Technique

The interviews were undertaken by three people over a period of three weeks. After some pilot-interviews small adjustments had to be made to the questionnaire. The questions had been phrased as simple as possible and substituted by check-questions (e.g. question 15 and 16), which were not necessarily hidden, but enabled the questioned person to indicate his opinion without embarrassment to himself or others.

6.3 Response and Bias

Except for one vacant dwelling all the interviews could be made (87 out of 88). The people co-operated very well. Most of the initial suspicion could be overcome. The active participation of the people indicated that the questions were highly relevant to the world of thought and problems these people encountered in their environment. Through patient explanations of the purpose of the interview suspicion could be greatly reduced. It was strongly felt, that the people did not want to have anything to do with the local authority or other authorities. Caution was shown particularly at questions which had even indirectly to do with income (Question 1.8), rent (Question 2.1), change of dwelling (Question 1.10). Some people were also very reluctant to criticize existing conditions, obviously in fear of repercussions.

Three householders did not communicate well, in two cases due to the influence of liquor, and one had an obvious aversion to any interference with their domestic affairs. Answers to the internal space use of the dwellings might be biased, particularly in relation to the use of the livingroom. In some instances it was quite clear that the livingroom was also used as a bedroom, but this was denied. The livingroom seems to fulfil a very important social function as a contact

area between the outside world and the family, being also the status symbol of the family and is like the car and the garden part of the trend towards a lower middle class image.

7. Analysis (Appendix 2.7.)

7.1. Limitations of the Survey

The survey resulted in a host of data, the validity of which and its significance is limited, as it is with any other survey done so far in Coloured townships.
This survey is merely an exercise at a certain point in time and reveals a snapshot of the population and their environment. Unless a permanent body is installed by the local authorities which develops an analytical system, of which surveys are a part to gain information of all aspects of environments in townships, there will be no comprehensive framework serving as a guide to the planner for further development and improvements.

This survey will highlight the most obvious physical shortcomings of the present environment. Projections into the near future and long term policy cannot be developed on the basis of this information. e.g. the set framework is too small to undertake comprehensive population projections for H.P., which would be required to establish a flexible land-use policy to utilize land to its maximum.

7.2. Population Characteristics

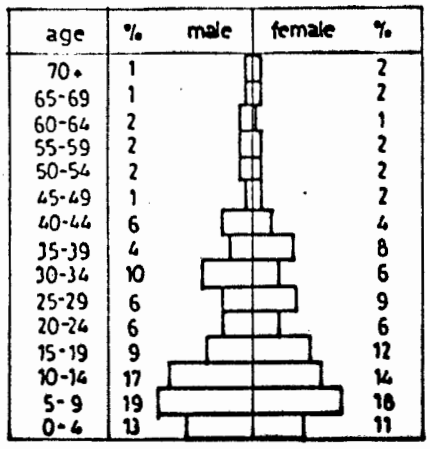


Fig. 7.2.1.
Population pyramid. Age-sex distribution.

The population pyramid shows a very strong decline of the population in the 0 to 5 years group. This could point towards a decline in the birthrate and a reduced future housing demand. But a closer examination of the initial population structure influenced by childbearing age, regulations governing the availability of housing and average waiting time for housing leads to the conclusion, that the population structure is somewhat artificial and through these factors distorted. A population survey by the C.C.C.[17] shows a similar age-sex distribution as in the above sample (see Appendix 2.7.2.2.)

The average waiting time for housing for 69% of the population had been 4,2 years. 31% were rehoused under the Group Areas Act within a few days notice. At the date of application for a house the applicant must be married or must have dependants. Thus 66% of the population had been married or had dependants already for an average time of 3,5 years.

The average time of residence was, in February 1973, $2\frac{1}{2}$ years. Thus 66% of the population are at least six years married at the present moment, which explains the reduced reproduction rate, which will decline until the

age group between 15 and 19 years representing 12% of the female population will come into the childbearing age.

The start of the childbearing age becomes steadily lower (see Appendix 2.7.2.) The birth of the first child took place at an average age of 19.5 years for the age group between 25 and 30 years. A small sample of females in the age group between 20 and 25 indicates a drop to 16.5 years for the first child's birth. Thus the even higher proportion of female population of 14% in the age group between 10 and 15 and the earlier childbearing age will lead to a population explosion in H.P. within the next five years. This is reinforced through the low mortality rate due to the high proportion of young families, the lack of older age groups, and the lack of mobility of the families due to the scarcity of lowcost housing.

7.3. Family Characteristics

The mean family size is 6.1 persons.

Percentage of Family	No. of Persons
-	1
4	2
2	3
16	4
16	5
25	6
15	7
9	8
5	9
4	10
2	11
1	12

Fig. 7.3 Percentage of families by No. of Persons.

It is of significance that 72% of all the families have 4 to 7 members, only 6% less than 7 members and 22% more than 7 members.

16% of the families heads are single female householders. This is a typical part of the socio economic image of the lower class family in contrast to the working class family. It reveals the presence of a high percentage of families with divorced or unmarried women as head, which has unfavourable repercussions on the schooling of the children, the income of those families and their living standard.

7.4. Place of Work (Appendix 2.7.4.)

34% of the workers are employed in the central city and western suburbs.
5% work in Woodstock - Salt River.
Thus a total of 39% work in the central city and immediate fringe area.
15% work in Lansdowne- Athlone and Hanover Park.
In the area between Observatory and Wynberg are 16% employed.

The analysis of the place of work table was used to estimate the average transport costs per household which is, like rent, part of the fixed household costs. Thus one can calculate an approximate figure for the disposable income. The disposable income has a bearing on the establishment of e.g. shops in close proximity (corner shops)

7.5. Occupation

38% of the labour force of the sample population are labourers, 16% are craftsmen or production workers followed by 15% working as servants in households or restaurants. 13% are pensioners or live on other state aid. 32% are in skilled or semiskilled occupations, 53% are unskilled, 13% not working.

The C.C.C. Survey[17] found that 45% were in skilled or semi-skilled, 49% unskilled and 3,8% in "other" employment. A figure for unemployed workers has not been given. This might bias the sample. However, it is significant that the percentage of the unskilled workers is very similar.

It was found to be significant that 26% of the working population are female, which coincides with the high incidence of single female householders.

If one adds up semi-skilled and skilled workers, it is a significant conclusion that only 32% of the workers, heading 24% of all the households, are in economically stable occupations and belong to the working class. Thus the lower class with little prospect of higher earnings are in the majority with 76% of the total population of the survey area.

Two thirds of all the households have one worker and one third two to three workers.
The mean number of economically active persons per household is 1.5.

Percentage of Families	No. of Workers[4]
3.5	0
60.5	1
22	2
10.5	3
1	4
2.5	5
100	mean 1.5

Fig. 7.5. Percentage of families by No. of workers

7.6. Income

The income has been taken from the C.C.C. housing files[4], and reflects only the gross income of the head of the

household, which is the basis of calculation for the housetype and rent.

Percentage of families	Head of Household Income per week R 4)	per month
40%	0-19	0-82
36%	20-29	87-125
10%	30-39	130-169
7%	40-49	173-212
7%	50-59	216-256

Fig. 7.6 Income of head of household Percentage of families

The mean income per family head per month is R103. Assuming an average income per month of R60 per each further economically active person per family increases the mean family income to R133 per month. This figure would only apply at full employment, but does not include losses suffered through sickness and unemployment or lack of job opportunities. It also does not include any holiday or Christmas bonus.

7.7. Length of Residence and Change of Tenancy (Appendix 2.7.7.)

The dwellings had been let immediately after completion of a house or a block. The first family of the sample moved in on the 23rd. October 1970 and the last dwelling was occupied immediately after completion in April 1971.

At the time of the survey (Feb. 7th.) 67% of the sample population lived in H.P. for 2 - 2½ years, and 28% lived there for 1 to 2 years of which 26% lived there more than 1½ years.

5% of the dwellings changed tenants within 1 year.

7.8. Rent (Appendix 2.7.8.)

Rents are calculated at the 1970 level.

Rent R per month	Households %
5 - 10	34.5
10 - 15	8.1
15 - 20	37.7
20 - 22.50	21.7

Fig. 7.8.
Rent & Percentage of household.

The average rent per household amounts to R14.60 per month (in 1970) or 14.3% of the average monthly income of R103 in 1972. This is 2% higher than the average paid by the coloured households in the same income group throughout the Peninsular [7] but considerably lower than the maximum allowed, 25% of the income.[5]

The present rents are about 20 to 30 percent higher than in 1970. The increase took place in 1972. Thus the average rent has increased to R18.20 per month or 17.8% of the average monthly income of R103. Assuming an average household income of R133 per month (see 7.6.), the average rent constitutes 13.4% of the income.

7.9. Waiting Time (Appendix 2.7.9.)

32% of the people of the survey sample had been moved to H.P. under the Group Areas Act. 57% of these families changed their place of residence within 3 days, 22% in less than 3 days and 22% within more than two weeks up to eight months. 68% of the sample population have been on the waiting list of the C.C.C. The mean waiting time had been 4.2 years. 61% waited 3 to 5 years, 13% less than a year and 9% from 5 to 9 years for a dwelling. The long waiting time gives an explanation of the strong desire of the tenants to say where they are; the same applies to the Group Areas removals.

A Combined Analysis of the Landuse and Interview Surveys. (Appendix 2.5.2.) (Appendix 2.6.2.)

7.10. Overcrowding

As references for the assessment of the Housing Standards and degree of overcrowding, the Slum's Act [9] (Appendix 2.7.10.1) and the National Housing and Planning Commission Standards [10] (Appendix 2.7.10.1.) have been used.

7.10.1. Slum conditions in terms of the Slums Act:

2 out of the 87 households (2.5%) live in slum conditions.
6 out of 87 (7,6%) households will live in slum conditions in the immediate future (0 - 5 years)
5 out of 87 (6%) households will live in slum conditions in the distant future (5 - 10 years)

Dining/Kitchens are included in the number of rooms counted for sleeping, as the Act does not make provision for them to be excluded. The "Minimum Standards of Housing Accommodation" [10] does not include Dining/Kitchens in the room count.
For detailed analysis see Appendix 2.7.10.1.1.

7.10.2. Overcrowding in terms of the National Housing Standards:

40% overcrowding in 1-roomed dwellings
40% overcrowding in 4-roomed dwellings
31% overcrowding in 2-roomed dwellings
12% overcrowding in 3-roomed dwellings
20 out of 87 (23%) dwellings are overcrowded
Underoccupation is insignificant
(20% in 4-roomed dwellings, which coincides with a significant overcrowding of 40%)
Minimum standards seem to be unrealistic for 5 person house-

holds, for which the minimum number of rooms is 2, as sex separation would not be given, if one reduced for 11 out of 13 dwellings the room number from 3 rooms to 2 rooms. For detailed analysis see Appendix 2.7.10.2.

The above overcrowding was emphasized by the following:
51% of all couples had no separate bedroom; though the minimum National Housing Standards include the living room as a bedroom, only 29% of households use the living room as a bedroom - this has two reasons, firstly that this is not socially acceptable to these people and secondly, that through its small size and function as access to the other rooms it has almost no space for sleeping accommodation. Thus, an even greater overcrowding of the bedrooms can be assumed to be prevalent.
43% of households both wanted and could afford an additional bedroom.

7.11. Dwelling Plans (Appendix 2.2.3)

The location of the bathroom when accessible from the living room was strongly criticised.
Strong objection to the proximity of dwelling entrances in upper floors of the double and triple storey flats (2FU & 3FU) was voiced.

7.12. Finishes, Fittings and Failures in Dwellings

Two thirds of the households complained of dampness - this could be due both to overcrowding, cracks in the walls, leaks or closed cavities. Most of the painted dwellings were painted with oil paints which, according to the owners, helped keep out dampness. This would point more to structural failures than overcrowding as the cause of dampness.
53% of households wished for burglar bars.
20% of households had broken window stays.
The lack of burglar bars and window stays were often given

as reasons for not opening the windows, aggravating both heat in Summer and condensation and dampness in Winter.
66% of households complained of structural failures (mostly cracked walls).
55% complained of breakages of fittings (e.g. doors, window stays, plumbing).

These structural failures are of great significance to this particular social group, as to most people a brick building has in the past been a symbol of permanence and security.

7.13. Gardens

95% wanted their own garden space, of whom
78% would prefer a front garden.
Most people prefer planting flowers, but all types were planted. This was supported by the physical survey, and indicates a need for some form of encouragement - perhaps in the form of a nursery.
76% of the gardens were tended and
5% of the gardens were used for parking.
71% would like to tend a council planted tree in a temporarily enlarged garden; this would also alleviate the problems of wind and air-borne sand, about which 54% complained.

These findings show that the garden has an important role in the lives of these people.

7.14. Individuality and Identification

There are three significant indices of the degree of individuality and need for identification or personal image:

1. 30% of people wanting gardens specifically stated for prestige of nicely tended garden.

2. 32% of households liked the idea of a nameplate on the front doors.

3. 53% of households wanted their dwelling to be painted a different colour to the surrounding houses.

7.15. Health Standards

52% of households found the extent of litter in the block objectionable because children play with it and contract diseases. Flies from the garbage areas often forces the ground floor tenants to keep their windows closed. In the Landuse Survey one of the most predominant features was found to be litter. The garbage enclosures are not controlled (or cleaned often enough) - tenants abuse them and children and dogs play in them, and all vacant land is extensively littered.

Numerous complaints re cracked walls were connected with the fear that 'bugs' live and breed in the hollow bricks used and enter the dwellings via the cracks.

7.16. Car Ownership and Parking

28% of householders own a car, none of whom use the provided communal parking areas through fear of theft and vandalism. This is particularly worrying to those (62% of survey) who have no private space for parking, and must rely on downstairs tenants or neighbours for protection of their car; and it was actually found that more people than presently own a car would hire a lock-up garage if available, indicating that more people would buy a car if they thought it safe.

Big smile- daddy manages to get through with his truck.

Plate 5. Hanover Park Block F

The shop on wheels
- the police dont like it.

Plate 4. Hanover Park Block F

7.17. Place of School (Appendix 2.7.17.)

34% of households kids go to school outside of Hanover Park, usually because they believed the H.P. schools inferior.

7.18. Working Mothers and Child Care

29% of mothers with children work.
50% of mothers have children between 1 and 5 years old, and two thirds of these would be prepared to pay for a creché if available - rough estimates made, indicated that R1.50 per week per child would cover the cost of a creché/nursery.

7.19. Childrens Play Areas

47% of children play in the street.
38% play in the yard or garden.
16% play mostly inside the house.
only 29% ever use the public playground, which is in another superblock, and will be completely cut off once the railway line is built.

7.20. Shopping

13% of households use the shops in Hanover Park.
21% use the mobile vans.
68% use supermarkets outside Hanover Park.

After police control, shopping facilities had second priority in the demand for amenities in Hanover Park; a large percentage of these people asked specifically for a corner shop for daily consumer goods, purchased presently from mobile vans, which were preferred to the distant shops.

7.21. Church Attendance

The high church attendance (50% of which a half attend H.P. churches) is significant a factor in developing social cohesion. This is emphasized by the 11% of households who would particularly like their church situated in H.P. - this is particularly strong amongst the Moslems.

7.22. Sport and Entertainment

The lack of sports fields and cinemas was also high on the priority list, totalling 17%.

7.23. Other Facilities and Services

Like public telephones, better refuse collection, hospitals, etc. are also sorely missed.

7.24. Safety

The lack of police patrols and public telephones which could be used in an emergency is reflected by significant demand and existance for burglar bars, protective fences and general sense of insecurity.

7.25. Ground Floor or Upper Floor Preference. (Appendix 2.7.25.)

20% of the sample preferred an upstairs flat, and of these 89% already lived in an upstairs flat.
57% of the sample and 56% of the whole of Block 'F' are ground floor units.

I am a happy woman-
we have a cottage.

Plate 10. Hanover Park Block F

8. Summary of the significant differences between the planned, provided, surveyed and proposed environments of Block F.

8.1. Density (Appendix 2.8.1.2.)

The Block area is the same throughout 8,38 ha.
The No. of dwellings increased by 45 (9,9%) in proposal.

As seen in the tables on overcrowding 26% of the units are overcrowded.
Therefore, in the proposed scheme for the improvement of Block 'F', all the groundfloor double storey units are provided with one additional room - this is because the greatest percentage of overcrowding is in these dwellings, and it is relatively easy to do with these units.
These additions increase the mean number of rooms per dwelling from 2,70 to 2,95 and theoretically reduces the overcrowding from 26% to 2%.
Original design criteria see Appendix 2.8.1.1.

8.2. Landuse (Appendix 2.8.2.1. and 2.8.2.2.)

Landuse	Existing	Proposed
Private open space	5,946 m^2	17,570 m^2
Public open space	11,767 m^2	3,730 m^2
Net residential area	66,087 m^2	62,500 m^2

The existing situation consists of 0,60 ha. of zoned private open space, of which only 0,23 ha. is actually used (by the maintenance depot) i.e. 0,37 ha. of unused wasteland, 1,18 ha. public open space, which is all barren, sandy, refuse-strewn wasteland, 6,61 ha. net residential area, of which only 4,52 ha. is allocated to streets, parking, building coverage, communal space and private garden space - the remaining 2,09 ha is wasteland with no specific use.

In other words a total of 3,64 ha. or 43,4% of the block is unused wasteland.

In the survey it was noted that 43% of the sample with communal washhanging space had fenced off sections of their communal space. It is apparent that in order to decrease the percentage of wasteland, the space must be allocated for amenities that are needed and will be used.

Therefore the proposal shows an increase of private open space from 0,60 ha. to 1,76 ha. This allows space for two much needed nursery/crechés, a youth sports centre and a horticultural nursery. The public open space is reduced from 1.18 ha. to 0.37 ha. at the centre of the block which could be more advantageously used and controlled.

The net residential area has been slightly reduced from 6,61 ha to 6,25 ha. and the number of dwellings increased from 457 to 502, though the area per dwelling, 124,3 m^2 (or 1335sq.ft), is still well above the National Housing Standard.

The density has been increased from 69 to 80,4 dwellings per hectare; and from 422 to 490 persons per hectare.

8.3. Parking

Parking provisions in the author's proposal have been increased.

	Provided/Existing	Proposed	
Total area	0.33 ha.	0.49 ha.	*
Parking lots	133	195 *	(of which 11 are designated as lock up garages)
Parking ratio	0.29 lots/dwelling	0.4 lots/dwelling	
Percentage parking	29%	40%	
On site parking i.e. plots with road access	17%	41%	

It was noted that in the initially planned scheme 58% parking was planned though the report of the City Engineer's Dept. on Hanover Park[3] claimed that 100% (less the sub-economic dwellings) parking had been planned.

8.4. Streets, Sidewalks and Pedestrian Paths

0,28 ha. of hard surfaced roads, sidewalks and pedestrian paths were planned initially and 0,20 ha. were provided. In the original estimates[3] provisions were made for hard-standing footpaths though none were built for unknown reasons. The author proposes this be increased to 0,48 ha.

Planned	Provided	Proposed
0.28	0.20	0.48

8.5. Garden Space

The great need for private garden space is reflected by the differences between planned, provided and surveyed environs.

Planned	Provided	Surveyed	Proposed
.91	1.56	1.74	2.87

Area in ha.

8.6. Landuse Summary of Net Residential Area

	Surveyed in ha.	Proposed in ha.
Parking & Streets	0,53	0,97
Building coverage	1,15	1,33
Communal space	1,10	0,62
Private space	1,74	2,87
Net residential area	6,61	6,25
Wasteland	2,10 or 25%	0,47 or 6%

8.7. Street Access or Hardened Pedestrian Path Access

Existing	Proposed
40%	100%

8.8. Ground Access

The City Engineers Dept. report on Hanover Park[3] states that 70% of all dwellings in Hanover Park have ground access. In Block 'F' the figure is 56%, though 80% of the surveyed households wish to live on the ground floor. Therefore all proposed additional dwellings are ground floor units, which however, only slightly increases the ground access to 60%. Plans see Appendix 2.8.

My yard is my kingdom.

Plate 6. Hanover Park Block F

PART 3
GOALS
CONCLUSIONS
PROPOSALS

Part 3.

Goals, Conclusions and Proposals

"The task is great and the way full of hazards as well as productive frontiers. The burning ideal must always be damped down by the realities of enterprise and investment. Yet one thing is clear - there is no spatial shortage for industrial man - nor is there a world shortage of materials for shelter. The principal shortage is one of ideas, policies, and the ability and will to face the problem and to help those who do not yet know how to help themselves."
Charles Abrams [18)]

1. The Dwelling

The goal of lowcost housing is to create sheltered space for a family of changing size and structure. The shelter has to be produced at a cost, which will allow the family to satisfy their demand for housing as well as their other basic needs like food, clothing, education and entertainment.
The shelter must be of a space standard and structural quality, which allows the family to maintain good health and live in safety.
Considering planning priorities, the shelter of the family- the dwelling - is the most important part of any housing scheme. The family is the smallest nucleus of human society. The adequate shelter is one of the basic ingredients for sound family development and life, thus indispensable for a socially and economically healthy and stable society.

2. Space Standards

2.1. Overcrowding

The minimum standards for housing applied to the study area show an overcrowding of 23%, mainly in terms of room numbers. Or in other words 23% of all the families are not able to apply separation of sexes amongst their children of 10 years and older. The minimum space requirements as laid down in the Slums Act 53 of 34, regarded as necessary for a healthy life, are not existing in 2.5% of the dwellings.

For 43% of all the families the need for an extra room is so great, that they are willing to pay for it. Considering the tight budget, averaging R133. per month, this willingness to pay emphasizes the priority. Therefore provisions have to be made to satisfy this demand urgently. The age-structure of the population and the considerable number of unmarried mothers living with their families indicate a strong need for more housing amongst the population.

2.2. Social Stability and the Extended Family

To strengthen the social stability amongst the population it would be desirable to satisfy the housing need of the population within their area. This will reduce out-migration and encourage the clustering of extended families to facilitate communication and mutual help. It has to be borne in mind that the coloured community lacks adequate insurances in the form of old age pension, sickfund, unemployment grant, etc. as is common to higher income groups. It also has no high enough income to save anything for emergency. Mutual help is an important factor in the life of these people. The extended family is amongst those people the main source of social security, as it used to be within rural communities.

2.3. Increase of Rooms

The author proposes to increase the number of rooms by one room per dwelling on the ground floor of all the double storey flats (Appendix 2.8.) The double row of buildings is far enough apart to allow for a long stretched building in between, which is connected to the kitchen door with covered walkways, which create small sheltered courtyards for each groundfloor flat, leaving enough small communal spaces, each of which is shared by two upstairs flats.

2.4. Construction without Disturbance to Population

The space between the double storey flats (2F) is presently communal. Thus the erection of the building will be quite independant from the existing buildings and will not cause much inconvenience or disturbance to the population.

The author regards it as socially undesirable to cause any disturbance of the population through e.g. extensions of buildings by adding additional floors, as has been proposed by the C.C.C. in established townships. Firstly, because the majority of the people want to live on the ground floor (80%). Secondly, because people would be required to move to some other dwelling, out of their neighbourhood and probably well established gardens, a fate which had been experienced by many before through the implication of the Group Areas Act.

3. The Private Space

3.1. Trend towards Private Space

A comparative analysis of landuses as planned, executed and existing show a strong increase in private space attached to

My yard is my kingdom.

Plate 11. Hanover Park Block F

the ground floor dwellings and a simultaneous decrease of communal space for washhanging, playing, etc. (Appendix 2.8.) The housing manageress of Hanover Park indicated, that communal facilities are a constant source of dissatisfaction amongst the tenants. The Survey showed that a strong significance is attached to private garden space by the population of Block 'F'. The degree of overcrowding of dwellings makes any private outside space into a valuable extension of the dwelling area.

3.2. Extension of Dwelling Space

The scarce space within the dwelling must be supplemented by external space, to enable the overflow of activities, otherwise confined to the dwelling. The outside space must offer privacy, safety, protection from sand and wind, and sufficient circulation of air and sunshine to retain a high standard of hygiene and health

3.3. Characteristics of Private Space

Survey results show, that there is a call for two types of private outside space, directly attached to the dwelling:

1. the front garden
2. the yard.

3.3.1. The front garden acts as a barrier between the accessway and the housedoors. It satisfies the demand for gardening, mainly flowers and the desire for prestige amongst the neighbours. Its depth is merely defined by the front to front distance between oposite rows of buildings after deduction of the accessway width.

The distance between fronts of houses is not so much a function of the regulations governing the width of accessways, but of

The individualist and
his evicted neighbour.

Plate 7. Hanover Park Block F

the actual traffic which has to be conveyed, the services connections, which have to be accommodated below the access-way, the light level and amount of insolation (sunshine). Another factor is privacy, which includes view and noise.

It was found that under local climatic conditions for single storey and double storey buildings a minimum distance is 12 metre. In order to allow parking inside the front garden a front to front distance of 16 m with a street width of 6 m is required in group or cluster housing of superblocks.

The minimum width for streets of 10 metre as laid down by the local authority is justified for a residential through road system which conveys traffic foreign to the particular area it passes through. The concept of the superblock tries to minimise this type of traffic and channels it along its perimeter. Thus this street width within the superblock uses up valuable space, not because there is a practical need, but because the existing legislation does not allow any less and the mentality of the people, who created these rules under justified conditions, is not flexible enough to adjust to new conditions and thus will not accept proposals for change.

3.3.2. The yard has the width of the dwelling or house plus any side spaces required. In H.P. it is used as communal space, mainly for washhanging and sub-divided by "chicken wire" fence for every block of flats. Throughout the scheme these areas look very neglected and littered. A considerable percentage has been fenced off by individual dwellers and turned into gardens or private yards, sometimes to an extent, which leaves the flat dwellers on the first floor little communal space to hang their washing. Nobody feels responsible for the communal space, which explains its neglected condition, which further reduces its utility. The yard forms an important part of the space need. It is in contrast to the front garden used for family internal activities like

One can even be proud
of a rented home in a
"low cost house"

Plate 8. Hanover Park Block F

homework, hobbies and play. It is a much needed space also for the very young and the old people, who need both ease of access to a protected and sheltered open air space, which is under the exclusive control of the family.

3.4. Protection of Private Space

To achieve protection and shelter two criteria have to be considered:

1. The protection of the yard from the unwanted interference by neighbours and persons foreign to the neighbourhood.
2. The sheltering of the yard from adverse climatic conditions, mainly wind and air-borne sand.

Economic limitations do not allow the erection of garden walls and expensive fences, therefore the buildings themselves have to be grouped in a way to give mutual protection, combined with as short as possible walls or fences (Appendix 3.3.4.). Planting of trees and hedges can be used as a very good substitute for walls and fences for individual sub-division of a group of yards. Hedges have to be backed at an initial stage by "chicken wire" fence until they grow thick enough to survive. The further layout can be left to the tenants.

4. Soil and Vegetation

The top-soil had mostly been scraped off completely by builders or eroded after removal of the ground cover. No care has been given during the construction process to save the top-soil and re-use it after completion of the construction period. Often it had been used as backfill, leaving the bare sand exposed. Lowlying areas and vleis have been filled with sand burying the soil and organic matter of the vleis under it.

4.1. Grading and Ground Subsidence

It is very shortsighted to bulldoze a landscape flat from the economical and environmental aspect.
The organic matter, particularly of vleis where it exists in large quantities, will inevitably lead to ground subsidence for some time and will disturb the structural stability of any building erected on it. Cracks in the walls of about 60% of the surveyed dwellings have been recorded, which might well be the result of subsidence or the use of inferior materials.
The remaining sand has to be stabilised and enriched with organic matter at great cost, in order to establish a new ground cover.

4.2. Lack of Ground Stabilisation

In H.P. no provision has been made in the budget for any stabilisation of the ground and covering with top-soil. Thus the bare sand had been left, which becomes air-borne through the prevailing southeasterly winds and causes a great deal of annoyance to the population.

In a small area some stabilisation has been undertaken with concrete slabs in an experimental way - this remained the only effort so far.

4.3. Adverse Wind - Sand Conditions

The predominant North - South orientation of the buildings leaves an open field to the strong winds, which sandblasts and dries out any plants which may establish themselves or which a struggling gardener may wish to grow. (Wind diagrams see Appendix 3.4.2.)

Wherever people established protective and sheltering fences made of boxwood, corrugated iron or hedges, the plantlife in gardens increased.

Similar conditions could be found in the cottages facing an open space with undisturbed ground cover as at the southern edge of the surveyed area. The wind is slowed down near groundlevel through the existing growth and carries no sand.

4.4. Protective Measures in New Developments

In new developments a strict protective measure of the existing vegetation and soil has to be prepared and planned, long before building operations start.
Pre-requisite is an exact survey and mapping of the existing soil conditions and vegetation. This, together with the topography, becomes a decisive input into the planning process.
Valuable vegetation like trees must be retained and patches of suitable vegetation must be incorporated in areas of future open spaces. (see Appendix 3.4.4.1.)

Large areas, which are not affected by immediate development, like public open spaces, schoolsite and hospital sites, etc. must be fenced and protected before building operations start. (see Appendix 3.4.4.2.)
For the different types of operations carried out on the site, like roadbuilding, laying of drains, building construction, etc. a co-ordination plan of the timing, extent and control of operations has to be drawn up, which minimises the field of operations at any point in time, without loss of economies in the execution of the work.

4.5. Destruction of Ground Cover

Most of the ground cover is destroyed through the building operations, except for larger open spaces where it can be

protected efficiently. The wind quickly erodes the soil and the sand becomes air-borne. This causes delays and higher costs of the construction. During the construction of H.P. there were many days where workers and machines had to operate under sandstorm conditions.

Protective measures have to be taken to reduce the destruction of natural ground cover. Introduction of new natural cover has to take place before and simultaneously with the building operations. The existing vegetation and the rootnet in the soil creates a bed and protects any newly planted or seeded vegetation.

5. Topography

5.1. The Cape Flats are not entirely flat as the name would suggest, but they are full of high sanddunes with great natural beauty. (See Appendix 3.5.) These sanddunes have been stabilised through the vegetation cover and in some cases through protecting layers or outcrops of limestone. Some of them are up to 40 metre high and create a natural feature of the flats, as well as protection for areas on their lee side.

5.2. Policy of the C.C.C.

In the construction of all the existing townships the C.C.C. adopted the policy to bulldoze and flatten the sanddunes to reduce the gradients to a minimum, which resulted in a plain onto which any convenient plan layout could be fitted. This makes "planning" very easy and reduces it to a technical engineering problem, but also opens the door to a total destruction of the natural environment, and invites a man-made monster of monotony, which is cruel to the new inhabitants and creates further cruelty.

5.3. Planning or Pollution?

This type of housing construction cannot be called planning, but only pollution already covering large areas of the Cape Flats.
Planning procedures and rules have been developed by man through bitter experiences gathered in the rapid development and destruction of the natural environment through urban developments. Man realised that he is part of the natural environment and must protect it in order to survive.

5.4. Shelter and Environment

The shelter man builds for himself to protect him from conditions of the natural environment, which are stronger than him, has to form part of the natural environment, modelling it carefully to his needs, but not destroying it and with it his fellow man and himself.

5.5. Private Cost and Social Cost

The sole criteria of the authorities for the construction of lowcost housing are to build as many dwelling units as possible at as quick a rate as possible and as low a cost as possible.
The money costs which goes into the erection of "lowcost" housing schemes will determine the rent. The amount of rent which can be payed is determined by the income of the population. In order to make ends meet the cost of housing, the income of the population has to go up or the quality of the housing has to go down.

The "money" costs of R2.00 to R3.00 per sq.ft. as payed by the C.C.C. for H.P. dwellings does not reflect the real costs in economic terms, The "money" costs or private costs, which

is the cost of erection, does not reflect the total cost to the society, which includes the social cost. The real rent which has to be paid by the tenant consists of the "money rent", covering the cost of construction plus the social cost inflicted on each individual through a lower than "standard" rent.

5.6. The Concept of Standard Rent

The "standard" rent can be termed as a rent, which has to be paid by the population of an urban area for an environment, which minimises total cost to the society at large, regardless of social status and economic standing.

By building at a lower cost than the "standard cost", the costs will be shifted and burdened upon the tenant through e.g. the adverse affects of the destructed environment.
The amount, which the tenant has to pay indirectly (indirect costs) is the difference between the rent he pays to the C.C.C. (direct costs) and an amount which is greater than the standard rent (Law of diminishing returns)
e.g. the C.C.C. constructed the dwellings at H.P. for R2.00 to R3.00 per sq.ft. (Appendix 3.5.6.).
The standard cost for dwellings in the urban area of Cape Town is assumed to have been say R7.00 per sq.ft. at the time of construction of H.P.
The difference between the construction cost and the standard cost (R4.00 to R5.00 according to the quoted figures above) is the indirect cost, which has to be payed by the tenant and the community.
The standard cost has to be established in order to measure the burden inflicted upon society by lowering the private cost.

5.7. The task of the planner is to lower the standard cost of housing, which in turn will reduce the burden to the section

of the population who cannot afford housing at standard costs. The question arises: Is it really a proposition to create housing below standard cost, or would it not be socially and economically more realistic to subsidise rents, which enables people to afford standard cost housing?

5.8. Lack of Information

An answer to this important question cannot be given under the present planning approach to lowcost housing.

Besides sporadic surveys and collection of data no scientific information of existing housing schemes is available

5.9. The costs benefit ratio inflicted through bulldozing the environment without planning cannot be established and will never appear in figures in the balance sheets.
Only the records of welfare institutions and police statistics will talk. The clean-up actions of the police in townships will remove temporarily the effect but not the cause of the illness. But at least it exposes the illness to people who are willing to see and to cure.

5.10. Preventive measures are better than cure of problems which have been caused by lack of planning. The planner, economist, engineer, social scientist, urban geographer and architect are all part of a planning team in a wide sense, which also includes the polititian and representative organisations of the future population.

5.11. Integrated Planning Approach

Lowcost housing needs a particularly well integrated planning approach and very close co-operation amongst the disciplines

concerned with it. This applies for the planning stage, construction period and does not come to an end for a long time after occupation has been taken.
Only through an integrated teamwork the standard cost of housing can be lowered and the most can be made of the little money available for this particular type of housing. Real saving of cost without lowering standards require a great planning effort, which embraces the whole field of planning, architecture, engineering, building construction, ecology, sociology and economics.

5.12. Engineering Exercise

The C.C.C. does not favour this approach at all. It regards the erection of lowcost housing schemes mainly as an engineering exercise; it leaves planning and construction entirely to the City Engineer's Department, which is not the least interested to employ any "outsiders" and seems to be convinced to know the solution to all the problems of lowcost housing.

Evidence for this attitude is given by the initial budget for Hanover Park (Appendix 3.5.12) totalling 14 Million Rand of which R7,500 was "allowed" for "Town Planning" and R3,000 under "Architectural". This is less than 0.1% for planning and architecture. The surveyors had been relatively well off with R24,722 for "Survey Costs".

The actual task of the C.C.C.'s Engineer's Department, to construct sound houses without cracks, build proper access, provide adequate garbage removal, clear the area from litter, stabilise the sand, establish sportsfields, parks and community centres seems to be badly neglected (see Survey results).

6. Building Construction

Greater efforts have to be made to establish adequate and independent control of the City Council Building Unit, which builds all the Council Housing Schemes including most of the services and all the roadworks.

Enormous amounts of materials, particularly bricks, cement, concrete-stone, roofing materials, doors, windows and floor material, glass, paint and installation materials are used.

6.1. Material Control

The C.C.C. itself does not control the materials the C.C.C. Building Unit uses for the construction of the houses. It relies entirely on the material controls by the manufacturer. The C.C.C. maintains a Chemical Branch,where all the tests for contract work are undertaken. This is a readily available instrument to do material tests. The author introduced material tests for concrete and bricks in 1971, which however were abolished in the same year. The tests showed up a high failure rate of concrete (see Appendix 3.6.) The indiscriminate use of broken pre-cast floorslabs in multi storey buildings, poor concrete and the lack of compacting and indiscriminate filling and levelling of ground might well be the cause for the large number of cracked buildings which, apart from the physical damage also have psychological effects, like the feeling of lack of safety and security amongst the population.

6.2. Re-organisation

The City Engineer's Department has a well-established department of building inspectors for the private building sector. It seems to be advisable to separate the Building Unit from the City Engineer's Department, to enable the latter

to exercise a more stringent control over the quality of the C.C.C.'s housing stock.

6.3. Bricks or Corrugated Iron?

The house and the dwelling or the shelter is the most important part of the human environment. However low the standards for the shelter are set, the policy must be to build a sound and solid basic structure. The structure has to be good enough to be improved by the C.C.C. or by the tenant, when the need arises, or to be bought by the tenant, once he is in the economic position to do so.

If one does not want or cannot afford to build from brick and motar, then the authorities must find another way and sanction the construction of "temporary buildings" like shacks and self-help structures as it is presently discussed in the C.C.C. (Cape Times 12.5.73)

7. Rent

Rent has to be paid in proportion to income of the head of household. [5)]

Letting Conditions:

1. The tenant must be married or have dependants who reside with him permanently.
2. The tenant must require the dwelling for his personal occupation.
3. The gross income of the tenant must not exceed the gross monthly income of R225 per month or be less than R60 per month.

7.1. Rising Cost of Living

The maximum income of R225 had been fixed in April 1970. In the meantime the cost of living index rose by about 21.4% The incomes have risen at about the same rate or will rise in the near future with some delay. The maximum income should therefore be adjusted to at least R260 per month. A family above the income of R225 has to look for privately owned accommodation, which is for this income group not available. Thus the highest income group of 7% (see Income Table) will soon be priced out with $\frac{1}{2}$ year notice, which can be extended if no alternative accommodation is available. This causes insecurity of tenure amongst the economically and socially most stable part of the township population. If there is no constant adjustment of the income table in relation to the rents and thus elegibility for public housing, increases in income, which compensate for increased cost of living,will be a deterrent to the higher income population of the townships or will lead to a practice of indirect payments by employers, or fringe benefits which do not count for rent assessment. This will bring an employee into greater dependance to the employer and will lead to an unhealthy state of employment by limiting the free market mechanism for job opportunities.

7.2. The Upper Class and the Income Ceiling

Assuming the public authority adjusts the rent tables in accordance with the rising costs of living, there is still the question which policy has to be adopted for families exceeding the income limits. With an income exceeding the limits for public housing one can assume that the tenant will be able to find accommodation on the private housing market. Thus the tenant would move out of the township and a tenant from a lower income group will move into his place. Thus the township becomes, to a certain extent, a transition-camp.

Is this desirable to society as a whole? or should not the opportunity for economic rent or houseownership be given. The Housing Code [5] states that "the scheme is constructed in the first place to provide housing for persons who desire to become home-owners, but the dwelling may also be let for an unlimited period."

"Income limits are set on public housing in the United States, and if a family improves its income it becomes ineligible for further occupancy. Not only does this rule encourage misrepresentations, surrepitious informing by hostile neighbours, and uncertainty of tenure, but it penalizes ambition". [6]

8. Density

8.1. Slum Condition and High Density

The main source of a slum condition had been seen in the very high density of living, of buildings, narrowness of streets, lack of air circulation, light and sunshine, backyards, smoke, smells and rats.

The physical environment had been made responsible solely for the mental ills of its population. The only solution had been seen in erasing the slums and the building of new townships on cheap land at the fringe of the urban settlement with plenty of space between dwellings. Land is cheap, so the cheapest solution is to give space. The tight network of streets and the tangle of homes in the slum had been taken and dispersed over a wide area. In Europe this is called the slum in the park, in Cape Town it could be called the slum on the sand plein. After everybody realizes that all that had been achieved exhausted itself in the shift of the slum from one place to another the Councillors and the public accuses their planners (engineers) of being useless 'nuts' incapable of doing a proper job. Result: Their planners

(engineers) create a new township in the belief to improve greatly on the previous layout, being convinced that the new township will create an environment which is exactly right to create an uplift to its inhabitants and a happy society. Result: wasted sandland, social sores slowly healing, and the same poverty and smells and garbage as ever, just expanding over a larger area, which is remote from all the public facilities and has to be satisfied with a minimum of services in comparison to those available in a more central urban location.

8.2. The planning of new townships calls for a truly urban approach; with higher densities in housing areas and a land use strategy which will not allow the accumulation of sandy garbage ridden wasteland not even good enough to kick a ball on.

8.3. Space Allocation to Schools

Vast areas are allocated for educational purposes, some of them are cluttered with temporary prefab buildings, the rest of the area is unused sand, swallowing up valuable ground which could be used to house people at a closer proximity to work, than newly planned townships which just repeat the same mistakes.

Space allocation for schools has to be revised. The concept of a rugby field to each school has to be abandoned, as this is never built and unrealistic. Schools can be located so that they can share sports facilities, which can be used also by the public.

The main purpose of schools and the most important function within the context of the low income classes is education, which is more important than physical training and a pre-requisite for any higher education and therefore improved

Plenty of space for all of
the things to come, but when?

Plate 13. Hanover Park Block F

income and social status.

School Buildings have to be provided and the buildings have to be staffed with teachers and equipped with teaching aids which are up to the newest standards of teaching.

The Survey showed a large number of pupils, who attend schools outside H.P.; their parents claim that the schools in H.P. are of an inferior standard to the schools their children attend.

Some school buildings in areas formerly occupied by the coloured population are demolished after the population is moved out to the new Group Areas. New school buildings in Hanover Park are prefabricated barracks which do not offer any facilities besides the bare classrooms. The Coloured Affairs Department cannot cope with the building of new schools and the extension of old ones.

There are no sports facilities in Hanover Park yet,neither for schools nor for the public. Enormous areas have been provided for it, which are not used.

The experience of old established townships show, that even there those areas are not used altogether. Thus a more flexible and intensive use of the land with less sports space but more established sports fields and play areas seem to be the answer to a very urgent need.

9. Play Areas

Some large play areas have been established in H.P., which are well frequented and are enjoyed by children of all age groups.

The play area most closely located to the Survey Area is

across the railway reserve on the north side in another "superblock" There is no playground in the Survey Area. The Opinion Survey revealed that the parents do not like their children to go to the play area, because "they get beaten up".

9.1. Conflict between Children

Obviously there is rivalry amongst the various blocks and particularly older youths between 8 and 14 years of the neighbouring block regard the play area as their own as it is part of their block. Therefore the author feels it is important not to centralise the play areas in a few widely spaced places, but to give each of the well defined super-blocks a hierarchy of play areas of varying size. The "territory" of a child will become larger as it grows older. Consequently it needs larger play areas, which can be further away with progressing age.

9.2. Proposal

For economic reasons and better surveillance the author proposes a continuous string of play areas, penetrating Block B lengthwise almost like a spine (Appendix 2.8. Plan Nr. 2)

The centrally located communal parking areas are relocated on the fringe of the block, which results in a traffic free central zone. Most of the play areas will have to be hardened as grass would not stand up to the intensive use. Ideally there should be smaller, dispersed play areas close to the home for children who have no yard because they live on an upper floor or for children who are old enough to go on their own, but still need to be close to their mother.

The type of play equipment provided by the C.C.C. fulfills its purpose very well, but there are always the complaints about the vandalism, which occurs at the play areas.

9.3. Meeting Places for Teenagers

I observed over a period of half a year, that the play areas were also regular meeting places for teenagers, who are not really interested in playing there, but who find it the most convenient place to meet, attracted by the general activity without the interference of adults. They tend to dominate the place to the detriment of the smaller children, obviously in the typical, for this age, stage of strength, which is not channelled to be constructive, but as a reflection of the environment, to be destructive, to damage and to hurt.

There are no sports fields or dance clubs, no cinema or parks, just windows, lampposts, play area equipment, cars and other people "to fight with".

These activities all stem from the same question:

"How should one show that one is a man?"

9.4. Youth Centre

The author proposes to rezone part of the open space on the northeast side of the block for a youth centre, which has to be built, maintained and staffed by the C.C.C. until a voluntary organisation can be formed by the populace.

10. Shops

There were two sites zoned for shops in Block 'F'. The

Shops are far away
business goes well.

Plate 9. Hanover Park Block F

shop on the northwest corner facing the railway reserve and the open space was planned to be built by the C.C.C. for letting. The other shopsite on the opposite corner was left open to free enterprise.

None of the shopsites have been occupied as yet and have been rezoned as "Reserved Sites".

10.1. Demand for Corner Shop and Proposal

The closest shop, a butcher and general dealer is about 15 walking minutes away. It does not fulfill the function of a corner shop. Therefore the delivery vans from outside H.P. frequent the area and small stands open as illegal businesses, which are harassed by the police, but are obviously still very profitable.

One of the strongest demands voiced in the opinion survey was for a butcher, fish shop and general dealer. This is located in the proposal (Appendix 2.8.) in a central position within three minutes walking distance of any point within the block.

10.2 Policy of C.C.C.

It is the policy of the C.C.C. to locate only a few corner shops in the residential areas, in order to make a commercial centre economically a more feasible proposition, which is competitive with the trade outside H.P.

This policy has its validity only if the shop in the centre is able to supply the range of goods sold in the corner shops at a price which makes it attractive to the buyer to walk the distance to the centre and back - about 20 minutes.

11. Nursery and Créche

In H.P. not a single créche or nursery exists.
The Opinion Survey in Block 'F' revealed a high demand for a nursery, provided it operates full day and gives the mother the opportunity to work. With the help of the survey it could be established, that the payments which mothers are willing to spend for the care of their children during daytime would make the provision of two nurseries with 40 children each an economically feasible proposition for Block 'F'.

The care of children in a nursery will have a positive influence on their mental and physical development, which would otherwise be neglected.

Provision for two nurseries and créches has been made within Block 'F'

It is recommended to encourage The Coloured Development Co-operation, which took interest in financing a bottle store in the centre of H.P., to also contribute to the development of the young coloured population and finance nurseries and créches or pre-schools as a long term investment, and to help, through their investment, not only the children, but also the families to higher earning power.

12. Parking

The communal parking areas as they exist now are not used for parking, because they are too unsafe for cars.
The cars are parked as close as possible to the dwelling, which enables the owners to overlook them from the dwelling and prevent them from being damaged or stolen. For car-owners who live in upper floor flats, particularly in triple storey, the surveillance is difficult. Therefore all the

We are men and want
a future.

Plate 15. Hanover Park Block F

cars are parked on the apron directly in front of the building, which is not desirable - particularly for the tenant living on the ground floor.

The strong demand for sheltered parking (see Appendix 2.6.2.P.11 and the comparatively high car ownership (28%) warrants the erection of garages on the fringe of the block (Appendix 2.8.Nr.5

13. Public Open Space

In the author's proposal for Block 'F' all public open spaces are rezoned for a specific use and are relocated to serve this use best.

In all the lowcost housing schemes large areas are set aside for Public Open Space, which are used to some extent for play areas and sports fields. The rest remains vacant land which is supposed to be used as parks, leisuretime resource or similar. The policy to retain land for further development is only feasible as long as the land can be used and maintained in the meantime for at least some temporary use on a lease-hold basis or similar.

Part of the open space along the northeast side of the block, which is presently used as a builders yard by the C.C.C. has been allocated as private open space for a church, créche or nursery and a youth centre.

13.1. Horticultural Nursery

The remainder, including the badly located shopsite, is proposed to be used for a horticultural nursery of the C.C.C. for Hanover Park, to supply the area with trees, hedges and garden plants and to give advice to gardeners.

Thanks to the electricity people.

Plate 16. Hanover Park Block F

There was once a road.

Plate 17. Hanover Park Block F

The author proposes to establish horticultural nurseries in other areas as well on land, which is suitable for parks. Through stages these nurseries can be gradually transformed into parks and, once the trees and plants are well established, handed over to the public.

14. Microclimatic Conditions

The micro climate in H.P. can be improved through a carefully planned hedge and tree planting action. For this purpose the local nursery, which is proposed, plays the vital role of a supervisor of the planting and care of the trees and hedges.

14.1. Wind Protection

The wind pattern within the area has to be studied, as it will be distorted through the existing buildings, to determine the most effective pattern of planting of trees and hedges.

Experience in other townships has shown that planting of trees in public spaces is not successful, as the plants are damaged.

The opinion survey established that the people in Block 'F' would like and care for trees, which would be planted in their gardens by the C.C.C. particularly with the prospect of obtaining an additional piece of ground.

The fringe of the walkways and streets and parts of the communal open space, as proposed, can be incorporated into the private gardens and used for tree planting. In addition, the planting of hedges between neighbouring lots could help to reduce wind velocities and help to stabilise the sand,

with the added advantage to give privacy to the tenants and improve the visual impression of the area.

14.2. Sun and Temperature Conditions

For new developments the study of sun and temperature conditions, which influence the orientation of buildings and grouping of buildings and therefore the road layout is regarded by the author as an important part of planning for a good environment. (Appendix 3.14.2.)

Conditions of temperature inversion , which are particularly strong on the Cape Flats, cause cold air pockets and dampness, which adds to the dampness of the dwellings particularly during wintertime.

14.3. Sun Penetration

The sun has the important function of alleviating these adverse conditions. In wintertime the sun is an important source of warmth, health, and comfort to the inhabitants of lowcost housing, who often cannot afford the fuel to heat their homes. Therefore the dwellings have to be orientated so that a long and deep sun penetration of the homes can be achieved and then a maximum amount of insolation of the surrounding land is obtained.(Appendix 3.14.3.)

14.4. Orientation of Buildings

In the orientation of buildings and the placing of buildings with regard to each other, care has to be taken to reduce to a minimum the ground area which does not receive any insolation during winter months, and that the buildings do not

This could be a
beautiful play area.

Plate 14. Hanover Park Block F

cast shadows onto each other, which would reduce the sun penetration of the dwellings. A study (Appendix 3.14.3.) shows the shade cast on the ground by a group of buildings at various times of the day and at various orientations.

A compromise has to be found for the best orientation of the buildings which include the protection from the prevailing winds.

15. Orientation and Identification System

During the time of construction of Hanover Park the site office daily had a large number of people asking for a particular street or family.

There were no proper roads, no street names and the families did not know each other. Now, information can be obtained at the rent office only during office hours. Street names are fixed and streets and pathways can be identified. With the completion of a house the house and dwelling numbers are fixed. Certain building types also receive names. But still the identification of an adress is very difficult, particularly within the superblocks.

15.1. The Postman's Walk

The streets and lanes and the numbering of the houses follow a so-called "postman's walk". This is an invention, which causes a lot of confusion to the populace and frustration to visitors, who might be friends, business men, ambulances, taxis or even a postman.

Typical examples of the "postman's walk" are shown in Appendix 3.15.1.

The normal way of looking for an address is to find the street in the directory or ask for it. That is usually the most difficult part of the operation. Once the street has been located the visitor simply follows the house-numbers.

A visitor, who looks for an address in H.P. and wants to follow this procedure is in great trouble. In order to find the street he has to ask at the rent office, which he can do only during office hours. If he is lucky he will find somebody who can direct him, since there is no plan displayed anywhere which would show the road network.

Let us assume the visitor finally finds the street, he might walk a long way along the "postman's walk", following the house numbers, until he finds himself eventually almost at the same spot from which he started.

15.2. Similar Street Names

There are still other hazards to overcome. The street names in some areas are very similar and lead to misunderstanding e.g. in the survey area "Lansry" Road and "Lansman" Road, etc.

As most of the walks, roads or lanes in the superblocks are sand paths, which are impassable for a vehicle and very tiring to negotiate for a pedestrian, one really asks oneself, if there no better system of orientation and identification of a particular dwelling.

15.3. Proposals

The houses in the superblock are generally built in clusters. Each cluster of houses has to be named, as is done now with

the three storey blocks of flats. Within the cluster of houses the dwellings are numbered. The numbering has to start at the corner closest to the nearest vehicular accessway.

The house names have to be illuminated at night, which can be combined with the street lighting.

15.4. Colour Scheme

For easier identification each cluster of homes should be painted in one basic colour, which can be varied in different tones for the individual dwelling unit. (See Appendix 3.15.4.) For the range of favoured colours see also results of Opinion Survey.

One gets used to it.

Plate 12. Hanover Park block F

Last Word

I admit it : I
Have no hope,
The blind ones talk about a way out. I
See .

Once the errors are used up
As last companion
The void sits opposite us

Bertold Brecht

- still I try

Klaus P. Scheid

APPENDIX

LOCALITY MAP
APPENDIX 2.2.1

TPR 2568

— SCALE : 1:200,000 —

Date of Occupation	Length of Residence (Feb. 1973)		Length of Residence grouped	Housetype							Total No. of Household	Grouped	
	Years	Month		CG	MG	SEG	2FG	2FU	3FG	3FU		No.	%
10.70	2	4	years	3			2	1			6		
11.70	2	3		2		4	8	5			19		
12.70	2	2	2 - 2.5		4	3	6	5			18		
1.71	2	1					2	1	2	3	8		
2.71	2								2	5	7	58	67
3.71	1	11							7	13	20		
4.71	1	10	1.5 - 2						1		1		
5.71	1	9								2	2	23	26
11.71	1	3								1	1		
2.72	1		1 - 1.5				1				1	2	2
4.72		10					1				1		
5.72		9	0 - 1		1						1		
8.72		6			1			1			2	4	5
	Total:			5	6	7	20	13	12	24	87		

Appendix 2.2.2.

Appendix 2.2.3

Page 1 - 3

Building Types

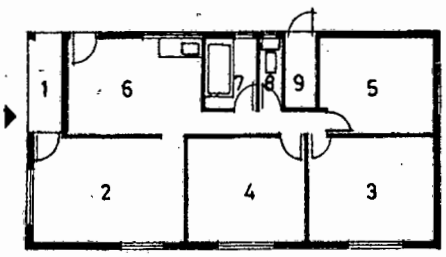
of Block F

Plans

Scale 1 : 200

C

4-ROOMED COTTAGE

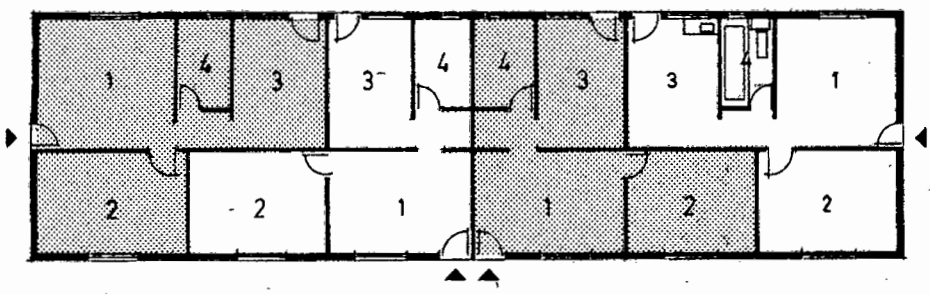


1. STOEP
2. LIVING ROOM 12,5 m²
3. BEDROOM 11.5 m²
4. BEDROOM 9,3 m²
5. BEDROOM 9,3 m²
6. KITCHEN 9,9 m²
7. BATHROOM
8. W.C.
9. STORE

TOTAL • 77,3 m²

SE

BLOCK OF FOUR 2-ROOMED SUB-ECONOMIC UNITS

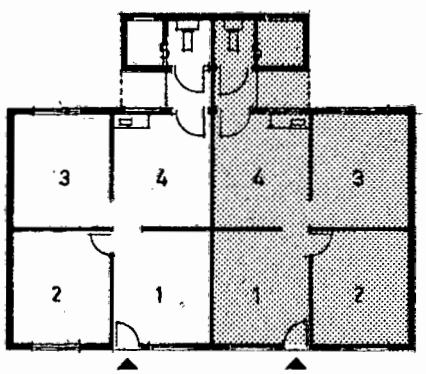


1. LIVING ROOM 10,6 m²
2. BEDROOM 11,6 m²
3. KITCHEN 7,2 m²
4. BATHROOM

TOTAL • 39 m² per unit

SE

TWO 3-ROOMED SUB-ECONOMIC UNITS

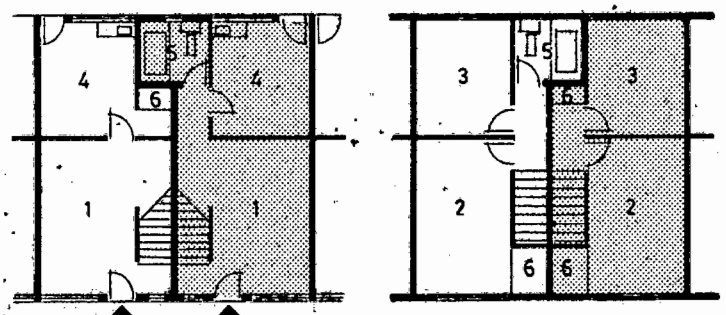


1. LIVING ROOM 11,1 m²
2. BEDROOM 11,3 m²
3. BEDROOM 8,7 m²
4. KITCHEN 8,5 m²
5. W.C. & SHOWER

TOTAL • 50,7 m² per unit

M

PAIR OF 3-ROOMED MAISONETTES

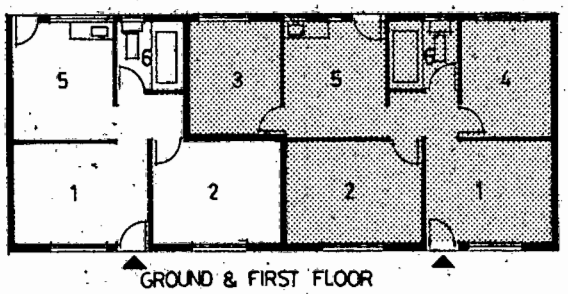


1. LIVING ROOM 11,6 m
2. BEDROOM 11,9 m
3. BEDROOM 8,5 m
4. KITCHEN 8,4 m
5. BATHROOM
6. CUPBOARD

TOTAL • 64,7 m per unit

2F

'D' TYPE DOUBLE STOREY FLATS



2-ROOMED UNIT

1. LIVING ROOM 11,6 m²
2. BEDROOM 11,3 m²
5. KITCHEN 9,1 m²
6. BATHROOM

TOTAL • 43,9 m²

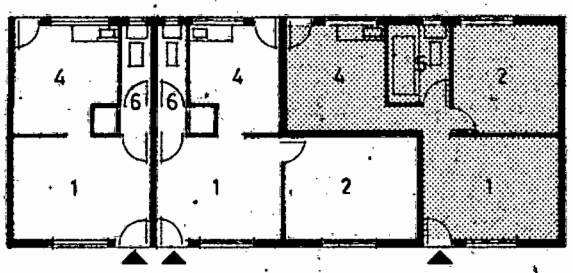
4-ROOMED UNIT

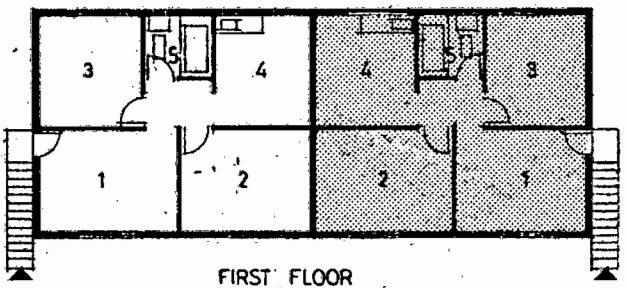
1. LIVING ROOM 11.6 m²
2. BEDROOM 11,3 m²
3. BEDROOM 8,8 m²
4. BEDROOM 9,1 m²
5. KITCHEN 8,8 m²
6. BATHROOM

TOTAL • 63,7 m²

2F

'H' TYPE DOUBLE STOREY FLATS





1-ROOMED UNIT

1. LIVING ROOM 11,3 m²
4. KITCHEN 8,2 m²
6. W.C. & SHOWER

TOTAL • 27,5 m²

2-ROOMED UNIT

1. LIVING ROOM 11,1 m²
2. BEDROOM 11,1 m² or 8,9 m²
4. KITCHEN 8,2 m²
5. BATHROOM
6. W.C. & SHOWER

TOTAL • 41,1 m²

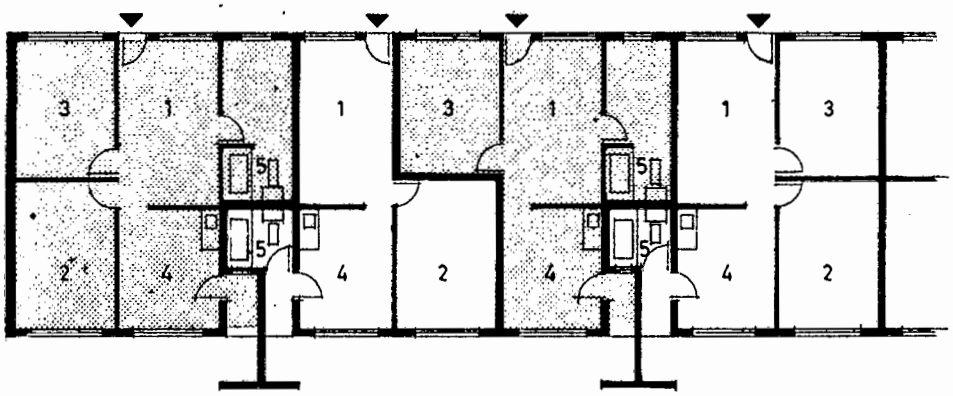
3-ROOMED UNIT

1. LIVING ROOM 11,6 m²
2. BEDROOM 11,3 m²
3. BEDROOM 9,1 m²
4. KITCHEN 8,8 m²
5. BATHROOM

TOTAL • 53,4 m²

3F

TRIPLE STOREY FLATS



GROUND, FIRST & SECOND FLOORS

3-ROOMED UNIT

1. LIVING ROOM 11,8 m²
2. BEDROOM 10,8 m²
3. BEDROOM 8,9 m²
4. KITCHEN 8,4 m²
5. BATHROOM

TOTAL = 56,8 m²

2-ROOMED UNIT

1. LIVING ROOM 11,8 m²
2. or 3. BEDROOM 10,8 m² or 8,9 m²
4. KITCHEN 8,4 m²
5. BATHROOM

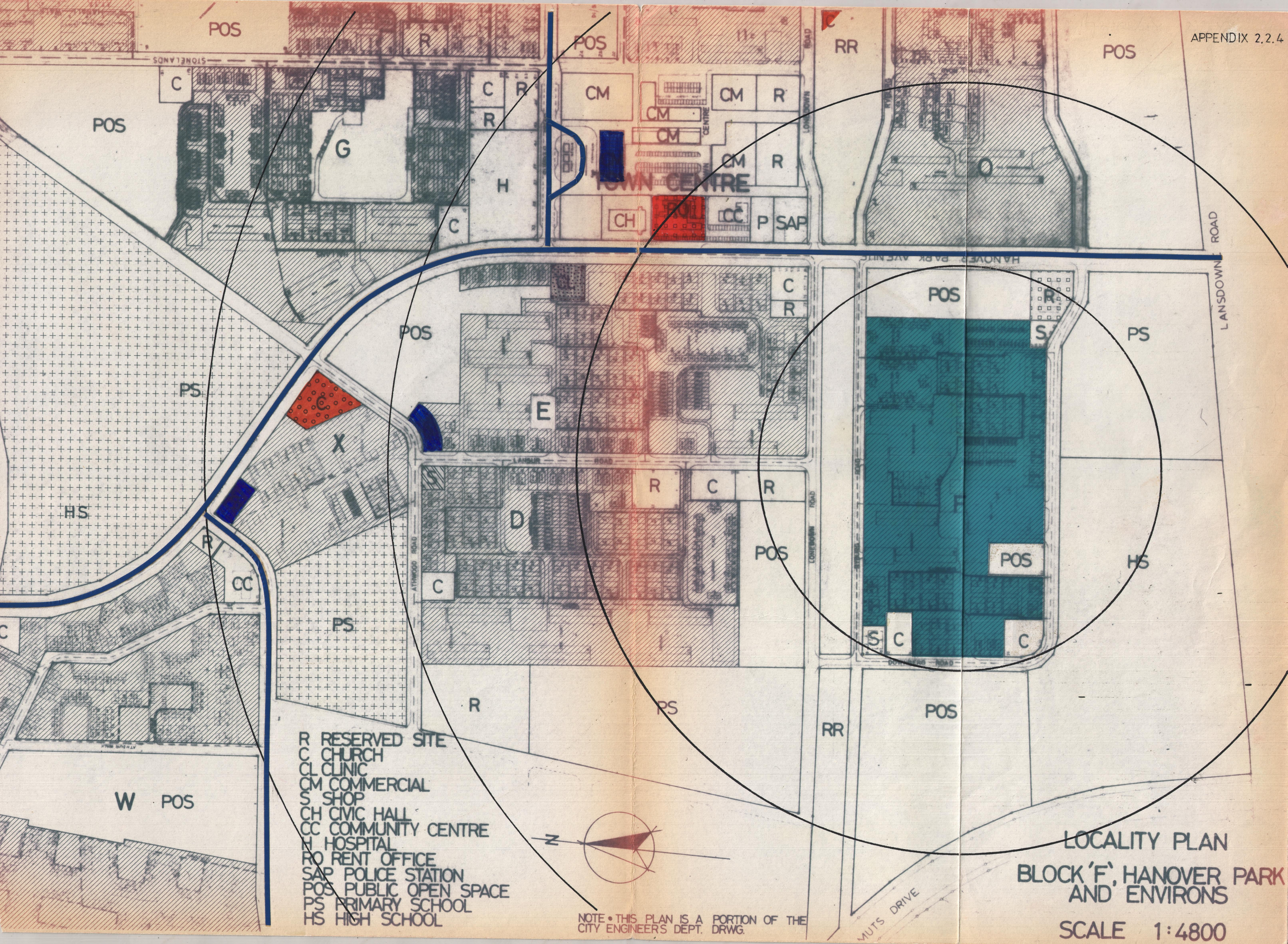
TOTAL = 40,4 m²

Appendix 2.2.4

Hanover Park
Existing Landuses
Related to Block F

Note :
Circles indicate walking distance at 5 minute increase.

APPENDIX 2.2.4



R RESERVED SITE
C CHURCH
CL CLINIC
CM COMMERCIAL
S SHOP
CH CIVIC HALL
CC COMMUNITY CENTRE
H HOSPITAL
RO RENT OFFICE
SAP POLICE STATION
POS PUBLIC OPEN SPACE
PS PRIMARY SCHOOL
HS HIGH SCHOOL

NOTE • THIS PLAN IS A PORTION OF THE CITY ENGINEER'S DEPT. DRWG.

LOCALITY PLAN
BLOCK 'F', HANOVER PARK AND ENVIRONS

SCALE 1:4800

Appendix 2.2.5

Hanover Park

Planned Landuses (CCC)

APPENDIX 2.2.5

LOCALITY PLAN
BLOCK 'F', HANOVER PARK AND ENVIRONS
SCALE 1:4800

Survey Block 'F'

Sample Distribution

House Type	Sample Surveyed	% Total	Total No. in Block 'F'
C	5	20	25
M	6	20	30
SE	7	19	36
2F6	20	19	106
2FU	14	18	80
3F6	12	20	60
3FU	24	20	120
Total	88	19.2(mean)	457

57% of the sample had ground access.

Environmental Study - Hanover Park
Population Survey

Sample No. 1 - 88
Page 1

Housetype:
No. of rooms:
Date of application:
Date of occupation:
Rent per month:

1. FAMILY CHARACTERISTICS 1973

		0	1	2	3	4	5	6	7	8	M	F
0	0-4										34	30
1	5-9										51	50
2	10-14										45	39
3	15-19										23	32
4	20-24										17	15
5	25-29										15	25
6	30-34										26	17
7	35-39										10	23
8	40-44										15	12
9	45-49										3	6
10	50-54										5	6
11	55-59										4	4
12	60-64										5	2
13	65-69										3	5
14	70										2	6

2. PLACE OF WORK

0	Central City & Western Suburbs	44
1	Woodstock - Salt River	6
2	Observatory - Wynberg	21
3	South Peninsula, Wynberg-Kalk Bay	5
4	Paarden Eiland	7
5	Maitland	10
6	Kensington, Factreton, Milnerton	-
7	Epping	4
8	Elsies River - Parow	5
9	Bellville and Beyond	3
10	Athlone and Lansdowne	16
11	Ottery	-
12	Grassy Park and Parkwood	2
13	Fish Hoek and Beyond	-
14	Hanover Park	2
15	Pinelands	2
16	Others	1

Environmental Study - Hanover Park
Population Survey

3. OCCUPATION

0	Professional, Technical, etc.	1
1	Administrative, Executive and Managerial	-
2	Clerical	3
3	Sales	7
4	Farmer, Fisherman, Lumberman	2
5	Miner, Quarryman	-
6	Transport and Communication	10
7	Craftsman, Production Worker, Labourer	22
8	Service, Sports, Recreation	21
9	Not economically active	18
10	Unemployed	-
11	Others, Labourer	52

4. INCOME (Rands) per week

	0	1	2	3	4	5	6	7	8	9	10	11	12	
	0-	20-	30-	40-	50-	60-	70-	80-	90-	100-	110-	120-	130-	
	19	29	39	49	59	69	79	89	99	109	119	129	139	
1973 Total Income	33	34	8	5	7									No. o work- ers i famil

Environmental Study Hanover Park
Landuse Survey

Sample No. 1 - 88
Page 1

I Access

O	Access Way	Vehicular	Pedestrian
00	none	48	6
01	gravel		9
02	sand	24	75
03	hard	24	11
04	Main Rd.	5	
05	sec. rd.	9	2
06	trees	-	-
07	refuse	21	52
1	Lighting	79	
11	none	2	-
12	damaged	-	1
2	Parking	Communal	Private
20	none	32	54
21	gravel		1
22	sand	35	10
23	hard	41	2
24	lighting	34	
25	covered		
26	trees		
27	refuse	36	
3	VehiclesNo.		4
30	car		2
31	truck		1
32	other		
33	wreck		1
34	under repair		
4	Landuse opposite		
40	residential		73
41	commercial		
42	institutional		2
43	public open space		6
44	vacant		11
45	fenced		39
46	built on		68
47	refuse		11

Environmental Study Hanover Park
Landuse Survey

Sample No. 1 - 88
Page 2

II Plot

0	Surface and Vegetation	C	P	F	B
00	gravel	30		2	2
01	sand	40	8	33	42
02	soil		4	6	1
03	hard	33	4	22	1
04	grass	2	3	26	
05	bush		1	2	1
06	flowers		3	24	6
07	shrubbs		2	16	2
08	trees			6	2
09	fruit				1
010	vegetable		1	3	8
011	refuse	14		9	8
1	washhanging				
10	none	1			
11	damaged	1			2
12	sand	46	5	3	32
13	gravel	30			2
14	hard		1		
15	overlooked	41		1	26
16	refuse	34			12
2	Letterbox				
20	none		5		
21	damaged		1		
23	overlooked		82		
3	Garbage Disposal	C	P	F	B
30	none				
31	damaged	6			
32	bins enclosed	36			
33	bins free stand.	8		3	29
34	overflow.	32		2	

C = Communal
P = Private
F = Front of House
B = Back of House

Environmental Study Hanover Park
Landuse Survey

II Plot

4	Fencing	F	B	
40	not applicable			24
41	none	13	2	
42	damaged	4	6	
43	protective	6	20	
44	decorative	5	1	
45	skilled	4	5	
46	makeshift	2	14	
47	original	33	29	
5	Outbuildings			
50	not applicable			24
51	damaged			
52	skilled			
53	makeshift		7	
54	type		4D. 1Ch.	

F = Front of House
B = Back of House

D = Dog
Ch.= Chicken

Environmental Study Hanover Park
Landuse Survey

Sample No. 1 - 88
Page 4

III Dwelling

0	External Condition	
00	Original	80
01	changed	1 Do.
02	damaged specif.	4 W. 1 Do.
03	painted	3 1 Do.
04	plastered	
05	alterations	
	additions specif.	10 Bu.1 K. 1 E.
06	telephone	
07	dog	12
08	other animals	2
09	nameplate	7
1	Internal condition	
10	original	31
11	neglected	2
12	changed	
13	damaged specif.	43 C. 16 W.
14	painted	40
15	plastered	5
16	alterations & additions	2 Fl. 5 Ba. 1 Do.

Do. = Door
W. = Window
Bu. = Burglar-bars
K. = Kitchen
E. = Entrance
Fl. = Floor
Ba. = Bath
C. = Cracks

Environmental Study - Hanover Park Block 'F'

Landuse Survey

Summary

The physical survey can be regarded as a pilot study that was only partly successful. The main difficulty experienced was in assessing the predominant surface condition when marked differences occurred in the same area. In order to avoid either over complicated results as in this survey or simplified subjectivity, fixed standards of evaluation must be established.

I Access:

0. Accessway

55% of surveyed units have no vehicular access.
7% do not even have a defined pedestrian accessway.
83% of surveyed units have extensively littered accessways.
There are no trees in the area.

1. Lighting

90% have accessway lighting.

2. Parking

36% do not have communal parking.
62% do not have private parking space.
65% of the communal parking areas were littered.

3. Vehicles No.

5% of surveyed dwellings had cars parked in or close by - regarded as insignificant due to the cars being in use.

See questionnaire survey. What was significant, was that only one wreck was surveyed.

4. Landuse Opposite.

84% of dwellings faced residential landuse.
13% faced vacant land, all of which was littered.

II Plot:

0. Surface and vegetation

40% (i.e. all the triple storey flat units) had hardened gravelled communal space.
45% of all units had sandy communal space.
(the remaining 15% had no communal space)
19% of communal space was littered.

1. Washhanging

Most of the washhanging space, communal and private, had a sandy or gravel surface.

2. Letterbox

90% of the houses had letterboxes.

3. Garbage Disposal

40% (i.e. all the triple storey units) had enclosed bins of which 90% were overflowing.
33% of the bins were at the back.

4. Fencing

50% of front fences have been changed from the original state, of which half have been improved.
55% of all rear fences have been changed.
31% have been improved for protection of which two thirds were makeshift.

5. Outbuildings

There were seven makeshift outbuildings in the sample, of which four housed dogs and one chickens.

III Dwelling:

0. External Condition

11% of the units had burglar bars fitted.
9% fitted nameplates.
91% were in original condition.

1. Internal Condition

45% had been painted.
6% had been plastered.
50% had cracked walls.
20% had broken window stays.

ENVIRONMENTAL STUDY OF HANOVER PARK, BLOCK 'F'

SURVEY QUESTIONNAIRE

		YES	NO
1.	**Space Standard. Internal.**		
(1)	do parents have a bedroom of their own?	39	41
(2)	do they object to sleeping with kids in the room?	24	34
(3)	how many people sleep in the livingroom?	24	60
(4)	is the kitchen or bathroom used for sleeping?	3	81
(5)	does the family have supper together?	76	9
(6)	if NO, is that for reasons of space?	6	3
(7)	are you prepared/able to pay a higher rental for an additional bedroom?	34	46
(8)	what improvements could you suggest?	60	17
2.	**Quality Standard. Internal.**		
(1)	could you afford a higher elec. bill for hot water?	32	54
(2)	do you find the walls & goods are ever damp?	56	29
(3)	do you find it hot in Summer?	67	19
(4)	do you find it cold in Winter? how do you heat the D.V.?	71	13
(5)	are you worried by noises?	34	39
(6)	are you worried by anything broken? specify	67	17
(7)	have you or would you like to install burglar bars?	43	38
(8)	would you prefer to live upstairs?	17	66
(9)	would you prefer to live on the ground floor?	66	17
(10)	would you like to move somewhere else in the block? specify on map Why?	37	42
3.	**Space Standard. External**		
(1)	do you want a front garden?	65	-
(2)	do you want a back garden?	19	-

	YES	NO
(3) what do you like planting? Vegetables Flowers Hedge	78	1
(4) why do you like a garden?	75	6
(5) is damage done to your garden or dwelling by other people?	12	38
(6) are the people above you jealous of the garden space?	4	31
(7) do you find it unfair that you have no garden?	29	7
(8) how do you water your garden?	36	4
(9) would you like a bigger garden with some young trees or rather stick to a smaller garden?	49	20
(10) do you like the kids to play in the garden?	62	10
(11) would you like to put a high fence around the garden? why?	67	18
(12) do you keep a watchdog?	34	45
(13) does the wind worry you?	46	39
(14) does the sand worry you?	55	31
(15) do you get on with or like your neighbour?	78	9
(16) would you leave the housekey with your neighbour	40	43

4. <u>Access & Public Space</u>.

(1) would you like your name plate on your door?			28	59
(2) do you feel your dwelling should be painted a different colour to the others in the street? what colour?			49	36
	Shops	Instit	Resid.	open space
(3) what would you like opposite your front door?	2	4	35	31
(4) does the refuse worry you?			44	41
(5) have you got a car?			24	61
	Parking area		Door	Gard.
(6) where do you park it?	-		15	8
(7) would you pay for a lock up parking if available? 20c 40c 60c per week?			27	5

			YES	NO
(8)	would you pay for a garden out building if available? 20c 40c 60c per week?		31	35
5.	External Miscellaneous			
(1)	do the kids go to school in Hanover Park? why elsewhere?		45	23
(2)	does the mother work?		23	57
(3)	who attends the children? older children relatives neighbours	Neigh. 4 / Child. 5	Rel. 17	Moth. 47
(4)	where do the children play?	Street 36 / Gard. or 29	yard	House 12
(5)	do they go to the playground?		23	56
(6)	would you be prepared to pay for the children to go to a creche if available 75c 100c 125c 150c per week?		34	28
(7)	do you use the community centre? Why not?		16	67
(8)	do you use the clinic? Why not?		49	35
(9)	do you use the shops? Why not?		41	45
(10)	do you use the church? which? why not?		43	40
(11)	of those not used or effectively available, which do you miss most?		76	5
(12)	do you feel you are part of a block neighbourhood? or any neighbourhood?		48	45
(13)	if you were the mayor of Hanover Park, what would you do about it?		72	13

Environmental Study - Hanover Park

Opinion Survey

Questionnaire Results

Note:

Reference numbers
Coincide with the
numbers on questionnaire.

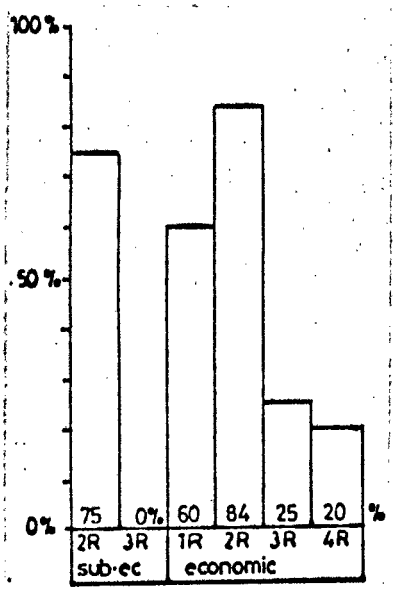


Fig. 1.7.
Higher rent for additional room.
Percentage of households per sub-economic/economic dwelling and number of rooms (R)

1. Internal Space Standards

Bedroom

1.1. 51% of couples interviewed did not have their own bedroom, and of these

Sex Segregation

1.2. 41% (or 21% of whole sample) object to this situation, and should therefore have an additional bedroom.

1.3. In 29% of households at least one person sleeps in the living room,

1.4. and in 4% of households someone sleeps in the kitchen or bathroom. (It was apparent that due to social norms and values, most people were surprised or embarrassed by the suggestion that someone might sleep in the living room.)

Rent

1.7. Fully 43% said they both needed and could afford a higher rental for an additional room.

Dining Facilities

1.5. In 90% of households the whole family eats together, indicating a need for substantial kitchen/dining space, while in 7% of households the family could not eat together due to insufficient dining space. (General indications, i.e. no table, were that the living room was seldom used as a dining space).

Spacial Improvements

1.8 78% of households suggested improvements to the dwelling unit: of these 45% suggested spacial improvements (mostly improved layout and relating to bathrooms);

Structural Improvements

77% suggested structural improvements (plastered walls or better doors and windows)

Health Standards

18% suggested improving health standards (invariably re bugs in the hollow bricks and cracked cavity walls

Security

10% suggested security improvements (fences, burglar bars, etc.)

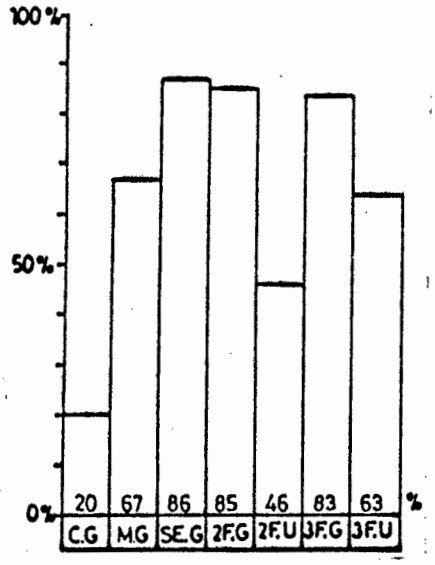


Fig. 2.2
Damp walls
Percentage of dwellings per type.

2. Internal Quality Standards

Hot Water

2.1. 37% said they could afford the higher costs of hot water supply.

Dampproofing

2.2. 67% of households said the walls were damp in winter.

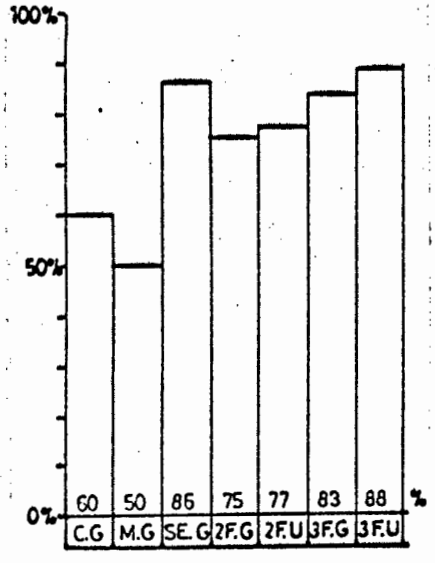


Fig. 2.3.
Hot in summer
Percentage of dwellings per type.

Thermal Insulation

2.3. 78% of households found their dwelling overly hot in summer.

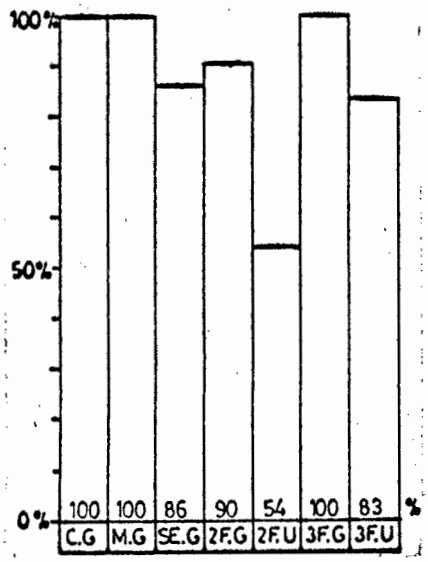


Fig. 2.4.
Cold in winter
Percentage of dwellings per type.

2.4. 85% found their dwelling very cold in winter.

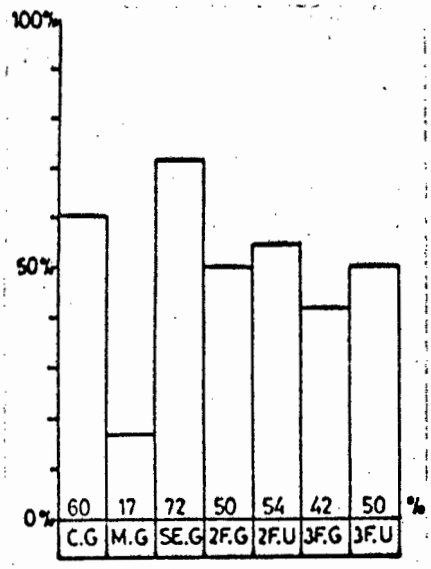


Fig. 2.4.1.
Heating
Percentage of households per dwelling type.

Heating

2.4.1. 51% of the whole sample either had no heater, or used only their primus stove.

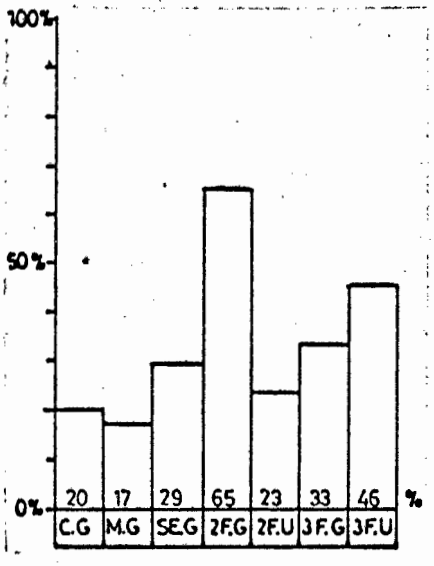


Fig. 2.5.
Noisy neighbours
Percentage of households per dwelling type.

Accoustics

2.5. 45% found the neighbours noisy

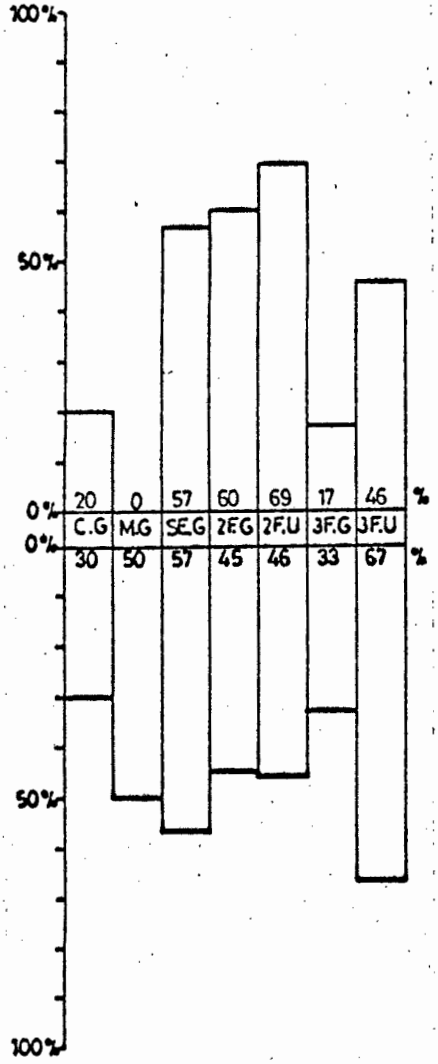


Fig. 2.6.
Failure of structure and fittings
Percentage of dwellings per type

Building Failures

2.6 66% complained re structural failures (mostly cracked walls) and 55% re fittings (doors, windows, plumbing).

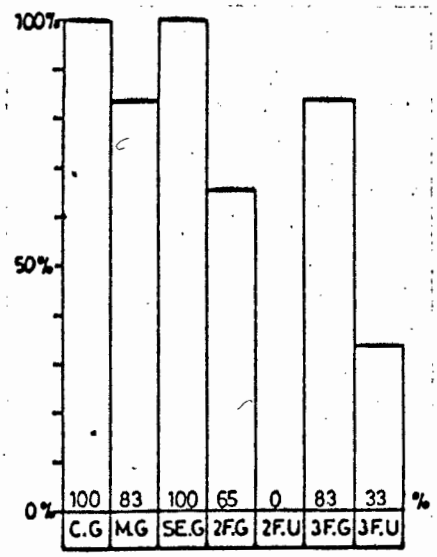


Fig. 2.7.
Burglar Bars
Percentage of households per dwelling type

Burglar Bars

2.7. 53% either already had or wished to install burglar bars.

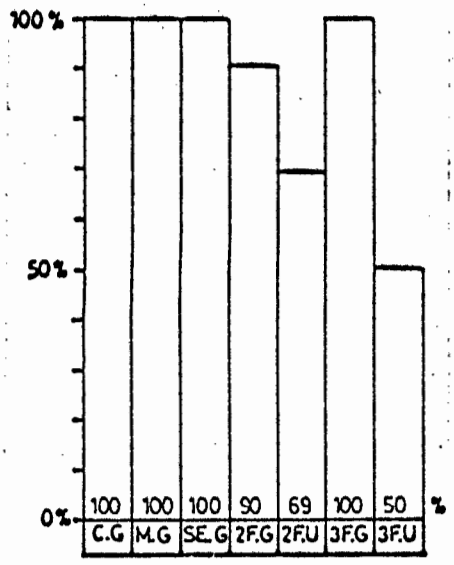


Fig. 2.9.
Preference for ground floor dwelling
Percentage of household per dwelling type

Preference of Floorlevel.

2.8. 20% preferred to live upstairs.

2.9. 80% preferred a ground floor unit.

2.10. 48% do not want to move anywhere else. This figure is regarded as unreliable, as the interviewer often felt a reluctance to answer this question.
13% want to move right out of H.P. usually to the area they had been removed from.
16% want to move because of space needs.

3. External Space Standards

Preference of Garden Space

3.1. 74% preferred a front garden.

3.2. 22% preferred a back garden.
5% did not want any garden.

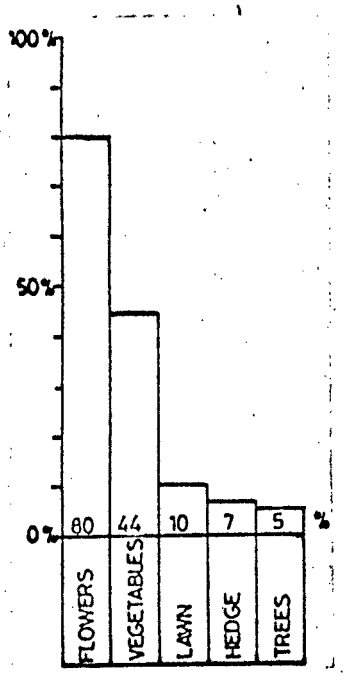


Fig. 3.3.
Horticultural preferences
Percentage of households per plant type

Horticultural Preference

3.3. Most people prefer planting flowers to anything else.

Use of Garden

3.4. 30% liked having a garden for the prestige of a well tended garden
43% liked having a garden as a hobby.
31% liked having a garden as extended private space and for the kids to play in.
5% used their garden as parking space.

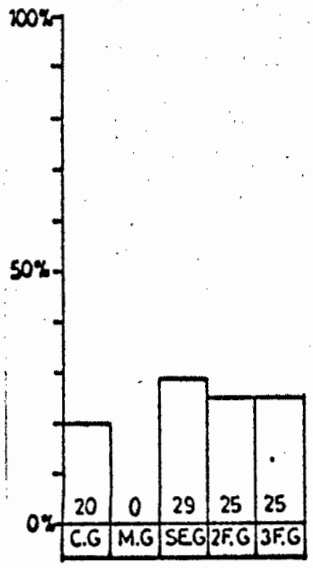


Fig. 3.5.
Incidence of vandalism in gardens
Percentage of gardens per dwelling type.

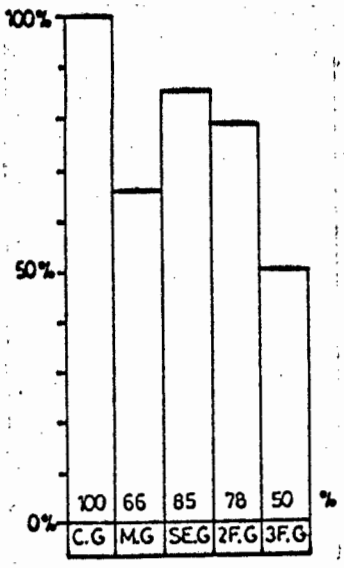


Fig. 3.8.
Watering of garden
Percentage of households per house type

Vandalism in Gardens

3.5. 24% of those who had gardens said that hooligans had interfered with their garden.

Garden Trend

3.6. While only 12% ground floor flats thought people on upper floors were jealous of their garden space.

3.7. 81% of those living 1st. or 2nd, floor flats thought it unfair that they had no garden but payed the same rent. (43% of sample live above ground floor and have no garden)

Care of Garden

3.8. 42% of gardens in sample were watered by hose.
34% were watered by bucket.
24% did not water their gardens.

Tree Trend

3.9. 71% thought it a good idea to tend a council planted tree in a temporarily enlarged garden.

Preference of Play Area for Kids

3.10. 86% liked their kids to play in their gardens rather than in the street.

Fencing of Garden

3.11. 79% wanted a high fence:
of these 54% for protection,
40% for privacy,
10% to keep their kids in.

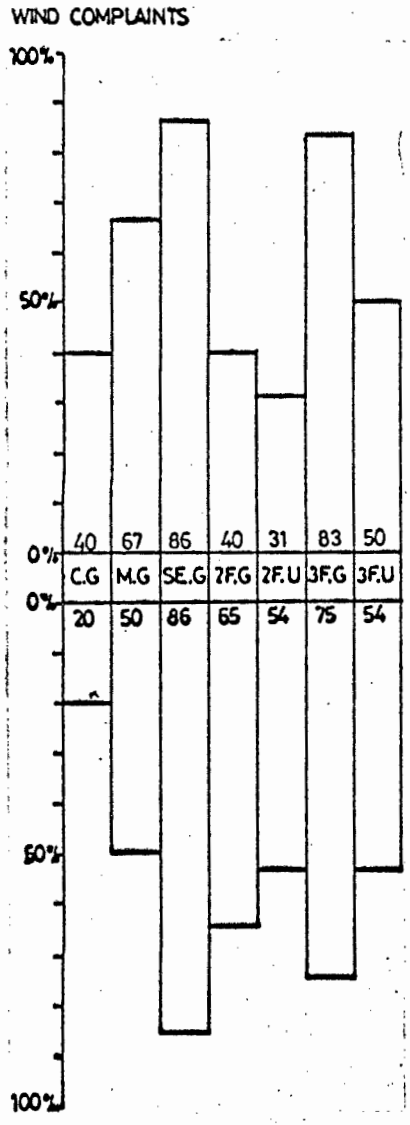


Fig. 3.13
Wind-Sand problem
Percentage of households
per dwelling type

Dog Keeping

3.12. 43% are not allowed to keep a dog. 68% of those allowed to, do have a watchdog.

Wind - Sand problem

3.13. 54% remarked at the lack of wind protection.

3.14. 65% complained about the sand.

Neighbourhood Relationship

3.15. 90% said they got on well with their neighbours, though only

3.14. 46% ever leave their house key with a neighbour, indicating that neighbourly feelings do not extend to trust.
Nonetheless 66% said they felt part of the neighbourhood.

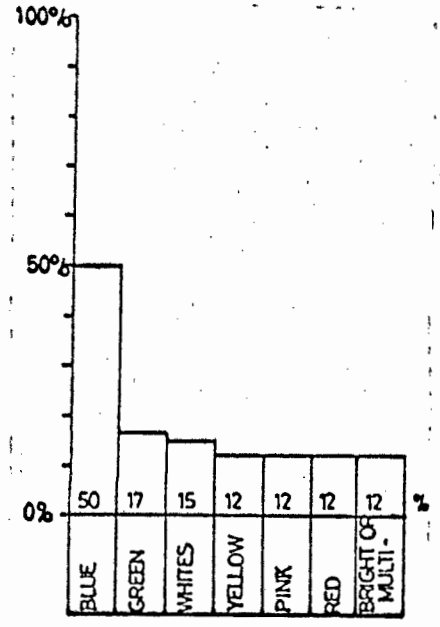


Fig. 4.2.(a)
House colour preferences
Percentage of household per colour

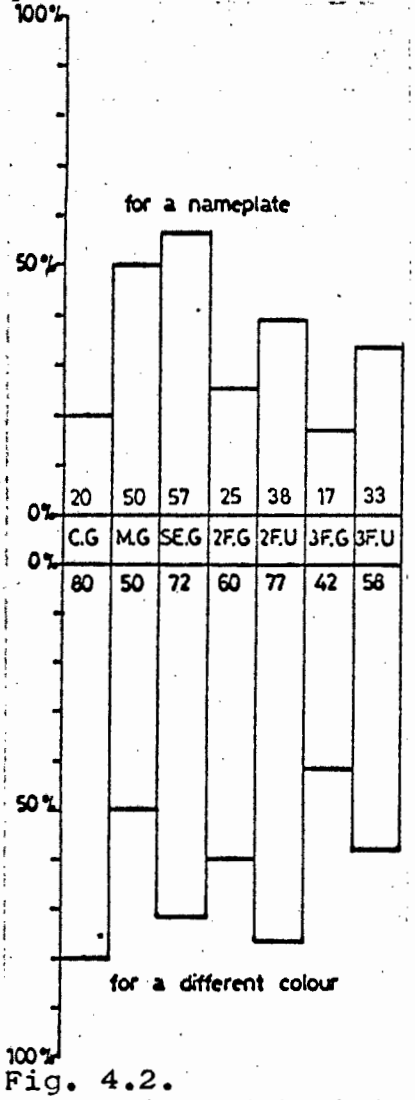


Fig. 4.2.
Expression of individuality and identification
Nameplate and different house colour
Percentage of households per dwelling type

4. Access and Public Space

Individuality and Identification

House Colour Preference

4.2.(a) 50% of householders would like their houses to be painted some shade of blue.

Nameplate and Identification through Housecolour

4.1. 32% liked the idea of having a nameplate though

4.2. 53% would like their dwelling to be painted a different colour to the others around them.

Neighbouring Landuse

4.3. 8% would like their dwelling to look onto some public amenity.
49% would like to look onto other residences - though not flats.
43% would like to look onto open space.

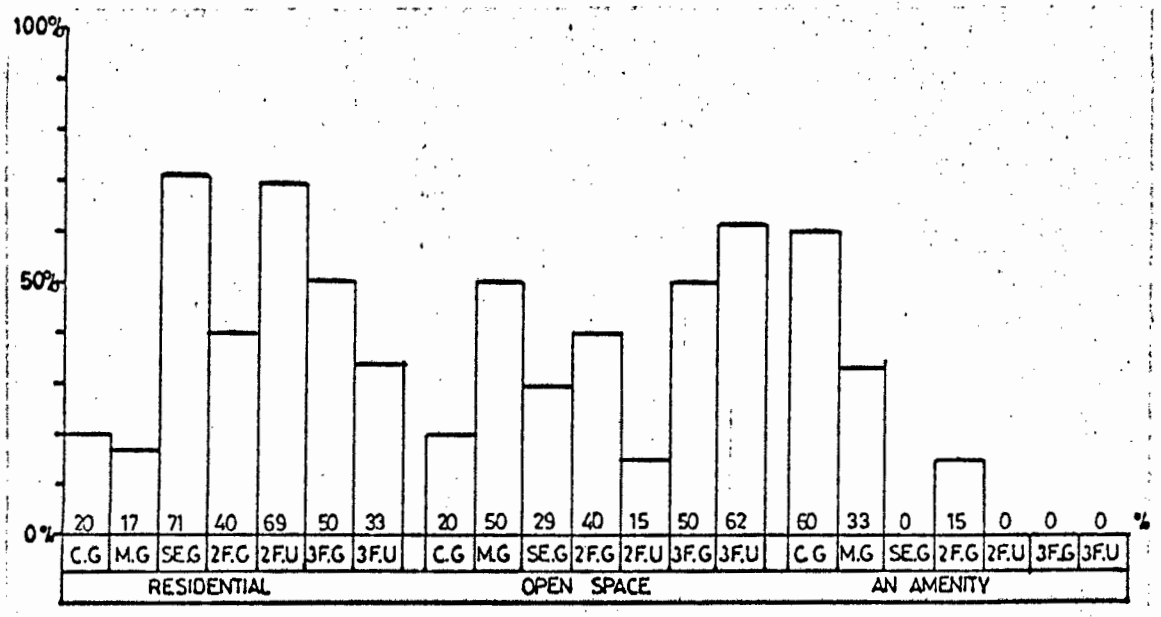


Fig. 4.3.
Preference of neighbouring landuse.
Percentage of households per dwelling type and landuse.

Litter and Garbage

4.4. 52% were dissatisfied with the extent of litter in public spaces and in garbage areas.

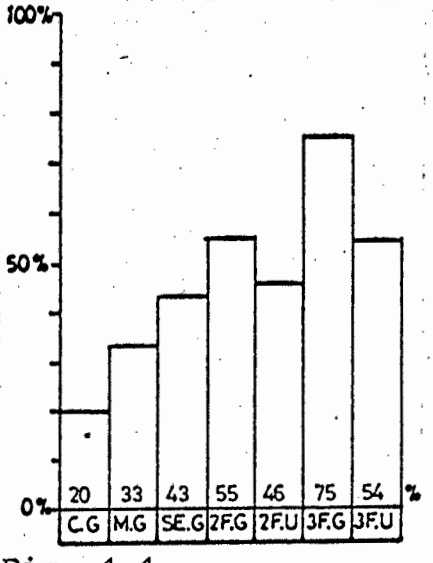


Fig. 4.4.
Objections to litter
Percentage of households per dwelling type.

Car Ownership and Parking

4.5. 28% of householders owned a car.

4.6. 65% of the car owners parked outside the front door,
35% parked in their garden,
no car owner used the communal parking areas.

Demand for Parking Garages

4.7. 32% of householders would be prepared to rent a lock-up garage i.e. 4% more than own a car at

present, indicating more people would buy a car if they thought it safe.

Of those prepared to rent a garage,
4% would pay 20c per week
22% would pay 40c per week
74% would pay 60c or more per week.

Demand for Outbuildings

37% of householders would be prepared to pay for an outside store or workspace if available. Of these
31% would pay 60c per week
28% would pay 40c per week
41% would pay 20c per week

5. External Miscellaneous

Place of School

5.1. 66% of households with kids go to school in Hanover Park
25% regard Hanover Park schools as inferior - some joked that they had been taken from shanty towns with old established brick schools to live in new brick housing with prefabricated flimsy shanty schools.
34% of the kids going to school outside of Hanover Park.
5 kids go to Lansdowne, 4 to Bridgetown, 2 to Bonteheuwel, 2 to Wynberg, 1 each to Factreton, Kewtown, Salt River, Greenhaven, Faure, Manenberg and 3 not stated.

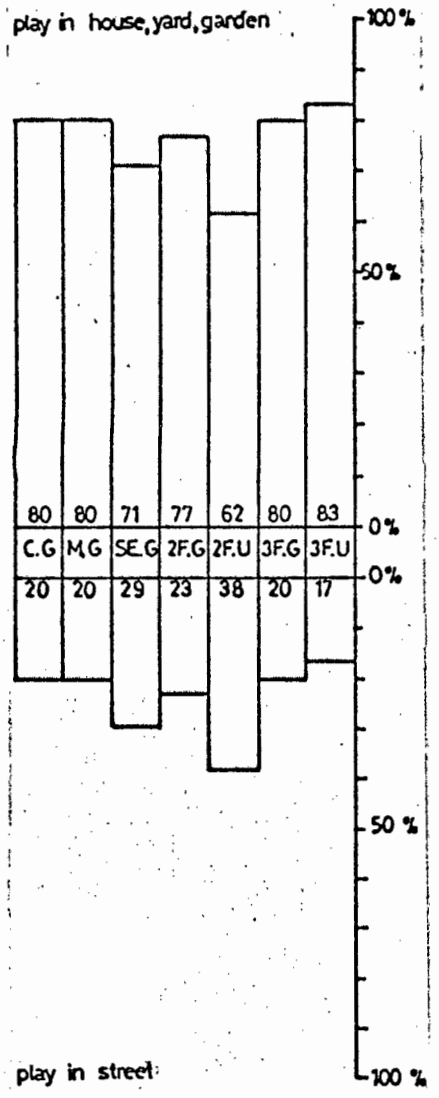


Fig. 5.4.
Children's playareas
Percentage of children per dwelling type.

Working Mothers and Children's Care

5.2. 29% of mothers with children work.

5.3. 65% of young children are looked after by their mother,
23% by relatives,
7% by older children,
5% by neighbours.

Children's Playareas

5.4. 47% of children play in the street,
38% play in the yard or garden,
16% play mostly inside the house.

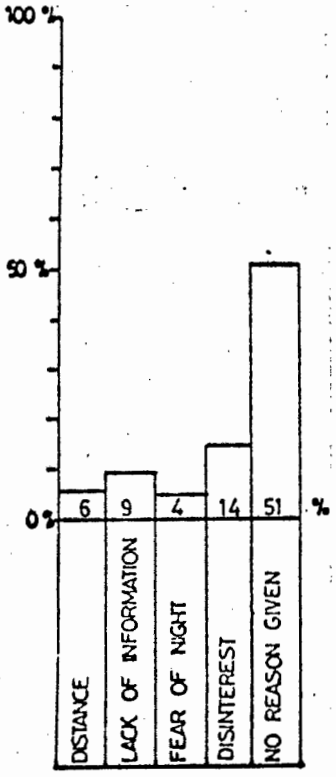


Fig. 5.7.
Non-use of community centre
Percentage of households per reason of non-use.

Public Playground

5.5. 29% of children ever used the public playground.
(Many parents objected to the 'unruly' elements there.)

Creché and Nursery

5.6. 50% of mothers have children between 1 - 5 years old.
67% of mothers with 1 - 5 year old children were prepared to pay for a creché if available,
27% would pay 75c per week,
45% would pay 100c per week,
9% would pay 125c per week,
18% would pay 150c per week.

Community Centre

5.7. 81% of sample did not use the Community Centre.

Clinic

5.8. 56% of households have a member attending the maternity clinic.

Shopping

5.9. 13% of households use the shops in Hanover Park,
68% use supermarkets outside of Hanover Park,
21% use the vans (mobile corner shops that come round).
(The Hanover Park shops are not used because of the great distance, the high prices, the probability of children being robbed on the way, poor service, etc.)

Church and Religion

5.10. 29% of households are Anglican
14% are Moslem
14% are New Apostolic
21% other
and only 5% attend Afrikaans speaking churches though 88% of Cape Coloured people are Afrikaans speaking people.
20% did not state their religion.
Of those who attend church -
48% attend Hanover Park churches,
11% in Lansdowne,
6% in Claremont,
6% in Wetton,
6% in Athlone,
6% in Cape Town,
3% in Retreat,
3% in Grassy Park,
3% in Elsies River,
and 1% each in Woodstock, Wynberg, Kensington, Dooringhoogte, Bonteheuwel, Steenberg, Bridgetown.

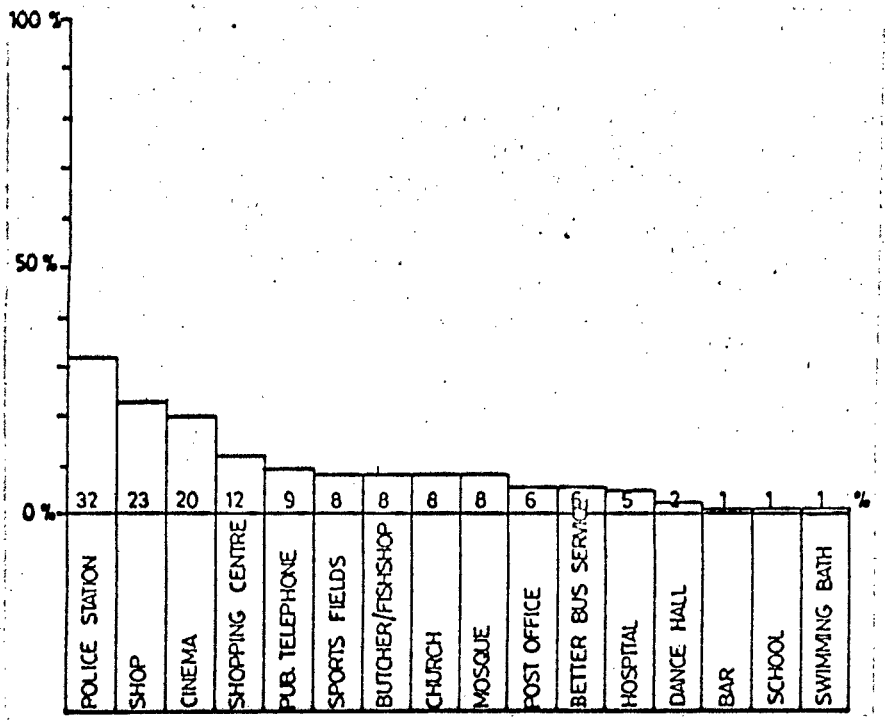


Fig. 5.11
Demand for community facilities
Percentage of households per choice of facility

5.11. Demand for community facilities

32% want a police station

23% a cornershop and

20% a cinema

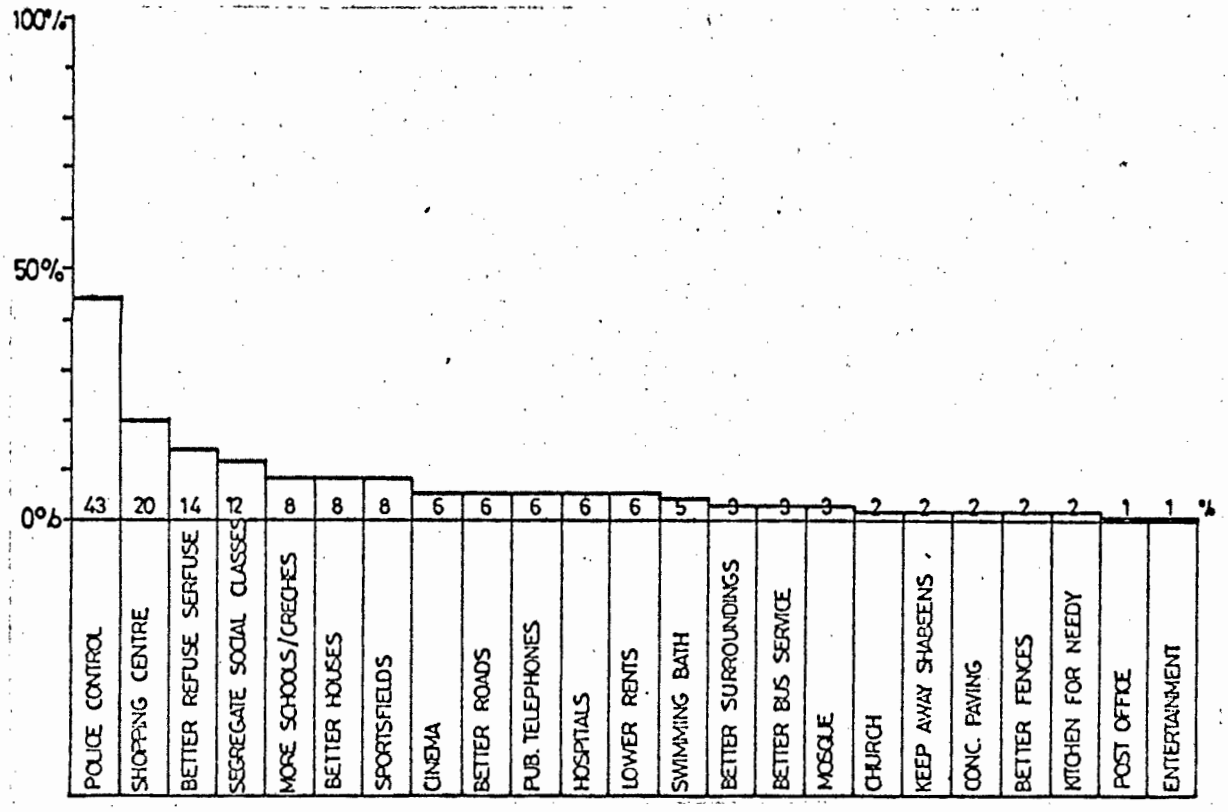


Fig. 5.13
Community orientated choice of desired facilities
Percentage per households per desired facility.

5.13 Community orientation of individual.

83% of the household heads made proposals towards community goals and demands.
15% refused to comment or were indifferent or negative.

SCHEDULE OF SURVEY DATA FOR EACH SAMPLE HOUSEHOLD FOR THE ANALYSIS OF THE HOUSING STANDARDS AND HOUSING TREND

Survey No.	Economically Active Persons	Income Household Head	Household Size	Present dwelling								No. of rooms excl. kitchen	Wanted dwelling									Garden wanted	GF preferred	UF preferred	Desire to Move Reasons					Overcrowd. ratio	Slums Act min. area	Avail. area	Slums Act. min. room No. incl. kitchen	Slum condition	National Housing Act min. No. of rooms excl. kitchen	Balance of No. of rooms	
				C	M	SE	2FG	2F1	3FG	3F1	3F2		1st. choice C	1st. choice M	1st. choice SE	1st. choice F	2nd. choice C	2nd. choice M	2nd. choice SE	2nd. choice F	Ability to pay				No	Privacy	Space	Other reasons	Elsewhere								
	3	2	11				X					4	X				X				X	X	X		X			X		125	51.3	49.7	5	X	5	-1	
	2	0	4				X					2	X							X	X	X	X		X					100	25.5	32.1	3		2		
	2	1	9					X				4										X	X		X					100	38.4	49.7	4		4		
	1	0	4					X				2			X				X			X	X				X			100	25.5	32.1	3		2		
	2	1	11				X					4										X	X		X		X			125	51.3	49.7	5	X	5	-1	
	2	1	6				X					2									X	X	X	X		X				150	29.9	32.1	3		3	-1	
	3	2	10					X				4	X				X						X							125	51.3	49.7	5	X	5	-1	
	1	0	4					X				2									X	X	X					X		100	25.5	32.1	3		2		
	2	1	7				X					4										X	X		X					75	29.9	49.7	3		3	+1	x
	3	0	5				X					4	X				X					X	X		X			X		75	25.5	49.7	3		2	+2	x
	2	1	6		X							3	X				X					X	X			X				100	29.9	40.6	3		3		
	3	4	5		X							3										X	X		X					66	25.5	40.6	3		2	+1	x
	1	2	6		X							3										X	X		X					100	29.9	40.6	3		3	-	
	3	0	6		X							3										X	X		X					100	29.9	40.6	3		3	-	
	1	1	6		X							3	X						X		X	X	X						X	100	29.9	40.6	3		3	-	
	1	1	7		X							3									X	X	X		X					100	29.9	40.6	3		3	-	
	1	0	4				X					2									X	X	X		X			X		100	25.5	28.5	3		2	-	
								X				3	Unoccupied																								
	1	0	5					X				3									X	X	X							67	25.5	40.9	3		2	+1	x
	1	0	3				X					1									X	X	X							100	17.0	19.6	2		1	-	
	1	1	2				X					2	X				X				X	X	X			X				50	8.5	30.8	1		1	+1	
	1	0	5				X					2										X	X			X		X		100	25.5	28.5	3		2	-	
	0	0	10					X				3										X	X		X					166	51.3	40.9	5	X	5	-2	x
	4	4	5					X				3										X	X		X	X				66	25.5	40.9	3		2	+1	
	1	0	4				X					1										X	X			X				200	25.5	19.6	3	X	2	-1	
	1	0	6				X					2									X	X	X			X				150	29.9	30.8	3		3	-1	
	1	0	6				X					2									X	X	X			X	X			150	29.9	28.5	3	X	3	-1	
	1	0	7					X				3	X				X					X	X							100	29.9	40.9	3		3	-	
	5	6	9					X				3			X				X			X	X							130	38.4	40.9	4		4	-1	
	0	0	1				X					1										X	X		X					100	8.5	19.6	1		1	-	
	2	1	5				X					2	X						X		X	X	X					X		100	25.5	30.8	3		2	-	
	3	0	6				X					2										X	X							150	29.9	28.5	3	X	3	-1	
	0	0	4					X				3	X				X				X	X		X				X		66	25.5	40.9	3		2	+1	
	3	3	5					X				3			X					X	X	X		X						66	25.5	40.9	3		2	+1	x
	1	0	5				X					1	X				X				X	X				X	X			200	25.5	19.6	3	X	2	-1	
	1	0	4				X					2										X	X							100	25.5	30.8	3		2	-	
	1	0	4				X					2										X	X		X			X		100	25.5	30.8	3		2	-	
	1	0	8					X				3	X				X					X		X			X			130	38.4	40.9	4		4	-1	
	3	1	7					X				3										X	X						X	100	29.9	40.9	3		3	-	
	2	0	2				X					1				X				X		X	X		X			X		100	8.5	19.6	1		1	-	
	5	0	9	X								4	X				X					X	X		X			X		100	38.4	52.5	4		4	-	
	2	1	9	X								4									X	X	X		X			X		100	38.4	52.5	4		4	-	
	1	3	8	X								4									X	X	X		X			X		100	38.4	52.5	4		4	-	
	2	3	7	X								4										X	X		X			X		75	29.9	52.5	3		3	+1	
	2	3	12	X								4									X	X	X						X	125	60.1	52.5	5	X	5	-1	
	3	2	6			X						2										X	X		X			X		150	29.9	29.4	3		3	-1	
	1	1	8			X						3									X	X	X		X					130	38.4	40.0	4		4	-1	
	1	1	4			X						2										X	X		X			X		100	25.5	29.4	3		2	-	
	1	0	3			X						2									X	X	X		X			X		50	17.0	29.4	2		1	+1	x
	2	0	4			X						3									X	X	X		X			X		66	25.5	40.0	3		2	+1	x
	2	0	6			X						3									X	X	X		X					100	29.9	40.0	3		3	-	
	1	2	5			X						2										X	X					X		100	25.5	29.4	3		2	-	
	1	2	5								X	3		X			X				X	X		X		X				66	25.5	40.0	3		2	+1	x
	1	2	5			X						2										X	X					X		100	25.5	29.4	3		2	-	
	1	2	5							X		3	X				X				X	X		X		X				66	25.5	40.0	3		2	+1	x
	1	1	5						X			3	X				X				X	X		X		X				66	25.5	40.0	3		2	+1	x
	1	1	6						X			3	X					X				X	X				X			100	29.9	40.0	3		3	-	
	1	1	5					X				2									X	X	X		X			X		100	25.5	31.1	3		2	-	
	1	1	8					X				2	X						X		X	X	X			X				200	38.4	31.1	4	X	4	-2	
	1	1	6						X			3	X						X		X	X	X				X			100	29.9	40.0	3		3	-	
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	1	1	6						X			3	X				X					X		X		X				100	29.9	40.0	3		3	-	
	1	1	7						X			3	X					X			X	X	X					X		100	29.9	40.0	3		3	-	
	1	1	4					X				2		X					X			X	X							100	25.5	31.1	3		2	-	
	0	0	6					X				2									X		X					X		150	29.9	31.1	3		3	-1	
	1	1	6						X			3	X				X					X		X						100	29.9	40.0	3		3	-	
	2	1	6						X			3			X				X			X	X				X			100	29.9	40.0	3		3	-	
	1	1	9							X		3								X		X	X	X		X				130	38.4	40.0	4		4	-1	
	2	4	6							X		3	X				X					X	X	X			X		X		100	29.9	40.0	3		3	-	
	2	4	4						X			2	X						X			X	X	X							100	25.5	31.1	3		2	-	
	1	1	7						X			2	X				X					X	X					X		150	29.9	31.1	3	X	3	-1	
	1	1	4							X		3									X	X	X		X					66	25.5	40.0	3		2	+1	
	1	0	4							X		3									X	X	X		X					66	25.5	40.0	3		2	+1	x
	1	0	7						X			3				X				X	X	X	X							100	29.9	40.0	3		3	-	
	1	1	5						X			3									X	X		X	X					66	25.5	40.0	3		2	+1	x
	1	1	8					X				2	X						X		X	X	X			X				200	38.4	31.1	4	X	4	-2	
	1	4	7					X				2		X						X	X	X			X					150	29.9	31.1	3		3	-1	
	1	0	7						X			3	X						X		X		X	X						100	29.9	40.0	3		3	-	
	2	3	5						X			3									X		X	X						66	25.5	40.0	3		2	+1	x
	1	0	5							X		3									X	X				X				66	25.5	40.0	3		2	+1	x
	1	1	6							X		3											X	X						100	29.9	40.0	3		3	-	
	1	0	5						X			2									X	X	X		X			X		100	25.5	31.1	3		2	-	
	1	2	5						X			2	X						X			X	X		X					100	25.5	31.1	3		2	-	
	1	1	7							X		3									X	X	X			X				100	29.9	40.0	3		3	-	
	1	3	5							X		3									X		X	X						66	25.5	40.0	3		2	+1	x
	1	0	9						X			3									X		X	X						130	38.4	40.0	4	X	4	-1	
	2	1	6						X			3	X						X		X	X	X				X			100	29.9	40.0	3		3	-	
	1	2	5					X				2	X						X		X	X			X					100	25.5	31.1	3		2	-	
	2	0	5					X				2	X						X			X			X					100	25.5	31.1	3		2	-	
	1	2	6							X		3	X						X			X	X			X				100	29.9	40.0	3		3	-	

Remarks:

Mixing of sex would occur if room number would be reduced.

Abbreviations:

C = Cottage
M = Maisonet
2F = 2-storey flat
3F = 3-storey flat
SE = 1-storey flat
G = ground floor
1 = First floor
2 = Second floor

Example:

3F2 = Dwelling in 3-storey flat on second floor

PLACES OF WORK

APPENDIX 2.7.4

TPR 2568

— SCALE : 1:200,000 —

Childbearing age and time of female population sample

No. of females in sample	Age group	Average age at birth of		% of mothers with children younger than 5 years	Average fertility period Years
		first child	last child		
2	55-60	27.5	40	0	12.5
2	50-55	27.5	37.5	0	10.0
5	45-50	23	35	0	12
11	40-45	23.5	34	36	
18	35-40	22	32	39	
16	30-35	20.5	27.5	50	
21	25-30	19.5	-	57	
3	20-25	16.5	-	66	

Appendix 2.7.2.

Report on Socio-economic Characteristics of Council Housing Estates for Coloureds.

A survey conducted by the City Engineer's Department in January and February, 1973.

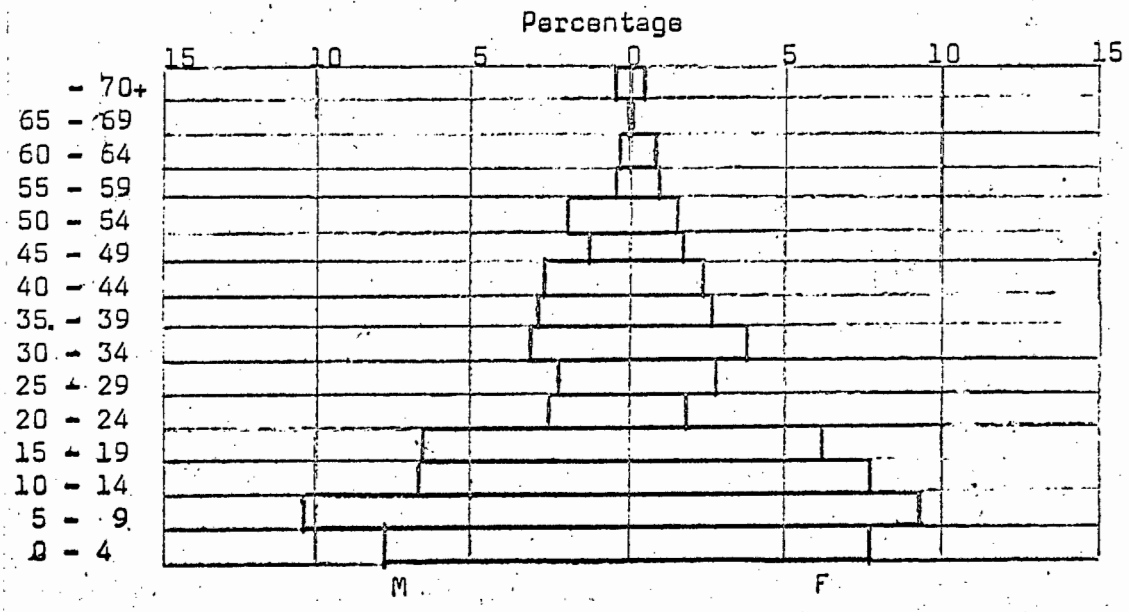
The author has referred to this report as it is the latest information available, though he regards it as unreliable in view of the interviewers' decision to select respondents:

. The sample size, after discard of the experimental cases and those thought to be unreliable by interviewers, totalled 160 which represents 3% of the housing units in Hanover Park. All results are expressed in percentages for greater ease of interpretation.

The sample bias is, however, unlikely to affect the population pyramid".

FIGURE 1.

AGE/SEX DISTRIBUTION



Place of Work by Percentage of Population and Transport Costs.

Place of Work	Percentage of Population	Fares per week R.		Total per Week
		Bus	Train	
Central City & West. Suburbs	34	.90	.69	1.59
Woodstock-Salt River	5	.90	.60	1.50
Observatory-Wynberg	16	2.40	-	2.40
Wynberg-Kalk Bay (Muizenberg)	4	.90	.72	1.62
Paarden Eiland	5	2.60	-	2.60
Maitland	8	.90	.54	1.44
Epping	3	2.80	-	2.80
Elsies River-Parow	4	.90	1.60	2.50
Bellville	2	.90	1.98	2.88
Athlone & Lansdowne	13	.90	-	.90
Grassy Park & Parkwood	2	.90	.43	1.33
Hanover Park	2	-	-	-
Pinelands	2	.90	.43	1.33
Total:	100	1.26	.43	1.69 (mean)

The mean per person and month is R7.30.

Length of residence per dwelling type and number of households

Date of Occupation	Length of Residence		Length of Residence Grouped	Dwelling Type							Total	Grouped	
	Years	Month		CG	MG	SEG	2FG	2FU	3FG	3FU	No. of Household	No.	%
10.70	2	4	years	3			2	1			6		
11.70	2	3		2		4	8	5			19		
12.70	2	2	2 - 2½		4	3	6	5			18		
1.71	2	1					2	1	2	3	8		
2.71	2								2	5	7	58	67
3.71	1	11							7	13	20		
4.71	1	10	1½ - 2						1		1		
5.71	1	9								2	2	23	26
11.71	1	3								1	1		
2.72	1		1 - 1½				1				1	2	2
4.72		10					1				1		
5.72		9	0 - 1		1						1		
8.72		6			1			1			2	4	5
Total:				5	6	7	20	13	12	24	87		

Appendix 2.7.7.

Rent x No. of Households (1970)

Rent R	Households		Total			Average Rent R
	No.	%	Rent R	Households No.	Households %	
5.00	5	5.8				
6.75	3	3.5				
7.00	4	4.6				
7.50	3	3.5	5-10			
8.50	3	3.5				
9.05	3	3.5				
9.75	9	10.2		30	34.5	7.87
10.40	4	4.6				
10.55	1	1.2	10-15			
13.75	2	2.3				
15.55	3	3.5		10	8.1	12.63
16.15	5	5.8				
17.70	16	18.3				
18.20	1	1.2				
18.40	2	2.3	15-20			
18.65	2	2.3				
19.30	2	2.3		28	35.7	17.68
20.10	11	12.6				
21.40	6	6.8	20-22.50			
22.50	2	2.3		19	21.7	21.70
Total	87	100		87	100	12.30

Waiting Time for a House for Families on the C.C. Housing List.

Date of Application Year	Date of Occupation Year	Waiting Time (In Years)	No. of Families	% of Group on List
1964	1970	6	1	2%
1965	1970	5	3	45%
1966	1971	5	20	
1967	1972	5	2	
1966	1970	4	7	16%
1967	1971	4	2	
1967	1970	3	5	11%
1969	1972	3	1	
1968	1970	2	6	7%
1970	1972	2	1	
1969	1970	1	2	2%
1970	1970	-	2	9%
1971	1971	-	2	
1972	1972	-	1	
		Total:	55	100%

Length of Notice of Removal for Families Affected by Group Areas Act Removals.

Date of Notice		Date of Removal		Length of Notice in Days	No. of Families	% of Sample	% of Affected Group
Month	Year	Month	Year				
2	1971	2	1971	1	1	1	21,5%
12	1970	12	1970	2	5	6	
11	1970	11	1970	3	7		57%
12	1970	12	1970	3	1		
10	1970	10	1970	3	2	18	
2	1971	2	1971	3	4		
1	1971	1	1971	3	2		
12	1970	12	1970	13	1	1	21,5%
12	1970	1	1971	19	1	1	
2	1971	3	1971	24	1	1	
10	1970	11	1970	32	1	1	
2	1971	3	1971	38	1	1	
6	1970	3	1971	268	1	1	
				Ave. Length:16,2 Days.	Total:28	32.2%	

Of the survey sample 32,2% were victims of the Group Areas Act and were given notice by the police of average of 16,2 days.

Housing Standards

Slums Act. [9]

No standard for minimum room size.

Minimum space requirement:

1. Adult ($\geq$ 10 years) 11.4 m^3 or 38 m^2

   Child ($\geq$ 10 years) 5.7 m^3 or 1.9 m^2

   Thus a room has to be a multiple of these dimensions and its height is calculated with 3.0 m.

2. No bath, corridor, cellar, outbuilding, garage, etc. are allowed to be used for sleeping.
   Thus livingroom, bedroom and kitchen are possible to be used as sleeping accommodation.

3. Persons of opposite sexes over the age of ten shall not be forced to sleep together through lack of sufficient number of rooms, except persons living together as husband and wife.

x) No. of persons	Type of dwelling	Room area sq. m xxx)					xx) Total area
		1	2	3	4	5	
2	1 r.	8.5					8.5
2-3	2 r.	8.5	8.5				17.0
4-5	3 r.	8.5	8.5	8.5			25.5
6-7	3 r.	8.5	8.5	12.9			29.9
8-9	4 r.	8.5	8.5	8.5	12.9		38.4
10-11	5 r.	8.5	8.5	8.5	12.9	12.9	51.3
12-13	5 r.	8.5	12.9	12.9	12.9	12.9	60.1

x) Children below the age of 10 have been taken as adults.

xx) The "total area" does not include circulation area, bathroom, outbuildings, etc. but it includes the kitchen.

xxx) Room area has been adjusted from 3 m height to 2.65 in height

Minimum Standards of Housing Accommodation for Non-Europeans.
National Housing and Planning Commission.[10)]

No. of pers. accommodated	Type of dwelling	Room area sq. m			
		Main Bedroom	Bed-room	Dining Kitchen	Living Sleep
2	Aged Couple Unit	-	-	7.6	11.8
2-3	1 r.	-	-	7.6	12.7
4-5	2 r.	12.7	-	8.6	12.4
6-7	3 r.	12.7	10	9.7	12.9
8-9	4 r.	12.7	10	10.7	13.4
10-11	5 r.	12.7	10	10.7	14

a) A 'person' is defined as any one over the age of 1 year. Babies under this age are not taken into account.

b) Under "Type of Dwelling" a 'room' is one which is used for sleeping or living. The dining/kitchen, bath-room or store are not counted as rooms in describing the dwelling.

c) Areas given are net areas inside room walls exclusive of offset entrance.

d) Bedrooms may be 5 sq.ft. less in area if built-in cup-boards are provided. The latter should not be less than 1'10" deep and 2'9" wide.

e) The combined dining/kitchen and living/sleeping room areas comprise the "living" space in the house.

f) The living/sleeping room is designed to serve the dual purpose of a bedroom for two persons and a general living room.

Further requirements: general storage
7 x 3 ft. minimum

These standards were recommended in the Interim Report of the Research Committee on minimum Standards of Accommodation published by the Council for Scientific and Industrial Research in 1949.

"no differences in these basic standards should be permitted between European and Non-European housing..."

Following this, the native Housing Committee decided on the above standards "in an effort to reduce the magnitude of this problem..."

In order to comply with the slums act the above standard has to make use of the kitchen as a bedroom in the case of children over the age of ten and of different sex (e.g. 5 persons in 2-room dwelling).
These standards have been laid down in July 1951.
The standard is a <u>minimum standard</u>
The standard does not take account of children below the age of one year. This makes its validity for a young family rather short lived.

Overcrowding Analysis - Case 1

Survey No.

Age Years	Sex, relationship	Min. areas required m^2 (Slums Act 53 of 34)			
		M	F	C	
10-14	1 son	4.2			
15-19	2 sons, 1 daughter	8.4	4.2		
20-24	1 son, 3 daughters	4.2	12.6		
40-44	mother		4.2		
55-59	grandmother			4.2	
60-64	grandfather			4.2	
Total	11	16.8	21.0	8.4	46.2

Type of room available	area m^2	possible sleep distribution	No. of people
Living R.	11.6	2 sons	2
Bedroom	11.4	2 sons	2
Bedroom	9.1	2 daughters	2
Bedroom	8.8	grandparents	2
Kitchen	8.8	Mother & daughter	2
Total	49.7		10

Result	Available	Required
Area m^2	49.7	46.2
No. of rooms	5	6

Slum conditions in terms of No. of rooms required one extra room (6 rooms)

Age Years	Sex, relationship	Min. areas required m^2 (Slums Act 53 of 34)			
		M	F	C	
0-4	2 sons, 1 daughter	4.2	2.1		
5-9	2 daughters		4.2		
10-14	1 son	4.2			
15-19	1 son	4.2			
30-34	father, mother			8.4	
35-39	brother, wife			8.4	
Total	8.5	12.6	6.3	16.8	35.7

Type of room available	Area m^2	Possible sleep distribution	No. of people
Livingroom	11.6	Brother & wife	2
Bedroom	11.4	Parents, 1 daughter	$2\frac{1}{2}$
Bedroom	9.1	2 daughters, 2 sons	2
Bedroom	8.8	2 sons	2
Kitchen	8.8	-	-
Total	49.7 m^2		8.5

Result	Available	Required
Area m^2	49.7	35.7
No. of rooms	5	4

Slum conditions within $^{0-5}$ years

One extra room required (6 rooms)

Age Years	Sex, relationship	Min. areas required m^2 (Slums Act 53 of 34)			
		M	F	C	
5-9	2 daughters		4.2		
10-14	2 daughters, 1 son	4.2	8.4		
15-19	1 son, 1 daughter	4.2	4.2		
20-24	1 daughter		4.2		
35-39	father, mother			8.4	
Total	9	8.4	21.0	8.4	37.8

Type of room available	Area m^2	Possible sleep distribution	No. of people
Livingroom	11.6	2 sons, 1 daughter	2.5
Bedroom	11.4	parents, 1 daughter	2.5
Bedroom	9.1	2 daughters	2
Bedroom	8.8	2 daughters	2
Kitchen	8.8	-	-
Total	49.7		9

Result	Available	Required
Area m^2	49.7	37.8
No. of rooms	5	4

Slum conditions within 0-5 years

One extra room required (6 rooms)

Age Years	Sex, relationship	Min. areas required (Slums Act 53 of 34) m^2			
		M	F	C	
0-4	1 son	2.1			
5-9	1 son	2.1			
10-14	3 sons	12.6			
15-19	1 daughter		4.2		
20-24	2 sons, 1 daughter	12.6			
40-44	mother		4.2		
Total	7	29.4	8.4	-	37.8

Type of room available	area m^2	Possible sleep distribution	No. of people
Livingroom	11.6	mother, 2 sons	2
Bedroom	11.4	2 sons	2
Bedroom	9.1	2 daughters	2
Kitchen	8.8	1 son	1
Total	40.9		7

Result	Available	Required
Area m^2	40.9	37.8
No.. of rooms	4	4

Slum condition within 5 - 10 years.

Age Years	Sex, relationship	Min. areas required (Slums Act 53 of 34) m^2			
		M	F	C	
0-4	1 daughter		2.1		
5-9	1 son	2.1			
25-29	mother			4.2	
30-34	father			4.2	
Total	3	2.1	2.1	8.4	12.6

Type of room available	area m^2	Possible sleep distribution	No. of People
Livingroom	11.4	parents, daughter	2.5
Kitchen	8.2	son	0.5
Total	19.6		3

Result	Available	Required
Area m^2	19.6	12.6
No. of rooms	2	2

Slum condition within 5 - 10 years.

Age Years	Sex, relationship	Min. areas required (Slums Act 53 of 34) m^2			
		M	F	C	
5-9	2 daughters		4.2		
10-14	2 sons	8.4			
35-39	mother, father			8.4	
Total	5	8.4	4.2	8.4	21.0

Type of room available	area m^2	Possible sleep distribution	No. of people
Livingroom	11.4	parents, 1 daughter	2.5
Bedroom	8.9	2 sons	2
Kitchen	8.2	1 daughter	0.5
Total	28.5		5

Result	Available	Required
Area m^2	28.5	21.0
No. of rooms	3	3

Slum conditions in 0-5 years
required one extra room (4 rooms)

Survey No.

Age Years	Sex, relationship	Min. areas required (Slums Act 53 of 34) m^2			
		M	F	C	
0-4	1 daughter, 1 son	2.1	4.2		
	1 relative F.				
5-9	1 relative M.	2.1			
25-29	mother, relative F.		8.4		
Total	4	4.2	12.6		16.8

Type of room available	area m^2	possible sleeping distribution	No. of people
Livingroom	11.4	2 relatives F. 1 relative M.	2
bedroom	8.9	Mother, 1 daughter, 1 son	2
kitchen	8.2	-	-
Total	28.5		4

Result	available	required
Area m^2	16.8	16.8
No. of rooms	3	2

Slum conditions within 5-10 years

Survey No.

Age Years	Sex, relationship	Min. areas required m^2 (Slums Act 53 of 34)			
		M	F	C	
0-4	1 son, 1 daughter	2.1	2.1		
25-29	father, mother			8.4	
50-54	grandmother		4.2		
Total	4	2.1	6.3	8.4	16.8

Type of room available	area m^2	Possible sleeping distribution	No. of people
Livingroom	11.4	parents, 1 daughter	$2\frac{1}{2}$
Kitchen	8.2	grandmother, 1 son	$1\frac{1}{2}$
Total	19.6		4

Result	Available	Required
Area m^2	19.6	16.8
No. of rooms	2	2

Slum conditions within 5-10 years

Age Years	Sex, relationship	Min. areas required m^2 (Slums Act 53 of 34)			
		M	F	C	
0-4	2 daughters, 1 son	2.1	4.2		
5-9	2 daughters		4.2		
10-14	2 sons	8.4			
15-19	2 daughters, 1 son	4.2	8.4		
40-44	mother, father			8.4	
Total	9.5	14.7	16.8	8.4	39.9

Type of room available	area m^2	Possible sleeping distribution	No. of people
Livingroom	12.5	2 sons	2
Bedroom	11.5	mother, father, son	2.5
Bedroom	9.3	4 daughters	2
Bedroom	9.3	2 daughters	2
Kitchen	9.9	1 son	1
Total	52.5		9.5

Result	Available	Required
Area m^2	52.5	39.9
No. of rooms	5	5

Slum conditions within 0-5 years
One extra room required. (6 rooms)

Survey No.

Age Years	Sex, relationship	Min. areas required m^2 (Slums Act 53 of 34)			
		M	F	C	
0-4	2 sons	4.2			
5-9	1 daughter		2.1		
10-14	1 son, 1 daughter	4.2	4.2		
15-19	1 daughter		4.2		
40-44	mother, father			8.4	
Total	6.5	8.4	10.5	8.4	27.3

Type of room available	Area m^2	Possible sleeping distribution	No. of people
Livingroom	11.9	1 son, 2 daughters	2.5
Bedroom	10.8	parents, 1 son	2.5
Kitchen	8.4	1 son, 1 daughter	1.5
Total	31.1		6.5

Result	Available	Required
Area m^2	31.1	27.3
No. of rooms	3	3

Slum conditions in 0-5 years

Required one extra room (4 rooms)

Survey No.

Age Years	Sex, relationship	Min. areas required m^2 (Slums Act 53 of 34)			
		M	F	C	
5-9	2 daughters		4.2		
10-14	2 daughters		8.4		
15-19	1 daughter		4.2		
30-34	mother			4.2	
40-44	father			4.2	
Total	6		16.8	8.4	25.2

Type of room available	Area m^2	Possible sleeping distribution	No. of people
Livingroom	11.9	3 daughters	2.5
Bedroom	10.8	parents, 1 daughter	2
Kitchen	8.4	2 daughters	1.5
Total	31.1		6

Result	Available	Required
Area m^2	31.1	25.2
No. of rooms	3	3

Slum conditions in 0-5 years

One extra room required (4 rooms)

Survey No.

Age Years	Sex, relationship	Min. areas required m^2 (Slums Act 53 of 34)			
		M	F	C	
5-9	2 daughters, 1 son	2.1	4.2		
10-14	1 son	4.2			
35-39	mother, father			8.4	
60-64	grandfather			4.2	
65-69	grandmother			4.2	
Total	6.5	6.3	4.2	16.8	27.3

Type of room available	Area m^2	Possible sleeping distribution	No. of people
Livingroom	11.9	parents, 1 son	2.5
Bedroom	10.8	grandparents, 1 daughter,	2.5
Kitchen	8.4	1 daughter, 1 son	1.5
Total	31.1		6.5

Result	Available	Required
Area m^2	31.1	27.3
No. of rooms	3	3

Slum conditions in 0-5 years

Required one extra room (4 rooms)

Survey No.

Age Years	Sex, relationship	Min. areas required m^2 (Slums Act 53 of 34)			
		M	F	C	
0-4	2 daughters, 1 son	2.1	4.2		
5-9	1 son	2.1			
10-14	2 sons, 1 daughter	8.4	4.2		
30-34	mother, father			8.4	
Total	7	12.6	8.4	8.4	29.4

Type of room available	Area m^2	Possible sleeping distribution	No. of people
Livingroom	11.9	3 sons	2.5
Bedroom	10.8	parents, 1 son	2.5
Bedroom	8.9	3 daughters	2.0
Kitchen	8.4	-	-
Total	40.0		7.0

Result	Available	Required
Area m^2	40.0	29.4
No. of rooms	4	3

Slum conditions in 5 - 10 years

Overcrowding in terms of

Minimum Standard of National Housing Commission

Overcrowding in Survey Sample					Underoccupation							
Household Size	over occupied				under occupied				under occupied & sex sep.			
	No. of rooms				No. of rooms				No. of rooms			
	1	2	3	4	1	2	3	4	1	2	3	4
1												
2						1				1		
3						1						
4	1						5				2	
5	1					1	8	1				1
6		6						2				
7		2										1
8		2	2									
9			3									
10			1	1								
11				2								
12				1								
overcrowded units	2	10	6	4		3	13	3		1	2	2
Total No. of units	5	29	42	11		29	42	11		29	42	11
% overcrowded	40	31	12	40		10	31	27		3.5	5	20

PLACES OF SCHOOLS
APPENDIX 2.7.17

TPR 2566

Total Overcrowding in Block 'F'				
Household Size	Over Occupied			
	No. of Rooms			
	1	2	3	4
1				
2				
3				
4	5			
5	5			
6		33		
7		11		
8		11	11	
9			16	
10			5	5
11				11
12				5
Overcrowded units	10	55	32	21
Total No. of units	26	138	240	53
% Overcrowded	39	46	13	39

i.e. 118 overcrowded units, or 25.8%

Occupation to National Housing Standards					
Household Size	norm. occupation; corrected for whole of Block 'F'				
	No. of Rooms Required				
	1	2	3	4	5
1	16				
2					
3		93			
4					
5					
6			218		
7				58	
8					
9					
10					
11					21
12					
Total No. of units	16	93	263	64	21
Percentage	3.5	20.3	57.6	14.0	4.6

House Type	Total No. of overcrowded units	Percentage
Cottage	5	20%
Maisonette	0	0
Single Storey	11	31%
Double Storey (G)	43	41%
Double Storey (U)	21	26%
Triple Storey (G)	27	45%
Triple Storey (U)	11	9%
Total	118	100%

Type of dwelling	groundlevel		upstairs	
	No.	%	No.	%
Cottage (C)	25	100	-	-
Maisonetts (M)	30	100	-	-
Single Storey (SE)	36	100	-	-
Flat double St. (2F)	106	57	80	43
Flat triple St. (3F)	60	33	120	67
Total:	257	56	200	44

Size of households which prefer to live upstairs:

20% or 17 out of 87 wish to live upstairs.

15 out of 17 already live upstairs.

2 out of 17 want to move from ground floor to an upper floor.

Household size No. of persons	No. of households wanting to move upstairs	Present dwelling						
		C	M	SE	2FG	2FU	3FG	3FU
2	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-
4	2	-	-	-	-	1	-	1
5	6	-	-	-	-	1	-	5
6	5	-	-	-	2	-	-	3
7	1	-	-	-	-	-	-	1
8	1	-	-	-	-	1	-	-
9	1	-	-	-	-	-	-	1
10	1	-	-	-	-	1	-	-
Total	17	-	-	-	2	4	-	11

There is no marked difference in degree of dissatisfaction or preference between first or second floors of the triple storey flats.

Extracts of the Report No. D 70/68
City of Cape Town, City Engineer's Department [3]

Design Criterias:

The planning goal to achieve higher densities than in previous schemes had been requested by the Department of Community Development. Following design criterias had been laid down:

"Not less than 70% of the families must be accommodated at ground level, either in single dwelling row houses or in ground floor flats" [3]

"Each of these families to be provided with a minimum of 1000 sq.ft. (93 m^2) of garden space." [3]

"Not more than 30% of the families to be accommodated in flats above ground level, and communal space to be allocated to these families at a minimum rate of 1000 sq.ft. (93 m^2) per family". [3]

"The normal statutory open space requirements are applicable over and above these standards." [3] Those are 1 ha per 1000 population (Average family size assumed to be 5 persons) [1]

To achieve the higher densities row houses on small plots with pedestrian access has been provided.

"... an overall density of approx. 9 dwellings per acre...."

Parking:

"The scheme has been planned to allow for one parking bay for every family housed in an economic flat."

Access:

The estimates for the housing scheme and the plan show hard-

Appendix 2.8

Plan Nr. 1

Hanover Park Block F

Planned Land Uses (CCC) - Statutory

Residential

Roads and Walk ways

Railway

Puplic Open Space

Private Open Space (Church Site)

Commercial (Shops)

Municipal Purposes (Maintenance Depot)

School

Appendix 2.8

Plan Nr. 1

Hanover Park Block F

Planned Land Uses (CCC) - Statutory

Residential

Roads and Walk Ways

Railway

Puplic Open Space

Private Open Space (Church Site)

Commercial (Shops)

Municipal Purposes (Maintenance Depot)

School

OPEN SPACE

RESIDENCIAL

RESIDENTIAL

LONEDOWN ROAD

N

RAIL RESERVE

GROUND FLOOR UNIT
FIRST FLOOR UNIT
SECOND FLOOR UNIT

RYBURG ROAD

SHOP SITE

CHURCH SITE

ALGOAHOF

BUNKWATER HOF

AGULHAS COURT

PUBLIC OPEN SPACE

PUBLIC OPEN SPACE

CHURCH SITE

PUBLIC OPEN SPACE

HANOVER PARK AVENUE

PUBLIC OPEN SPACE

SHOP SITE

MAINTENANCE DEPOT

DOWNBURG ROAD

HIGH SCHOOL SITE

PRIMARY SCHOOL SITE

HANOVER PARK - BLOCK 'F'

SCALE 1:1200

Appendix 2.8

Plan Nr. 2

Hanover Park Block F

Proposed Land Uses - Statutory

Residential

Roads and walk ways

Railway

Public Open Space

Private Open Space (Church Site, Youth Centre)

Commercial (Shops)

Municipal Purposes (CCC Nursery + Park)

School, Nursery or Creche

OPEN SPACE

RESIDENCIAL

RESIDENTIAL

LONEDOWN ROAD

N

RAIL RESERVE

GROUND FLOOR UNIT
FIRST FLOOR UNIT
SECOND FLOOR UNIT

RYBURG ROAD

P

SHOP SITES

ALGOAHOF

BUNKWATER HOF

PUBLIC OPEN SPACE

AGULHAS COURT

NURSARY/CRECHE

CHURCH

PLAY AREA

NURSARY/CRECHE

CHURCH

YOUTH & SPORTS CENTRE

CCC NURSARY & PARK

MAINTENANCE DEPOT

HANOVER PARK AVENUE

PUBLIC OPEN SPACE

DOWNBURG ROAD

HIGH SCHOOL SITE

PRIMARY SCHOOL SITE

HANOVER PARK - BLOCK 'F' - PROPOSAL

SCALE 1:1200

Appendix 2.8

Plan Nr. 3

Hanover Park Block F

Planned Land Uses (CLC) - Surface Condition

Planned Housing Stock

Private Gardens and Yards

Communal Open Space

Waste Land

Private Open Space

Roads, Parking Areas, Aprons (Surfaced area)

OPEN SPACE

RESIDENCIAL

RESIDENTIAL

LONEDOWN ROAD

N

RAIL RESERVE

GROUND FLOOR UNIT
FIRST FLOOR UNIT
SECOND FLOOR UNIT

RYBURG ROAD

PUBLIC OPEN SPACE

SHOP SITE

CHURCH SITE

ALGOAHOF

BUNKWATER HOF

AGULHAS COURT

CHURCH SITE

RESERVED SITE

SHOP SITE

MAINTAINANCE DEPOT

HANOVER PARK AVENUE

PUBLIC OPEN SPACE

DOWNBURG ROAD

HIGH SCHOOL SITE

PRIMARY SCHOOL SITE

HANOVER PARK - BLOCK 'F'

SCALE 1 : 1000

OPEN SPACE

RESIDENCIAL

RESIDENTIAL

LONEDOWN ROAD

RAIL RESERVE

N

GROUND FLOOR UNIT
FIRST FLOOR UNIT
SECOND FLOOR UNIT

RYBURG ROAD

PUBLIC OPEN SPACE

SHOP SITE

CHURCH SITE

ALGOAHOF

BLINKWATER HOF

AGULHAS COURT

CHURCH SITE

RESERVED SITE

SHOP SITE

MAINTAINANCE DEPOT

DOWNBURG ROAD

HANOVER PARK AVENUE

PUBLIC OPEN SPACE

HIGH SCHOOL SITE

PRIMARY SCHOOL SITE

HANOVER PARK - BLOCK 'F'

SCALE 1 : 1000

Appendix 2.8

Plan Nr. 5

Hanover Park Block F

Proposed Landuse - Surface Condition

New Housingstock and Garages (to be provided by CCC)

Existing Housing Stock

Private Gardens and Yards

Roads, Parking Areas, Walk Ways, Aprons (Surfaced area)

Public Open Space - Play Areas

Private Open Space, (Buildings to be provided by CCC)

Railway Reserve, (to be let as vegetable gardens)

Communal Open Space

Waste Land, (to be incorporated in gardens for tree planting)

Church Ground

OPEN SPACE

RESIDENCIAL

RESIDENTIAL

LONEDOWN ROAD

RAIL RESERVE

N

GROUND FLOOR UNIT
FIRST FLOOR UNIT
SECOND FLOOR UNIT

RYBURG ROAD

SHOP SITES

ALGOAHOF

BUNKWATERHOF

NURSARY/CRECHE

CHURCH

YOUTH & SPORTS CENTRE

PUBLIC OPEN SPACE

PLAY AREA

NURSARY/CRECHE

ABULHAS COURT

CHURCH

CCC NURSARY & PARK

MAINTENANCE DEPOT

DOWNBURG ROAD

PUBLIC OPEN SPACE

HIGH SCHOOL SITE

PRIMARY SCHOOL SITE

HANOVER PARK - BLOCK 'F' - PROPOSAL

SCALE 1:1200

Extracts of the Report No. D 70/68
City of Cape Town, City Engineer's Department [3]

Design Criterias:

The planning goal to achieve higher densities than in previous schemes had been requested by the Department of Community Development. Following design criterias had been laid down:

"Not less than 70% of the families must be accommodated at ground level, either in single dwelling row houses or in ground floor flats" [3]

"Each of these families to be provided with a minimum of 1000 sq.ft. (93 m^2) of garden space." [3]

"Not more than 30% of the families to be accommodated in flats above ground level, and communal space to be allocated to these families at a minimum rate of 1000 sq.ft. (93 m^2) per family". [3]

"The normal statutory open space requirements are applicable over and above these standards." [3] Those are 1 ha per 1000 population (Average family size assumed to be 5 persons) [1]

To achieve the higher densities row houses on small plots with pedestrian access has been provided.

"... an overall density of approx. 9 dwellings per acre...."

Parking:

"The scheme has been planned to allow for one parking bay for every family housed in an economic flat."

Access:

The estimates for the housing scheme and the plan show hard-

standing footpaths 0.90m wide for all pedestrian ways. The distance from the dwelling to the street does not exceed 150 feet (40 metre) in any instance.

"The detailed planning of the town centre has not been carried out at this stage ...."

Town Centre:

"School sites within the scheme make allowance for the construction, in due course, of some 400 flats in the shopping precincts to accommodate a higher income group than those qualifying for a housing loan." 3)

Open Space:

"Ample provision for open space at the rate of 3 acres per 1000 population has been made in the scheme."

Density existing

Block area: ± 416 m x 195 m = 82400 m^2
+ 1400 m^2
83800 m^2
= 8,4 ha.

Dwellings: Total No. 457

Dwelling Type	Ground Floor (G) No. of Rooms				First Floor (U) No. of Rooms				Second Floor (U) No. of Rooms				Total	
	1	2	3	4	1	2	3	4	1	2	3	4	G	U
Cottage (C)	-	-	-	25	-	-	-	-	-	-	-	-	25	-
Maisonet (M)	-	-	30	-	-	-	-	-	-	-	-	-	30	-
Single Storey (SE)	-	16	20	-	-	-	-	-	-	-	-	-	36	-
Double Storey Flat (2F)	26	66	-	14	-	14	52	14	-	-	-	-	106	80
Triple Storey Flat (3F)	-	18	42	-	-	12	48	-	-	12	48	-	60	120
Total No.	26	100	92	39	-	26	100	14	-	12	48	-	257	200
Percentage	5.7	22	20.1	8.5	-	5.7	22	3.1	-	2.6	10.5	-	56.3	43.7

G = Ground Floor U = Upper Floor

No. of Rooms	Dwellings	
	No.	%
1	26	5.7
2	138	30.3
3	240	52.5
4	53	11.5
Total	457	100

Mean No. of rooms per dwelling 2.70

Proposed Improvement Scheme for Block 'F'

Density: Block area ± 416 m x 195 m = 82400 m^2
+ 1400 m^2
83800 m^2
= 8,4 ha

Dwellings: Total No. 490

Dwelling Type	Ground Floor (G) No. of Rooms					First Floor (U) No. of Rooms				2nd. Floor (U) No. of Rooms				Total	
	1	2	3	4	5	1	2	3	4	1	2	3	4	G	U
Cottage (C)	-	-	-	36	-	-	-	-	-	-	-	-	-	36	-
Maisonette (M)	-	-	56	-	-	-	-	-	-	-	-	-	-	56	-
Single Storey (SE)	-	20	24	-	-	-	-	-	-	-	-	-	-	44	-
Double Storey Flat (2F)	-	26	66	-	14	-	14	52	14	-	-	-	-	106	80
Triple Storey Flat (3F)	-	18	42	-	-	-	12	48	-	-	12	48	-	60	120
Total No.	-	64	188	36	14	-	26	100	14	-	12	48	-	302	200
Percentage	-	12.7	37.5	7.2	2.8		5.2	20	2.8		2.4	9.6		60	40

No. of Rooms	Dwellings	
	No.	%
1	-	-
2	102	20.2
3	336	67.0
4	50	10.0
5	14	2.8
Total	502	100

mean No. of rooms per dwelling 2.95

Landuse: existing

Maintenance Depot	2286 m^2
Shop site I	460 m^2
Shop site II	520 m^2
Church site I	1350 m^2
Church site II	1330 m^2
Total Private Open Space	5946 m^2
Public Open Space	1867 m^2
- " -	9900 m^2
Total Public Open Space	11767 m^2

Block area (Gross area) - (Private open space + Public open space) = Net residential area.

83800 m^2 - (5946 m^2 + 11767 m^2) = 66087 m^2

Block net Density:

$$\frac{\text{Net residential area}}{\text{Total No. of dwellings}} = \frac{66087\ m^2}{457} = 144.5\ m^2 \text{ per dwelling}$$

$$\frac{\text{Total No. of dwellings}}{\text{Net residential area}} = 69 \text{ dwellings per 1 ha.}$$

$$\frac{\text{Persons}}{\text{Net residential area}} = \frac{\text{Total No. of dwellings x mean household siz}}{\text{Net residential area}}$$

$$= \frac{457 \times 6.1}{6,6087} = 42,2 \text{ persons per 1 ha.}$$

Block gross density:

$$\frac{2780}{8.38} = 332 \text{ persons per 1 ha.}$$

Block gross density incl. main access roads:

$$\frac{2780}{8.48} = 328 \text{ persons per 1 ha.}$$

or 54 dwellings per ha.

This is not true figure for the actual overall gross density, since it does not allow for schools, centre and auxill. institutional space.

Building coverage: 1,15 ha.

Parking area as provided 0.33 ha

Parking lots: $\frac{0.33}{0.0025}$ = 133

Parking ratio : $\frac{133}{457}$ = 0.29 lots per dwelling

or 29% of the dwellings have a parking lot.

Parking area as stated in C.C.C. report [3)]
100% less sub-economic dwellings = 1.1 ha.

Streets provided : Block internal

4.5 m wide concrete	0,162 ha
Sidewalks	
1.2 m wide hardened	0,035 ha
Pedestrianways	none
Total:	0,197 ha

Streets as planned:

Block internal	
4.5 m wide concrete	0,162 ha
Sidewalks	
1.2 m wide hardened	0,035 ha
Pedestrianways	
0.9 m wide concrete	0,079 ha
Total:	0,276 ha

Summary:

	Planned ha	Provided ha
Streets	0,256	0,197
Parking	1,1	0,33
Total:	1,356 ha	0,527 ha

Communal space attached to dwellings for washhanging etc. as planned:

Triple storey flats (3F)	3200 m^2
Accessible from GF only (fenced)	2850 m^2
Double storey flats (2F)	1540 m^2
Accessible from GF only (fenced)	6750 m^2
Single storey row houses (SE)	4950 m^2
	19290 m^2
	= 1.93 ha

Communal space attached to dwellings for washhanging etc. as provided:

Triple storey flats (3F)		3200 m^2
Double storey flats (2F)		5500 m^2
Single storey row houses (SE)		4950 m^2
	Total:	13650 m^2
	=	1.37 ha

Communal space attached to dwellings for washhanging etc. as surveyed:

Triple storey flats (3F)		3200 m^2
Double storey flats (2F) x)		4300 m^2
Single storey row houses xx)		3510 m^2
	Total:	11010 m^2
	=	1.1 ha

x) 9 out of 21 (43%) of the sample survey increased the private ground through fencing off a portion from the communal ground on the rearside of the house, thus decreasing the communal ground by approx. 1200 m^2.

xx) Most of the communal land in front of the row houses has been partitioned off by the tenants and thus become private ground.

Private space for gardens, parking, etc.

as planned

Single storey cottages (C)		6650 m^2
Maisonetts (M)		2450 m^2
	Total:	9100 m^2

as provided

Single storey cottages (C)		6650 m^2
Maisonetts (M)		2450 m^2
Triple storey flats (3F)		2850 m^2
Double storey flats (2F)		3600 m^2
	Total:	15550 m^2

as surveyed

Single storey cottages (C)		6650 m^2
Maisonetts (M)		2450 m^2
Triple storey flats (3F)		2850 m^2
Double storey flats (2F)		4050 m^2
Single storey row house (SE)		1440 m^2
	Total:	17440 m^2

Summary of landuse of net residential area as surveyed

Parking and Streets		5270 m^2
Building Coverage		11500 m^2
Communal Space		11010 m^2
Private Space		17440 m^2
	Total:	45220 m^2
Net residential area		66087 m^2
Balance		20867 m^2
Wasteland		or 2,1 ha

Wasteland represents 25% of gross block area.

Street access or hardened walkway access to dwellings:

Type of dwelling	hardened		sand	
	No.	%	No.	%
Cottage (C)	25	100	-	-
Maisonetts (M)	16	53	14	47
Single Storey (SE)	12	33	24	67
Flat double St. (2F)	41	22	145	78
Flat triple St. (3F)	90	50	90	50
Total:	184	40	273	60

Ground access:

Planned: 3)

70%x) of all the dwellings should have ground access

Surveyed and Existing:

56% of all the dwellings have ground access

x) The planned figure applies for the whole township.

Landuse proposed

C.C.C. Nursery and Park	7,300 m^2
Youth and Sports Centre	3,780 m^2
Church I	1,350 m^2
Church II	1,210 m^2
Shop Sites	1,115 m^2
Nursery/Creché I	1,210 m^2
Nursery/Creché II	1,605 m^2
Total Private Open Space	17,570 m^2

Public Open Space	295 m^2
	3,435 m^2
Total Public Open Space	3,730 m^2

Block area (gross area) - (Private Open Space + Public Open Spac
= Net Residential area
83,800 m^2 - 21,300 = 62,500 m^2

Block Net density:

$\frac{\text{Net Residential area}}{\text{Total No. of Dwellings}} = \frac{62,500\ m^2}{502} =$ 124,3 m^2 per dwellin

$\frac{\text{Total No. of Dwellings}}{\text{Net Residential area}}$ = 80,4 dwellings per hectare.

$\frac{\text{Persons}}{\text{Net Residential area}} = \frac{\text{Total No. of dwellings x mean household size}}{\text{Net Residential area}}$

$= \frac{502 \times 6.1}{62,500} =$ 490 persons per hectare

Block gross density:

$\frac{3,065}{8.38}$ = 366 persons per hectare

Block gross density incl. main access roads:

$\frac{3,065}{8.48}$ = 362 persons per hectare
or 59,3 dwellings per hectare

Building coverage: 1,15 ha + 1,750
= 1,325 ha

Parking Areas: 4,870 m^2
= 0,487 ha

Parking Lots: $\frac{0,487}{0.0025}$ = 195 - of which 115 are designated lock-up garages.

Parking Ratio: $\frac{195}{490}$ = 0.4 lots per dwelling or 40% of the dwellings

Proposed Streets: Block internal

4.5 m wide concrete 920m long	= 0,415 ha.
Sidewalks	
1.2 m wide hardened	= 0,035 ha.
Pedestrianways	
0.9 m concrete 338m long	= 0,031 ha.
Total:	0,481 ha.

Communal Space attached to dwellings for washhanging, etc.

Triple Storey flats	3,200 m^2
Double Storey flats (1st. floor units only have communal facilities)	3,000 m^2
Total:	6,200 m^2
	= 0.62 ha.

Private Space for gardens, parking, etc.

Single Storey cottages	9,575 m^2
Maisonettes	3,360 m^2
Single Storey row houses	4;520 m^2
Double Storey flats	8,360 m^2
Triple Storey flats	2,850 m^2
	28,665 m^2

Summary of Landuse of net residential area as proposed

Parking & Streets	9,680 m^2
Building Coverage	13,250 m^2
Communal Space	6,200 m^2
Private Space	28,665 m^2
Total:	57,795 m^2

Net residential area	62,500 m^2
∴ Balance (wasteland)	4,705 m^2
or	0,47 ha.

Wasteland represents 5,7% of gross block area.

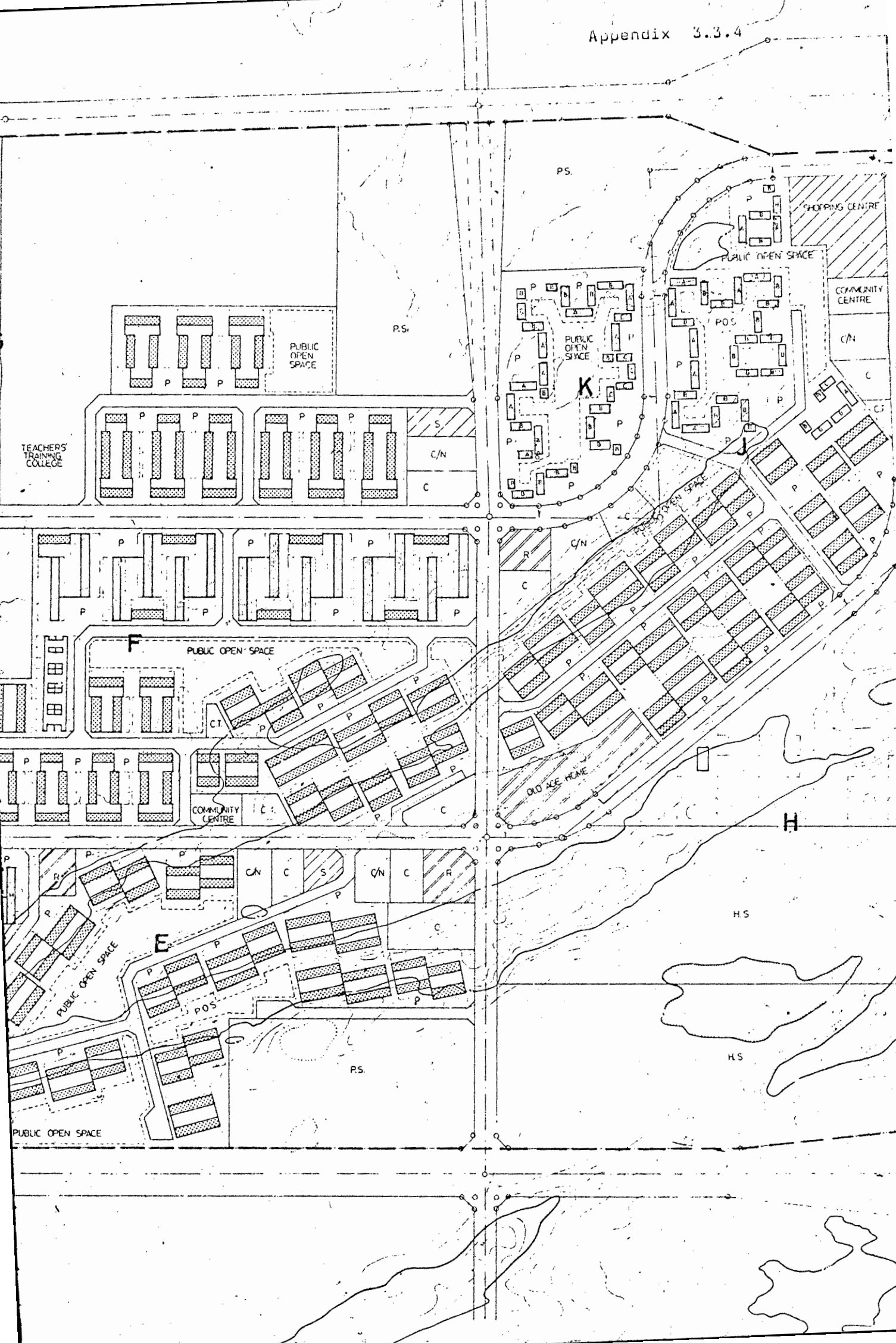
Street Access or hardened walkway access to 100% of dwellings.

Ground Access:

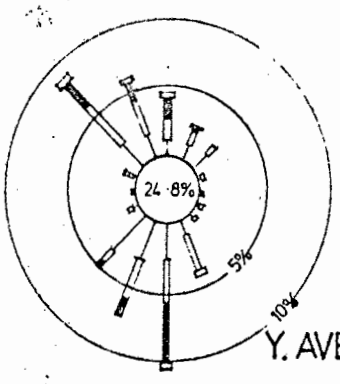
100% of proposed additional dwellings have ground access

Type of Dwelling	Groundlevel		Upstairs	
	No.	%	No.	%
Cottage (C)	36	100	-	
Maisonette (M)	56	100	-	
Single Storey (SE)	44	100	-	
Double Storey Flat (2F)	106	57	80	43
Triple Storey Flat (3F)	60	33	120	67
Total:	302	60%	200	40%

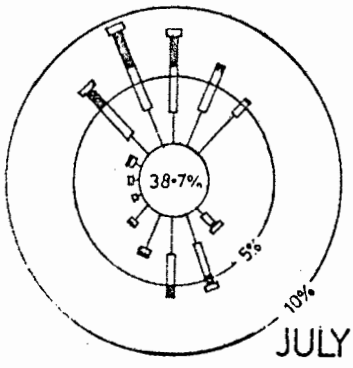
Appendix 3.3.4



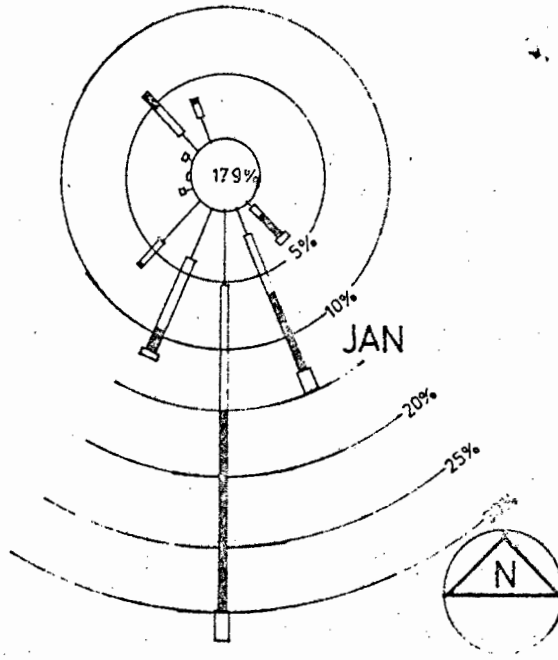
D.F. MALAN SURFACE WINDS



Y. AVE.



JULY



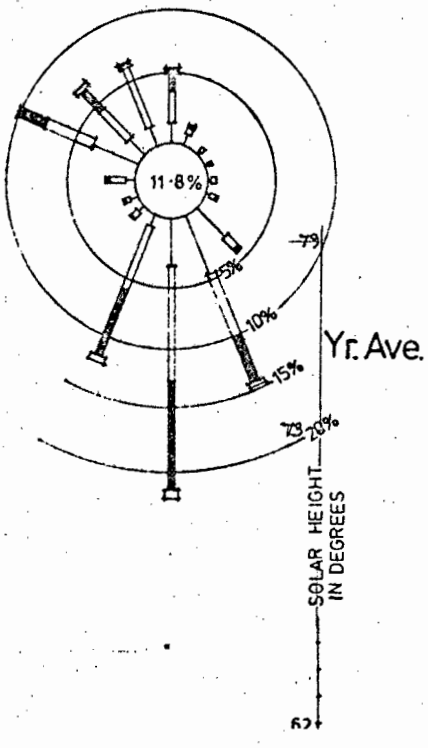
JAN

KEY

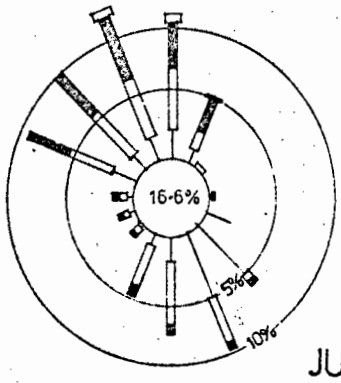
3 9 15 25 38 M.P.H.

ARCS REPRESENT 5% INTERVALS.
PERCENTAGE OF CALMS SHOWN
WITHIN THE CIRCLE.

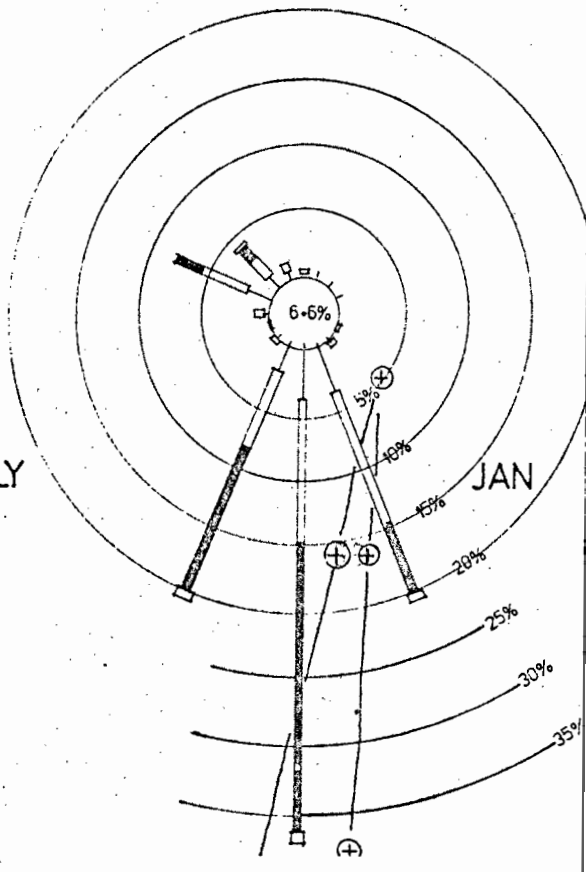
WINGFIELD SURFACE WINDS.



Yr. Ave.



JULY



JAN

month x direction & vel in knots	jan	feb	mar	april	may	june	july	aug	sept	oct	nov	dec	yr
highest mean hourly velocity/	sse 36	sse 35	sse 35	s 33	nw 33	n 35	n 40	nnw 38	n 35	nw 37	nnw 38	sse 36	n 40
highest gust / DF MALAN	sse 49	sse 51	se 55	nnw 50	w 62	n 59	nnw 68	nnw 68	nnw 58	wnw 57	nnw 67	sse 56	nnw 68

Appendix 3.4.4.1

Example of
Vegetation Survey
of CCC's
Mitchell's Plain Development

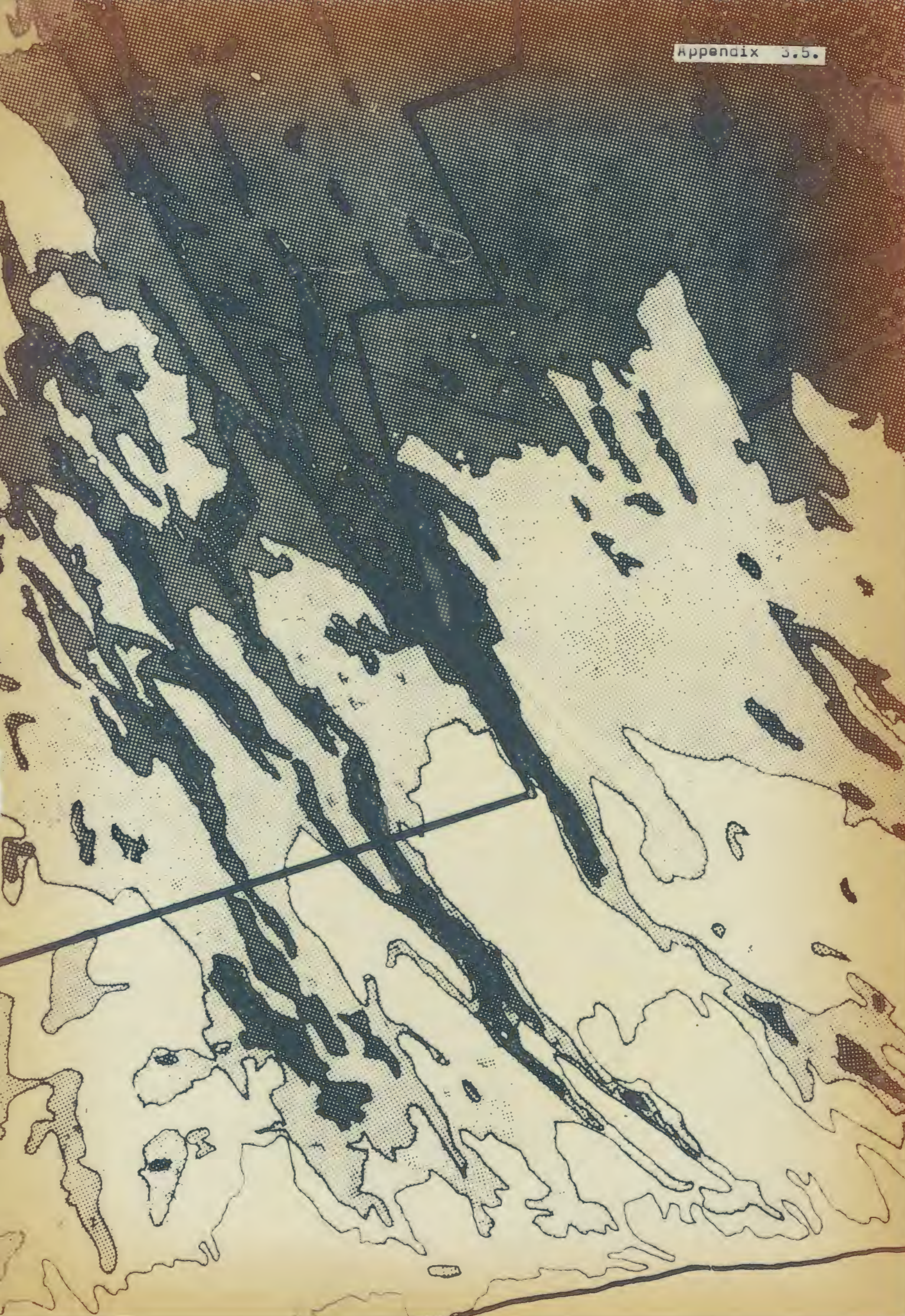
Note: Land Uses have been superimposed on Vegetation Survey (darkened areas). Public Open Space incorporates existing Treeplantation.

Appendix 3.4.4.1

Example of
Vegetation Survey
of CCC's
Mitchell's Plain Development

Note : Road Layout should take into account Vegetation (darkened areas) and Sand Dune Formation.

Appendix 3.5.



HANOVER PARK DEVELOPMENT : COSTS OF BUILDINGS CALCULATED AFTER ERECTION PRIOR TO 26th FEBRUARY, 1972.

Building Type	Cost Percentage of Total										
	Labour	Material	Workshop	Overheads	Transport including hire	Tools & Plant	H.B.U. Plant	Hired Plant	Cost per Letting	Cost per sq. metre x)	Cost per sq. foot x)
Maisonettes Sample: 110 lettings	40	42,9	-	9,6	1,6	1,1	2,7	2,1	1540 -	23,84	2,22
Single storey "E Type" Sample: 12 lettings	28,2	59,2	0,2	9,0	1,8	0,6	1,0	-	863 -	24 -	2,23
Double storey flats Sample: 704 lettings	33,4	53,0	0,4	7,6	1,5	1,0	1,8	1,3	1325 -	24,64	2,30
Triple storey Flats Sample : 660 lettings	37,2	44,5	0,7	8,3	1,8	1,1	2,1	4,3	1370 -	26,32	2,45

x) Gross Area

Information calculated and received by the Building Unit on the 14th April, 1972.

KPS 18-4-72

MR. REICH

6/961

CITY OF CAPE TOWN

Appendix 3.6

Page 1

CITY ENGINEER'S DEPARTMENT

MR.8/9.

MEMORANDUM

Telephone 69-8941

Ext. 10

To: The Building & Production Engineer.

Reference CB.5/C9

in re: Concrete cubes from Hanover Park.

1. Attached is a test certificate on thirty-three six-inch concrete cubes, (Lab. Ref. Nos.4814, 4817, 4836, 5015, 5018, 5029, 5032, 5077, 5080, 5278/83, 5438/41, 5573/76, 5739/40, 5896/97, 5900/01, 5907/08, 6107/08), submitted for tests of compressive strength, in connection with the above housing scheme.

2. Seven cubes failed to attain the minimum strength specified.

3. This confirms information given to Mr. Scheid.

CHIEF CHEMIST.

Copy to: Housing Building Unit, Groenvlei.

Appendix 3.6

Mr Scheid which of these cubes is our own concrete?

CITY OF CAPE TOWN.

MR.9/7.
MEMORANDUM

Please Quote
Ref. No. CB.5/C9.

CITY OF CAPE TOWN
BUILDING & PRODUCT BRANCH
14 JUL 1971
CITY ENGINEER'S DEPT.

5/951

To The Building & Production Engineer.

14 JUL 1971

....19 ....

RE. Burkinshaw
These list indicate a lack of consistency.

In re: Concrete cubes from Hanover Park.

1. Attached is a test certificate on twenty-eight six-inch concrete cubes, (Lab. Ref. Nos.3567, 3570, 3830, 3833, 3951/56, 4155/60, 4307/08, 4310/11, 4473/74, 4476/77, 4479/80, 4582/83), submitted for tests of compressive strength in connection with the above housing scheme.

2. The 4 cubes cast on the 22nd June, 1971 failed to attain the minimum strength specified.

3. This confirms information given to Mr. Scheid.

CHIEF CHEMIST.

Copy to: Building Housing Unit, Groenvlei.

FILE No D 36/1/3
BUILDING & PRODUCT. BRANCH.
... INSTRUCTION 13/1955
... MUST BE REPLIED TO WITHOUT DELAY AND ACKNOWLEDGED FORTHWITH IF FULL REPLY CANNOT BE GIVEN WITHIN 6 WORKING DAYS.

DATE ACKNOWLEDGED	DATE REPLIED	INITIALS

REMARKS.

INSTRUCTED TO	DATE	INITIALS

From

City Engineer's Department.
CITY HALL.

Appendix 3.6

CITY OF CAPE TOWN.

City Engineer's Department,
City Hall,
CAPE TOWN.

LL. 25th November, 1968.

REPORT NO. D.70/68.

Ref. No. Dc.8/44/1.

The Health and Housing Committee.
The Works and Planning Committee.

Further Housing Schemes for Coloureds: Development of Land in the Philippi Area.

1. Introduction.

Acquisition of land by the Council for Coloured Housing in the area lying between Penlyn, Pinati and Portia Townships on the west side, and Hein Road on the east side is proceeding.

Sand deposits lying on approximately half of this land have for some time been the subject of investigation by the Department of Mines as a possible valuable natural resource and development has been restricted.

This restriction has now been lifted in terms of Government Notice No. 1769 of the 4th October, 1968, and the area was proclaimed an area for ownership and occupation by members of the Coloured Group in terms of Proclamation No. 304 dated 18th October, 1968.

The increased rate of output of low cost housing makes it essential that large housing schemes be planned and timeously approved by the authorities concerned, to ensure continuity.

The scheme as shown on plans numbered D1/1 and D1/2 RW now submitted to your Committee comprises 6,425 dwellings, made up as follows:-

(a)	Economic Section:	
	(i) Home Ownership Dwellings	547
	(ii) Lettings	3,465
(b)	Sub-Economic Section:	
	(i) Lettings	2,175
	Total number of dwellings covered by this report	6,187
	Flats to be erected in the town centre at a later stage	420
	Total ultimate number of dwelling units	6,607

2. Description of the Scheme.

The gross area is some 788 acres of which 748 acres are available for development after deducting the land required for expressways and the railway reserve. The land is mainly flat and interspersed with low lying depressions and vleis, some of

SUMMARY OF COSTS.

15. The costs of the scheme are summarised as follows:-

Item	NH Funds	Council Funds	Total
Sub-Economic Section (Annexure 1)	3,159,123	1,185,793	10,805,063
Economic Section (Annexure 2)	6,460,147		
Home Ownership Section (Annexure 3)	2,964,249		2,964,249
Community Centres		150,000	150,000
TOTAL COST OF SCHEME			R13,919,312

16. Recommendations:

To ensure continuity of the Council's Programme, it is recommended that:-

(a) The Township layout shown on Plan Nos. D1/1 and D1/2 RW be approved and submitted to the Townships Board.

(b) Provision be made on a special Loan Programme for the following works:-

(i)	Reconstruction of Johnstone Road	R 62,568
(ii)	Contribution towards the cost of constructing the primary road system	R 108,225
(iii)	Construction of Stormwater link services	R 500,000
(iv)	Construction of sewerage link services	R 200,000
(v)	Street lighting in major roads	R 65,000
(vi)	Canalization of Blomvlei River	R 250,000
(vii)	Community Centres	R 150,000

(c) Application be made to the Department of Community Development for advances for construction of the scheme as follows:-

(i)	Sub-Economic Housing Funds (2,175 dwellings)	R3,159,123
(ii)	Economic Housing Funds (4,012 dwellings)	R9,424,396

(d) Control of open space in the scheme be transferred to the Amenities Committee for development on approval of the layout by the Townships Board.

(e) That the scheme be known as "Johnstone Park". (An alternative name is "Parker Vale").

(SGD.) S. S. MORRIS

CITY ENGINEER.

26/11

26/11 26/11 26/11

Estimated Cost of the Scheme.

Sub-Economic Section.

(a)	2 storey, NE.51/9 type flats, 5 dwellings per block, 281 blocks, Plan No. D1/25/1 @ R5,000 which could be broken down as follows:-		R1,405,000
9% (25)	1 room units, 281 @ R645		
9% (25)	2 room units, 281 @ R898		
9% (25)	2 room units, 281 @ R957		
9% (25)	3 room units, 562 @ R1,250		
	Fencing 281 blocks @ R60		16,860
(b)	Single storey NE.51/9 type row dwellings. Plan No. D1/48DH.		
	Building works:		
	1 room units, 150 @ R645	= R 96,750	
	2 room units, 150 @ R898	= R134,700	
	2 room units, 150 @ R957	= R143,550	375,000
	Fencing, 450 units @ R40		18,000
(c)	Single storey NE.59/14 type row dwellings (Indigent). Plan No. D1/27L.		
	Building works:		
(16)	2 room units, 220 @ R863	= R189,860	
(20)	3 room units, 100 @ R1,087	= R108,700	298,560
	Fencing, 320 dwelling units @ R10		3,200
	TOTAL ESTIMATED COST OF BUILDINGS		2,116,620
(d)	Hardstanding footpath construction concrete in front of NE.51/9 (S.S.)		71,496
(e)	Site clearing, levelling, filling low lying areas		18,200
(f)	Internal services (paragraph 14 above)		864,355
	TOTAL ESTIMATED COST OF SERVICES, CLEARING AND LEVELLING		954,051

Overhead expenses.

5% on cost of services and site preparation	= 447,703		
1½% on cost of building works	= R31,749		
Survey costs, allow	R 4,500		
Town Planning, allow	R 3,000		
Architectural, allow	R 1,500	88,452	
TOTAL COST OF SUB-ECONOMIC SECTION			R3,159,123

Letting Type Dwellings. (3,332 dwellings)

(a)	Single Storey, semi-detached "G" type dwellings, 2 dwellings per block. Plan No. D1/50DL.	
	Building Works:	
(28)	221 Blocks @ R1630	360,230
	Fencing 221 blocks @ R40	8,840
(b)	3 storey flats, 30 dwellings per block. Plan No. D1/32L.	
	Building Works:	
(6)	56 Blocks @ R50,250	2,814,000
	Fencing, 56 blocks @ R250	14,000
(c)	2 storey NE.51/9 type dwellings 4 dwellings per block. Plan No. D1/24L.	
	Building Works:	
(11)	80 blocks @ R5,230	418,400
	Fencing, 80 blocks @ R60	4,800
(d)	Double storey row houses, (Maisonettes). Plan No. D1/26L.	
	Building Works:	
(50)	258 dwellings @ R1,500	412,800
	Fencing, 258 dwellings @ R40	10,320
(e)	Single storey NE.51/9 type row dwellings. Plan No. D1/49H.	
	Building Works:	
	2 room units, 170 @ R1,005 = R170,850	
	3 room units, 280 @ R1,173 = R328,440	
	4 room units, 182 @ R1,341 = R244,062	743,352
	Fencing, 632 units @ R40	25,280
	TOTAL COST OF BUILDING WORKS	R4,872,431
(f)	Rent collection offices (Plan A.1222/1).	
	2 @ R15,000 = R30,000	
	1 @ R 6,000 = R 6,000	36,000
(g)	Caretakers houses (Plan DH.4911)	
	7 @ R3,487	24,409
(h)	Hard standing, footpath construction, concrete area in front of single storey NE.51/9 types	107,243
(i)	Site clearing, levelling, filling low lying areas	27,300
(j)	Internal services, see paragraph 14 above	1,296,533
		R1,431,076
	Carried forward	R6,303,507

ANNEXURE 2 (Contd.)

Overhead Expenses.	Brought forward	R6,303,507
5% on cost of internal services and site preparation	71,554	
1½% on cost of building works	73,086	
Survey costs allow	6,000	
Town Planning, allow	4,500	
Architectural, allow	1,500	156,640
TOTAL FOR ECONOMIC SECTION		R6,460,147

HOME OWNERSHIP TYPES AND LETTING OR SELLING TYPES

Type	Estimated Building Cost	Area of Scheme suitable for either letting or selling.		Home Ownership Sections		Plan No.
		No.	Cost R	No.	Cost R	
A1	R5,000			8	40,000	DH.5053
A2	R4,956			9	44,604	DH.4896/1
A3	R4,918			32	157,376	DH.4897/1
A4	R4,964			13	64,532	DH.4898/1
A5	R4,952			9	44,568	DH.4899/1
A6	R4,762			36	171,432	DH.4900/1
A7	R4,392			9	39,528	DH.4901/1
A8	R4,405			9	39,645	DH.4902/1
A10	R4,367			33	144,111	DH.4904/1
B1	R4,561			10	45,610	DH.4905
B2	R4,299	1	4,299	19	81,681	DH.4906
B3	R4,027	3	12,081	16	64,432	DH.4907
B4	R4,444	3	13,332	17	75,548	DH.4908
B5	R3,979	1	3,979	17	67,643	DH.4909
C1	R3,968	11	43,648	17	67,456	DH.4910
C2	R3,390	12	40,680	19	64,410	DH.4911
C3	R3,454	10	34,540	19	65,626	DH.4912
C4	R3,189	5	15,945	19	60,591	DH.4913
C5	R2,969	2	5,938	-	-	DH.4914
C6	R3,414	4	13,656	-	-	DH.4915
C7	R3,874	9	34,866	17	65,858	DH.4916
C8	R3,221	4	12,884	-	-	DH.4917
D4	R4,865			23	111,895	A.1160/4A
D5	R4,728			28	132,384	A.1160/5A
D8	R4,567			25	114,175	A.1160/8A
E1	R4,588			26	119,288	A.1160/9A
E2	E4,347			24	104,328	A.1160/10A
E3	R4,820			27	130,140	A.1160/11A
E4	R4,500			22	99,000	A.1160/12A
E5	R4,699			22	103,378	A.1160/13A
E7	R4,739			22	104,258	A.1160/15A
A (Tile)	R4,292	4	17,168			DH.5004
A (Asb.)	R4,153	8	33,224			DH.5004
B (Tile)	R4,238	6	25,428			DH.5006
B (Asb.)	R4,101	11	45,111			DH.5006
C (Tile)	R4,071	4	16,284			DH.5007
C (Asb.)	R3,940	6	23,640			DH.5007
E (Tile)	R4,279	4	17,116			DH.5008
E (Asb.)	R4,142	8	33,136			DH.5008
F (Tile)	R4,321	6	25,926			DH.5005
F (Asb.)	R4,181	11	45,991			DH.5005
		133	R518,872	547	R2,423,497	

TOTAL COST ALL TYPES R2,942,369

Breakdown of the above costs as follows:-

Sewer connections	32,820	
Water connections	16,410	
Electrical connections	25,162	
Overhead	32,820	
Interest during construction	27,350	
Site levelling	10,940	
Survey fees	14,222	159,724
Building Works		2,782,645
Fencing		21,850

Insolation Study
Grouped Buildings
with shadow diagrams
for different orientations
at the 1st of July

INFORMATION LOCATION MAP.

SHADOWS CAST ON 1st JULY ON LAT 34°S.

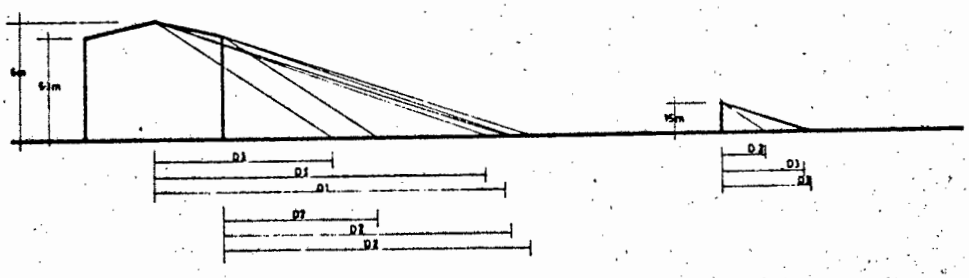
TIME	S.A.	S.H.	DIST. 1	DIST. 2	DIST. 3	SHADOW OUTLINE
0900	44°	18°	16·6	16·7	4·6	
1200	01°	33°	9·4	0·2	2·3	
1500	317°	19°	17·6	18·8	4·2	

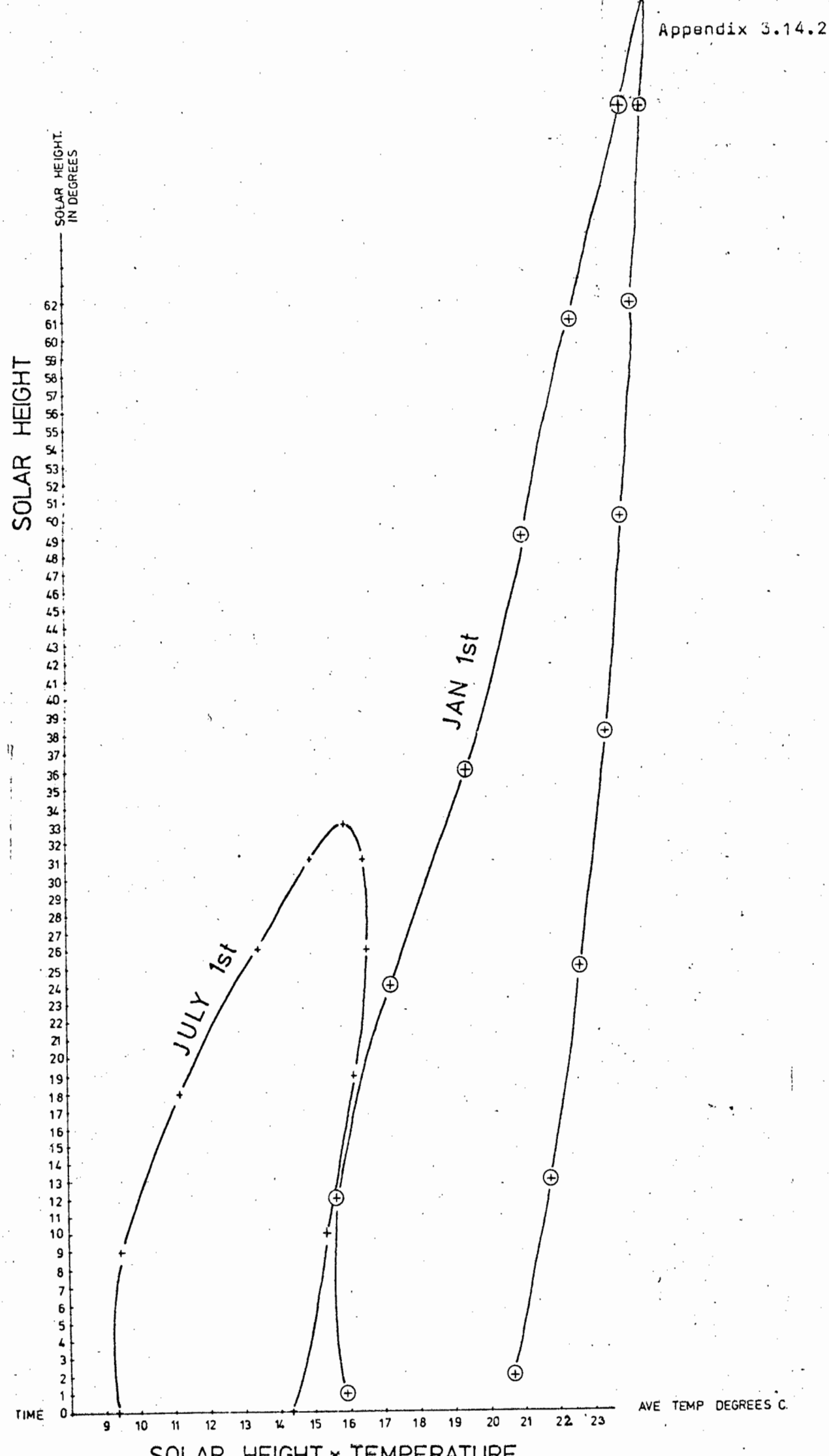
SOURCES THE AERONAUTICAL CLIMATOLOGICAL STUDIES 1968.
SOLAR TABLES AND ALIGNMENT CHARTS N.B.R.I. BULLETIN 51.

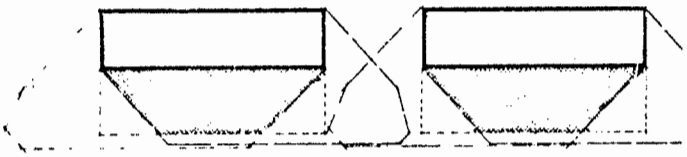
PLACE D.F.MALAN AIRPORT 1957-1964.
WIND READINGS TAKEN 33 FEET ABOVE GROUND LEVEL.

sector from where the wind blows most often and the %age frequency of that wind for :-

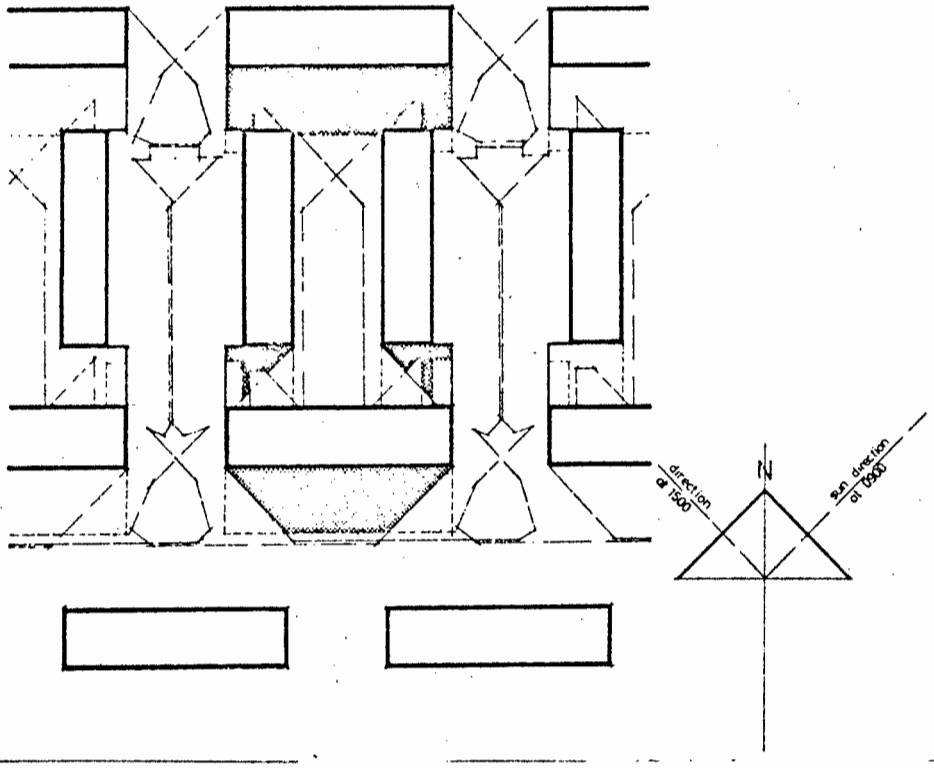
	JANUARY	JULY	THE YEAR
D.F.MALAN	SSE+S+SSW 62·2	NW+NNW+N 35·9	SSE+S+SSW 35
WINGFIELD	SSE+S+SSW 74·5	NW+NNW+N 34·1	SSE+S+SSW 47

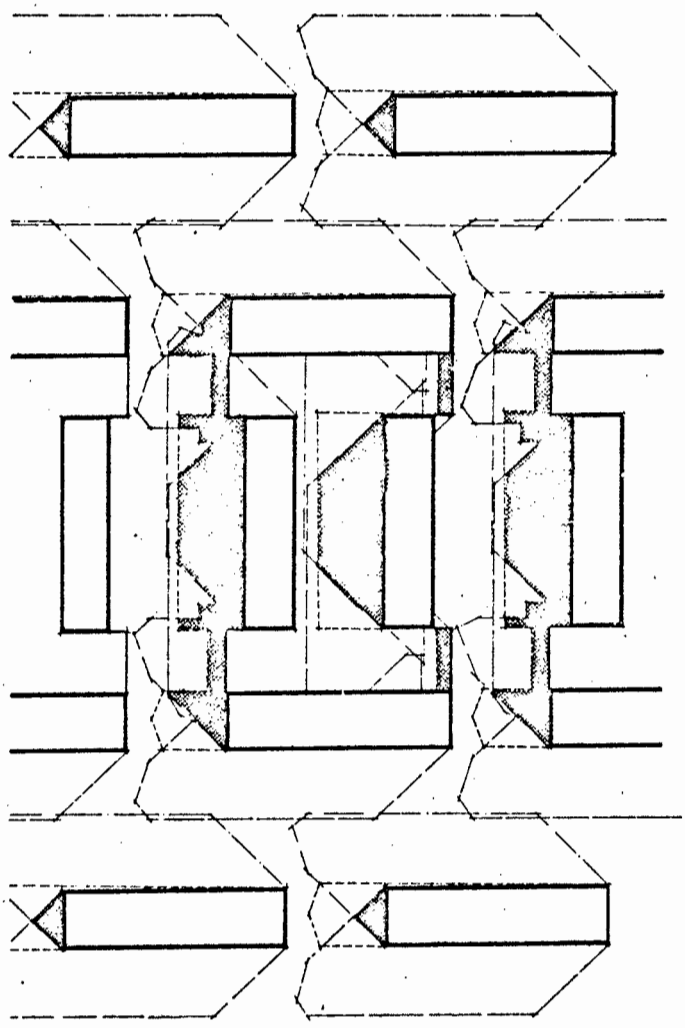



SOLAR HEIGHT
SOLAR HEIGHT IN DEGREES
JULY 1st
JAN 1st
TIME
AVE TEMP DEGREES C.
SOLAR HEIGHT x TEMPERATURE

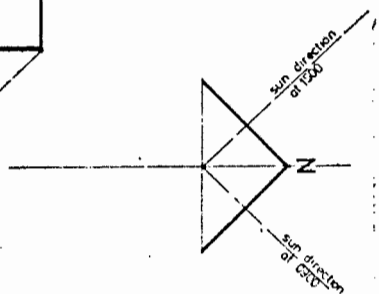


OR. DUE NORTH JULY 1st.

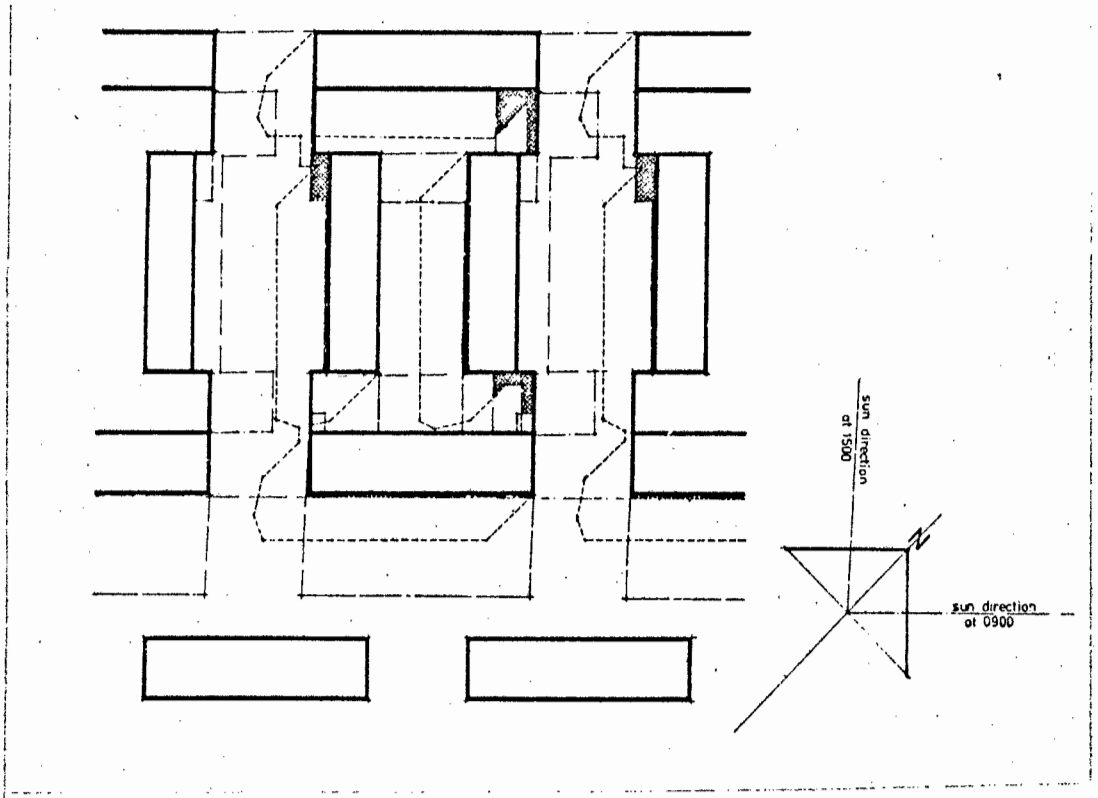




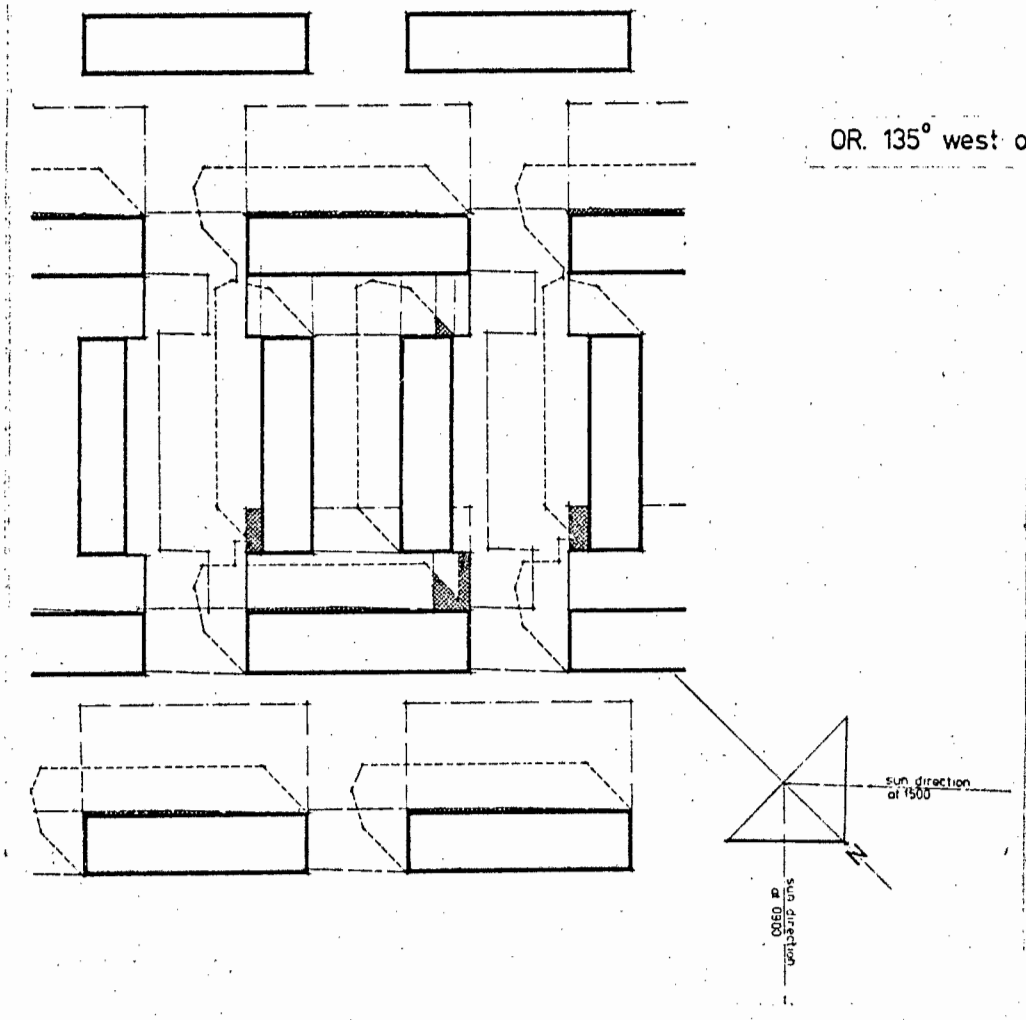
OR. 90° west of north JULY 1st.

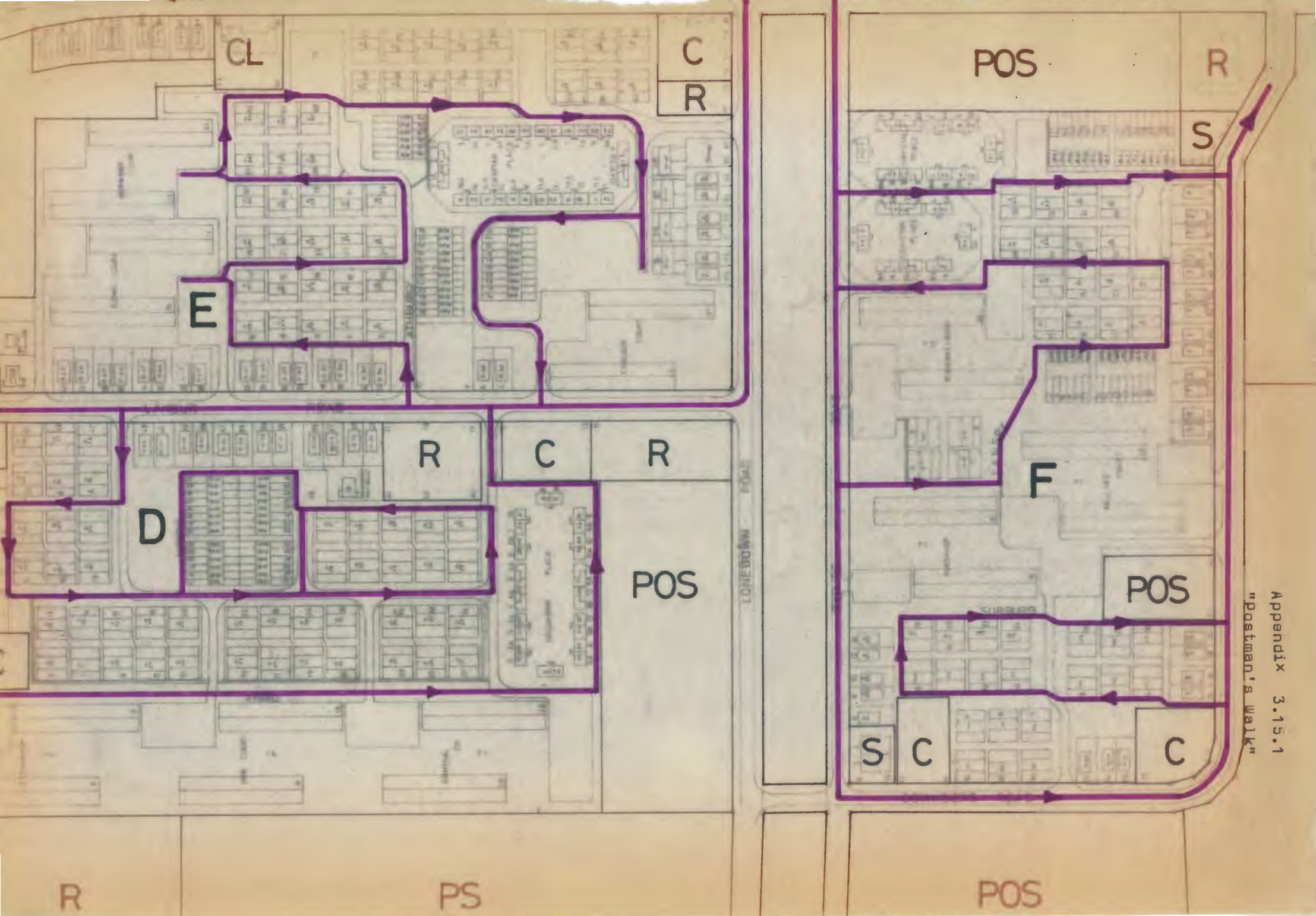


OR. 45° west of north JULY 1st.

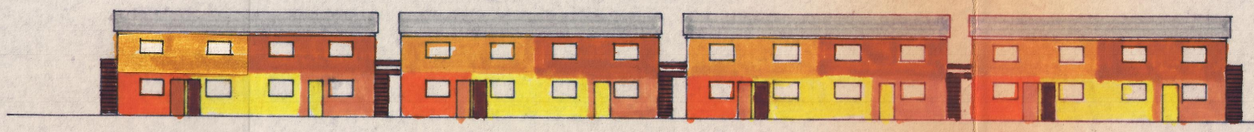


OR. 135° west of north JULY 1st

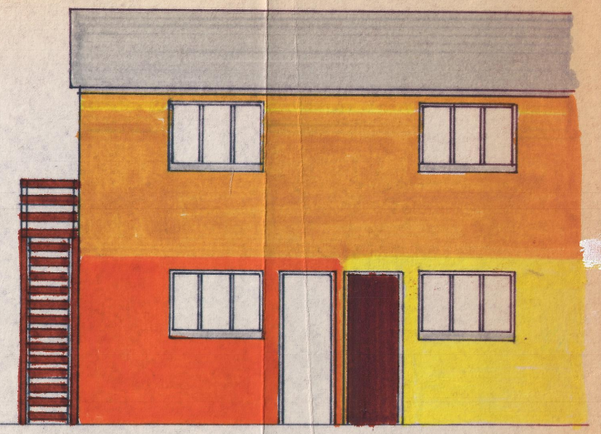




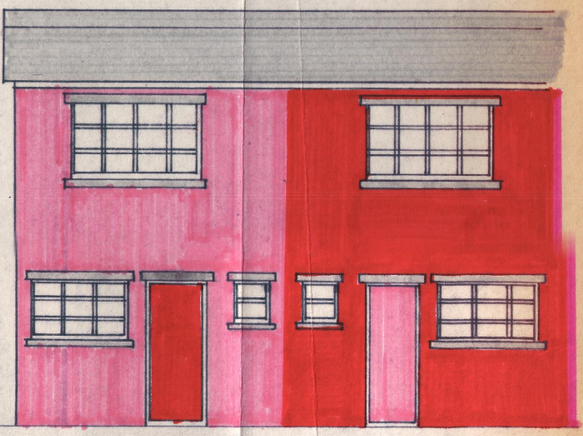
Appendix 3.15.1
"Postman's Walk"

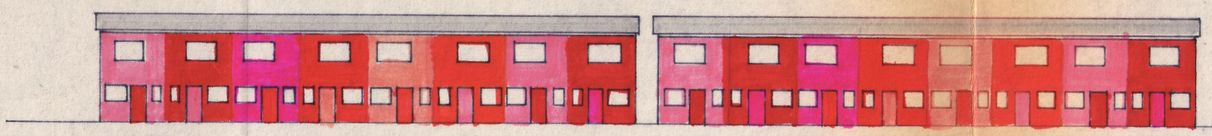


ELEVATION 1 2 - STOREY FLATS (2F)



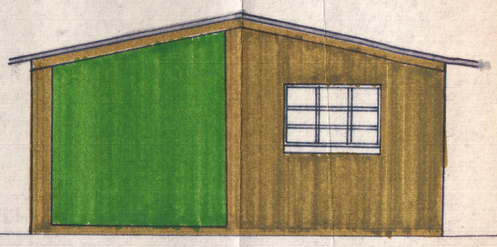
ELEVATION · DETAIL (2F)

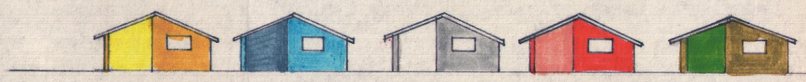




ELEVATION 2 MAISONETTES (M)

ELEVATION · DETAIL (M)

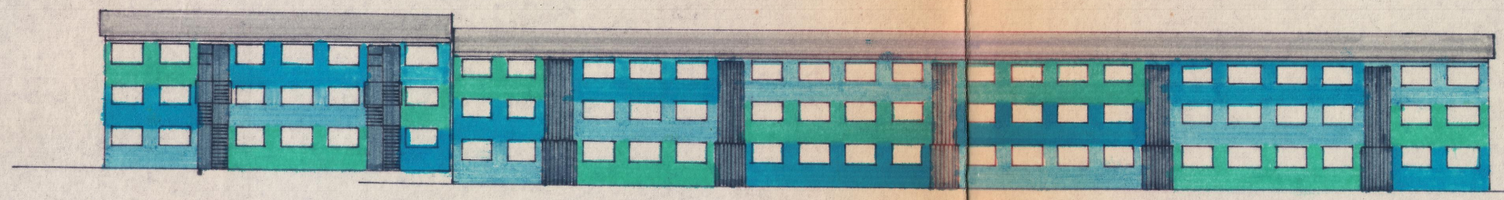




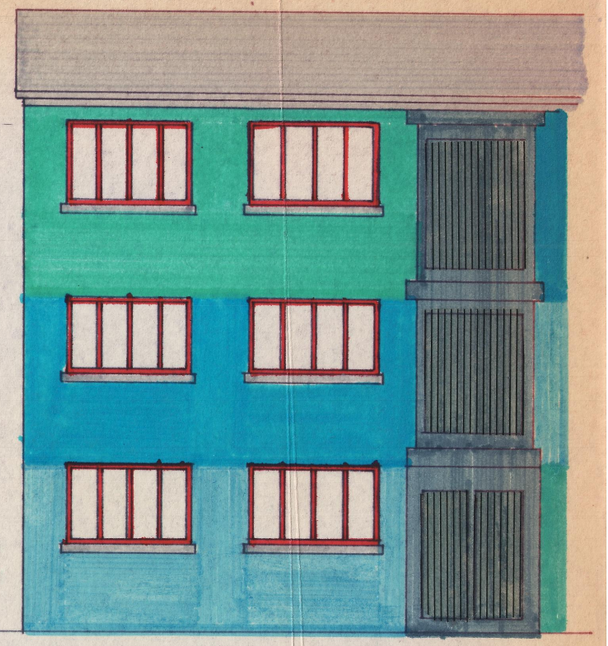
ELEVATION 3 COTTAGES (C)

ELEVATION · DETAIL (C)

ENVIRONMENTAL STUDY
HANOVER PARK
COLOUR SCHEME
ELEVATIONS 1:500, 1:100

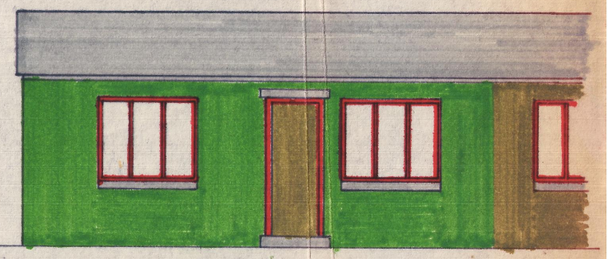


ELEVATION 4 3 – STOREY FLATS (3F)



ELEVATION · DETAIL (3F)

ELEVATION 5 1– STOREY FLATS (SE)



ELEVATION DETAIL (SE)

ENVIRONMENTAL STUDY
HANOVER PARK
COLOUR SCHEME
ELEVATIONS 1:500, 1:100