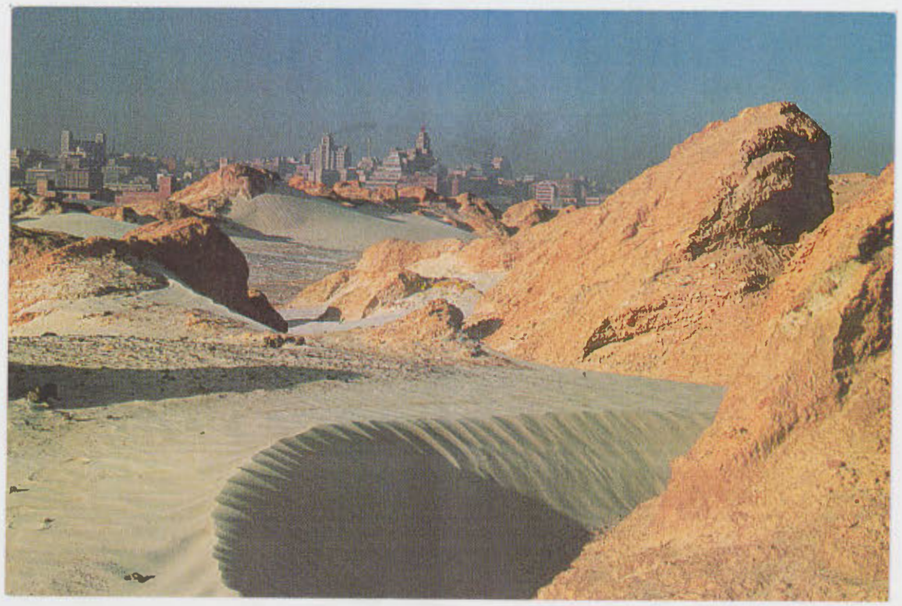
# Rand Mines Properties :
# Case Study in Design and Development

Heather Margaret Dodd



A thesis submitted to the Faculty of Fine Art and Architecture,
University of Cape Town, in fulfilment of the requirements for the degree of
Master of Architecture.

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Opinions expressed and conclusions arrived at, are those of the author and
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I declare that this thesis is my own unaided work. It is submitted for the degree of Master in Architecture in the University of Cape Town. It has not been submitted before for any other degree or examination in any other university.

Signed

Heather Dodd

_____day of _____1997

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  Prof. Ivor Prinsloo of the University of Cape Town.
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## ABSTRACT

This thesis examines the different development strategies undertaken by Rand Mines Properties (RMP), in relation to their property holdings on the southern edge of Johannesburg, South Africa, during the period 1968 - 1997. Specific reference is made to the period 1968 - 1971, where two projects ( RMP's proposal for the 'New South' and Urban Design Consultants' proposal for Ormonde ), are examined in detail.

The projects undertaken by RMP during this period are examined in relation to differing planning strategies, contexts, and their relationships to particular sets of ideas, architectural and planning theories and images within the paradigm of the late sixties. The conflict between a fixed masterplan and a process orientated approach to planning is traced through the themes of planning as a strategy and planning as design, as illustrated through the New South and Ormonde projects. Architectural and planning theories are seen to inform each other in determining appropriate strategies of action.

A change in management structure with the take over by Barlows in 1971 affected the above projects, shifting the emphasis from property development to land speculation.

Current projects, specifically Crown City, are examined in relation to a changed context and the planning strategies employed are evaluated in terms of the processes used in the New South and Ormonde.

In conclusion, the analysis of ideas, theories images and how they influence a set of actions within a particular paradigm reveals a set of principles in relation to large scale integrated developments of this nature.

Selected Key Words :

Mining Land in Johannesburg, Rand Mines Properties, Urban Design Consultants, Ormonde, Masterplanning, Planning as process, KOPS, Team X, Typology, University of the Witwatersrand

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# INTRODUCTION

The purpose of this thesis is to examine the different development strategies undertaken by Rand Mines Properties (RMP) during the period 1968 - 1997. The study concentrates on the period 1968 - 72, from the time RMP was formed and during which time RMP was taken over by the Barlow Rand Group.

During this period RMP attempted to define a development framework for their land holdings. This was an attempt at a major integrated project, a comprehensively designed element within the context of a defined piece of land under the control of one land owner. This was to be subject to coherent sustained development through a comprehensive planning process.

RMP is examined as a case study for the following reasons :

- The documentation of this particular period in the history of RMP forms a historical case study, of importance in its own right. The RMP experience had a formative influence on a generation of architects and planners, and as such has entered the psyche of a generation of practitioners and teachers of architecture.

- This history is relative to a particular context, set of ideas, theories and images, defined by a specific set of paradigms. An understanding of the relationship between ideas, theories, images and their application in practice is essential in determining their value in a project.

- RMP is an example of a particular set of processes and issues rooted in the mindset of the sixties. However a critique of these processes informs general principles relating to large scale integrated developments of this nature. These principles are informative in relation to the definition of appropriate strategies of action. These are of importance in relation to future developments of a similar nature that are proposed by RMP for their current land holdings. Current interest in RMP is high and its land holdings are critical in the future development of Johannesburg.

In doing so the following themes are pursued through the document :

1. The ability of **comprehensive planning** to integrate meaning and action depends on how the boundaries of space, time and authority are drawn.

   The boundaries of space within the context of the RMP project relate to the definition of land holding, its scale and its particular relationship to the city. Time defines a particular period which implies a certain set of ruling paradigms. Authority defines institutional, management, legislative and 'market' structures.

2. The definition of effective **strategies of action** within the context of development in response to an analysis of urban problems.

   Here questions relate to the constant interplay between intention and experience continuously assimilated and integrated into a framework of principles. In RMP architectural and planning theories are interlinked in informing appropriate strategies of action.

Both relate to the relationship between meaning and action. Marris (1987) defines meaning and action as a result of matching understanding to social action. *" Conclusions you can draw from matching actions against intentions or assumptions against the experience of events, are only interesting or useful in some context of meaning which is itself constantly evolving out of experience.....we depend on the interpretive (sic) structures of meaning in which our purposes, attachments, assumptions about reality and our actions are inseparably bound up." Marris (1987.6,8)*

The changing impetus of RMP's development strategies, as well as the changing context of development are examined through the description of the work undertaken by the RMP Planning and Architectural Office, as well as by Urban Design Consultants.

The history of RMP between 1968 and 1972 presents three different models of planning which explore these themes :

Firstly, **planning as a strategy**, the co-ordination of actions about an agreed set of purposes. The strategy sets out an adaptable but consistent line of action.

This model is illustrated through the work done by the Planning and Architectural Office of RMP in defining the Land Use and Transportation Proposals for the 'New South' and the 'Dream Map'. This period is defined from the time of the formation of RMP in 1968 until Barlows took over RMP in 1970.

The basis of this model was a Rational Comprehensive model of planning, where problems were defined as comprehensively as possible, together with a Systems Approach to planning which placed an emphasis on evaluation and feedback into a continuous process. Thus this process was seen to produce a strategy for development rather than a fixed end product. This strategy developed a fundamentally different structure of meaning where the future was seen to be unknowable and dependent on experience, random events and variables being controlled by others. Thus a strategy which encompassed process would evolve from the interplay between intention and experience, where the framework of principles would continuously assimilate and integrate them. By adopting a new procedural approach RMP was moving away from the 'blueprint' or masterplan approach prevalent in South African planning at the time.

The technique of collage was used within this process as illustrated through the 'Dream Map'. This was a conceptual map produced in order to interpret the Land Use and Transportation Proposals in a very specific way. It was termed the 'Dream Map', as it conceptualised 'the dream' of what was envisaged. It was used as a way of contextualising the overall strategy and concept, and of understanding the nature of the context in relation to the

proposed action and intervention. It was a 'mental map', used as a device in terms of restructuring the perception of the city through intervention. It also 'concretised' building form as an urban element within this structure.
One of the principles behind this strategy was the idea of realising movement and mass transportation as principle devices in terms of restructuring the perception of the city and its relationship with certain key interventions or 'urban fixes'.

This was done through the technique of collaging known elements as representations of the kind of interventions envisaged over an aerial map of Johannesburg. Precedent was used in this context to express a set of ideas or visual references that could not be confused with real objects.

Both the idea of collage as a technique and the notion of transportation as an urban catalyst and of urban fixes, related to a specific set of influences, both in terms of the conceptual approach and specifically to the urban theories of the time. These are related to a specific set of references, with the result that the approach taken by the RMP team was different from the conventional approach to development that would have been undertaken by a property company at the time.

The result of this strategy was an incomplete process. The planners outstripped both the marketing and financial structures of RMP in terms of innovation. The ability of comprehensive planning to integrate meaning and action is dependent on an inclusive process. The success of RMP's strategies was dependent on interaction between various stakeholders. Ultimately, the process and approach taken by RMP was not compatible with the planning approach of local and other authorities, and was also not sufficiently inclusive of the private sector.

Secondly, **planning as design**, the physical representation of a future, much like a painting on a canvas. The future is shown as a completed plan to which all present actions should conform.

This is illustrated through the Ormonde Project. Ormonde was seen to be the flagship development of RMP, and a separate team of consultants, Urban Design Consultants (UDC), were appointed to prepare a broad outline design for the Ormonde area. These proposals were prepared at the same time as the RMP Planning and Architectural Office were preparing their proposals. Thus it is possible to contrast two modes of planning taking place at the same time within the physical framework of RMP's land holding.

Marris (1987) argues that the spatial definition of an area imposes a hierarchy of decisions on a project. With reference to the London Docklands, he states, *" If you draw a boundary around five and a half thousand acres and call for a plan for its future, how else are planners to proceed except by a sequential logic of design - first by establishing the general principles of the whole and then step by step, setting out their implications in increasingly predetermined forms." (1987.69)*

The concept for the design of Ormonde was to afford variety and choice within the framework of a system of 'habitat'. The key to this approach was the use of typology or prototypes to define a 'kit of parts'. Precedent was used to define a set of generic building types that would be used to establish principles and to understand the nature of the pieces that would make up the urban fabric.

As a piece of work Ormonde was heavily influenced by the Architectural theories of the time. The work of Team X, and particularly Alison and Peter Smithson was influential on the thinking in Ormonde. The ideas of structuring urban areas and buildings through movement are evident in the Ormonde plan, as part of the utopian vision of the time.

Whilst the concept of a variety of solutions within a set framework hints at an open ended process orientated approach, the result was a utopian masterplan, a composition of pieces, which failed to reach a synthesis in terms of the stated concept of a total environment.

The implication of planning as design was that the resultant masterplan failed to understand the complexity of the urban environment, with specific implications for its proposed implementation. Ormonde's implementation was inherently flawed in that it had large up front infrastructural costs, no clear means of implementation and was not market related.

Lastly, **planning as market led speculation**, the exploitation of resources and powers to achieve the organisation's own designated purpose within the context of the market.

In June 1970, RMP was taken over by the Barlow Rand Group. This marked the beginning of the second phase of development, with distinct policy shifts which changed the nature of RMP's development strategy. This period illustrates the model of planning as market led speculation. RMP chose not to develop their land holdings themselves and to pursue a policy of property broking rather than property developing. Thus there was no clear development strategy, rather a land orientated marketing strategy dictated by speculation and the exploitation of marketing opportunities. The initiatives taken in the previous phase were negated and the 'visionary' plans abandoned. The effect of this policy shift on the projects described in the previous phase is discussed.

The above research was carried out using the following material and methods :

- Reports produced by the RMP Planning and Architectural Office.
- Reports produced by Urban Design Consultants.
- Papers and theses broadly relating to RMP or the mining land on the Witwatersrand produced by former employees of RMP.
- The Annual Reports of RMP from 1968 - 1971.
- Newspaper articles and papers relating to RMP's current initiatives.

Attempts were made to access any other documentation stored by RMP, however it was stated by RMP that all documentation relating to this period of RMP's history had been destroyed.

People involved in the RMP Planning and Architectural Office and Urban Design Consultants were interviewed. The intentions of the designers, theoretical principles and influences on the projects were discussed.

- The following members of the RMP Planning and Architectural Office were interviewed :
  Prof. Ivor Prinsloo, Martin Drake, Dr. Roger Boden, Bill Spooner, Prof. Julian Cooke, Ronnie Levitan, Peter Rich, Prof. John Muller.

- The following members of Urban Design Consultants were interviewed :
  Prof. Roloef Uytenbogaardt, John Moyle, Prof. Antonio de Souza Santos.

- Tony Hall, who took over as General Manager of RMP, in 1971, under Barlows, was not prepared to be interviewed.
  Attempts were made to interview the current Managing Director of RMP, Colin Steyn. These were unsuccessful.

- Barry Senior, of GAPP Architects and Urban Designers was interviewed in relation to the Crown City Proposal.

The thesis is structured as follows :

Chapter One describes the mining legacy in relation to the development of Johannesburg.

Chapter Two describes the formation of Rand Mines Properties.

Chapter Three contextualises RMP in relation to Johannesburg.

Chapter Four describes the formation of RMP's Planning Office.

Chapter Five examines the overall strategy and planning theories used by RMP.

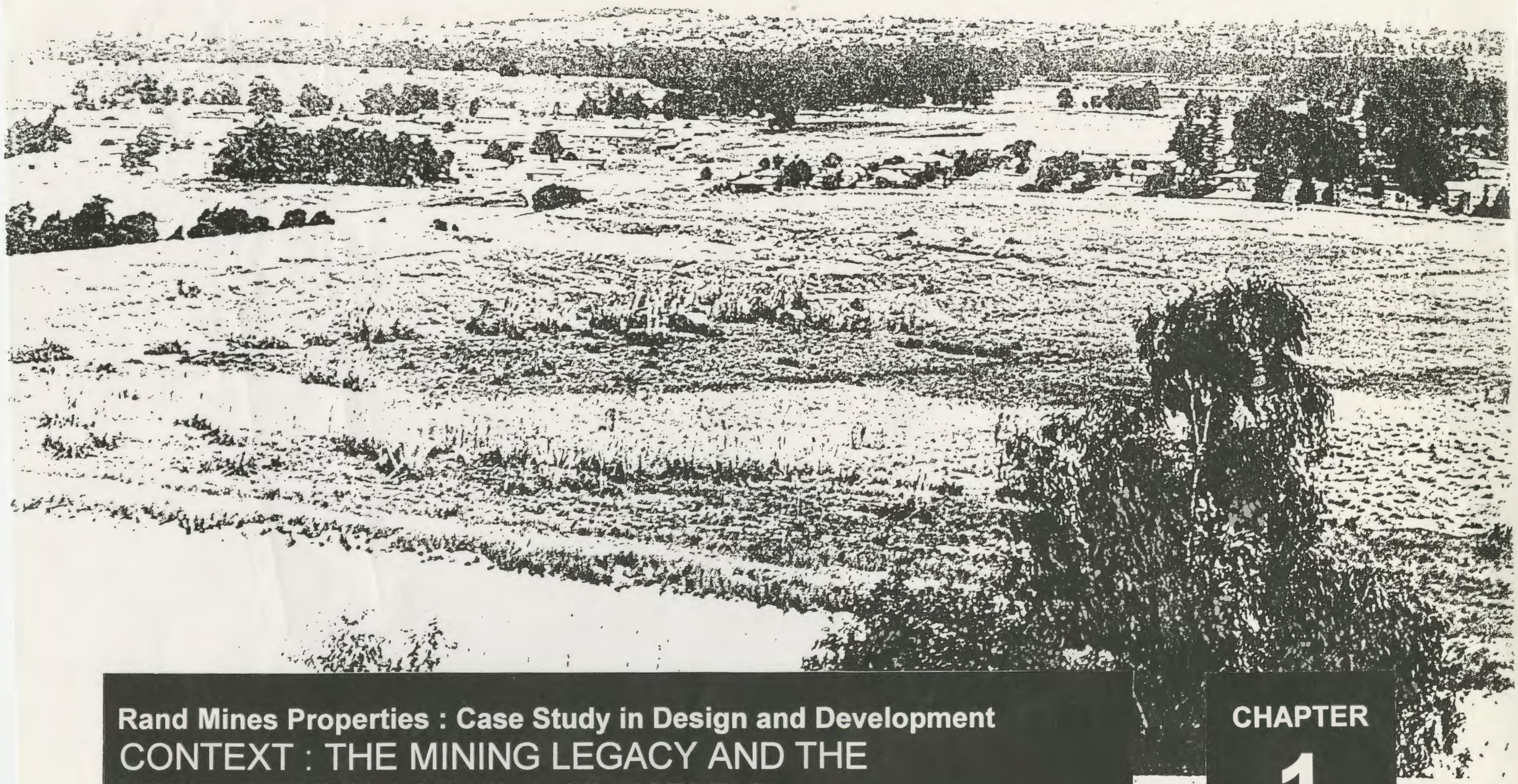
Chapter Six describes the concepts inherent in the idea of the 'New South' and the architectural references that informed them.

Chapter Seven introduces the KOPS Project as a case study in the use of typology and system building as a strategic tool in development.

Chapter Eight introduces the Ormonde project. The themes of choice and variety in habitat versus the production of a masterplan and the use of typology versus stylistic models are examined. The conceptual approach and the architectural theories that informed it in the context of the late sixties is discussed.

Chapter Nine describes the Barlows take-over of RMP and the changes in direction that RMP took. The implementation of the Ormonde project is discussed and the failure of the New South.

In conclusion, the potential of a new phase of development is discussed. This relates to the reconstruction of a new vision of development in relation to the emergence of new urban development objectives in a post Apartheid Johannesburg. The strategic position of RMP's current land holdings in relation to both Johannesburg and Soweto, hold exciting renewal prospects. This vision could encompass the memory of the 'dream development' as a case study, but is caught between the commercial property broking principles as defined by the 'market', and demand for socially based development principles. The conclusion describes RMP's position within the present context of development in Johannesburg in relation to the case study material.



**Rand Mines Properties : Case Study in Design and Development**

# CONTEXT : THE MINING LEGACY AND THE DEVELOPMENT OF JOHANNESBURG

CHAPTER

1



Fig. 1.1

Figure 1.1 :
Aerial Photographs of Mine Dumps - The Johannesburg landscape.
*( source : H. Dodd Photos )*

Overleaf :

Figure 1.2 :
Map Series 1
Geology and Topography. 1 : 50 000

Base Map : Contour Map of Johannesburg.

Overlay 1 : Ridges Dumps and Reef.
*( source : H.Dodd Drawing )*

Figure 1.3 :
Sections through Johannesburg.
*( source : McCarthy (1986.44) )*

## 1.1 The Development of Johannesburg - Mapping the Structure of the City.

The development of Johannesburg is intrinsically linked to its geological structure and its early economic and social history. Spatial relationships within the city have been bound to its mining legacy, as well as to a history of land speculation and legislation. Thus the urban structure of Johannesburg can best be understood through a series of diagrams and maps that highlight essential elements of this structure.

The direction and rate of Johannesburg's growth has largely been determined by the geological formations of the gold bearing reefs. Thus the 'framework' established by early mining activity greatly influenced the growth, structure and development of Johannesburg.

*Fig. 1.2 : Map Series 1 - Geology and Topography*
*This map series consists of a contour map of Johannesburg with an overlay which defines the ridges, reef and dumps.*

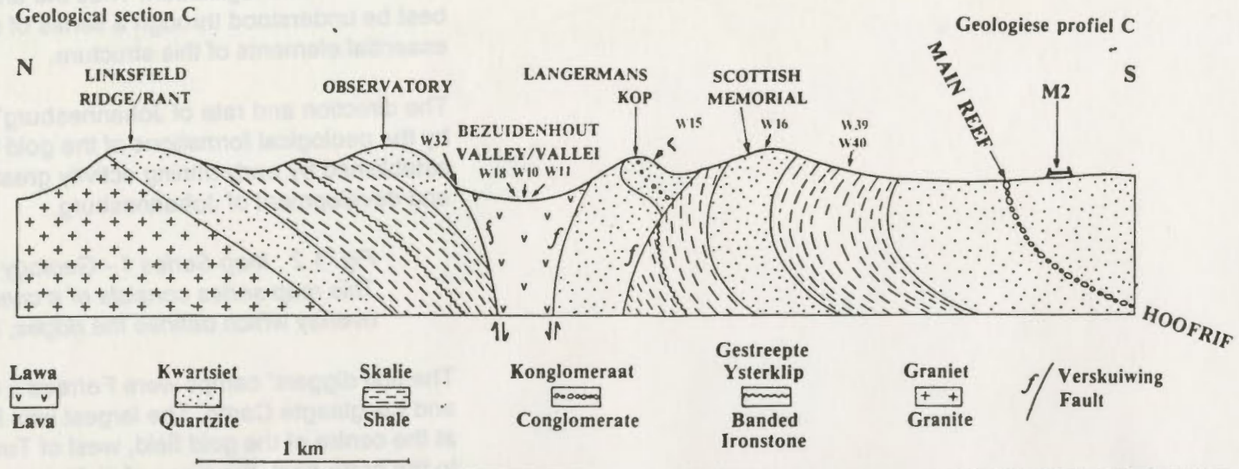
The first diggers' camps were Ferreira's Camp, Meyer's Camp (Natal Camp) and Langlaagte Camp. The largest was Ferreira's camp on Turffontein Farm, at the centre of the gold field, west of Turffontein was Langlaagte Farm[1], and to the north-east, the piece of state owned land called Randjeslaagte. Randjeslaagte, a triangular piece of 'uitvalgrond'[2] was selected as the site of the new town of Johannesburg. In 1886 six hundred stands were laid out and proclaimed on a portion of Randjeslaagte. The original triangular piece of 'uitvalgrond', marked by Commissioner Street as its base and the intersecting lines of Diagonal and End Streets, is evident in the structure of Johannesburg.

Johannesburg grew by a process of accretion of townships rather than as a predetermined pattern or unit. The 'line' of the mining claims became the line of the southern edge of the city.

Because of the east - west line of the reef / outcrop, major east - west lines of communication and development followed this pattern. Early industry was established to the immediate north of the outcrops, close to the mines but on solid ground. This reinforced the east - west nature of development.

As the reef dipped southwards, mining houses acquired the surface and mining title to the south of the reef. This served to protect their interests as no

[1] It is generally recognised that the Main Reef was discovered by George Harrison on the farm Langlaagte in February 1886.
[2] When the farms along the Witwatersrand had originally been surveyed, a triangular piece of 'uitvalgrond' - land unaccounted for, 240 hectares in extent, had remained in the possession of the state. Appelgryn (1884.18)


Geological section C
Geologiese profiel C
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S
LINKSFIELD RIDGE/RANT
OBSERVATORY
LANGERMANS KOP
SCOTTISH MEMORIAL
MAIN REEF
M2
W32
BEZUIDENHOUT VALLEY/VALLEI
W18 W10 W11
W15
W16
W39
W40
HOOFRIF
Lawa
Lava
Kwartsiet
Quartzite
Skalie
Shale
Konglomeraat
Conglomerate
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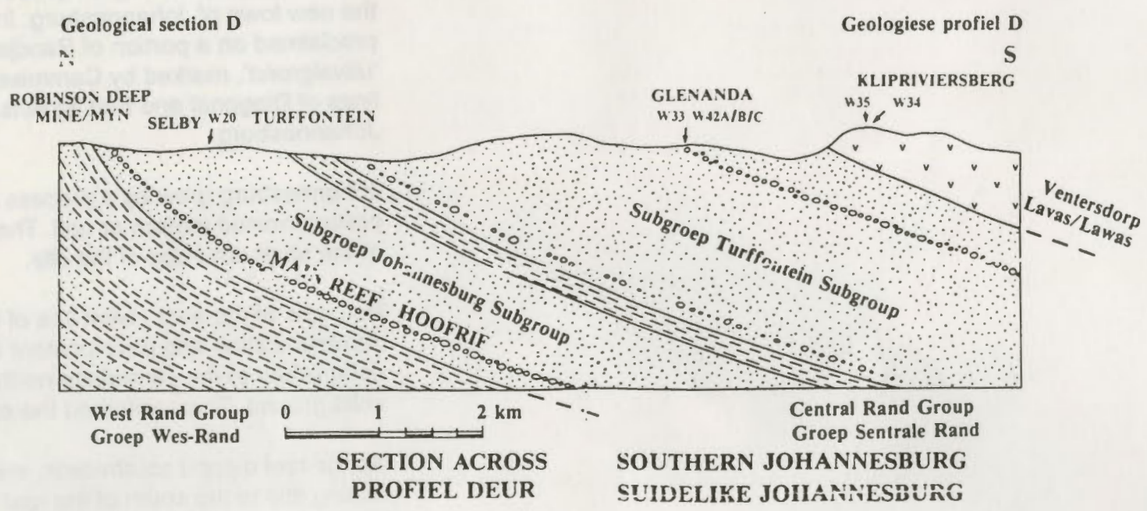
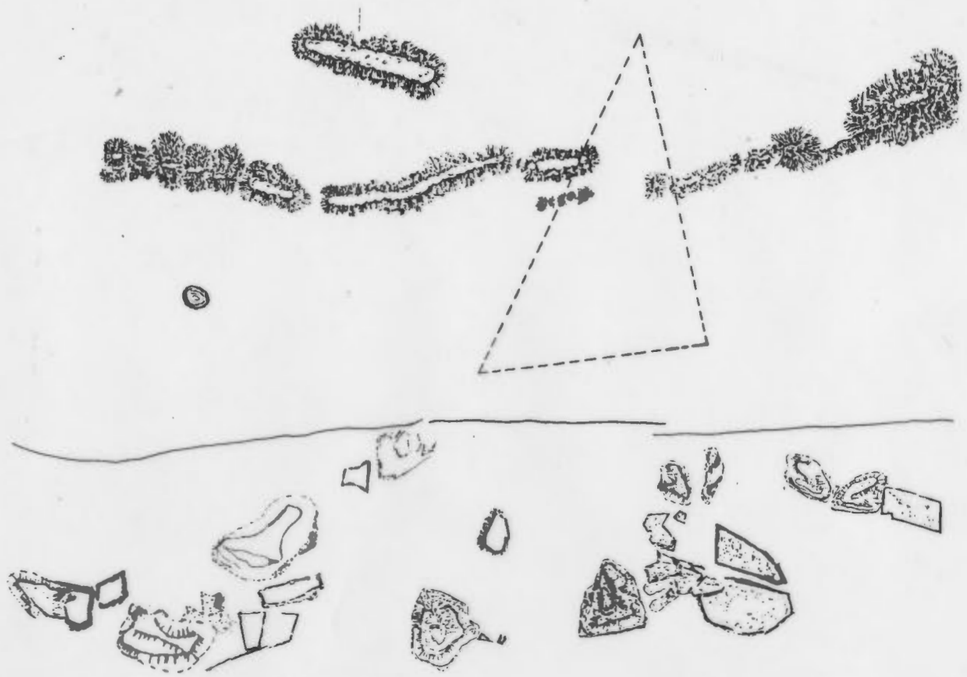

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GLENANDA
W33 W42A/B/C
KLIPRIVIERSBERG
W35 W34
Ventersdorp Lavas/Lawas
Subgroep Johannesburg Subgroup
MAIN REEF HOOFRIF
Subgroep Turffontein Subgroup
West Rand Group
Groep Wes-Rand
0 1 2 km
Central Rand Group
Groep Sentrale Rand
SECTION ACROSS
PROFIEL DEUR
SOUTHERN JOHANNESBURG
SUIDELIKE JOHANNESBURG

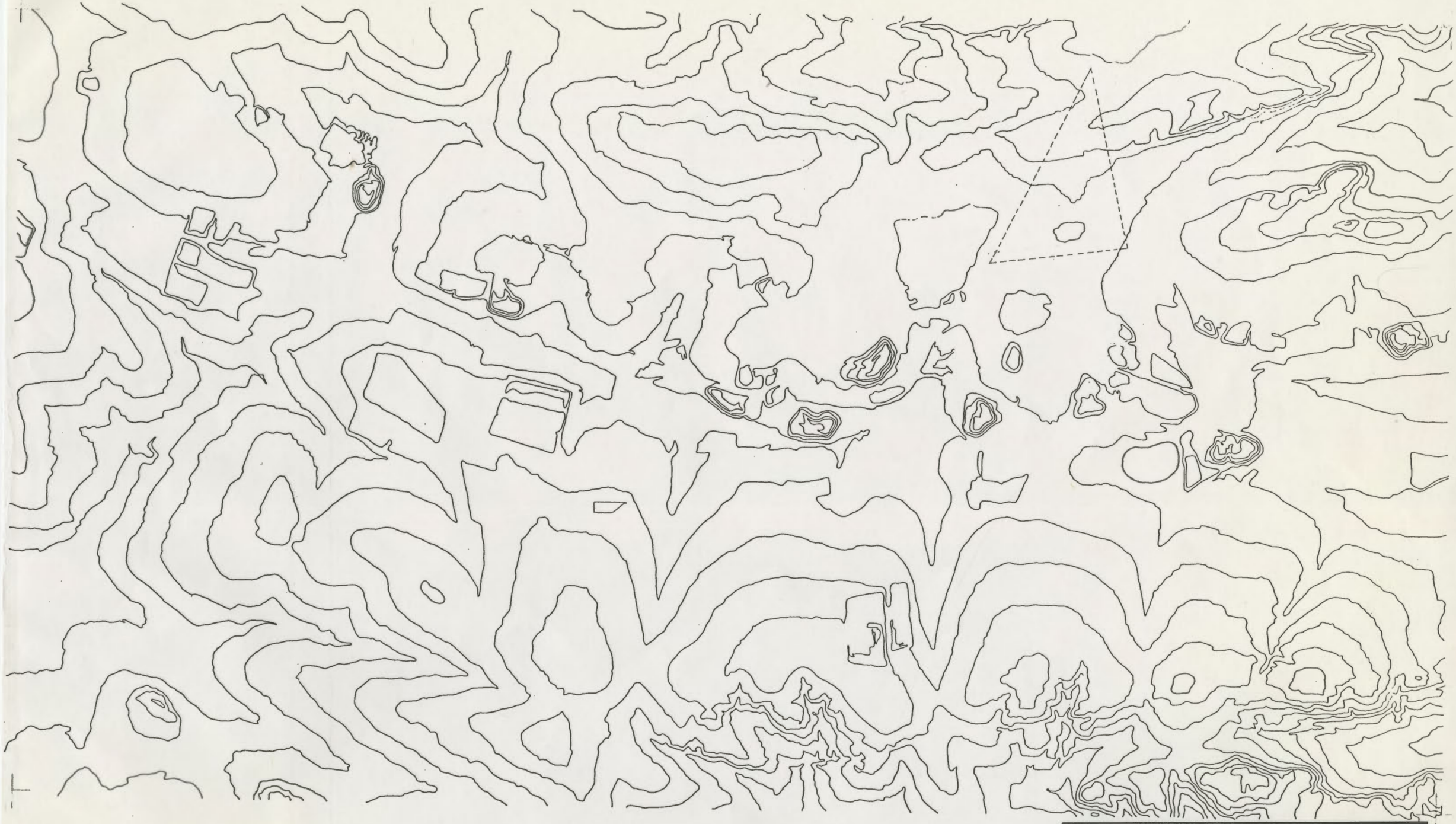
Fig. 1.3



RMP Case Study in Design and Development

Fig. 1.2 - Map Series 1 Overlay 1
GEOLOGY AND TOPOGRAPHY

1



RMP : Case Study in Design and Development

**Fig. 1.2 - Map Series 1 1 : 50 000**
**GEOLOGY AND TOPOGRAPHY**

Figure 1.4 :
Map Series 2
The Structure of the City 1 : 50 000

Base Map : Map of Johannesburg.
*( source : Johannesburg Planning Dept. )*

Overlay 1 : Plan of Johannesburg and Suburbs 1897.
*( source : Cullen Library University of the Witwatersrand )*

Overlay 2 : Structuring Elements - the triangular 'uitvalgrond', the railway line marking the northern edge to the city, the southern edge of the city demarcated by the line of the mining claims as a result of the reef below.
*( source : Drawing H.Dodd )*

Overlay 3 : Two edges - The railway line to the north and the highway reinforcing the southern edge of the city which is marked by a shift in the city grid, as a result of the former mining claim demarcations.
*( source : Drawing H.Dodd )*

urban development was permitted under Gold Law[3]. This denied large areas in the south for development for as long as mining continued. As mining moved southwards, the ground became undermined. Thus the mining land formed a 'belt' of land to the south of the city, characterised by mine dumps, mining headgear and slimes dams, that became a physical and visual barrier to the south of Johannesburg and impeded development in that direction *(Fig. 1.1)*. A combination of physical constraints, suitable residential land to the north, and later, politics and legislation, encouraged the emergence of different land markets on either side of the mining belt which bisected the city and entrenched this differentiation.

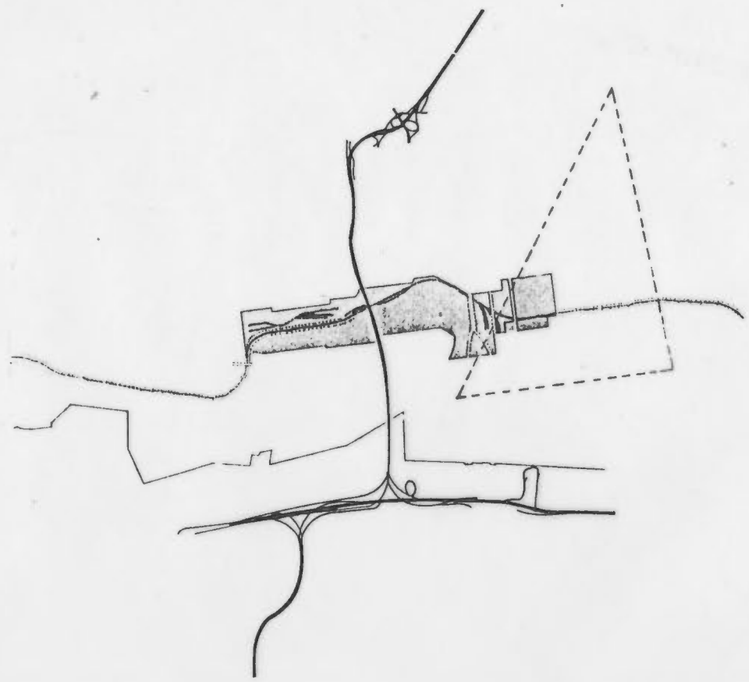
*Fig. 1.4 : Map Series 2 - The Structure of the City*
*This map series highlights structuring elements in the city; the triangular uitvalgrond, the railway line, the line of the mining claims and the highway.*

This resulted in an early preference for residential area to the north. This was strengthened by the development of the ridges of Parktown and Westcliff by the mining magnates, known as the 'Rand Lords'. The basis for the spatial fragmentation of Johannesburg was set by early mining patterns as well as by early residential patterns. With the line of mining land to the south and the Witwatersrand ridge and Railway line to the north, expansion of the city was to the east and west.

Land speculators were operating in Johannesburg from its inception. Large areas outside the original Randjeslaagte, Ferreirastown and Marshalltown boundaries were acquired, surveyed as townships and properties offered for sale on a freehold basis. Doornfontein was one of the first of these in 1887, and became a wealthy suburb until the Randlords began to favour the Parktown ridge after the proclamation of Parktown in 1892. Several companies were involved in residential land speculation; the Ford and Jeppe Estate Co. with Fordsburg in 1888, and Jeppestown and Belgravia in 1889. Two mining house subsidiaries were also involved in speculating; The Braamfontein Company owned Parktown, Westcliff, Parktown West, Forest Town, Parkview and Parkwood, while the Johannesburg Consolidated Investment Company (JCI) was developing Doornfontein, Berea, Yeoville and Houghton. Beavon (1996)

The pattern of land uses and suburban growth established by 1896 remained virtually intact for a hundred years. The map of Johannesburg in 1897 showed various suburbs set aside for various races, but little attempt was made to enforce racial segregation initially. Multi racial areas developed in areas like Vrededorp, the 'Malay', Coolie' and 'Kafir' Locations and the Burghersdorp Brickfields. However, in 1904 Bubonic Plague broke out in the

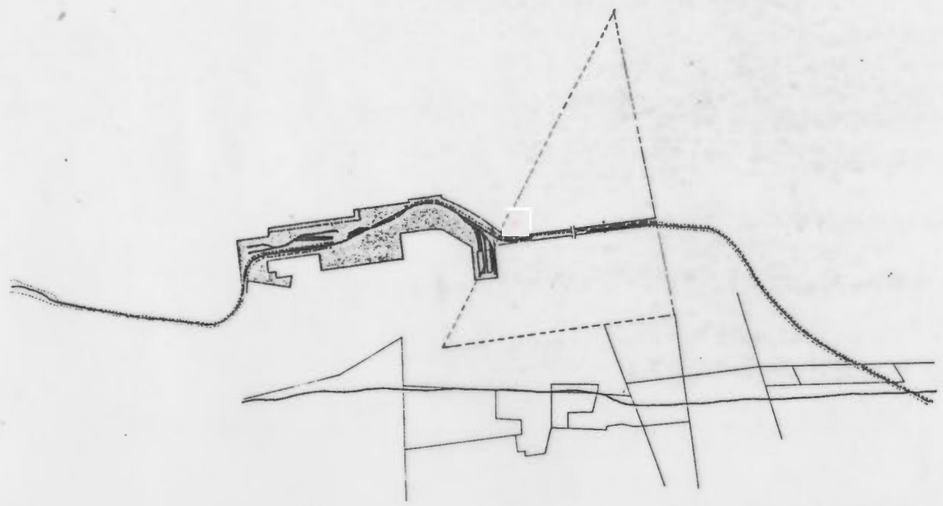
[3] Gold Law is used as a loose generic term to describe early legislation set up to regulate the mining industry. This early legislation was created by the Zuid Afrikannsche Republiek after the discovery of gold in 1886.



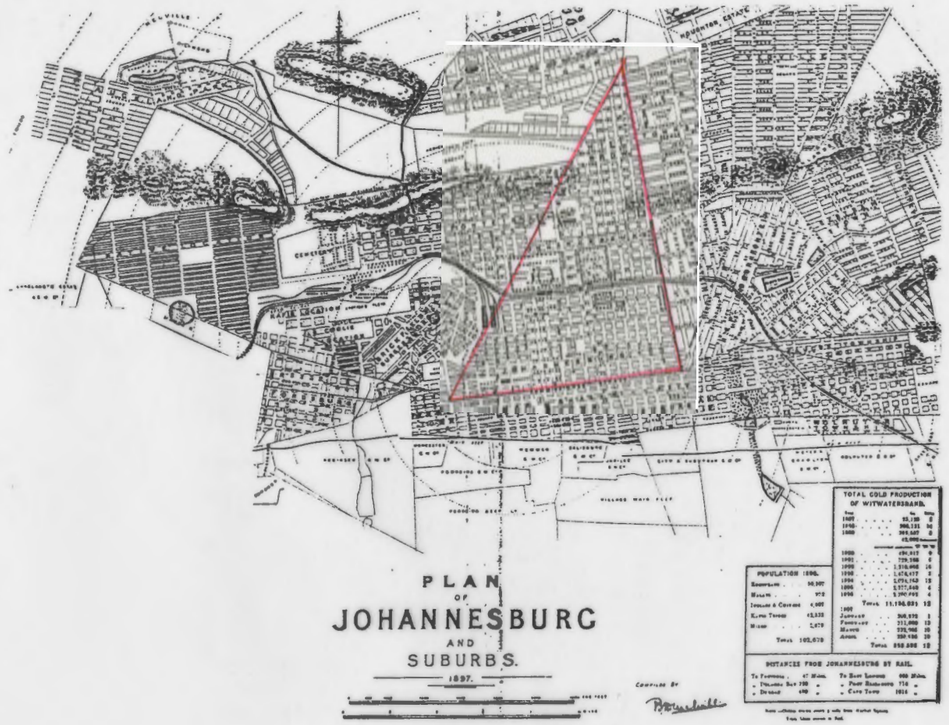
RMP Case Study in Design and Development

Fig. 1.4 - Map Series 2 Overlay 3
THE STRUCTURE OF THE CITY

3



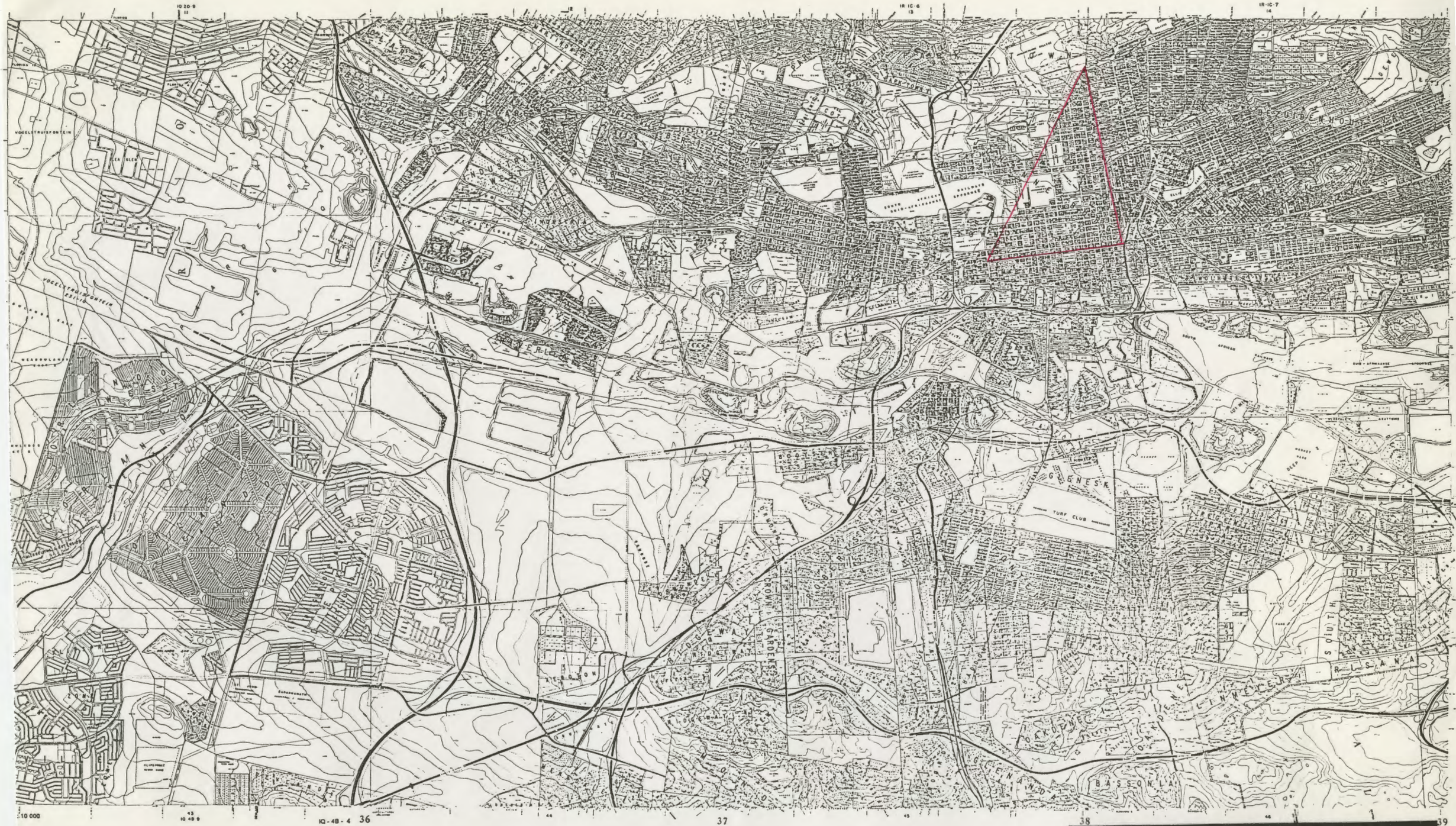
RMP Case Study in Design and Development
Fig. 1.4 - Map Series 2 Overlay 2
THE STRUCTURE OF THE CITY




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Fig. 1.4 - Map Series 2 Overlay 1 -
THE STRUCTURE OF THE CITY

1




RMP : Case Study in Design and Development

**Fig. 1.4 - Map Series 2 1 : 50 000**

**THE STRUCTURE OF THE CITY**

Figure 1.5 :
The Growth of the City 1 : 50 000

Base Map : Plan of Johannesburg and Suburbs 1897.
*( source : Cullen Library University of the Witwatersrand )*

Overlay 1 : Map of Johannesburg showing the Municipal Boundaries as defined by the Johannesburg Municipal Boundary Proclamation No 16 of 1901
*( source : Cullen Library University of the Witwatersrand )*

Overlay 2 : Witwatersrand Central 1933
*( source : Cullen Library University of the Witwatersrand )*

Overlay 3 : Map of Johannesburg
*( source : Johannesburg Planning Dept. )*

'Coolie Location', the inhabitants were cleared out and the slum burnt to the ground. Temporary corrugated iron shelters were provided by the Council on municipal land 15kms south west of Johannesburg, adjacent to the sewerage disposal works at Klipspruit. The subsequent establishment of a municipal township at Klipspruit led to the forced relocation of Blacks in 1904 to Klipspruit Location. Morris (1980.7) This was one the first steps towards Johannesburg as a segregated city. Thereafter this pattern would be fixed and was reinforced steadily through the eras of formal segregration and apartheid legislation that shaped the economic, social and spatial geography of the city.

*Fig. 1.5 : Map Series 3 - The Growth of the City*
*This map series shows how the city has grown through a series of maps from 1897 to the present.*

Thus not only has Johannesburg been structured by its geology but also by subsequent legislation. The establishment of Western Native Township in 1918, the Stallard Commission in 1922, which set the principle on impermanence of Blacks within the city, the Native (Urban Areas) Act of 1923, as well as the establishment of Orlando East in the early 1930's, set the basis for Soweto as that of a 'dormitory city'. Morris (1980.8,9)

With the implementation of apartheid planning after 1948, and the Group Areas Act of 1950, the form of the city was conceived of within a framework of social and spatial controls. 'Group Areas' were to occupy peripheral areas of the city which were significantly removed from the core or CBD of the city, thereby entrenching spatial marginalisation. They were also to be separated from the city by strong physical or man made barriers, or by buffer zones of sterile land. Thus the mining land became the space between Johannesburg and a second city, Soweto. The city was divided into two entities by the 'buffer zone' of the mining land. Although the mining legacy was not the reason for spatial separation, it helped to entrench segregation and the formal 'Apartheid City', by separating Soweto and the south from the rest of the city.

Apartheid urban planning created cities that were spatially fragmented. It was in this context that Rand Mines Properties, as owners of vast areas of mining land operated in the late 1960's and early 70's.

The demise of Apartheid in the 1990's has led to a new vision of a de-racialised and spatially compact city, elaborated on in various Government Policy documents.[4] Within this framework, former mining land, which was once a constraint to planning now offers an opportunity to integrate the city, rectifying the spatial manifestations of apartheid, by unifying the 'divided city'.

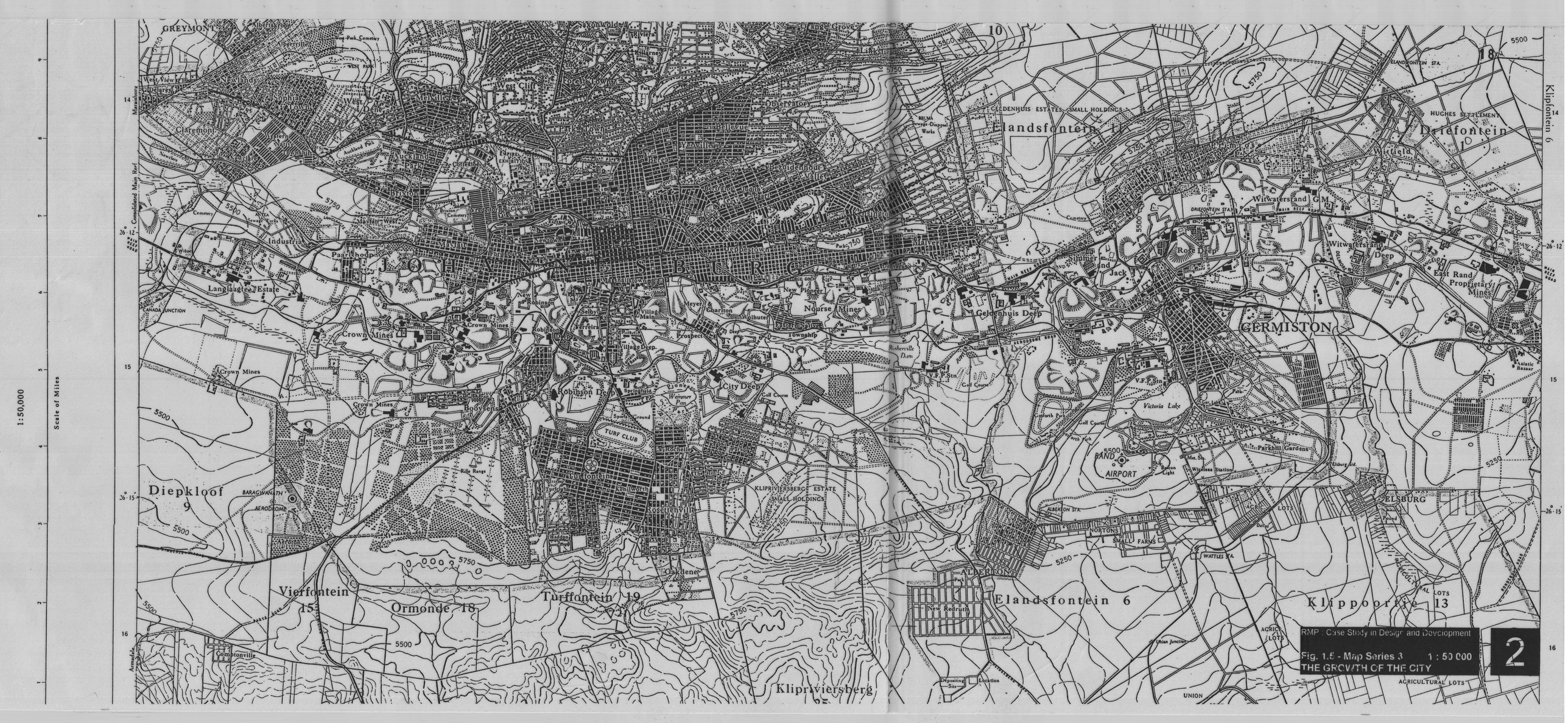
[4] Such as the 'Urban Development Strategy of the Government of National Unity' (Discussion Document November 1995).

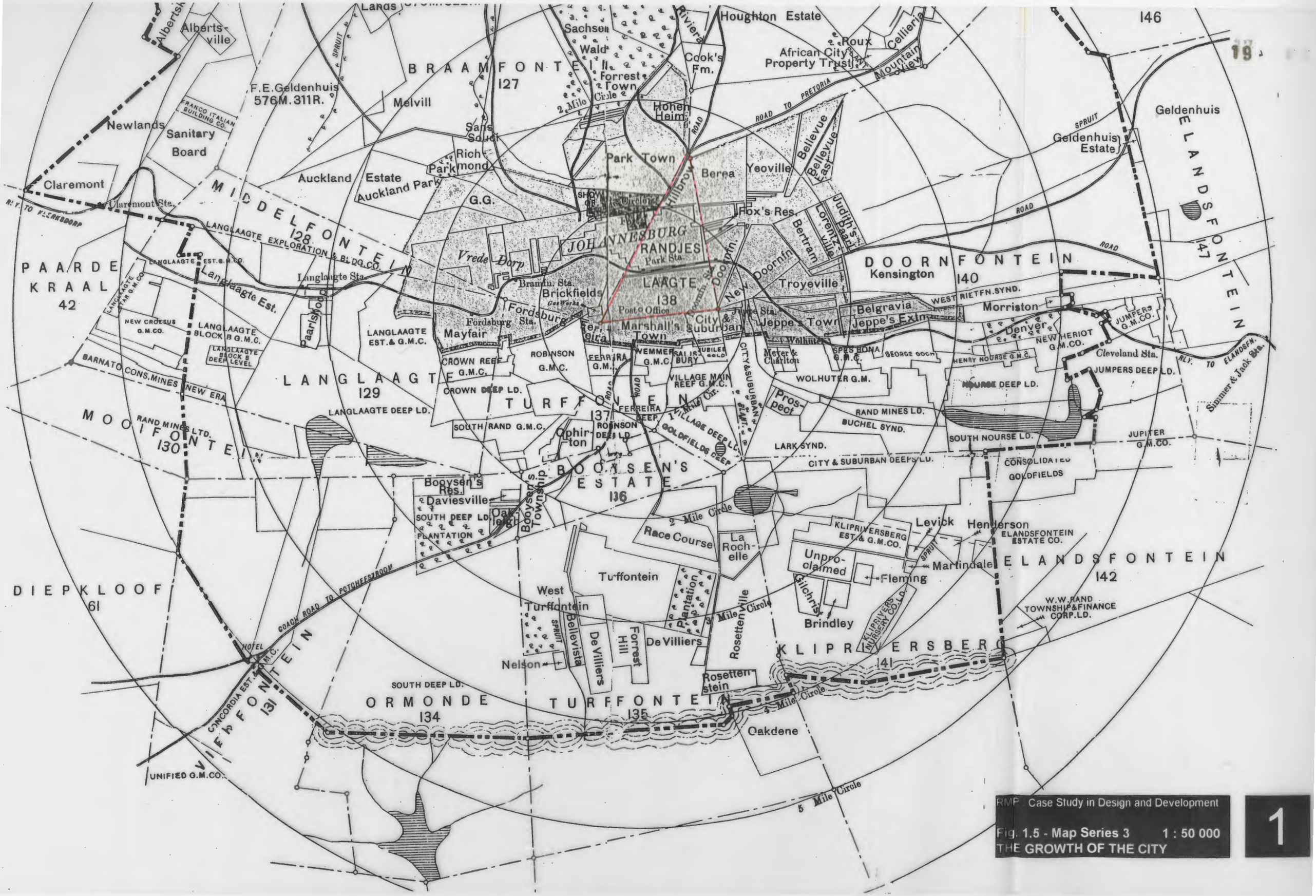



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**Fig. 1.5 - Map Series 3 1 : 50 000**
**THE GROWTH OF THE CITY**

3


JOHANNESBURG
GREYMONT
Newlands
Claremont
Melville
West Park
Westcliff
Observatory
Parktown
Auckland Park
Braamfontein
Milner Park
Industria
Parktown
Langlaagte Estate
Crown Mines
Robinson
Robinson Deep
Village Main
Village Deep
Meyer & Charlton
New Pioneer
Nourse Mines
Wolhuter
Eastern Native Township
Prospect
City Deep
Geldenhuis Deep
Geldenhuis Estates Small Holdings
Elandsfontein 11
Driefontein 10
Witfield
Witwatersrand GM
Witwatersrand Deep
Rose Deep
Turner and Jack
East Rand Proprietary Mines
GERMISTON
Victoria Lake
Parkhill Gardens
Asiatic Bazaar
Deposition Site
Rand Airport
Bacon Light
Wireless Station
Elsburg
Elsburg Old
Alberton Sta.
Nortons Small Farms
Wattles Sta.
Agric. Lots
Alberton
New Redruth
Union Junction
Union
Diepkloof 9
Baragwanath Aerodrome
Vierfontein 15
Ormonde 18
Turffontein 19
Klipriviersberg
Klipriviersberg Estate Small Holdings
Orchard
Rifle Range
Turf Club
Compton Golf Course
Comptonville
Elandsfontein 6
Klippoortje 13
Kliplontein 6
Consolidated Main Reef
Armadale
Scale of Miles
1:50,000
RMP - Case Study in Design and Development
Fig. 1.5 - Map Series 3 1 : 50 000
THE GROWTH OF THE CITY
2

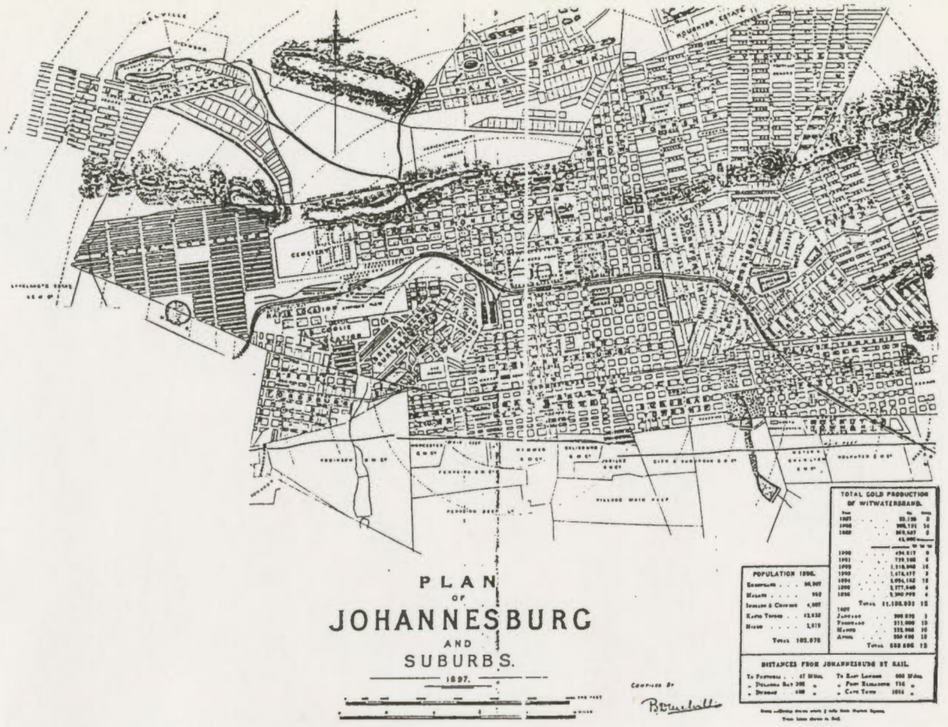



RMP Case Study in Design and Development

Fig. 1.5 - Map Series 3 1 : 50 000

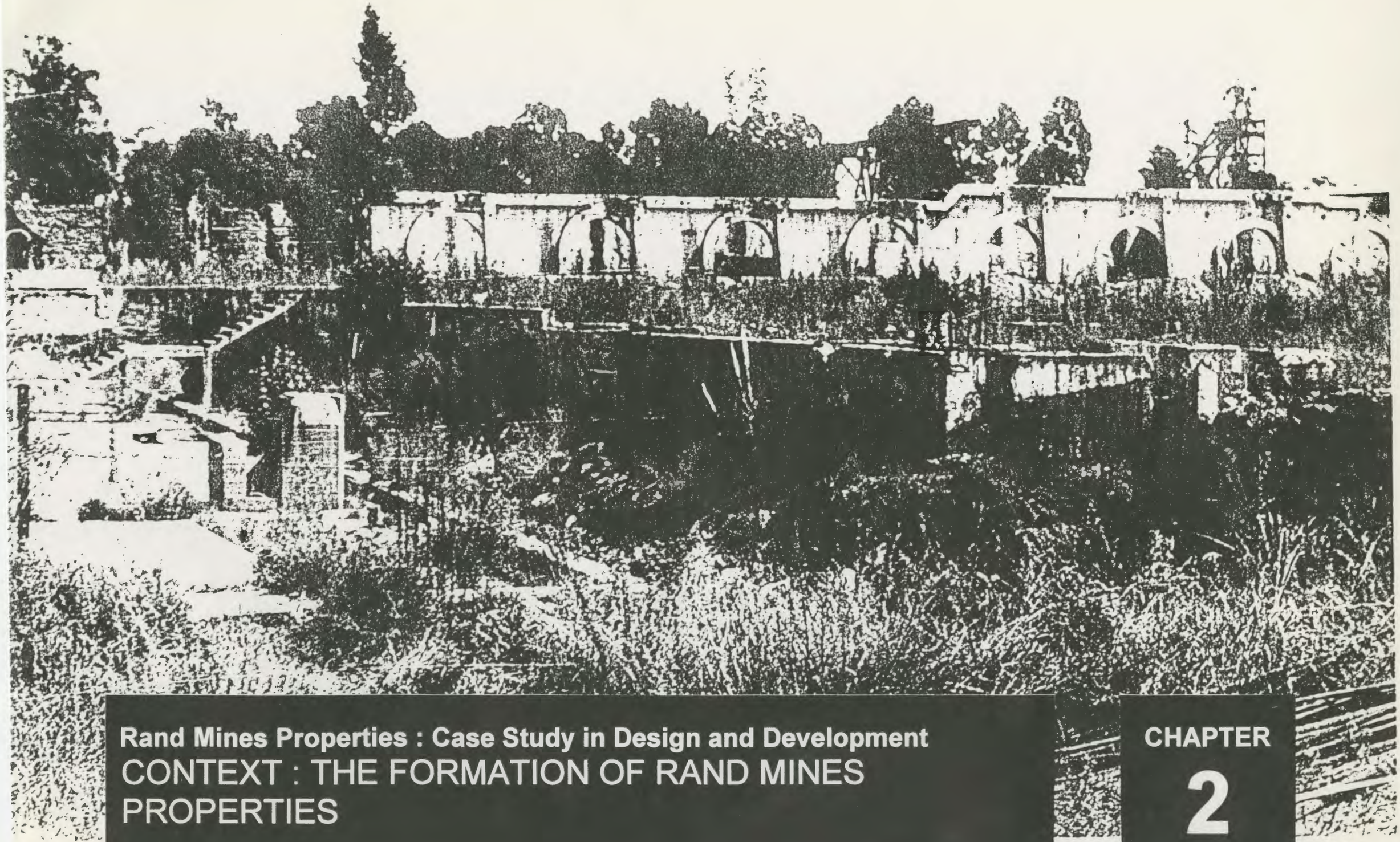
THE GROWTH OF THE CITY

1




RMP : Case Study in Design and Development

**Fig. 1.5 - Map Series 3 1 : 50 000**
**THE GROWTH OF THE CITY**



**Rand Mines Properties : Case Study in Design and Development**

# CONTEXT : THE FORMATION OF RAND MINES PROPERTIES

**CHAPTER**

**2**

## 2.1 The Discovery of Gold on the Witwatersrand.

In 1886 Gold was discovered on the Witwatersrand. News of the discovery spread rapidly and by early July 1886 residents of Pretoria had petitioned the Government of the Transvaal to declare the farms Langlaagte and Turffontein public diggings in terms of Article 5 of the Gold Law. The Government's response was to send a Commission on the 3rd of August 1886, consisting of Christiaan Johannes Joubert and Johannes Friedrich Barnard Rissik to investigate the rumours that gold had been found. Joubert was head of the Mines Department, while Rissik was acting Surveyor General. They were charged to report on the goldfields, decide on a basis for their exploration and select a suitable place for laying out a town. On the recommendation of this Commission, the Executive Council decided to proclaim various Witwatersrand towns public diggings. Appelgryn (1984)

The Proclamation appeared in the Government Gazette of the 8th September 1886, as well as De Volkstem of 10th September 1886. The farms were to be opened in the following order :

*" The farms Driefontein and Elandsfontein on Monday 20th September 1886, the southernmost portion of the Doornfontein farms and the Turffontein farm on Monday 27th September 1886, the piece of 'government ground' called Randjeslaagte, and the farm called Langlaagte on Monday 4th October 1886, the farms called Paardekraal, Vogelstruisfontein and Roodepoort on Monday 11th October 1886. "*
*Appelgryn (1984:10)*

## 2.2 The Establishment of the Mining Industry on the Witwatersrand.

From then on prospecting gave way to mining and the establishment of the mining industry along the Witwatersrand.
The most important and decisive purchases of mining properties took place during the later half of 1886 and 1887. People converged on the Witwatersrand including some of the so called ' Kimberley Capitalists ' Expanding outside of their diamond diggings in Kimberley, Alfred Beit and Co. registered a number of claims in the Langlaagte, Randfontein and Robinson areas. Fiford (1993.72)

Actual development of the reefs of the Witwatersrand did not begin until 1887. In April 1887 Jubilee Gold Mining Co. erected the first stamp battery to crush main reef ore. This mine sank the first shafts on the Witwatersrand, although only to very shallow depths. J.B.Robinson was the first to introduce deeper mining by sinking 5 shafts at Langlaagte, one down to 100ft (30.48m) and connected to the others by tunnels. Holz (1986.6)

## 2.3 The Establishment of Rand Mines Ltd.

By mid 1888 Beit and his associates had established a presence at Corner House in Johannesburg and expanded their activities south west of the city by taking several mining concessions, including the Robinson and Crown Reef Mines. In 1893 they opened Bonanza Gold Mine and established Rand Mines Ltd, which was to become one of the largest mining houses in the world. Fiford (1993.72)

By the end of 1888, there were 688 'stamps' crushing 12 000 tons of ore a month and producing 200 000 ounces of gold for the year. However yields from oxidised surface ores started dropping as mining went deeper and costs rose. This led to financial institutions calling in their loans and overdrafts in 1889, which caused panic on the stock exchange. In 1889 skips and hoists brought ores to the surface containing iron pyrites from which gold could not be extracted. Funding and investment in the industry dried up dramatically. However, by mid 1890 the MacArthur-Forrest cyanide process for separating gold from pyrite ores was introduced commercially, and foreign interest and investment was stimulated by the opportunity to invest in companies with mines already operating. Beavon (1996.12)

By the end of 1894, there were 44 companies actively crushing with 2290 stamps. By the end of 1895, the number of stamps had increased, and there were 8 mines in production. These were City and Suburban, Geldenhuis Deep, Geldenhuis Estate, Glencairn, George Goch, May Consolidated, New Primrose and Robinson. Holz (1986.9)

Following a Stock Market peak in September 1895 and with rumours of an armed insurrection against Kruger's Government, a large number of reef shares were dumped on the Paris Bourse. The prices of all Rand Shares dropped and the Johannesburg Stock Exchange plunged to new lows. The fall was exacerbated by the subsequent Jameson Raid in January 1896. The Stock Exchange slide of 1895 moved into a full blown recession running until 1898.

By 1898, the Transvaal produced 27% of the World's Gold output. However the Anglo Boer War ( October 1899 to May 1902 ), induced a severe recession on the Witwatersrand, with little development in the mining industry. Production losses were heavy : the percentage production had dropped to 2% of world output and the smaller mines with poorer grades were struggling. Holz (1986.9)

This led to talk of amalgamation and in July 1909 Crown Mines Ltd, a company involving the amalgamation of seven / seventeen[1] different mining companies and syndicates was registered. The property covered an area of

[1] Pretorius (1986.39) states that seven mining properties were amalgamated to form Crown Mines Limited, whilst Fiford (1993.75) states that the establishment of Crown Mines Involved the amalgamation of seventeen different mining companies and syndicates.

approximately 42.29 square kilometres ( 8,2 kms East-West by 5,1 kms North-South ), served by 75 shafts.
With mergers and amalgamations such as this, the mining industry started to become dominated by large financial houses each with a number of mines under its control.

By 1913 the world's three greatest gold mines were Crown Mines, ERPM and Randfontein Central. The gold output of these three amounted to 10% of the world output and 25% of the Rand's production. Holz (1986.9)

The following 60 years saw unprecedented gold mining activity on the Witwatersrand. However in the 1960's, high working cost, lower gold prices and marginal gold reserves caused the closure of many mines in the Witwatersrand. Thus the need arose to look at former mine property with a view to alternative uses.

**2.4 Mining Legislation : Gold Law and the Mining Rights Act.**

Under Gold Law no development other than that required for mining purposes was allowed on land that had been proclaimed for mining. 'Proclaimed land' was defined as land which had been proclaimed a public digging for precious metals or base minerals. This meant that as mining operations on older, marginal mines ceased, large areas of land were left in a derelict state. However, in terms of the Mining Rights Act No 20 of 1967[2], Section 44, allowed for the deproclamation of land, where precious metals or base minerals were unlikely to occur in workable quantities and where mining was not likely to be carried out within a reasonable period on such land. The changes in the Act allowed for alternative uses to be given to former mine land and freed up large areas of land on the southern edge of Johannesburg for potential development.

**2.5 The Formation of Rand Mines Properties Ltd.**

It was in this context that Rand Mines Properties Ltd. (RMP) was formed in February 1968, as a property development company with extensive land holdings that were available for potential development. Rand Mine Properties grew out of the Rand Mines Group, one of the mining houses that had developed along with Johannesburg. RMP anticipated a trend towards development of mining land.

Rand Mines Properties was incorporated under the name Rand Mines Properties Ltd on the 8th of February 1968 as an Investment, Finance and Property Development Company. RMP was to be a public company listed on both the Johannesburg and London Stock Exchanges. In terms of the prospectus signed at Johannesburg on the 9th of April 1968, an offer was made for the acquisition of the issued share capitals of the six companies of the Corner House Group namely City Deep, Consolidated Main Reef Mines and Estate Ltd. ( CMR ), Crown Mines Ltd., Ferreira Estate and Investment Company Ltd. ( Ferreira ), Geldenhuis Deep Ltd. ( Geldenhuis ) and Crown Crushers Estates ( Proprietary ) Ltd. ( Crown Crushers Estates ). 100% acceptance was achieved. Prospectus (1968)
Prior to the prospectus being issued, a circular dated 20th February 1968 was issued to the shareholders of City Deep, C.M.R, Crown Mines, Ferreira, Geldenhuis and Crown Crushers Estates. This circular explained the key ideas behind the formation of RMP, and advised that :

" *1. The rapid growth of Johannesburg in recent years has resulted in an acute shortage of land available suitable for industrial, commercial and residential development, within reasonable access of the city centre.*

*2. Six companies of The Corner House Group, namely : City Deep, C.M.R, Crown Mines, Ferreira, Geldenhuis and Rand Mines, and Crown Crushers Estates, together own about 13,800 acres of undeveloped land in and around Johannesburg, much of which is ideally situated for industrial, commercial and residential purposes. Of this total area 7,820 acres are situated in the Johannesburg municipality and constitute approximately 13% of the total municipal area.*

*3. The reclamation of large areas of the land which have been affected by its use for many years for mining purposes and the development of the land within a framework of national, provincial and municipal planning and control will be of a long term nature requiring a high degree of skill, flexibility of action and financial resources which no one of the offeree companies could muster individually.*

*4. To develop this land for its most rewarding use and to secure the best interests of the shareholders and the community, it will be essential to co-ordinate the development of the land of the companies under a unified control.*

*5. R.M.Props. has been incorporated for the purpose of achieving the object set out in paragraph 4. "*

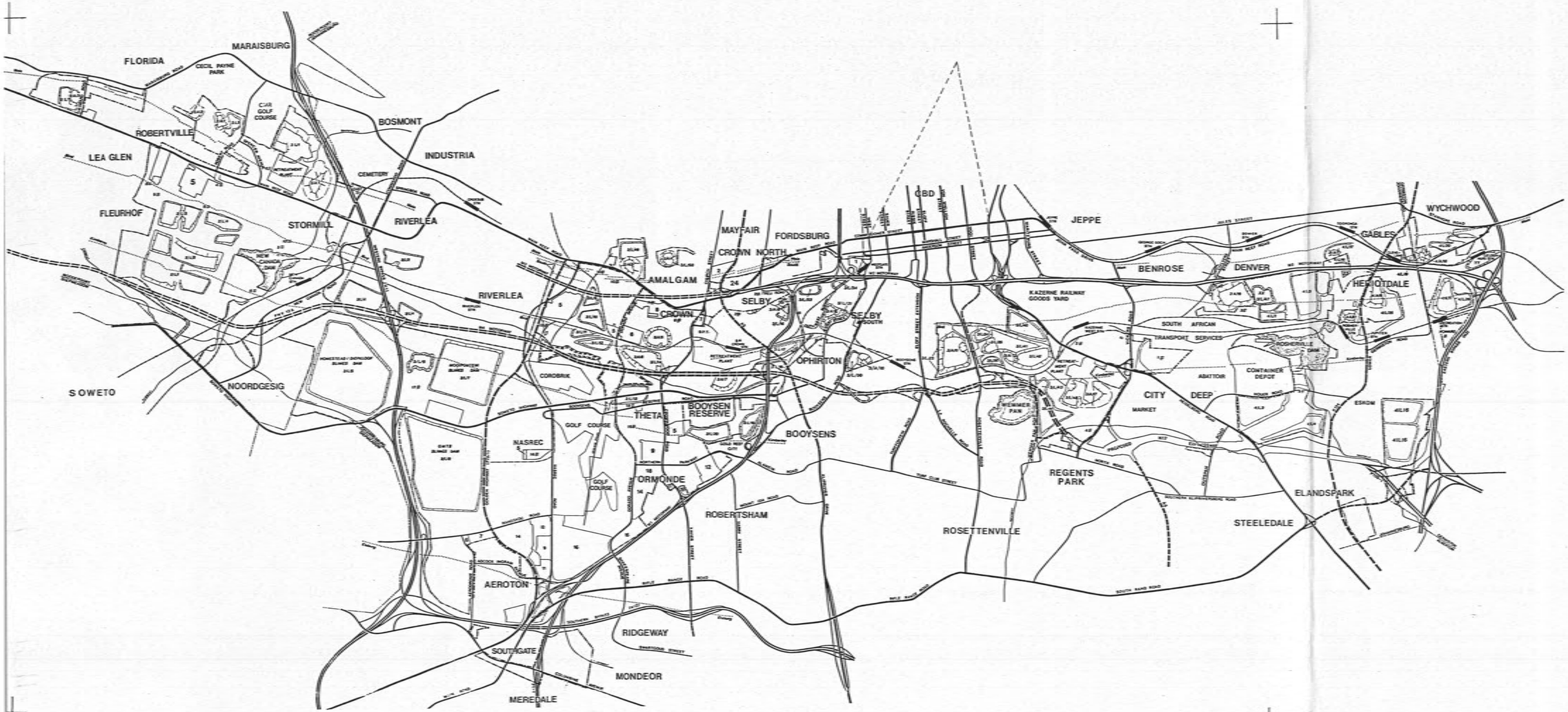
*RMP Prospectus (1968)*

[2] The Mining Rights Act incorporated and replaced Gold Law.

Figure 2.1 :

Base Map : The African Review Map of the Witwatersrand. Published by the African Review Office.
Showing ownership of the mining claims.
1 : 50 000
*( source : Cullen Library University of the Witwatersrand )*

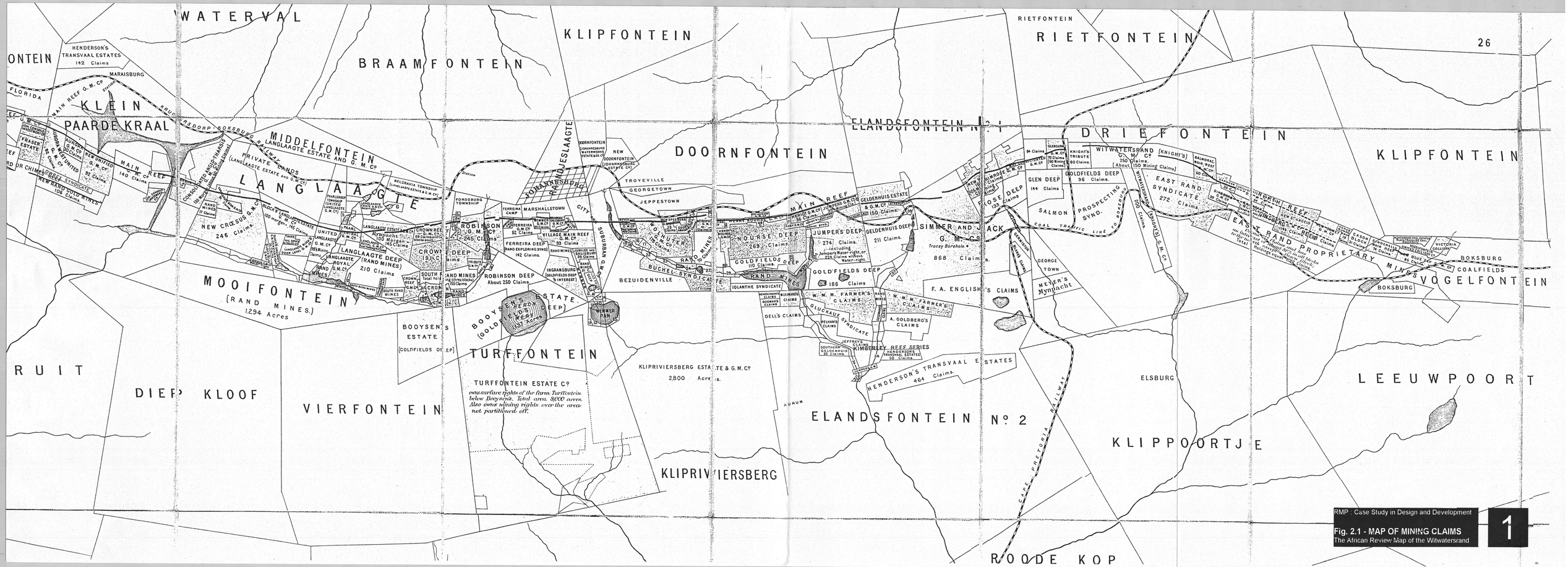
Overlay 1 : RMP Land Holdings.
1 : 50 000




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**Fig. 2.1 - RMP LAND HOLDINGS.**

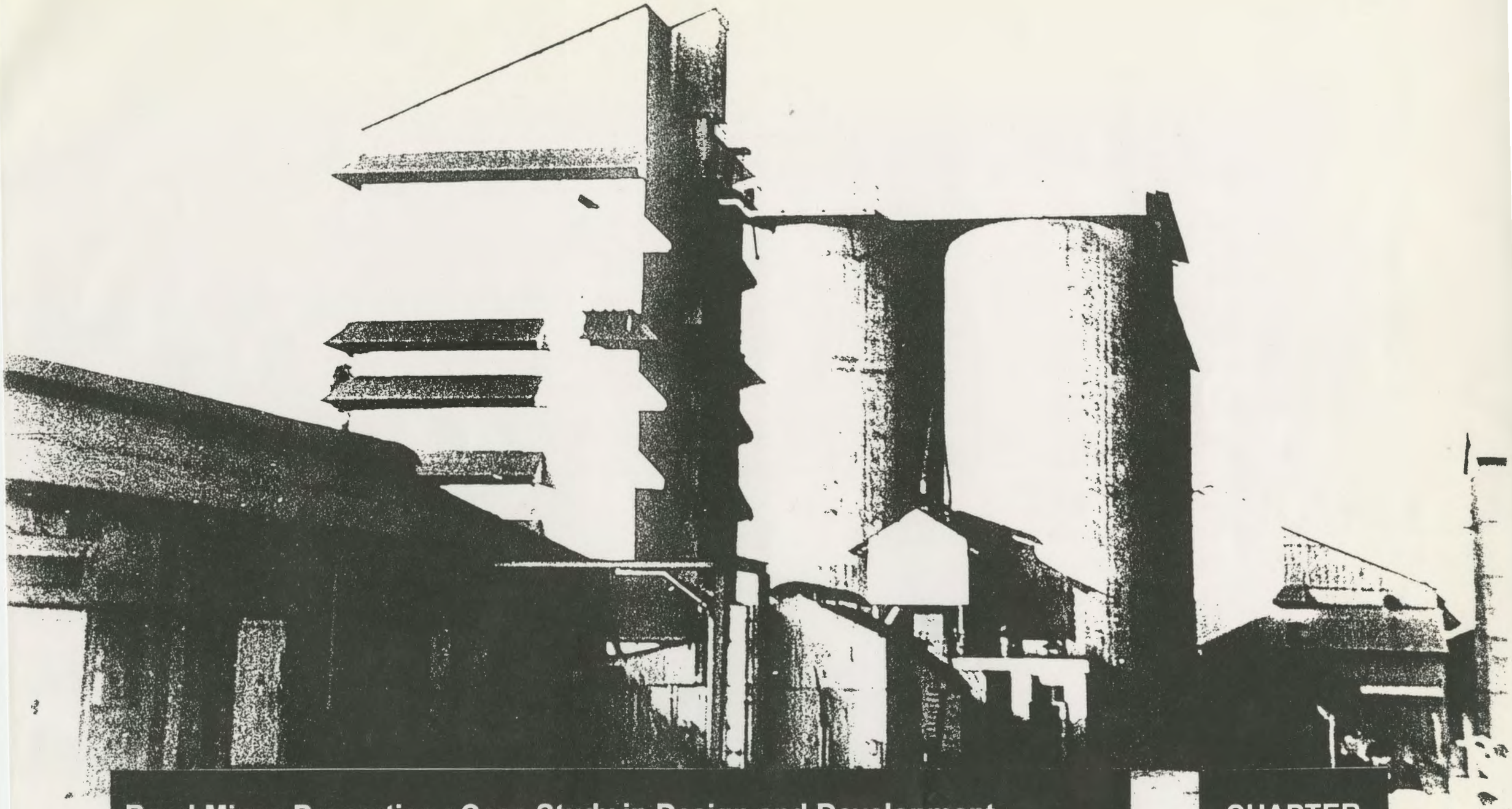
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**Fig. 2.1 - MAP OF MINING CLAIMS**
The African Review Map of the Witwatersrand

1



**Rand Mines Properties : Case Study in Design and Development**

# CONTEXT : RAND MINES PROPERTIES IN RELATION TO JOHANNESBURG

CHAPTER

3

### 3.1 The Land Holdings of RMP

In order to understand the strategic importance of the land owned by Rand Mines Properties in 1968, both in terms of its size and location, the following information has been extracted from the RMP Prospectus of 1968.

The following notes on the properties relate to the map that accompanied the prospectus. *( figure 3.1 )*

The property of **City Deep** was shaded *dark green* on the plan and was situated immediately to the south of the suburb of Jeppe and was adjacent to the South African Railways marshalling and goods yards. Heidelberg Road which traversed the property, would have access to the proposed east / west motorway. The sites of the proposed new Johannesburg market and abattoir were shown and it was seen that development would offer opportunities of establishing commercial townships serving the market and abattoir.
251 acres (101.57ha) of land were expropriated from City Deep by the Johannesburg City Council in respect of the abattoir development, as well as 191 acres (77.29ha) for the Municipal Market.

The property of **C.M.R** was shaded *orange* on the plan. This property was situated south of Roodepoort, one of Johannesburg's neighbouring municipalities. The most valuable portion of the property was an area of approximately 126 acres (50.99ha), along Main Reef Road and the proposed east / west motorway. This area was close to the so called 'Coloured and Bantu' residential townships and was therefore seen as well suited for industrial development. The western bypass motorway was planned to traverse the property thereby placing it within easy access of any part of the Witwatersrand. The plan showed that large areas of freehold were encumbered by slimes dams or were subject to building restrictions as a result of shallow undermining.

The property of **Crown Mines** was shaded *pink* on the plan. This property was to be considered in conjunction with that of **Crown Crushers Estates** shaded in *light green* and with those portions of land to be acquired from **Rand Mines** shaded *yellow,* which were in the area. This large area would be served by three motorways. The area around the golf course was seen as suitable for large scale residential development. Smaller areas, like those adjoining the Mayfair, Fordsburg and Booysen Reserve townships were seen as natural extensions to existing commercial townships and would be developed as such. In the long term, the possibility of developing other portions of this land as industrial areas existed. Large portions of the property were adjacent to existing 'Bantu' townships and formed logical extensions to them. In addition there was 159 acres (63.34ha) of land , shaded *yellow*, immediately to the north west of Wemmer Pan, which RMP would also acquire from **Rand Mines**. This land was situated in a commercial and industrial area where there was a demand for additional land for these purposes.

The property of **Ferreira** was shaded *grey* on the plan. The proximity of the land to central Johannesburg and to motorways was seen to ensure that the development of the land would be a profitable investment. An industrial and commercial township was being established on parts of the property at the time.

The property of **Geldenhuis** was shaded *blue* on the plan. This land formed part of what was considered to be a logical extension to the existing industrial and commercial areas and was traversed by the east - west motorway. Industrial township rights were obtained for a portion of the area.

It was stated in the Prospectus that the bulk of the land of the offeree companies was proclaimed land in terms of the Gold Law (Act No. 20 of 1967), but that in the past the Department of Mines had released, and was therefore expected to release for non - mining purposes, most of the areas suitable for development.

It was also noted that the policy of the Government at the time was to decentralise industry and that further industrial development of the Witwatersrand would be planned and controlled in terms of the Physical Planning and Utilisation of Resources Act.

### 3.2 Expropriations

Certain areas of RMP's land were expropriated by the Johannesburg City Council, primarily for the purpose of establishing the Municipal Market and Abattoir, as well as for various motorway developments. In all cases claims for compensation were submitted to the relevant authorities.

- The Market and Abattoir site at City Deep : A total area of approximately 410 acres (165.92ha) was expropriated. The amount of compensation offered by the Council was disputed and referred to arbitration.[1]

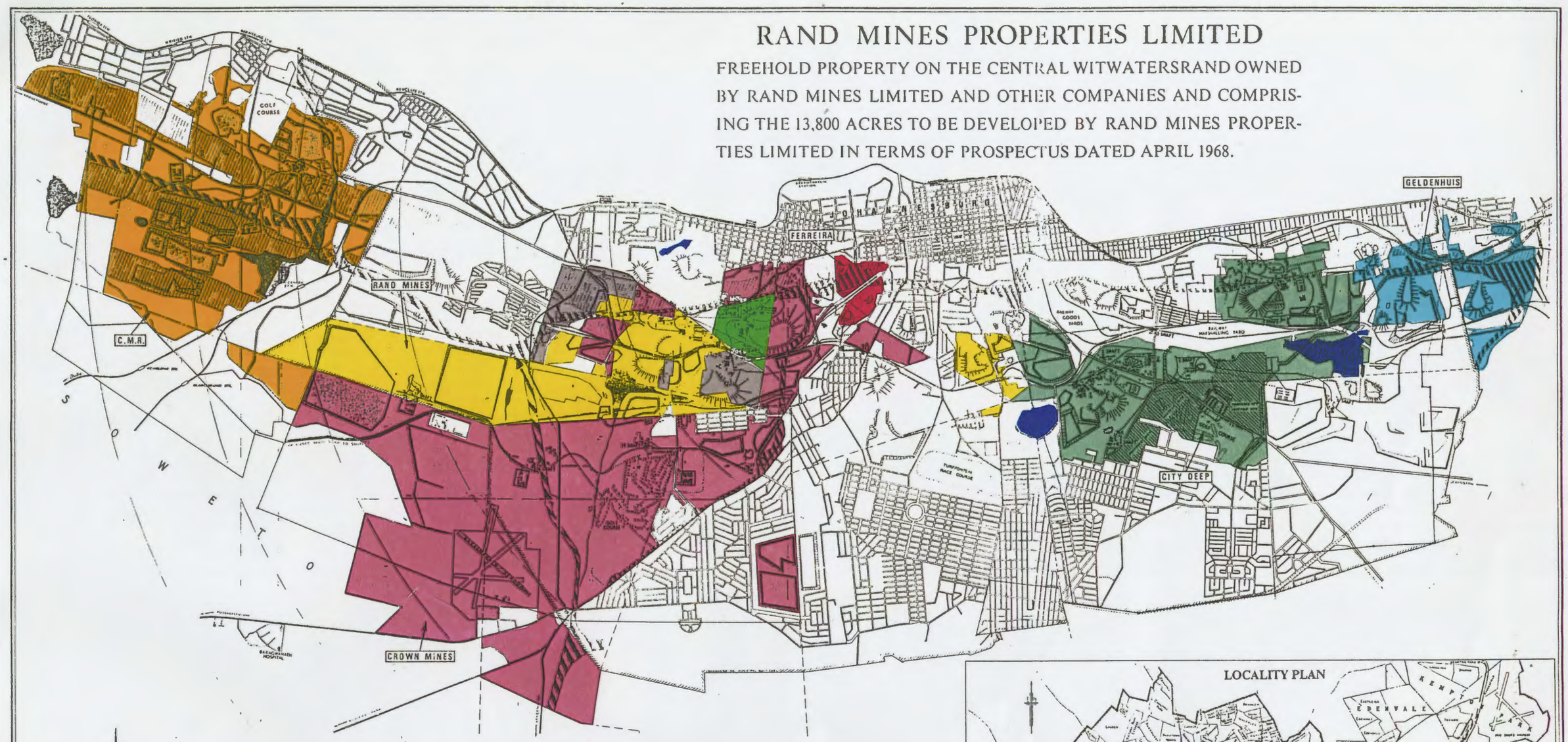
- The Kelvin-Orlando Interconnector : 47 acres (19.02ha) of City Deep's freehold and 23 acres (9.30ha) of Geldenhuis' freehold were expropriated for a high voltage power line to connect Johannesburg's two municipal power stations at Kelvin and Orlando.

- Motorways :
  Johannesburg Western By-Pass : 13 acres (5.26ha) of C.M.R's freehold

[1] The amount of compensation payable in respect of the expropriations was disputed by RMP and referred to arbitration. The dispute between City Deep and the Johannesburg City Council in respect of the Municipal Market expropriation was settled at the end of 1968, when RMP was awarded R977, 500 as compensation with costs. An amount of R814 000 was received during the 1971 financial year from the Johannesburg City Council in respect of compensation for approximately 4 hectares of land that was expropriated for additional access to the Municipal Market and Abattoir and as final payment for approximately 102 hectares of land expropriated for various motorways.

# RAND MINES PROPERTIES LIMITED

FREEHOLD PROPERTY ON THE CENTRAL WITWATERSRAND OWNED BY RAND MINES LIMITED AND OTHER COMPANIES AND COMPRISING THE 13,800 ACRES TO BE DEVELOPED BY RAND MINES PROPERTIES LIMITED IN TERMS OF PROSPECTUS DATED APRIL 1968.




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**Fig. 3.1 RMP PROSPECTUS MAP**

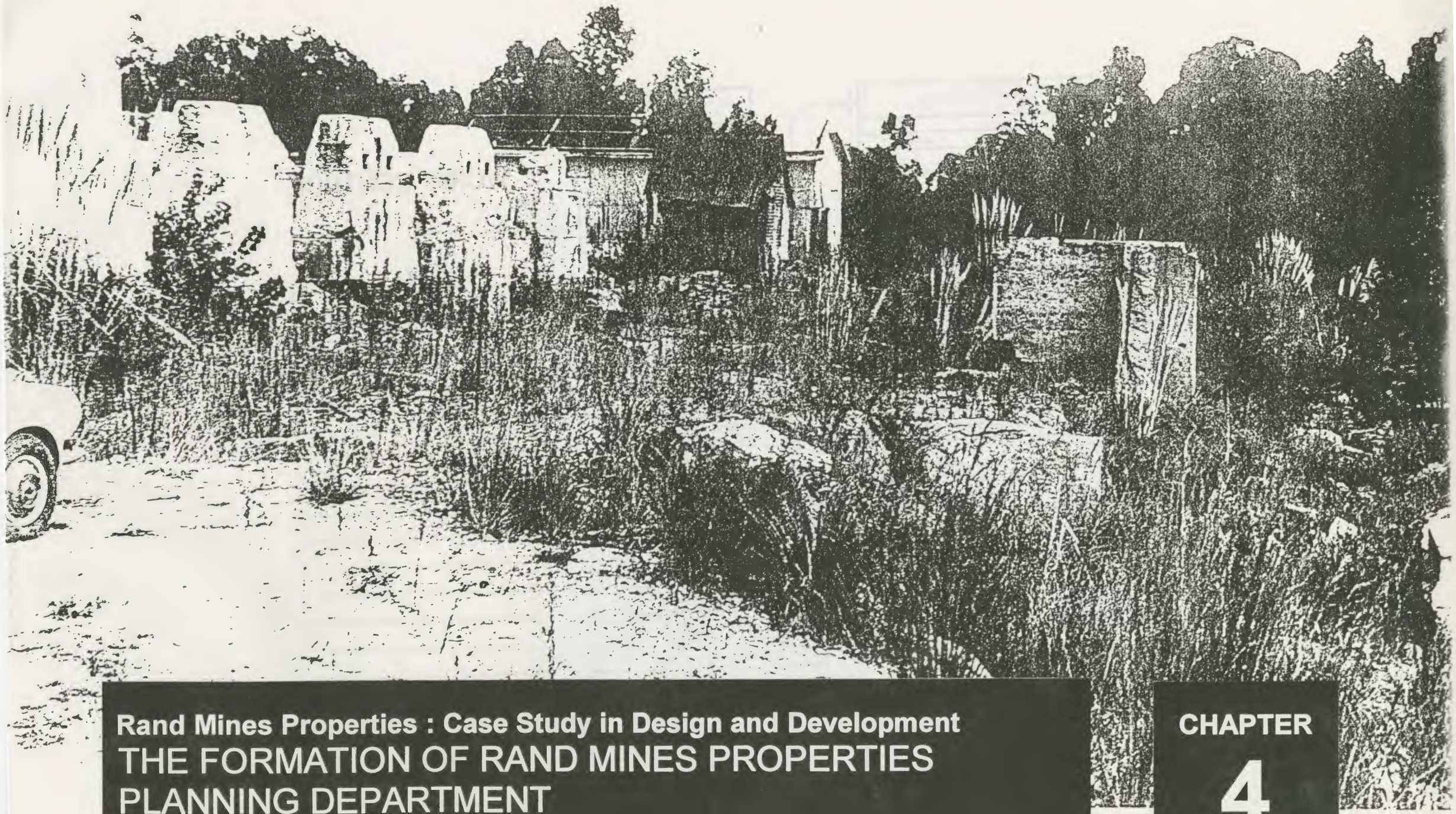
**1 : 50 000**

Figure 3.1 :
Rand Mines Properties : Extent of Land Holdings April 1968
1 : 60 000
*( source : RMP Prospectus (1968) )*

was expropriated by the Transvaal Roads Dept. for the By-Pass.
East-West and North-South Motorways (including Heidelberg Road and Westgate Interchanges) : 142 acres (57.46ha) of freehold owned by City Deep, Crown Mines, Crown Crushers Estates and Ferreira were expropriated by the Council for these motorways.
Johannesburg Eastern By-Pass : 142 acres (57.46ha) of freehold owned by Geldenhuis was expropriated.
Soweto Road : 80 acres (32.37ha) of freehold owned by Crown Mines and Crown Crushers Estates was expropriated by the Council for the Soweto road which was to link Johannesburg and Soweto.

### 3.3 Conclusion.

The land holdings described above totalled approximately 14 000 acres (5665.72ha) of land, which at the time represented approximately 13% of the total municipal area of Johannesburg. Clearly, such a large area of land held unique opportunities which required a clear vision of its potential. The land holdings of RMP not only offered an opportunity to develop land in close proximity to the CBD of Johannesburg, but within the context of the structure of the city, where previously the 'mining belt' had impeded development, offered the potential opportunity to rehabilitate derelict mining land and to spatially integrate the city.



**Rand Mines Properties : Case Study in Design and Development**

# THE FORMATION OF RAND MINES PROPERTIES PLANNING DEPARTMENT

**CHAPTER**

**4**

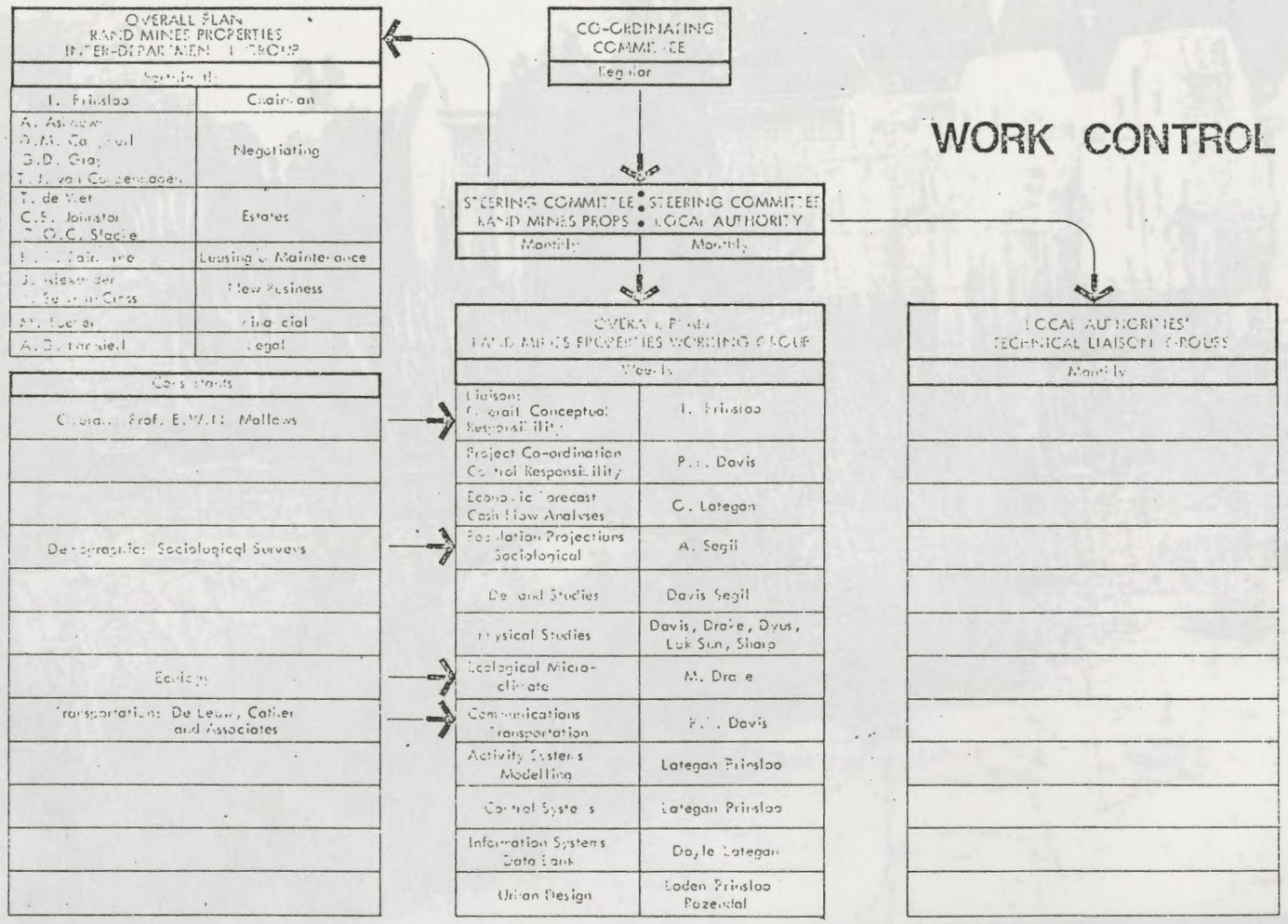

OVERALL PLAN
RAND MINES PROPERTIES
INTER-DEPARTMENTAL GROUP
Regular
I. Prinsloo
Chairman
A. Asseff
D.M. Campbell
G.D. Gray
T.J. van Coppenhagen
Negotiating
T. de Vlet
C.S. Johnston
P.O.C. Stagie
Estates
Leasing & Maintenance
New Business
Financial
Legal
Consultants
Chairman: Prof. E.W.H. Mallows
Demographic: Sociological Surveys
Ecology
Transportation: De Leeuw, Cather and Associates
CO-ORDINATING COMMITTEE
Regular
STEERING COMMITTEE RAND MINES PROPS
Monthly
STEERING COMMITTEE LOCAL AUTHORITY
Monthly
OVERALL PLAN
RAND MINES PROPERTIES WORKING GROUP
Weekly
Liaison; Overall Conceptual Responsibility
I. Prinsloo
Project Co-ordination Control Responsibility
P.J. Davis
Economic Forecast Cash Flow Analyses
C. Lategan
Population Projections Sociological
A. Segil
Demand Studies
Davis Segil
Physical Studies
Davis, Drake, Dyus, Luk Sun, Sharp
Ecological Micro-climate
M. Drake
Communications Transportation
P.J. Davis
Activity Systems Modelling
Lategan Prinsloo
Control Systems
Lategan Prinsloo
Information Systems Data Bank
Doyle Lategan
Urban Design
Boden Prinsloo Rozendal
WORK CONTROL
LOCAL AUTHORITIES' TECHNICAL LIAISON GROUPS
Monthly

Fig. 4.1

Figure 4.1
Work Control Diagram
*( source : Segal : Private Sector Objectives )*



### 4.1 The Business Prospects of RMP

The principal aim of RMP was the development of the property owned by the company. In terms of the prospectus, this would include the establishment of townships, the erection of factory buildings, warehouses, office buildings, shopping centres, houses and apartments. These buildings would be held for investment purposes and leased to provide a source of income.

The initial developments that were envisaged and described in the prospectus prior to the RMP Planning and Architecture Office being set up were :

- The development of industrial and commercial townships which were to be proclaimed on the Ferreira property.
- The development of an area of about 1000 acres (404.69ha) adjoining the Crown Mines Golf Club, as a high rise apartment area. It was estimated that this area could eventually provide apartments to accommodate up to 40 000 people. The development was planned to include the golf course as well as other recreational and 'scenic' features. This proposed development was in the Crown Mines - Ormonde area, and was the basis of the idea of developing Ormonde.
- The development of a portion of City Deep's land adjoining the market area, as a commercial township to serve the market and abattoir.
- The development, through the erection of factory premises, of an industrial township that was hoped would be proclaimed on the Geldenhuis property.

### 4.2 The Formation of the RMP Planning and Architectural Groups.

The Managing Director of the newly formed RMP was A.C.Peterson, a former Mine Manager. He was charged with setting up the company together with an attorney, Richard Wagner. They decided to set up an 'Estates and Marketing' Section, with the primary goal of developing Ormonde. To do this they needed to set up Architectural and Planning teams. To this end, Urban Design Consultants (UDC), a Cape Town based consortium headed by Roelof Uytenbogaardt, were appointed to prepare a design for the Ormonde area. At the same time, the Planning and Architectural Department of RMP, was established in September 1968.
Ivor Prinsloo, an architect who had graduated with a B.Arch from the University of the Witwatersrand (Wits) in 1966, was invited to set up the RMP Planning office.[1] He remained in charge of the office until September 1972.

Ivor Prinsloo's initial brief was to monitor the Ormonde project and represent the client - RMP in discussions and negotiations with UDC. The scope of the initial idea was then expanded to look at RMP's entire land holding.

---

[1] The story of the appointment is told by Ivor Prinsloo as follows : The Management of RMP invited both Roloef Uytenbogaardt and Max Kirchhofer to put forward proposals for the design of Ormonde. Both Roloef Uytenbogaardt and Max Kirchhofer approached Ivor Prinsloo, then on his own in Johannesburg, and Antonio de Souza Santos, then in the USA, to be on their respective teams. Because Ivor Prinsloo was on the lists for both teams, RMP approached him directly to become as an in-house co-ordinator.

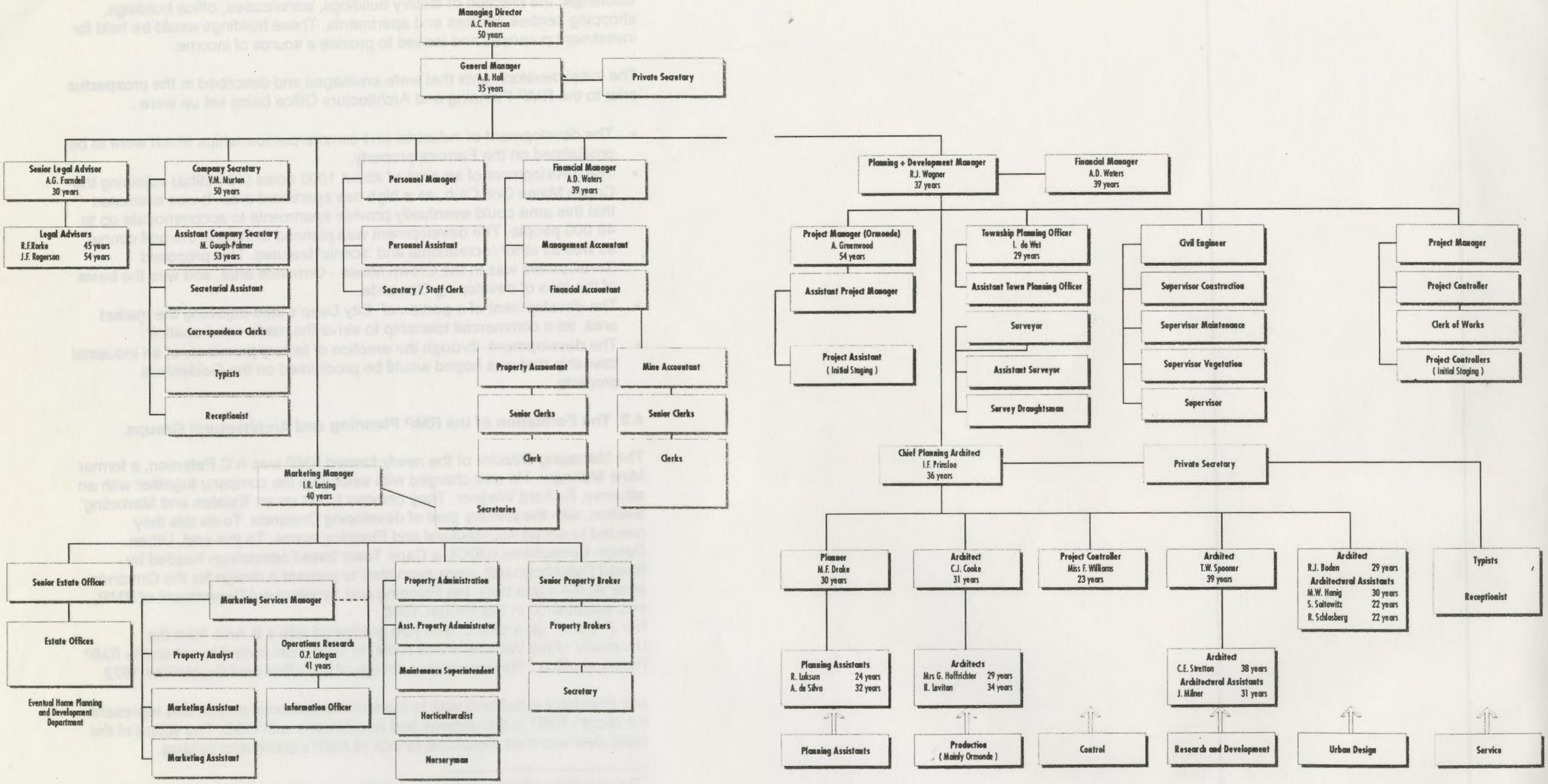

Managing Director
A.C. Peterson
50 years
General Manager
A.B. Hall
35 years
Private Secretary
Senior Legal Advisor
A.G. Farndell
30 years
Legal Advisors
R.F.Rorke 45 years
J.F. Rogerson 54 years
Company Secretary
V.M. Murton
50 years
Assistant Company Secretary
M. Gough-Palmer
53 years
Secretarial Assistant
Correspondence Clerks
Typists
Receptionist
Personnel Manager
Personnel Assistant
Secretary / Staff Clerk
Financial Manager
A.D. Waters
39 years
Management Accountant
Financial Accountant
Property Accountant
Senior Clerks
Clerk
Mine Accountant
Senior Clerks
Clerks
Marketing Manager
I.R. Lessing
40 years
Secretaries
Senior Estate Officer
Estate Offices
Eventual Home Planning and Development Department
Marketing Services Manager
Property Analyst
Marketing Assistant
Marketing Assistant
Operations Research
O.P. Lategan
41 years
Information Officer
Property Administration
Asst. Property Administrator
Maintenance Superintendent
Horticulturalist
Nurseryman
Senior Property Broker
Property Brokers
Secretary
Planning + Development Manager
R.J. Wagner
37 years
Financial Manager
A.D. Waters
39 years
Project Manager (Ormonde)
A. Greenwood
54 years
Assistant Project Manager
Project Assistant
( Initial Staging )
Township Planning Officer
I. de Wet
29 years
Assistant Town Planning Officer
Surveyor
Assistant Surveyor
Survey Draughtsman
Civil Engineer
Supervisor Construction
Supervisor Maintenance
Supervisor Vegetation
Supervisor
Project Manager
Project Controller
Clerk of Works
Project Controllers
( Initial Staging )
Chief Planning Architect
I.F. Prinsloo
36 years
Private Secretary
Planner
M.F. Drake
30 years
Planning Assistants
R. Luksun 24 years
A. da Silva 32 years
Planning Assistants
Architect
C.J. Cooke
31 years
Architects
Mrs G. Hoffrichter 29 years
R. Laviton 34 years
Production
( Mainly Ormonde )
Project Controller
Miss F. Williams
23 years
Control
Architect
T.W. Spooner
39 years
Architect
C.E. Stretton 38 years
Architectural Assistants
J. Milner 31 years
Research and Development
Architect
R.J. Boden 29 years
Architectural Assistants
M.W. Hanig 30 years
S. Saitowitz 22 years
R. Schlosberg 22 years
Urban Design
Typists
Receptionist
Service

Fig. 4.2

Figure 4.2
RMP Organisation April 1971
*( source : Segal : Private Sector Objectives )*

Thus the RMP Planning and Architectural Office was to be responsible for the development of the then disused mining land, located to the south of Johannesburg, owned by RMP.

It was clear that the development of this land would be subject to certain major constraints and determinants. The size and location of the land holding owned by RMP placed a greater responsibility on the company than would normally be the case. Coupled with this were constraints such as a strong prejudice against residential development in the south, the existing land uses in and around the company's land, air pollution and inadequate road systems. Mining requirements, constraints and determinants also had to be taken into account.

To this end a comprehensive strategy for development had to be formulated in order to co-ordinate development over a long period of time according to an overall development plan. This was to be the primary task of the Planning Office. However, within this, various architectural projects were undertaken.

The goal of RMP was to develop its land holdings to their maximum potential, and in accordance with commercial parameters, generate profits and increases in land values. RMP also believed that 'public good' and profit motive were not irreconcilable, that sound development in a business sense was not incompatible with good development in a community sense. In this way RMP sought to continue a perceived tradition of serving the citizens of Johannesburg.

The Planning and Architectural Department of RMP was concerned with and able to undertake architectural and urban design as well as town planning work. The general principles governing work in the office was that it would be centred on :

1. The development of systems for building types which were repetitive and would allow 'packages' to be offered to potential tenants.
2. Urban Design studies : to allow feasibility calculations to be made and to develop urban prototypes.
3. Concentration on Housing.

Ivor Prinsloo was responsible for the overall co-ordination of the Office as well as the broad conceptual formation of projects, and also represented the 'client' - RMP in negotiations with other consultants. Within the Office there were several project teams working on various development proposals. Various individuals will be mentioned in relation to different projects through the document.

The work in the Planning Office was to be handled by a multi - disciplinary team which included the following disciplines :

- Architecture
- Urban Design
- Urban Planning
- Geography
- Town Planning
- Land Surveying - Planning
- Sociology
- Mathematical Statistics
- Programming

The work on the overall planning project was to be done as follows :

- Tooling up, Mapping and Staffing Sept. 1968 - Sept. 1969

  This period included studies that defined the physical nature of the land holding, which would provide the basis for future proposals.

- Planning analyses and Land Use Proposal Oct. 1969 - Dec. 1970

  The development goals of RMP, the conceptual framework for development, and the planning strategy that would enable development were defined.

- Corporate model building and Phasing Jan 1971 - Dec. 1971

- Implementation and Development of the 5 year plans. Jan 1972 onwards

  The development phase would result from RMP moving out of a planning phase into an implementation phase. The implementation phase would manifest itself as four basic forms :

1. Land Restoration : This unit would be responsible for a mine dump vegetation program on all mining properties. This would improve the visual quality of the land as well as reduce atmospheric pollution and improve micro-climatic conditions. A further function would be the reclamation of land.

   RMP was also committed to a process of systematic land clearing in order to free up land for further development. A series of Mining Land physical studies was undertaken by the RMP Planning Office co-ordinated by Martin Drake. This included a study on the impact of pollution on the environment. The object of the study was to provide for a co-ordinated upgrading plan for the environment. The mine dumps and slimes dams located on RMP's land were established prior to existing legislation[2] which requires plans for the rehabilitation and after use of the area to be mined. However it was primarily economic concerns that led to a co-ordinated plan for land clearance and improvement.

2. Township Proclamations : This would address the need to turn raw land into township form and was directed at selected, more isolated pieces that would not form part of the overall development vision.

3. Commissioning and control of building projects.

4. Major Integrated Projects : This would include projects such as the development of Ormonde.

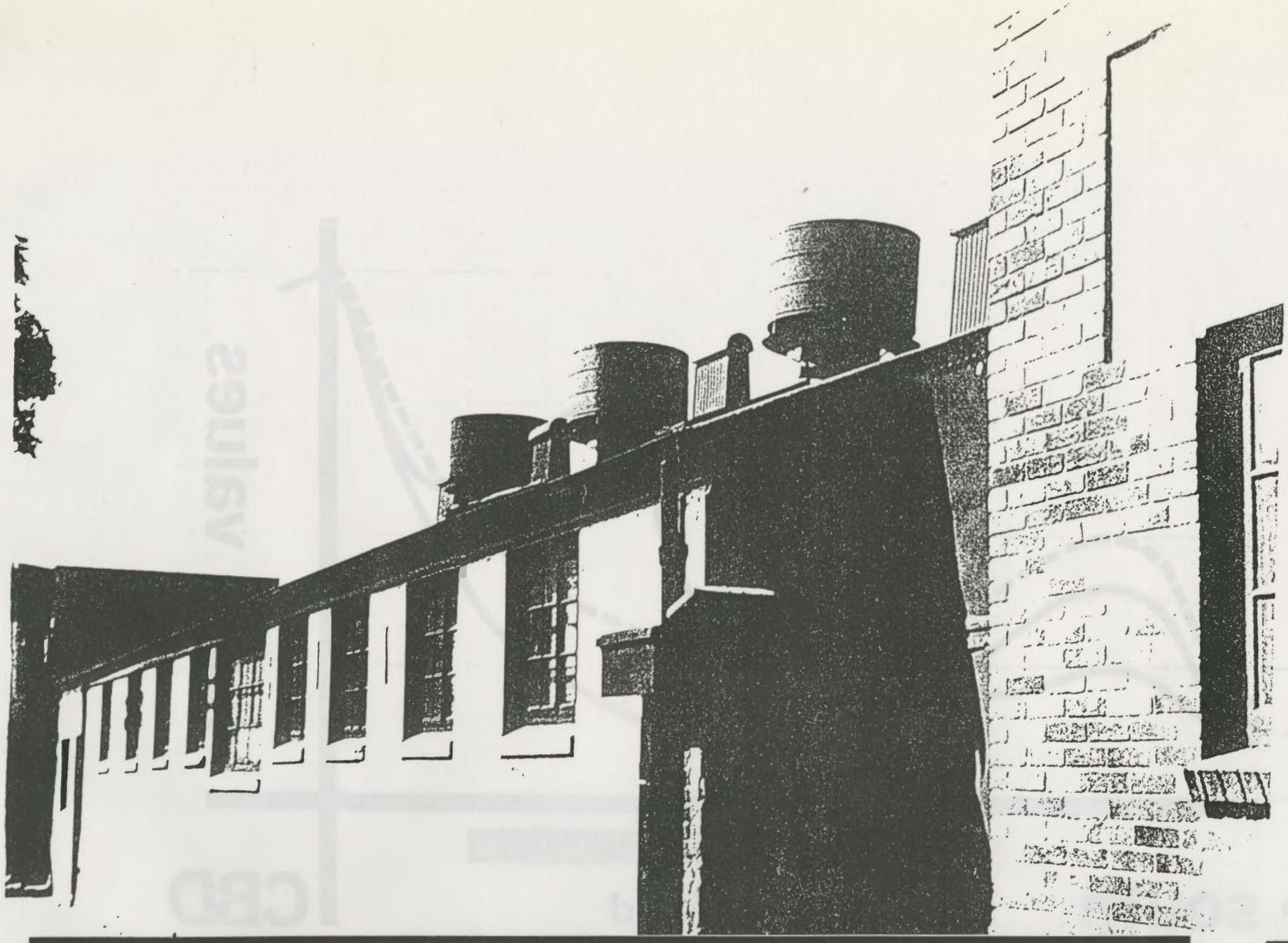
In addition to the RMP Planning Office, the following section were also to be built up, this was to ensure that services required in relation to the development process would be on hand within the organisation.
These included :

- A business section to deal with Broking and Estates.

- Financial, secretarial, personnel and accounting services.

- A development section that would undertake 'land projects' such as the Golf Course, and building project development.

[2] Current legislation in the form of the Minerals Act of 1991 stipulates that any company participating in mining or exploration, must provide proof of funds set aside for future rehabilitation of the area to be mined.



Rand Mines Properties : Case Study in Design and Development

# THE RMP PLANNING STRATEGY

CHAPTER

5

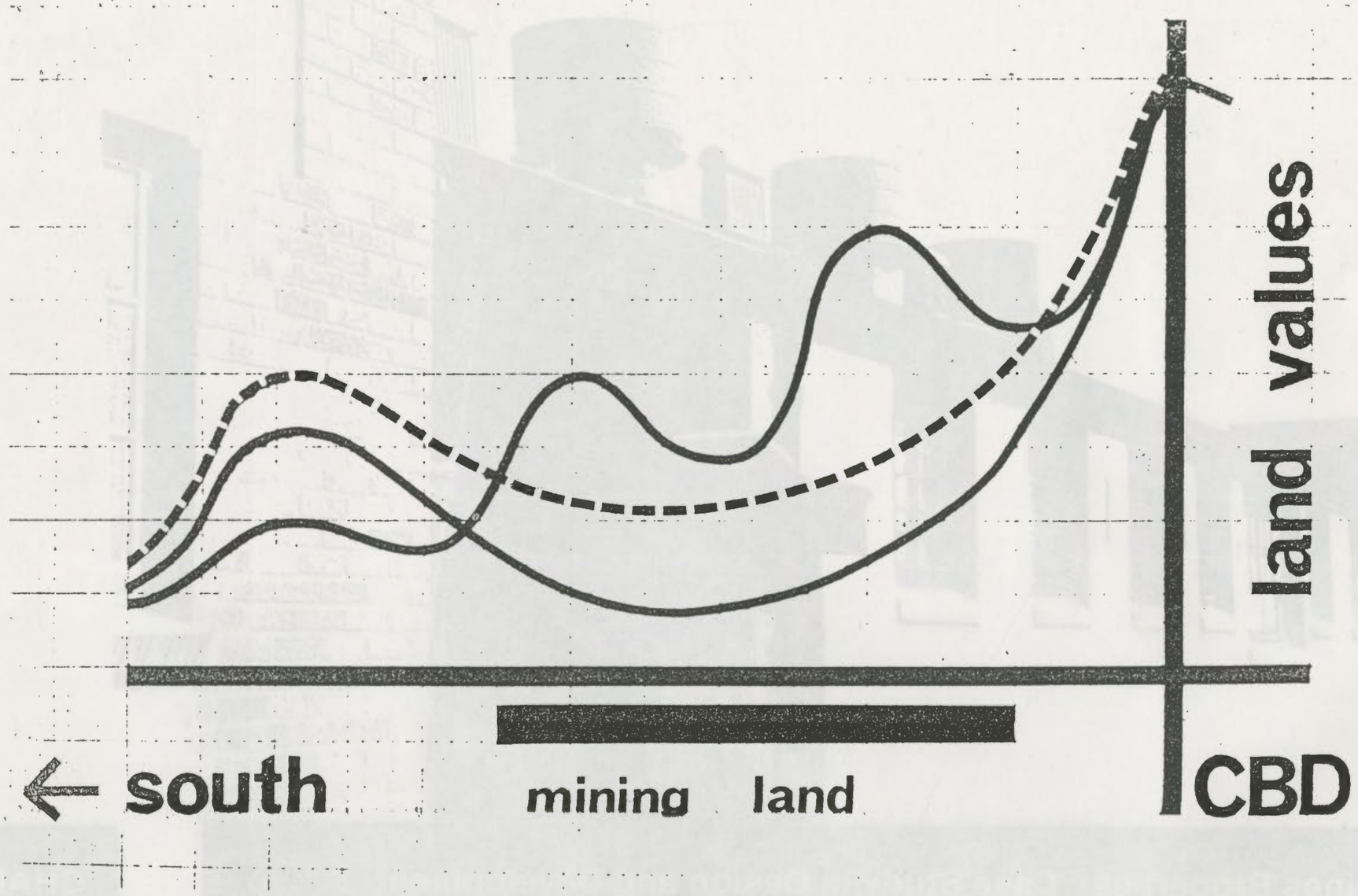



Fig. 5.1

Figure 5.1 :
Land Values : Land values southwards from CBD decline over the mining land well below that of adjacent developed land.
*( source : Prinsloo / Drake : Supply and Phasing (1973) )*

Figure 5.2 :
Mining Constraints Map
1 : 50 000
*( source : Prinsloo (1972) )*

## 5.1 Introduction

This chapter outlines the planning strategy developed by RMP which led to the production of a conceptual framework for development.

Given the fact that if the entire land holding of RMP was to have been developed, it would have saturated the demand for most land use until the end of the century.[1] Therefore it was assumed that RMP would become involved in the sale of raw land, developed land and building to cover as wide a market as possible. To this end a strategic plan for the entire property was produced and phased over 30 years, from 1968 onwards. This strategy was then linked to a discounted cash flow.

Once the physical planning of the land was completed, the planning function would shift from being the technical concern of the planning section to the overall concern of the whole company. The physical plan, in addition to providing RMP with an overall land use and transportation proposal, would be the basis of the development of the strategic plan and 5 year business plans. The land use proposals would be translated into a strategy for development.

In order to understand the potential of RMP's land holdings in formulating a strategy, and specifically the conceptual framework for the land use and transportation proposals, a series of studies outlining both the constraints and the capabilities of the land holdings were undertaken.

## 5.2 Land Use Studies : Constraints and Capabilities.

A series of definitions were used in the analysis of the property holdings of the group. They were as follows :

1. Unencumbered : Land clear of any dumps, dams or other major obstructions.

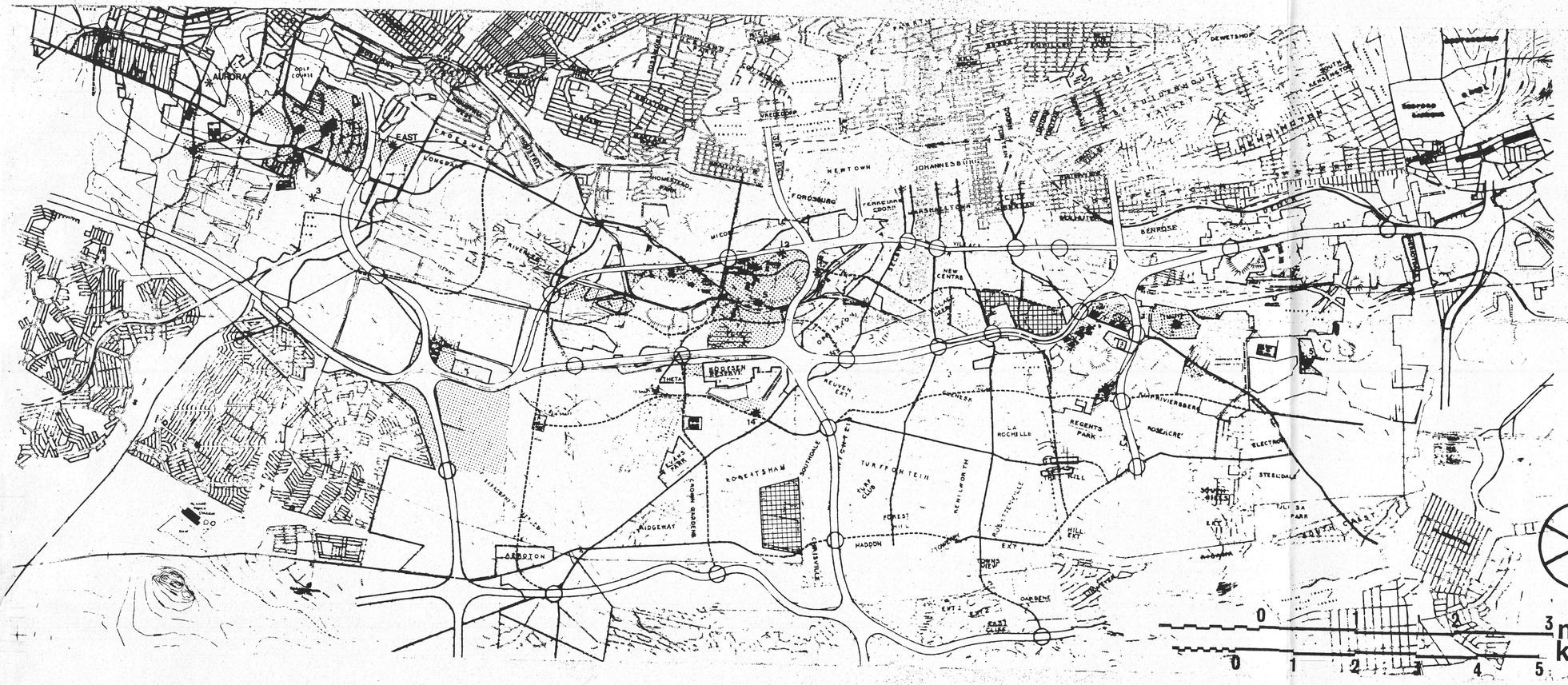
2. Lightly Encumbered : Land on which small dumps and buildings were situated, which could be cleared for future development without excessive expenditure.

3. Restricted : Land which has been undermined at vertical depths between 300ft (91.44m) and 800ft (243.84m) below surface and on which certain building limitations were imposed by the Department of Mines.

4. Fully Encumbered : Land which could not be used without major reconstruction due to large dumps and slimes dams.

---

[1] If the rate of consumption of industrial land in Johannesburg was estimated at a maximum of 50 acres (20.23ha) per year then it would have taken RMP about 280 years to develop its 14 000 acres (5665.72ha) assuming that the company monopolised the market and could utilise all the land
Drake and Prinsloo (1973)




corridor

access
existing arterials
proposed arterials
RMP boundaries
2 working shafts
7 dormant shafts
required for mining
payable dump
foreign mining title
foreign srp

# MINING CONSTRAINTS

RMP : Case Study in Design and Development

Fig. 5.2 1 : 50 000
MAP - MINING CONSTRAINTS



N

grade 1
grade 2
grade 3

0 1 2 3 km.
0 1 2m.

land capability: industrial

# RAND MINES PROPERTIES LIMITED

RMP : Case Study in Design and Development

Fig. 5.3 1 : 50 000
MAP SERIES LAND CAPABILITY

1



grade 1
grade 2
grade 3

N

0 1 2 3 km.
0 1 2m.

land capability: residential

# RAND MINES PROPERTIES LIMITED

RMP : Case Study in Design and Development

Fig. 5.3 1 : 50 000
MAP SERIES LAND CAPABILITY

2



N

grade 1
grade 2
grade 3

0 1 2 3 km.
0 1 2m.

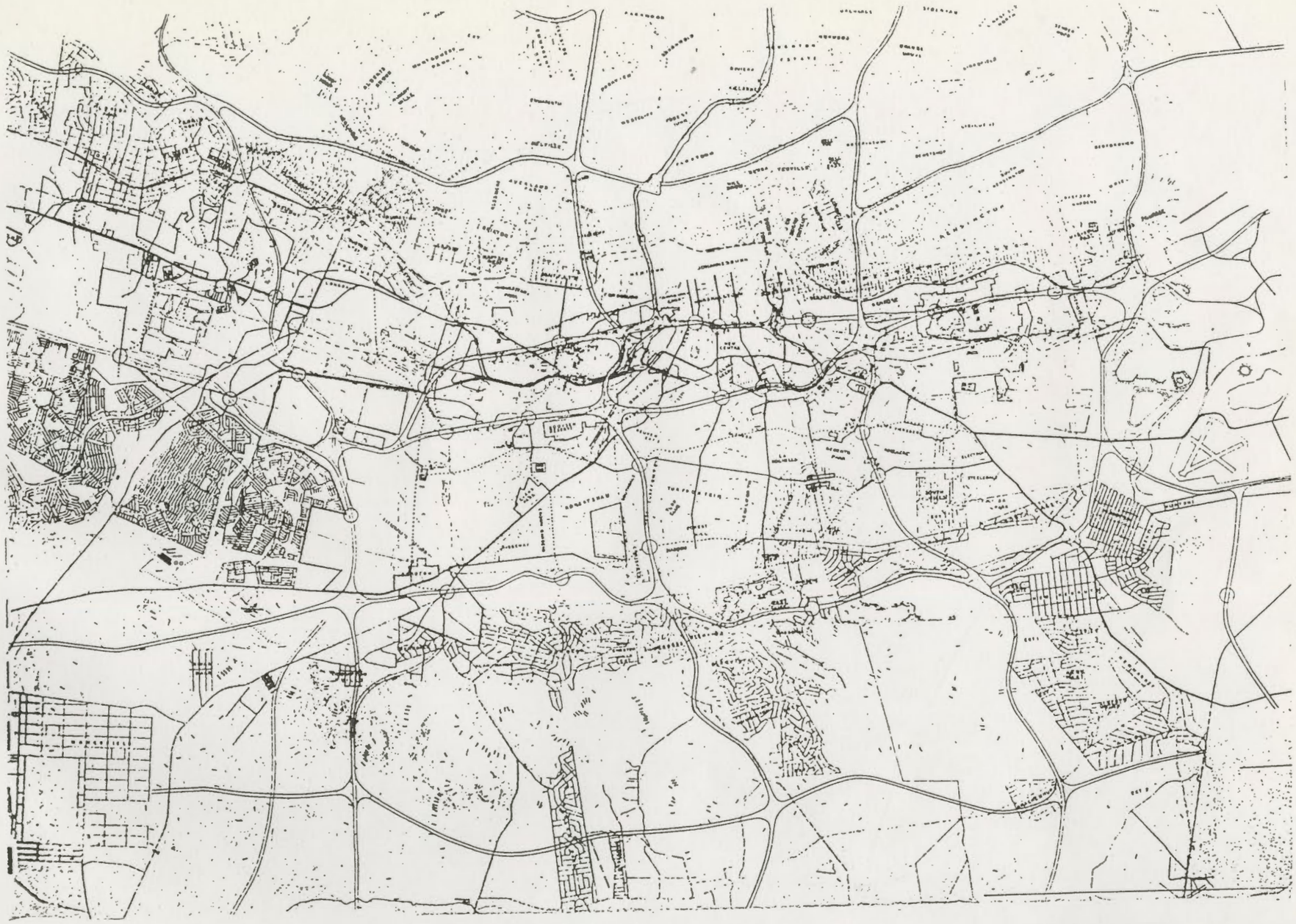
land capability : recreational .

# RAND MINES PROPERTIES LIMITED

RMP : Case Study in Design and Development

Fig. 5.3 1 : 50 000
MAP SERIES LAND CAPABILITY

3



RMP : Case Study in Design and Development
Fig. 5.3 1 : 50 000
MAP SERIES LAND CAPABILITY

Figure 5.3 :
Land Capability Map Series
1 : 50 000
*( source : Drake (1973) )*

Land on which building was prohibited by the Department of Mines due to undermining from the surface down to a vertical depth of 300ft (91.44m).
Land occupied or likely to be occupied by major roads and powerlines

The basis of the study of constraints and capabilities was extrapolated from a series of Mining Land physical studies which included slope analysis, vegetation, geology, microclimate and geology. *(Fig. 5.11).* The object of the collection of physical data was to produce a map showing the capability of the land to support various land uses. This capacity could then be graded according to the various positive and negative factors which affected the land. These were termed constraints because they constrained or altered land use proposals. These factors were not always negative, although the area had a poor environmental image, they affected the entire property and were of a wide and varying nature.

The constraints were plotted on overlays at 1:15 000 and 1:30 000 over the entire property. The object was to determine which areas of the land were the least 'constrained' for each given land use, assuming that there was a total demand. Three grades of constraints were chosen for three broad land uses.

The three basic land use types were :

1. **Residential** which included all related activities such as schools, corner shops etc.
2. **Industrial** which was seen as the productive component and included large shops, offices warehousing and industry.
3. **Recreational** which was seen as a positive land use competing with others, rather than a residual land use.

The constraints were seen to impose four levels of restrictability on the land in terms of the cost and rate of development, which varied for each of the three basic land use types.

The grades adopted were as follows :

**Grade 1 :** Prime land for development of the particular land use type being considered.

**Grade 2 :** Lightly encumbered land with regard to the particular land use being considered.

**Grade 3 :** Heavily encumbered land with regard to the particular land use being considered.

**Grade 4 :** 'Hopelessly' encumbered land with regard to the particular land use being considered.

SHOWING SIEVE TECHNIQUE USED BY R.M.P. PLANNING DEPARTMENT TO PRODUCE THE OVERALL PLAN. July 1970.

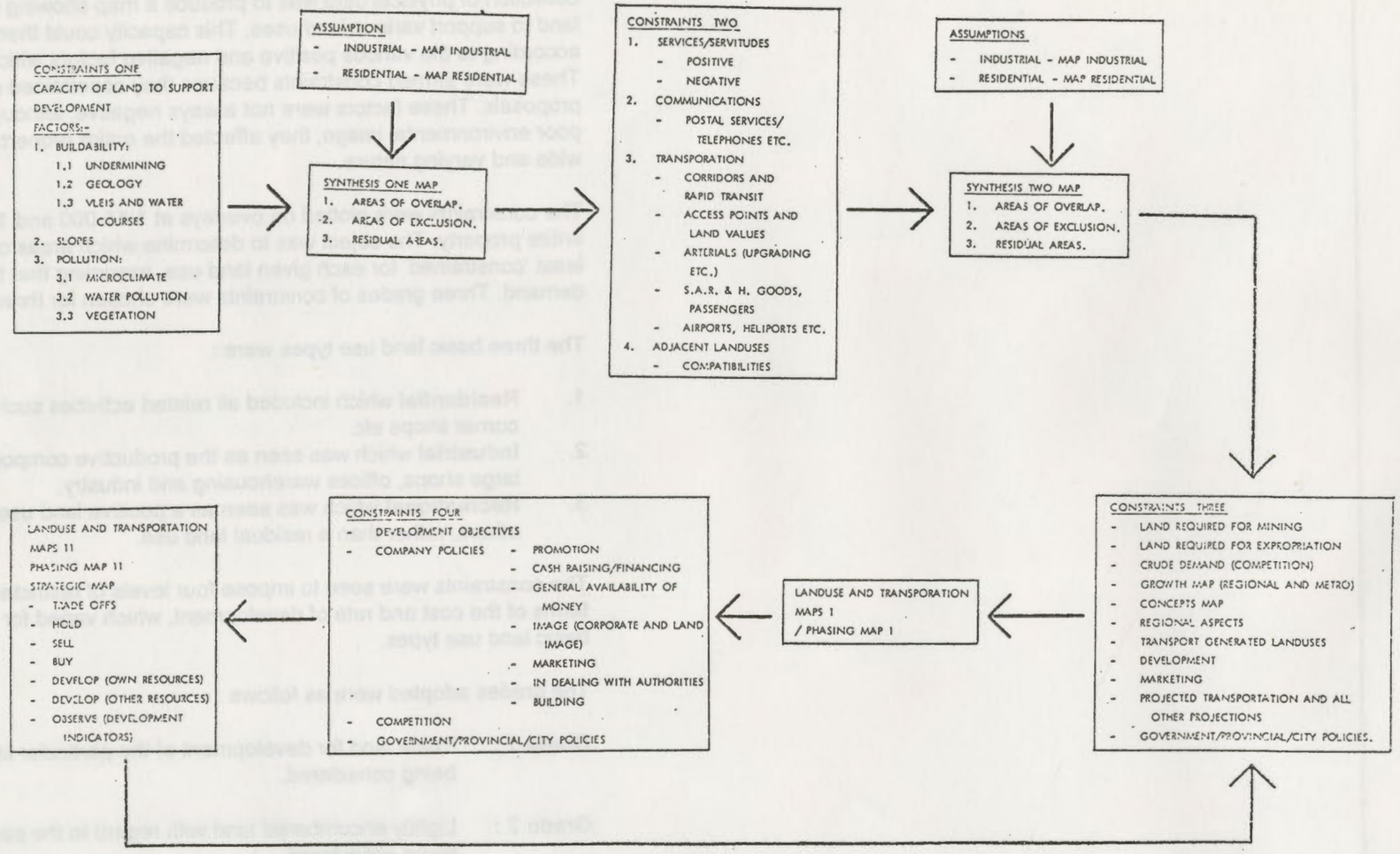



Fig. 5.4

Figure 5.4 :
Sieve Technique used by RMP to produce the overall plan : July 1970
*( source : Drake (1973) )*

Figure 5.5 :
Synthesis One Map Series
Synthesis Two Map Series
1 : 50 000
*( source : Drake (1973) )*

When three maps had been produced *(Fig. 5.3)*, as a result of considering the first level of constraints, they were overlaid and a synthesis map produced. The synthesis map was produced as follows :
Where one land use type did not compete with any other it was plotted directly onto the synthesis map. Where land uses competed with each other they were plotted as such and finally certain areas became residual areas which were highly encumbered.

From this three maps were produced :

1. Map Industrial
2. Map Residential
3. Map Recreational

Each of these maps showed four grades of potential. These were then combined into a first synthesis map which showed areas of overlap, exclusion and residual areas. This first synthesis map *(Fig. 5.5)* was then 'sieved' through a second and third level of constraints.

After four levels of constraints had been considered in this manner, the final synthesis map showed land for residential, industrial and recreational purposes as well as residual land.

The fourth series of constraints included proposals for the development of the land and terminated in a set of three maps showing land use, phasing and strategy.

The strategic map *(Fig. 6.4)* showed seven categories of action which would have been implemented in the areas shown :

- hold
- sell
- buy
- trade off's
- develop (own resources)
- develop (other resources)
- observe (development indicators)

The technique of using constraints as a series of sieves led to a synthesis of information which ultimately provided the conceptual framework for a more detailed land use and transportation proposal. This 'sieve' technique was described in a flow diagram. *(Fig. 5.4)*

**5.3 The Land Use Concept**

Initially it was hoped that the land use map might yield three alternative patterns with three corresponding phasing and strategy maps. However in applying the conceptual framework it was found that only two real alternatives



residential
industrial
competing land use

N

0 1 2 3 km.
0 1 2m.

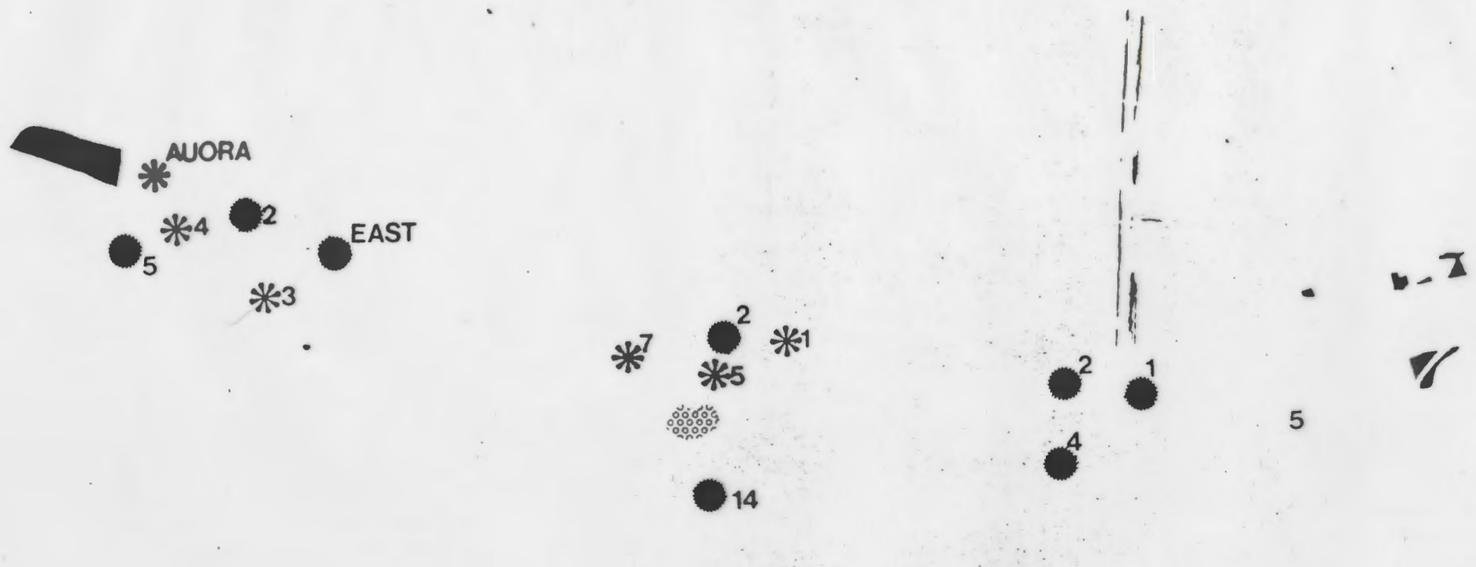
synthesis 1

# RAND MINES PROPERTIES LIMITED

RMP : Case Study in Design and Development

Fig. 5.5 1 : 50 000
MAP SERIES - SYNTHESIS 1

1




mining constraints

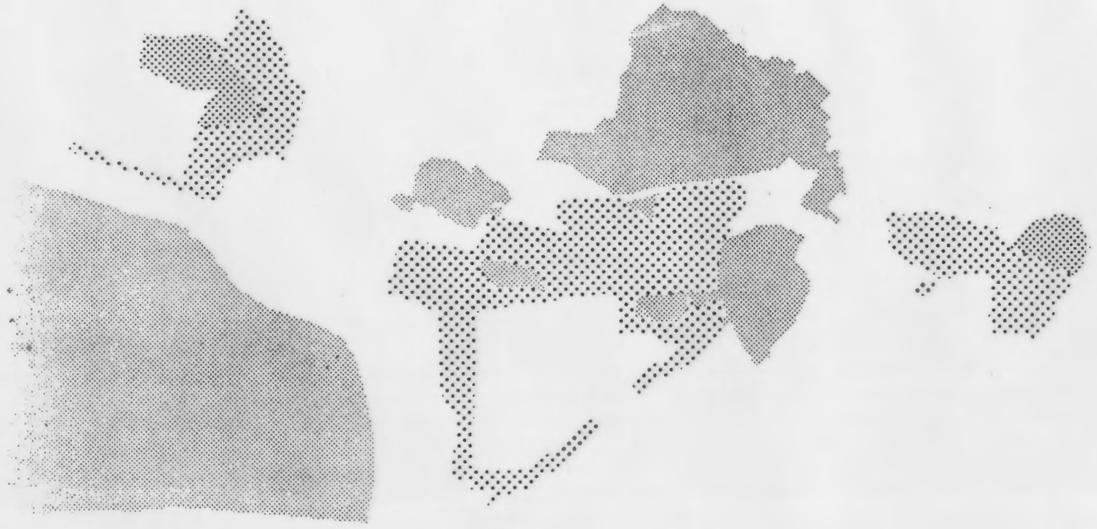
# RAND MINES PROPERTIES LIMITED

RMP : Case Study in Design and Development

Fig. 5.5 1 : 50 000

MAP SERIES - SYNTHESIS 1

2



N

physical
legal
legislative
note : dependent on 1971 land use map

0 1 2 3 km
0 1 2m

control areas

# RAND MINES PROPERTIES LIMITED

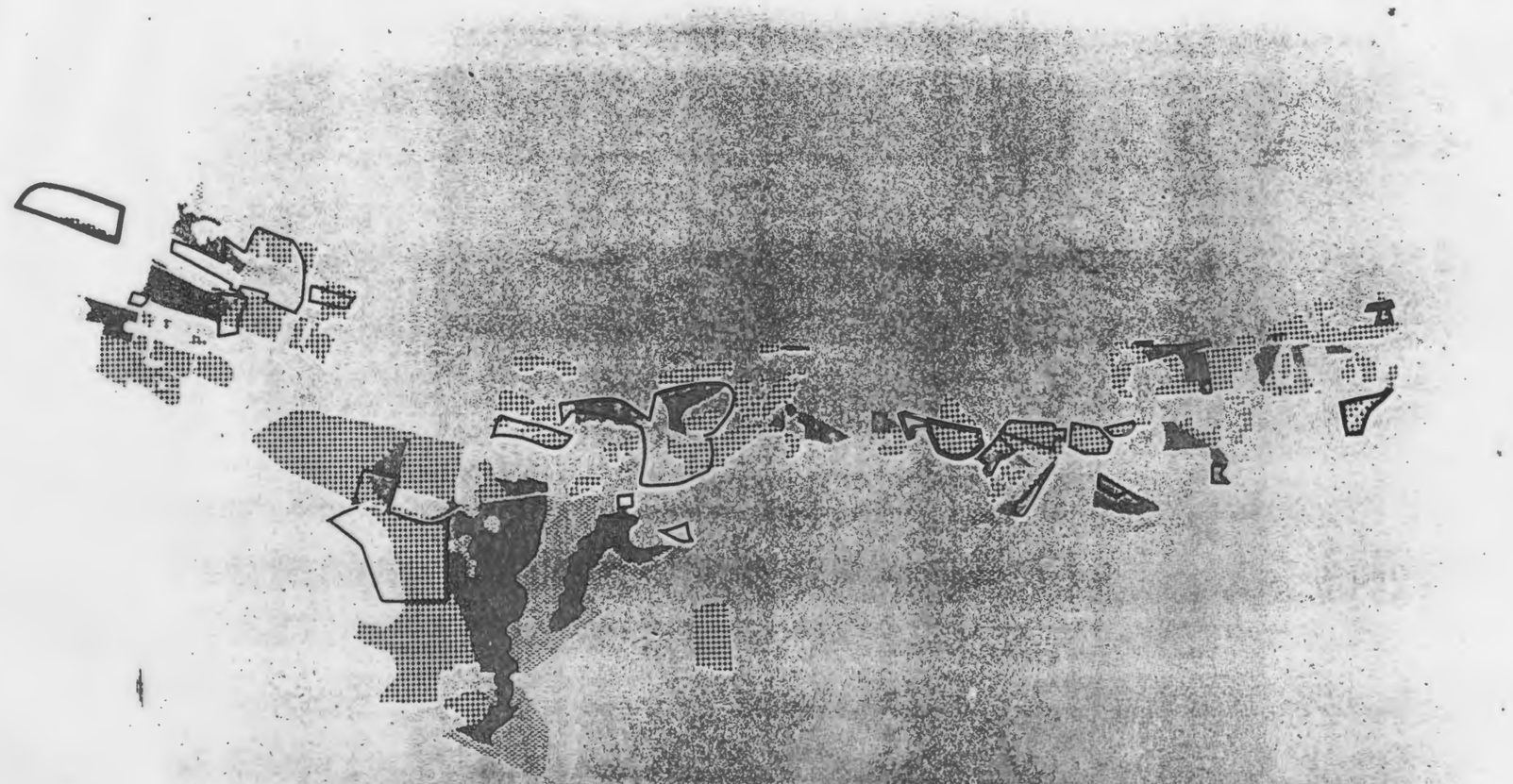
RMP : Case Study in Design and Development

Fig. 5.5 1 : 50 000
MAP SERIES - SYNTHESIS 1

3



RMP : Case Study in Design and Development
**Fig. 5.5** **1 : 50 000**
**MAP SERIES - SYNTHESIS 1**



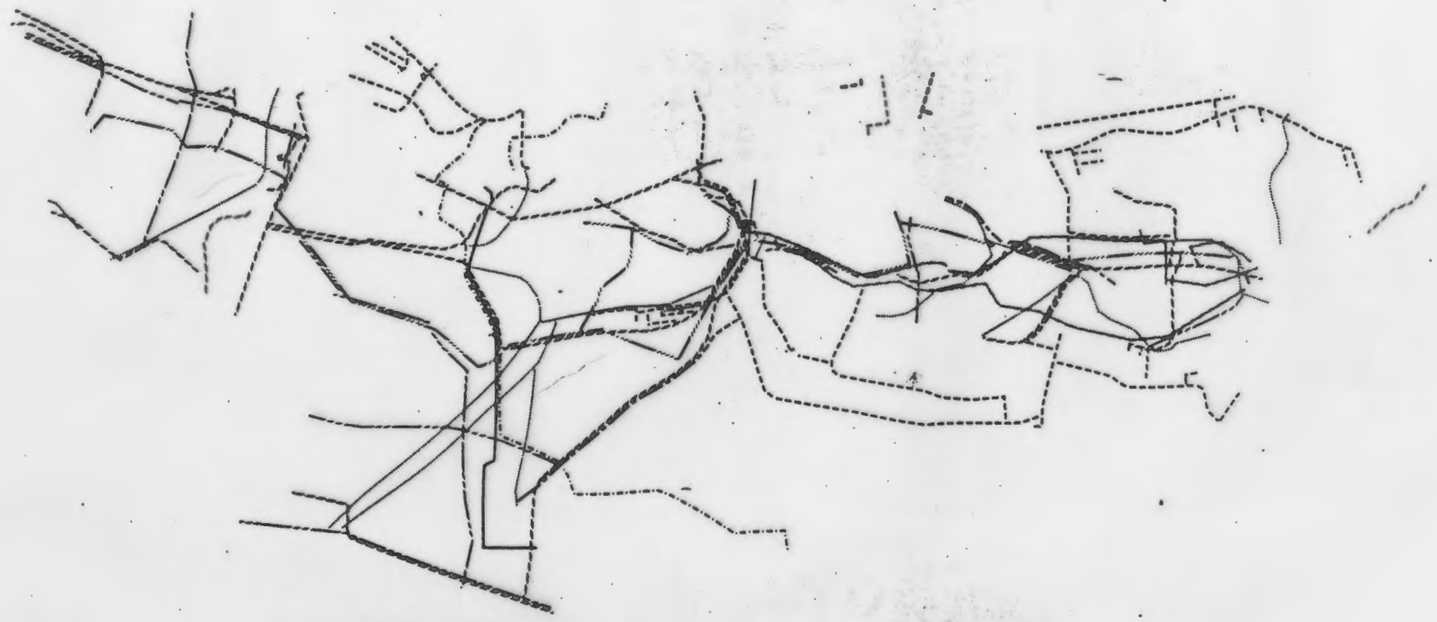

# RAND MINES PROPERTIES LIMITED

RMP : Case Study in Design and Development

Fig. 5.5 1 : 50 000

MAP SERIES - SYNTHESIS 2

1



RSA petrol pipeline
proposed ESCOM 275 kv
power lines
proposd Council 88 kv
RWB

sewers
Gaskor
high pressure gas
proposed gas
compressed air

N

0 1 2 3 km.
0 1 2m.

servitudes

# RAND MINES PROPERTIES LIMITED

RMP : Case Study in Design and Development

Fig. 5.5 1 : 50 000
MAP SERIES - SYNTHESIS 2

2



RMP : Case Study in Design and Development
**Fig. 5.5** **1 : 50 000**
**MAP SERIES - SYNTHESIS 2**

could be applied to the land, and that the existing framework and constraints, particularly the policies of the authorities, reduced these two to being quite similar to each other.
The conceptual framework was finally reduced to three ideas :

1. Prior to the extensive mining activities in the Witwatersrand, a series of lakes and streams running east / west parallel to the Witwatersrand existed. The early settlers had established recreational areas and had drawn their water supplies in this belt. Major recreational facilities such as the Rand Stadium, the Olympic Ice Rink and Turffontein Race course, had subsequently been established in these areas. By that time some of the lakes had disappeared, their only trace being in a road or township name, like Heronmeer Road. Of all the lakes and dams only Wemmer Pan had remained an area of recreation. Herronmeer had disappeared below a Mine Dump, and the Mooifontein Dam had silted up. The first dams built by the mines added to this belt so that the line could be traced from Florida Lake to New Canada Dam, across to Wemmer Pan and Germiston Lake. The mining land 'belt' had reinforced an east - west pattern of development. Therefore it was seen that the land use pattern would incorporate and strengthen the existing patterns.

   Together with this was the anticipation of tourism and the anticipation of the need for a major regional recreation facility in the centre of Johannesburg. The need to increase the environmental quality of Johannesburg in the east - west axis was recognised. Of major importance was the need to make the east - west movement system capable of structuring the city. This was influenced by the 'urban structuring' concepts proposed by the Smithsons in the London Roads Study of 1959.

   This was called the 'Green Strip' Concept, it was seen to have numerous advantages including :

   - The availability of large areas of open space
   - The possibility of land reclamation
   - The strengthening of an existing pattern of growth.
   - The upgrading of the region and improvement of its image.
   - The opportunity to cater for unique types of development on RMP's land.
   - The sanction and goodwill of the public authorities.
   - The possibility of increasing demand for adjacent land for compatible land uses such as residential once development had taken place.
   - The opportunity of creating a desirable land use without suffering a financial disadvantage.

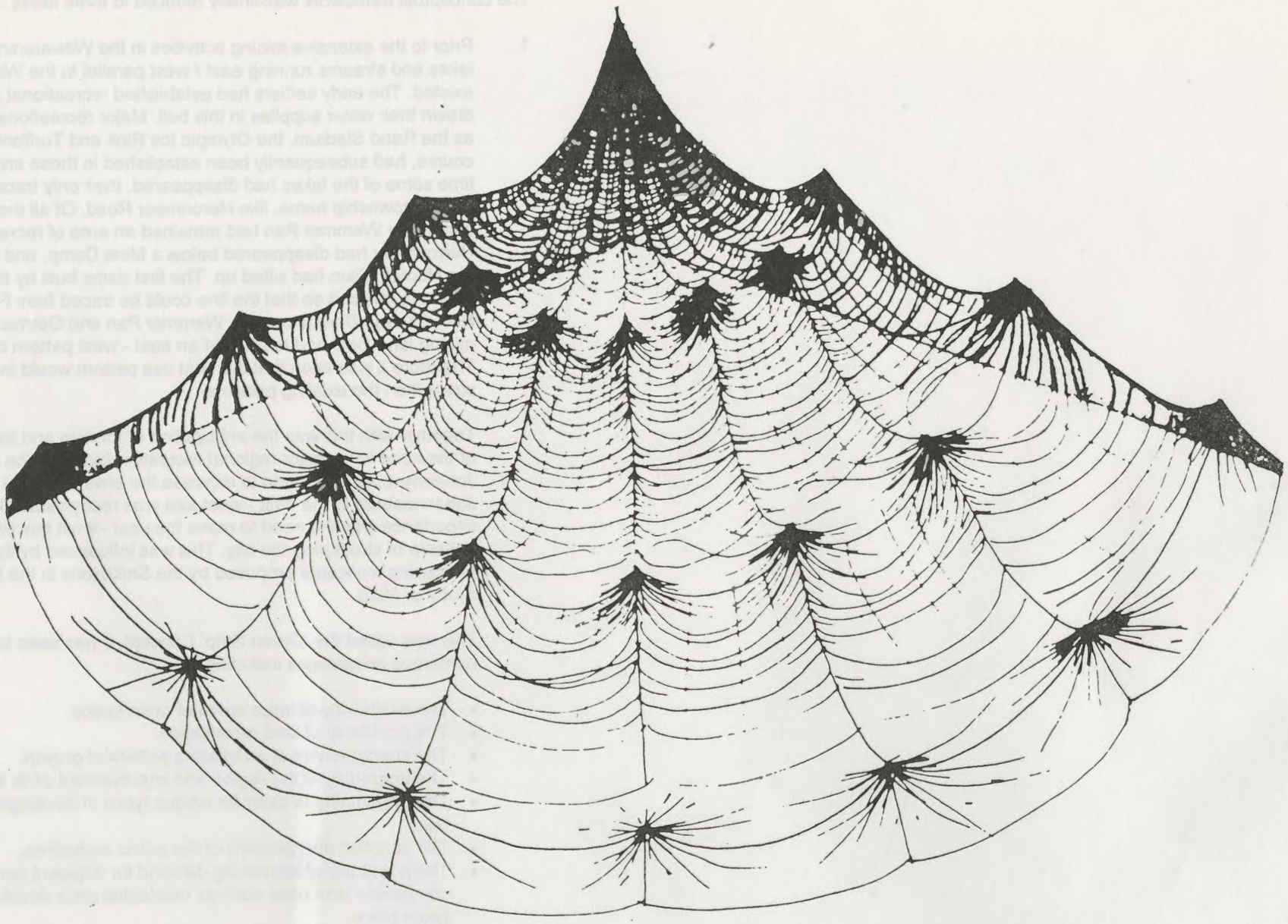


Fig. 5.6

Figure 5.6 :
Land Values Diagram (after Chapin) showing highest values at city centre decreasing outwards with subsidiary value peaks at regional or sub nodes
*( source : Drake (1973) )*

The key factor in any proposal was that the land to be developed had to be deproclaimed as mining land and established as land with other zonings and controls. This could only be achieved with the consent and approval of local and provincial authorities. Approval was dependent on a comprehensive plan for development. It was agreed by the Johannesburg Planning Department that RMP could produce such a proposal 'in-house' provided that they were consulted as to goals, objectives and standards relating to the development.

The key to increasing the value of the land was by means of infrastructural development. This was to be achieved through :

- An integrated planning approach
- By environmental upgrading of certain areas e.g. grassing of the mine dumps.
- By introducing new uses in terms of the overall development. There was a realisation of the importance of tourism and mass entertainment.
- By working at improving the negative image of the south by means of a major 'implant' - the development of Ormonde.[2]
- By tapping existing demands in terms of smaller projects.
- Most importantly, by marketing RMP as an entity as such.

The two alternative concepts related to the degrees of land use which the land could support and were merely a difference in emphasis.

2. The first placed an emphasis on residential and new uses wherever possible as opposed to a productive land use component.

3. The alternative was that a productive land use be emphasised. This meant continuing the existing trend of industrial zonings

In view of demand, Government policy at the time and the company's cash flow analysis, it was decided to favour a residential land use wherever possible and to aim to achieve maximum returns from all land uses. Thus the land use maps were biased towards residential land. Because of the size of the company's land holding, there was a need to provide all types of development, hence a mixed use residential environment was emphasized.

### 5.4 Process and Method - Procedural Theory

One of the objects of the strategic and phasing maps was to safeguard as much long term flexibility as possible. The object of the exercise was not to produce a definite fixed end object, but to allow for feedback which would allow for the continuous updating and revision of the land use, phasing and

[2] The idea of developing Ormonde as a major 'implant' was identified by RMP Management themselves before the RMP Planning Department was established. Ivor Prinsloo surmises that this idea may have come from A C Peterson, who as mine manager of Crown Mines before becoming Managing Director of RMP, lived at Ormonde Estate. Ivor Prinsloo comments that at the time Mine Managers lived in relative luxury and that A. C Peterson believed that the whole world would like to live at Ormonde.

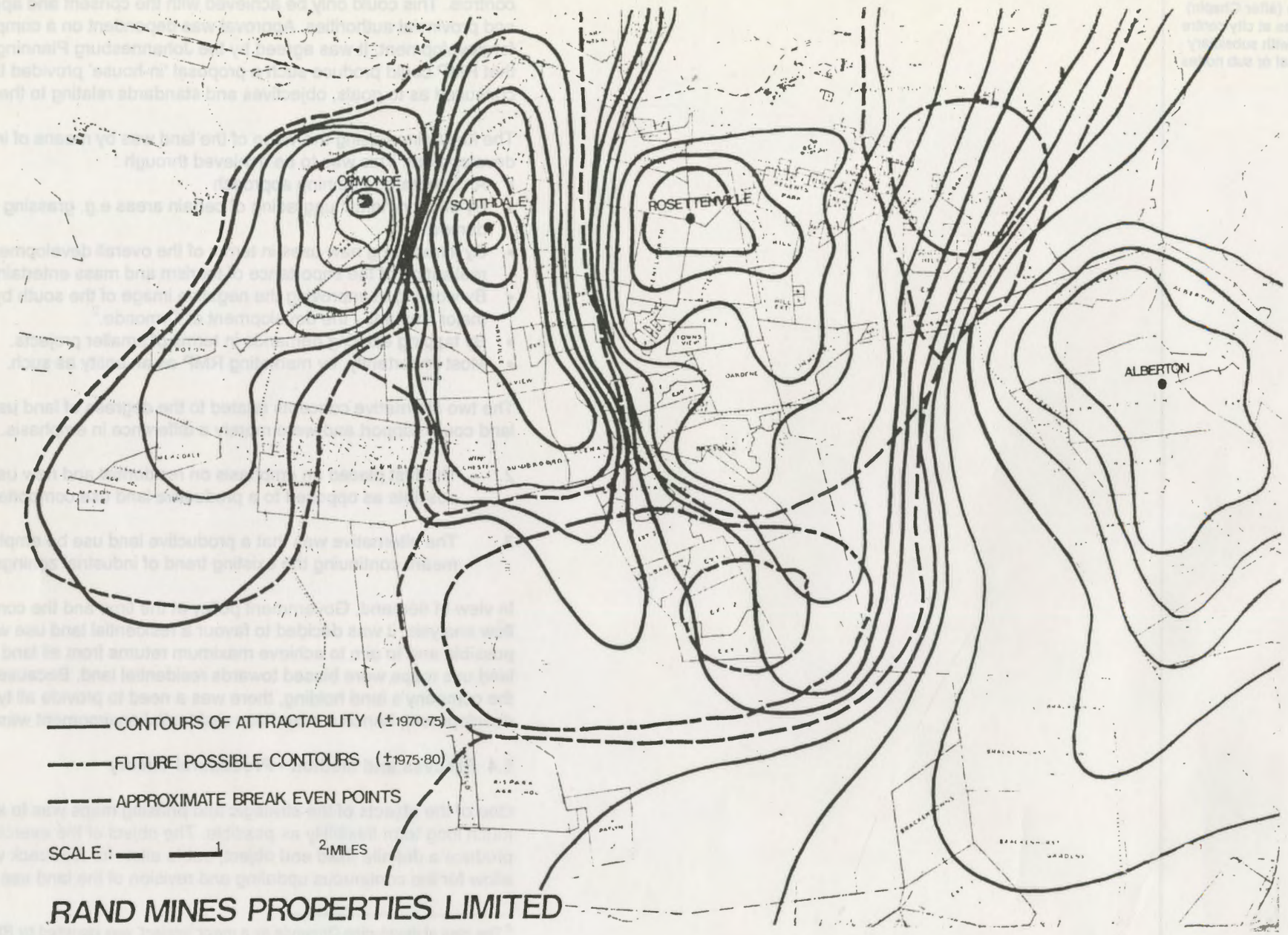

ORMONDE
SOUTHDALE
ROSETTENVILLE
ALBERTON
CONTOURS OF ATTRACTABILITY (±1970-75)
FUTURE POSSIBLE CONTOURS (±1975-80)
APPROXIMATE BREAK EVEN POINTS
SCALE : 1 2 MILES
RAND MINES PROPERTIES LIMITED

Fig. 5.7

Figure 5.7 :
Test Situation : Mathematical Model developed by Huff in 1962 used to identify probability, location and size of retail shopping space.
*( source : Drake (1973) )*

strategic maps. Planning was seen as a strategy for development rather than as a specific masterplan proposal.

This was an important point. In doing this RMP was starting to move away from the 'blueprint' or 'masterplan' planning approach prevalent in South African planning at the time *(Fig. 5.8)*, towards a modified 'Rational Comprehensive' mode of planning which was more flexible and process driven.

Faludi (1973.115,118) in introducing the ideas of Meyerson, defines Blueprint Planning as *" a form of planning which determines every detail of the solution to a problem and then only proceeds unswervingly towards implementing the plan."*[3] He also states that *" traditional comprehensive planning has never been effective because of the lack of relevant information and guidance to decision makers concerning immediate implications of long term plans."* He also recognises the role of politics and the market as powerful forces to which planning must be subordinate[4].

This deliberate shift in approach was fundamental to the setting up of a conceptual framework in terms of the definition of a 'strategy for development' Ivor Prinsloo as head of the Planning Department of RMP was driving this move away from a 'masterplanning' mindset.

The key ideas in terms of the shift in thinking were two-fold. Firstly there was a belief that process was important in terms of a method. The second was a fundamental shift in the perception of the way that cities work. Both were important in terms of the processes involved in formulating an approach and in terms of setting a coherent framework in terms of planning procedure and method.

New thoughts on procedural theory were being promulgated at the time as part of then current paradigms about planning and the performance of cities. Important sources were American journals such as the American Institute of Planners (AIP) Journal, during the period 1962 - 1969. These had a profound influence on the setting up of an approach towards the structuring of the RMP strategy.

The key notions taken from contemporary paradigms were that city processes could be modelled and that one had to start with a set of procedures rather

[3] This approach was well suited to the implementation of Apartheid planning. In this context an absolute plan implied absolute power and control in its implementation, and that total planning is a function of power.
[4] Marris (1987) asks the question as to whether one can sustain planning as a strategy in a predominantly market economy where the preoccupation is with short term profitability.

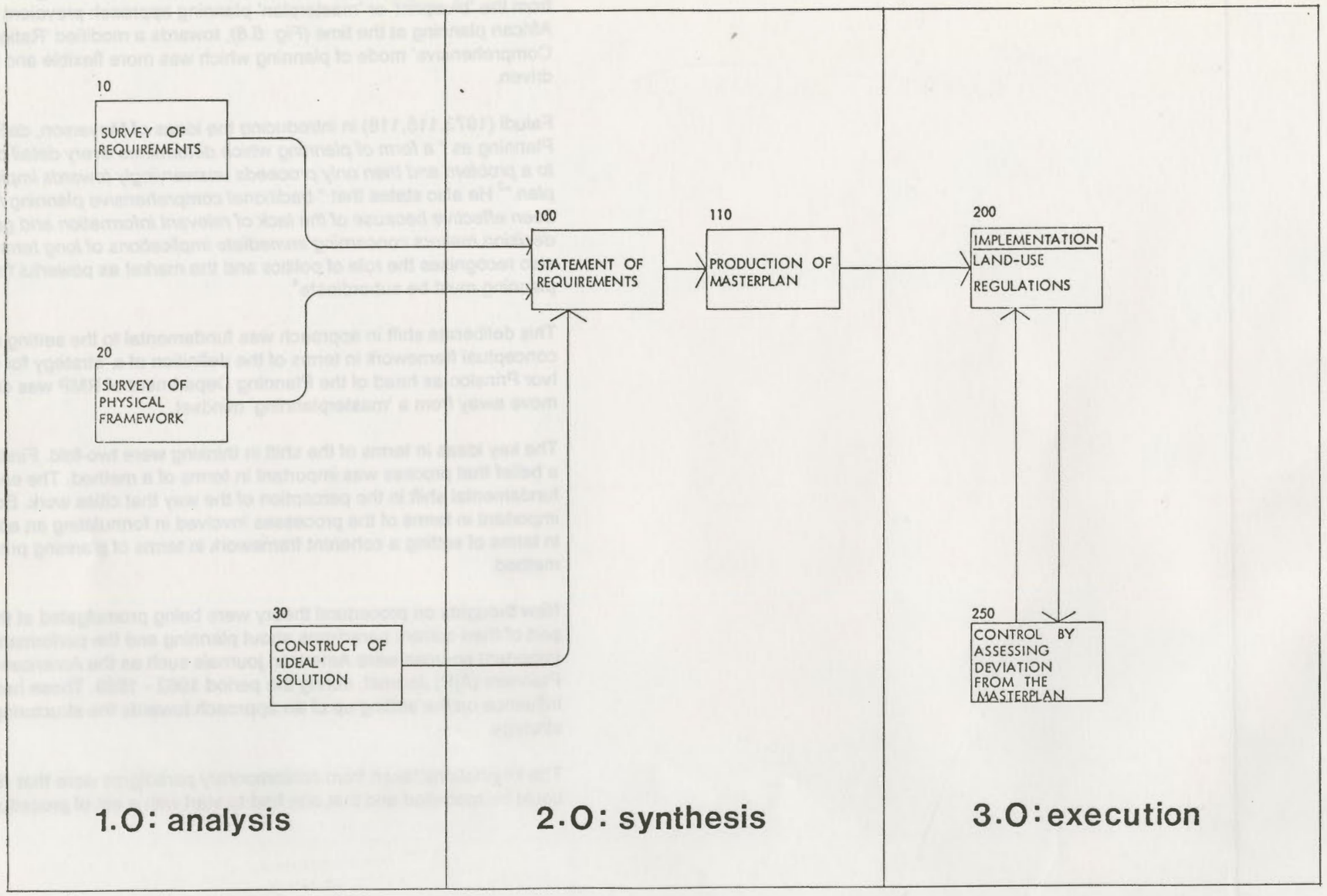

10
SURVEY OF REQUIREMENTS
20
SURVEY OF PHYSICAL FRAMEWORK
30
CONSTRUCT OF 'IDEAL' SOLUTION
100
STATEMENT OF REQUIREMENTS
110
PRODUCTION OF MASTERPLAN
200
IMPLEMENTATION
LAND-USE REGULATIONS
250
CONTROL BY ASSESSING DEVIATION FROM THE MASTERPLAN
1.0: analysis
2.0: synthesis
3.0: execution

Fig. 5.8

Figure 5.8 :
Diagram : Blueprint Planning Model
*( source : Prinsloo (1972) )*

than a plan[5]. Thus the definition of a strategy of action encompassed the model of 'planning as a strategy'.

Built into the RMP 'overall plan' strategy was an assumption in the rational model of planning and of systemic thinking and planning,[6] where problems are defined as comprehensively as possible, and *"planning is a set of procedures"*, incorporating, *"a process for determining appropriate future action through a sequence of choices". Davidoff and Reiner (1962.11)* Overlaid on this was a management process whereby goals and objectives were stated and evaluated in terms of the actions. The inclusion of iterative decision making loops into a rational comprehensive planning model introduced flexibility and a process orientated approach. The link between a systemic approach and process must be stressed. A flow loop diagram is descriptive of this process and was used extensively in defining the decision making process and work method of RMP.

*"The first key notion is that planning is in fact a **set of procedures** directed at achieving something that has been previously determined by the goal formation process. The second notion is the tendency to **comprehensiveness**, the need to deal with the system or sub system being planned totally. The overview may be over a short period but if 'alternatives' and 'evaluation' is discussed then a synoptic view is mandatory. This is implicit in most planning as the consequences of allowing important variables to 'escape' can result in the complete negation of that being planned for. The third is that goals and objectives for **effectuation** will be set and the fourth is that these goals will be tied to action is particularly important. The fifth is the idea that planning and that being planned forms part of a **process** that has tangible characteristics which must be dealt with. Finally, the idea that throughout **judgement** is exercised and this be rational and non-arbitrary." Prinsloo (1972). This is illustrated in Fig. 5.10*

---

[5] This approach was certainly true for the overall RMP strategy but in terms of Ormonde, the base was certainly a 'plan' although the stated intentions may have been different. This is argued in more detail in Chapter 7.

[6] The RMP Report defined Systemic Planning as being derived from Operations Research and takes the definition of Operations Research as " the application of scientific methods, techniques and tools to problems involving the operations of systems so as to provide those in control of the operations with optimum solutions to the problems" Churchman,C West, Ackoff,R, Arnoff,L . Introduction to Operations Research. Page 10. An important characteristic of operations research is its comprehensives.
RMP employed an Operations Research Analyst - O. Lategan. Lategan was involved in various studies that tried to predict demand in terms of certain developments, as well as modelling movement patterns that would predict suitable catchment areas for 'nodes' of development to take place. RMP empirically tested a mathematical / statistical model developed by Huff in 1962. The model was essentially a retail gravity model, which was to be used to estimate the viability of location and size of retail shopping centres.*(Fig. 5.7)* The study showed Steeledale as well as Eastgate as having potential, but RMP did not see themselves as being shopping centre specialists and did not take up the opportunity. Steeledale was later developed with a Pick and Pay Hypermarket, by another developer.

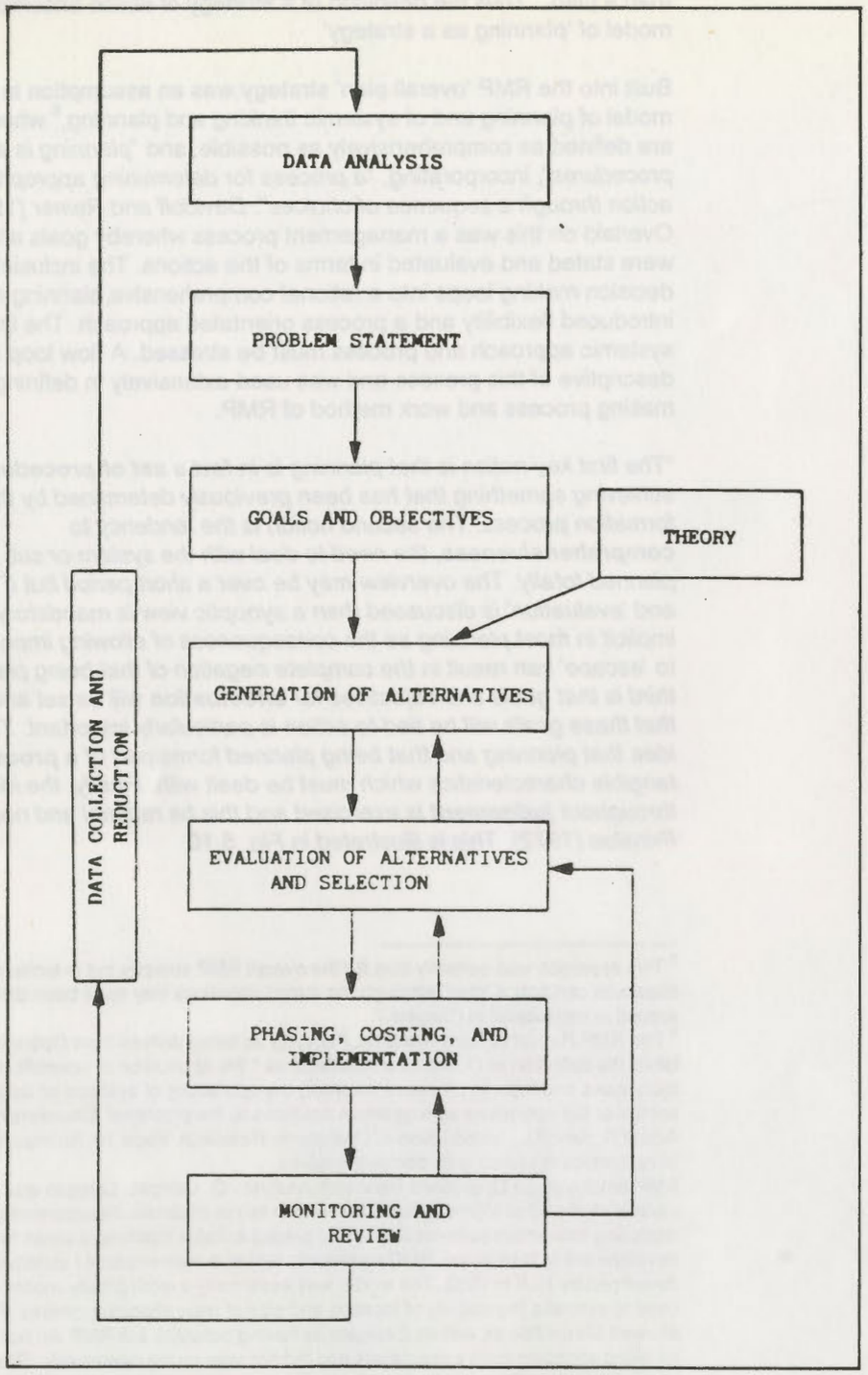

DATA ANALYSIS
PROBLEM STATEMENT
GOALS AND OBJECTIVES
THEORY
GENERATION OF ALTERNATIVES
DATA COLLECTION AND REDUCTION
EVALUATION OF ALTERNATIVES AND SELECTION
PHASING, COSTING, AND IMPLEMENTATION
MONITORING AND REVIEW

Fig. 5.9

Figure 5.9 :
Diagram of Rational Comprehensive Planning Method.
*( source : Rief (1973) )*

Ivor Prinsloo's introduction to systemic thinking was provided by readings as a student[7] when he was introduced to the work of C. West Churchman, Ackoff, Arnoff, Chadwick and by subsequent readings of AIP Journals.[8]
Variations on the basic operations research theme in terms of a systems approach to planning, were introduced at the time by Chadwick, Catanese and Stein and J. Brian McLoughlin[9]. These early influences formed the basis of RMP's planning approach and were fundamental to the thinking that was introduced at RMP. Chadwick visited South Africa in 1970 and Ivor Prinsloo had extensive discussions with him.[10]

Planning as a strategy was seen to be process orientated, evolving from the constant interplay between intention and experience, developing a fundamentally different structure of meaning where the future was seen to be unknowable, dependent on experience, random events and variables controlled by others.

Although there was a belief in rational action and that the planning process was an exercise in judgement in evaluating action, the critical question was how to design for the contingent and the random event.

Ivor Prinsloo quantified the experience of cities in terms of perception, based on a series of 'exchanges and transactions', rather than from a specific perception of place.[11] Thus the memory of space is gained through experience and contingent issues linked to events rather than being place specific. A mental map of the city in terms of perception would be distinct from the reality of the structure of the city. Mental mapping was used a part of an in-house technique to develop urban design ideas.[12]

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[7] Prinsloo was given a series of books by Peter Shreve, a friend while at university. These included Churchman,C West, Ackoff,R, Arnoff,L. (1957). Introduction to Operations Research. Ashby, R. (1956). An Introduction to Cybernetics (Science of Control and Communication in man and machine) and Kaplan.(1964). Conduct of Inquiry

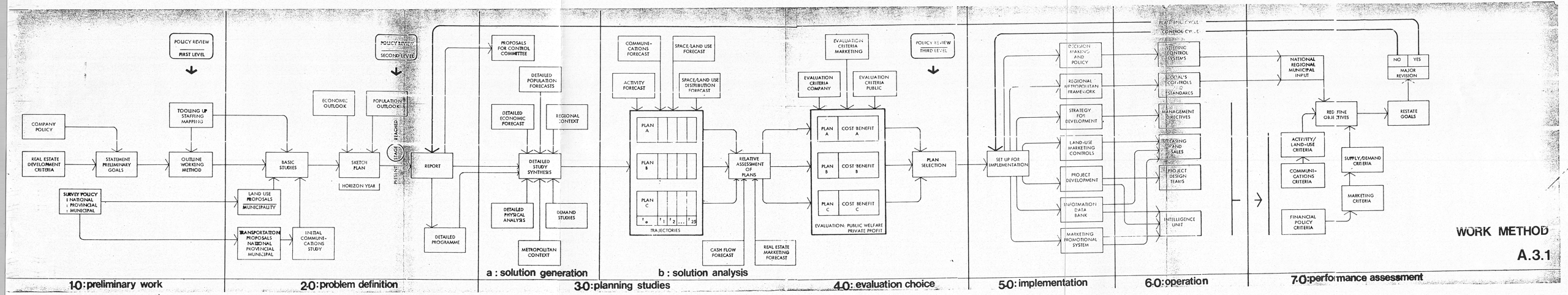
[8] Martin Drake recalls that Ivor Prinsloo was an expert on Procedural Theory at the time, and that at the same time Faludi, a lecturer at Oxford Polytechnic was collecting the same articles published in the AIP Journals that would lead to his "Planning Reader" published in 1973.

[9] These approaches were introduced in the following publications, which are referred to by Ivor Prinsloo in the RMP Draft Report :
Chadwick,GF. A Systems View of Planning. In Journal of the Town Planning Institute. Vol. 52 May 1966.
Catanese,AJ and Stein,A. Systematic Planning - the Challenge of the New Generation of planners. Journal of the Town Planning Institute. Vol. 54. No 4. April 1968.
McLoughlin,J Brian. (1967). A Systems Approach to Planning : Report to the Town and Country Planning Summer School.
McLoughlin,J Brian. (1969). Urban and Regional Planning - A Systems Approach. London : Faber and Faber.

[10] Chadwick was external examiner for Ivor Prinsloo's MSc dissertation in Town and Regional Planning at the University of the Witwatersrand.

[11] This approach may reveal a fundamental difference in the thinking and approach of Ivor Prinsloo and Roloef Uytenbogaardt.

[12] An example of this is the linkage between event, memory and place, for instance the memory of a specific place because of the association of meeting someone there or having an accident at a particular intersection, rather than a memory of the place for its intrinsic value.




RMP : Case Study in Design and Development
Fig. 5.10
WORK METHOD

Figure 5.10 :
Work Method based on Rational Comprehensive model of planning
*( source : Prinsloo (1972))*

Overleaf :

Fig 5.11 :
Mining Land Physical Studies
*( source : Drake (1973) )*

It is the power of the contingent in terms of seemingly random events and undefined influences and variables that reveal the intractability of urban modelling in terms of a rational procedure. These variables were not compatible with the linear procedure which sought to define and predict the course of events. It is clear that context and action generate goals and that goals are often defined retrospectively after their generation.

This is linked to the notion that it is the quality of the action that determines success and that action is inextricably tied to meaning within a certain paradigm as an organising framework. The paradigm is that which defines the relationship between meaning and action. Thus whilst planning seeks to represent a *"process of accurate description, analyses, prediction and matching of counteracting interventions",* in a complex development, *"the intervening variables are too many and too incompletely known to predict the circumstances in which these commitments must be carried out." Marris (1987.84)*

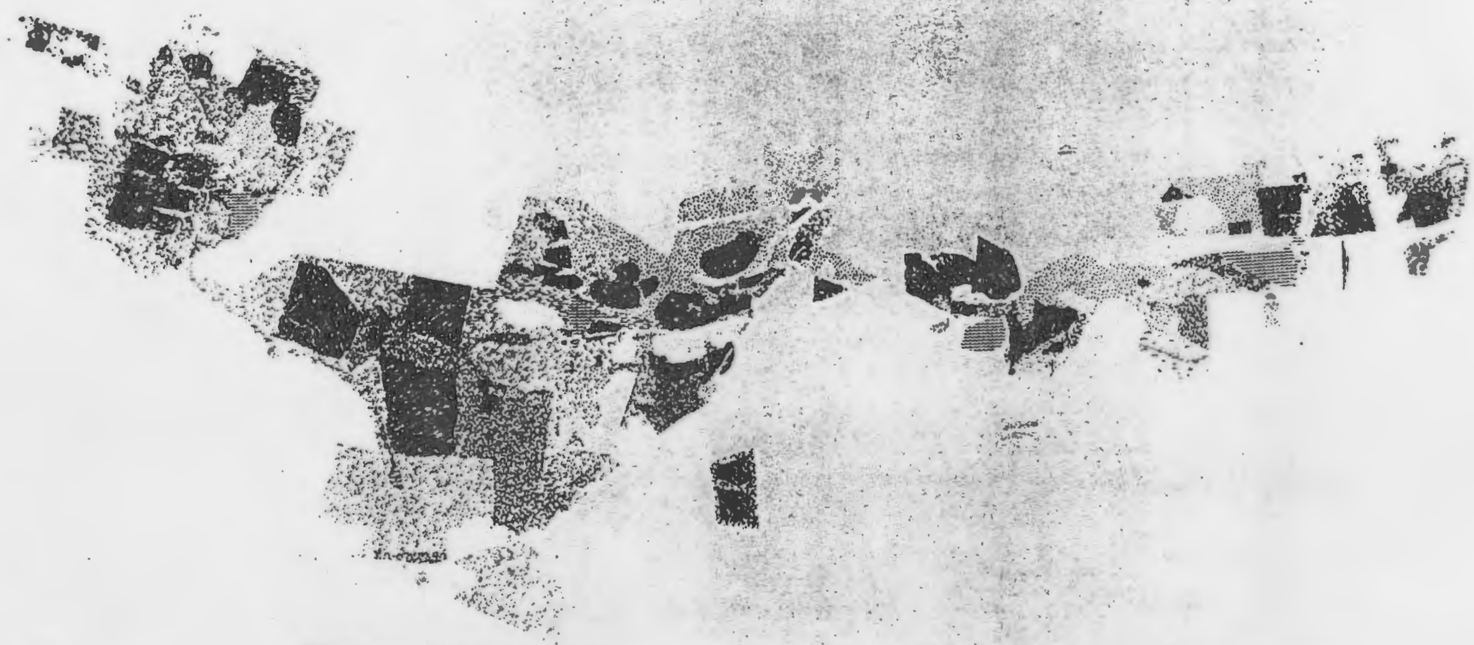
### 5.5 Conclusions

By introducing a new approach towards planning, RMP was following an innovative route. While being intellectually current in terms of procedural planning theory in Britain and America, their approach was in opposition to local planning approaches, specifically the blueprint approach used by the statutory authorities.[13] Thus the approach taken by RMP was misunderstood locally and brought the company into conflict with the authorities in terms of planning method and overall flexible strategic framework. These problems were not necessarily inherent in the approach but were a function of the context within which they took place. Ultimately this would contribute to the failure of RMP's development framework.

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Martin Drake recalls undertaking a project together with Norbert Rozendal which looked at the idea of linking activity with public spaces and whether one could promote a certain activity in a specific space through the design of the space.

[13] Specifically the Johannesburg City Council, Provincial Authorities and Government Planning Structures.



N

mine & slimes dumps
mixed false grassland
aquatic fringing vegetation : typha & phrogmites reedbeds
mines: exotic vegetation
wooded areas: eucalyptus, wattle, pine, oak, pepper-trees
dams, swamps, & watercourses
golf course
disused golf course

0 1 2 3 km.
0 1 2m.

vegatation study

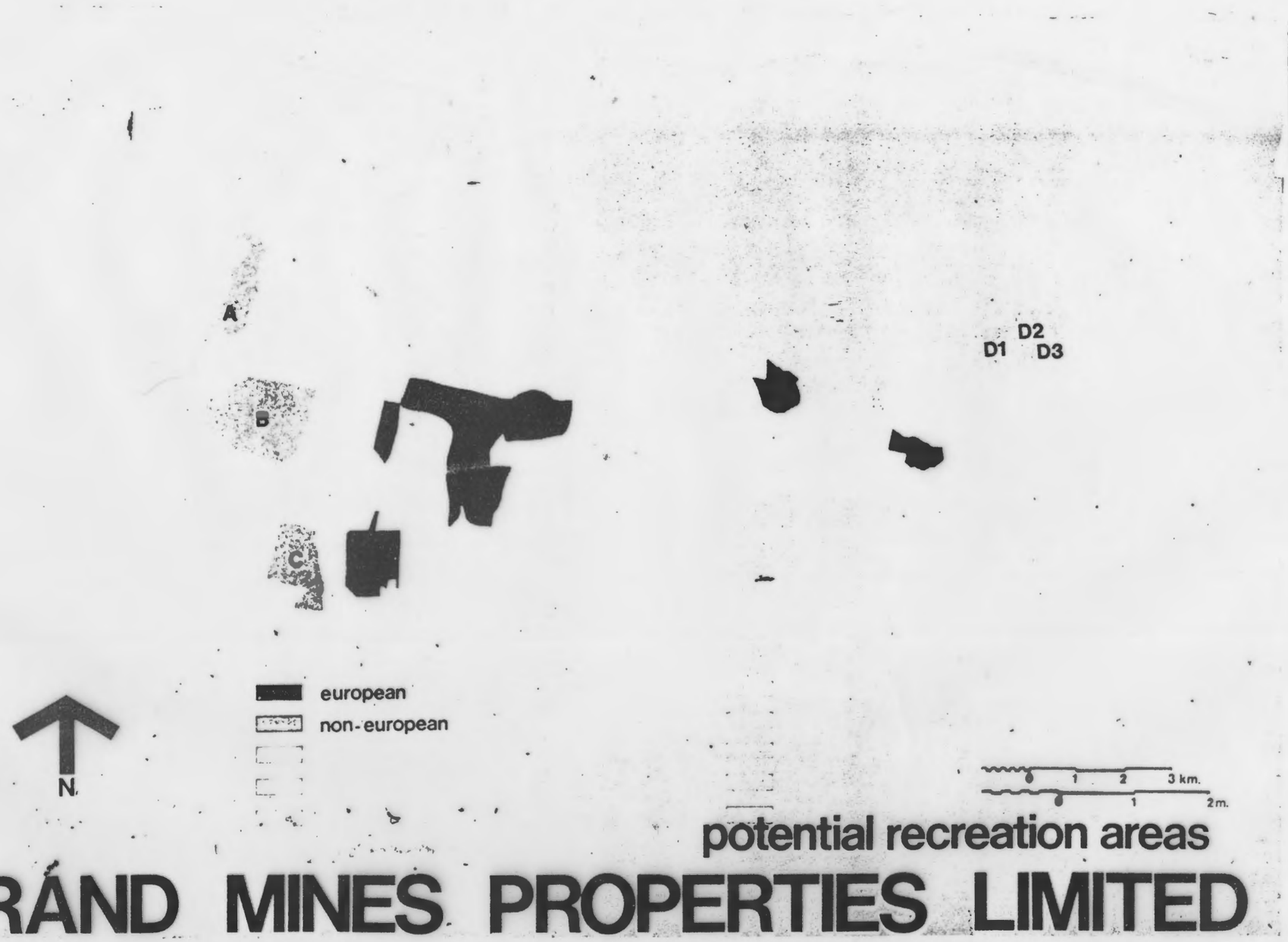
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RMP Case Study in Design and Development

Fig. 5.11 1 : 50 000

MAP SERIES - MINING LAND PHYSICAL STUDIES

1




potential recreation areas

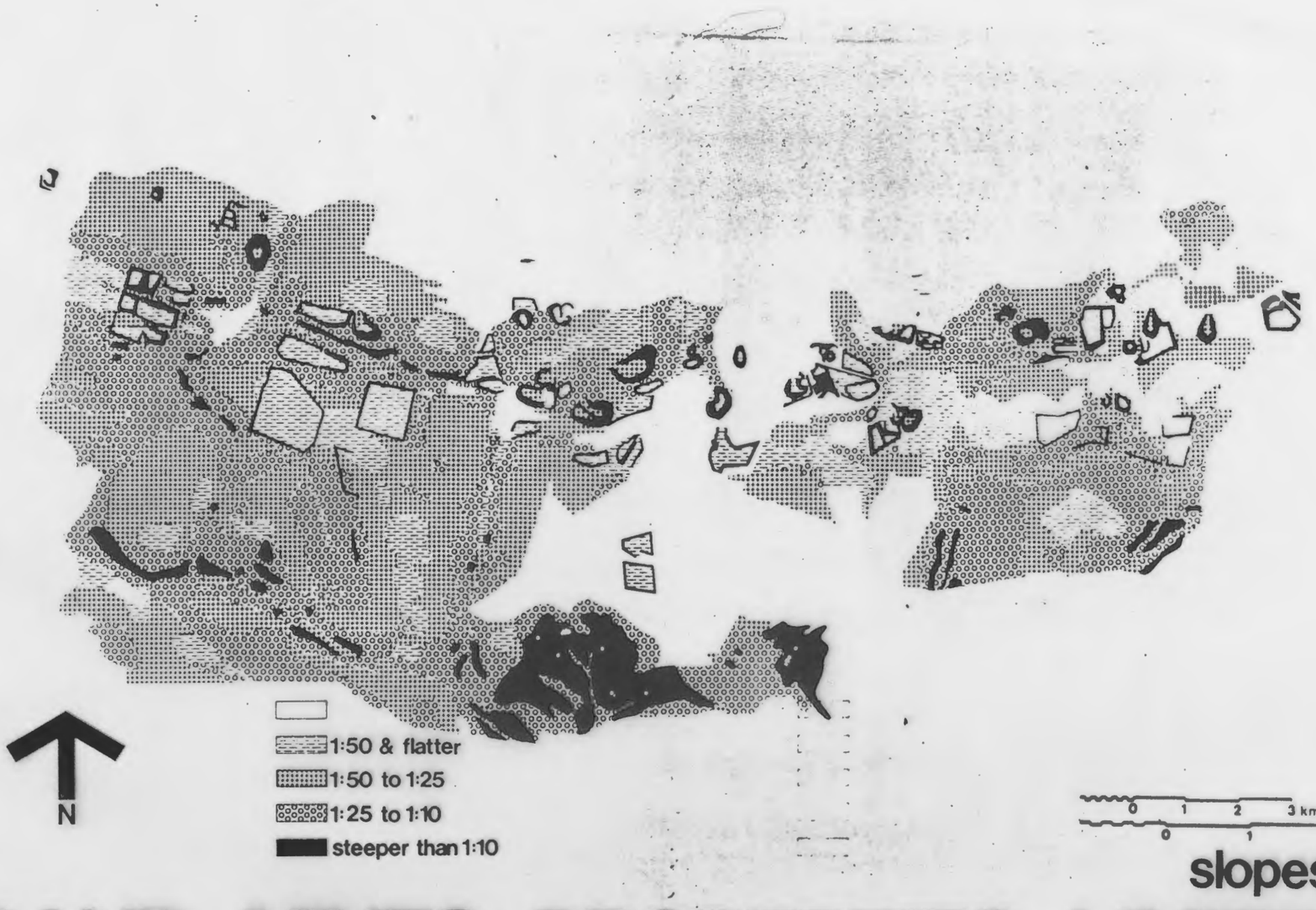
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Fig. 5.11 1 : 50 000

MAP SERIES - MINING LAND PHYSICAL STUDIES

2




slopes

# RAND MINES PROPERTIES LIMITED

RMP : Case Study in Design and Development

Fig. 5.11 1 : 50 000

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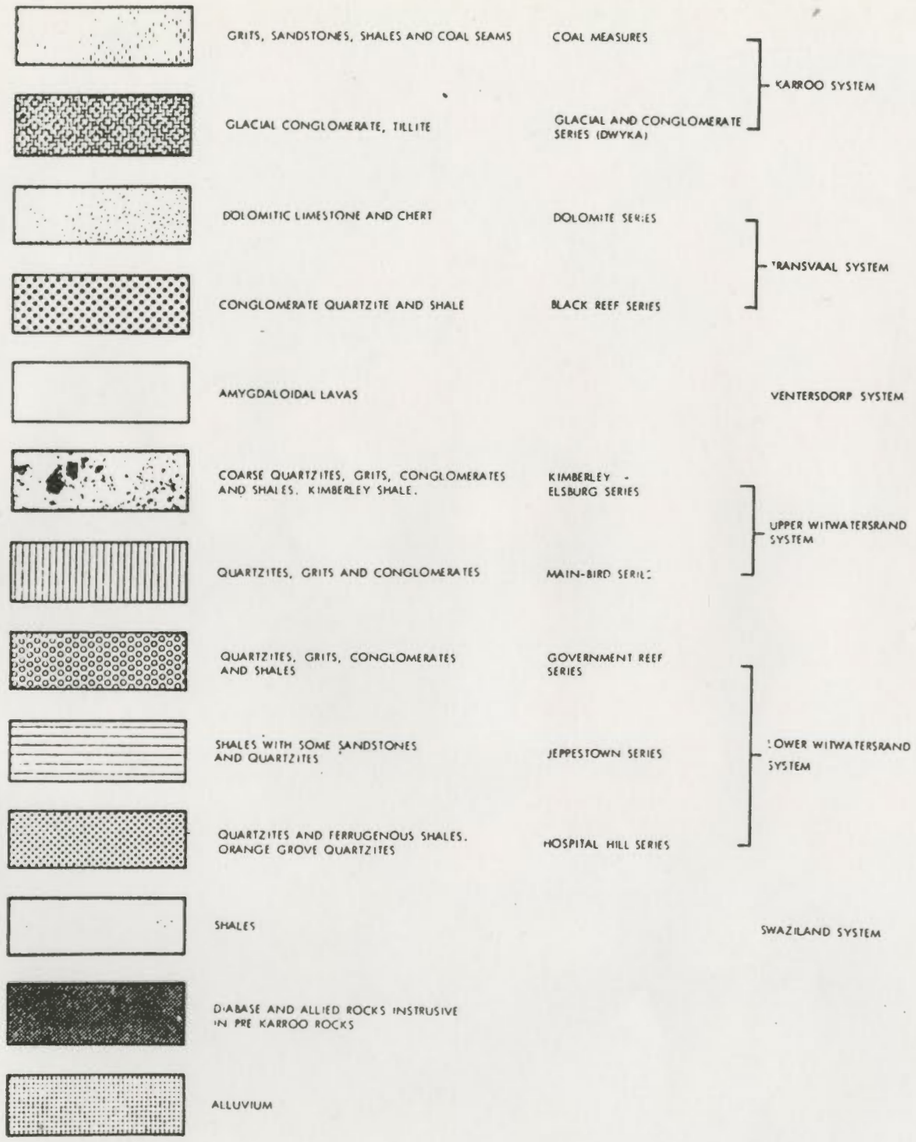
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**Fig. 5.11** **1 : 50 000**

**MAP SERIES - MINING LAND PHYSICAL STUDIES**

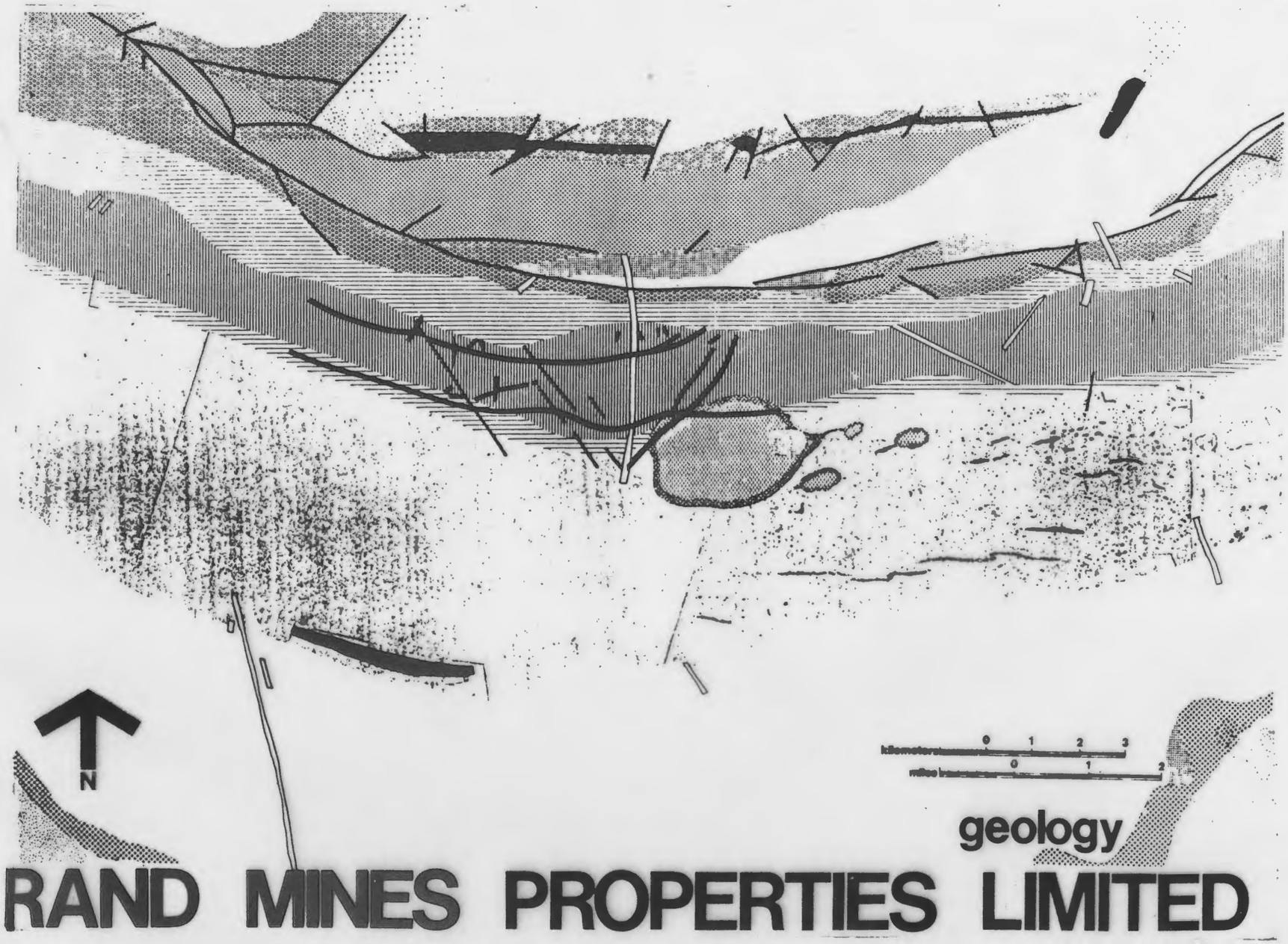



# geology

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**Fig. 5.11** **1 : 50 000**

**MAP SERIES - MINING LAND PHYSICAL STUDIES**




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Fig. 5.11 1 : 50 000

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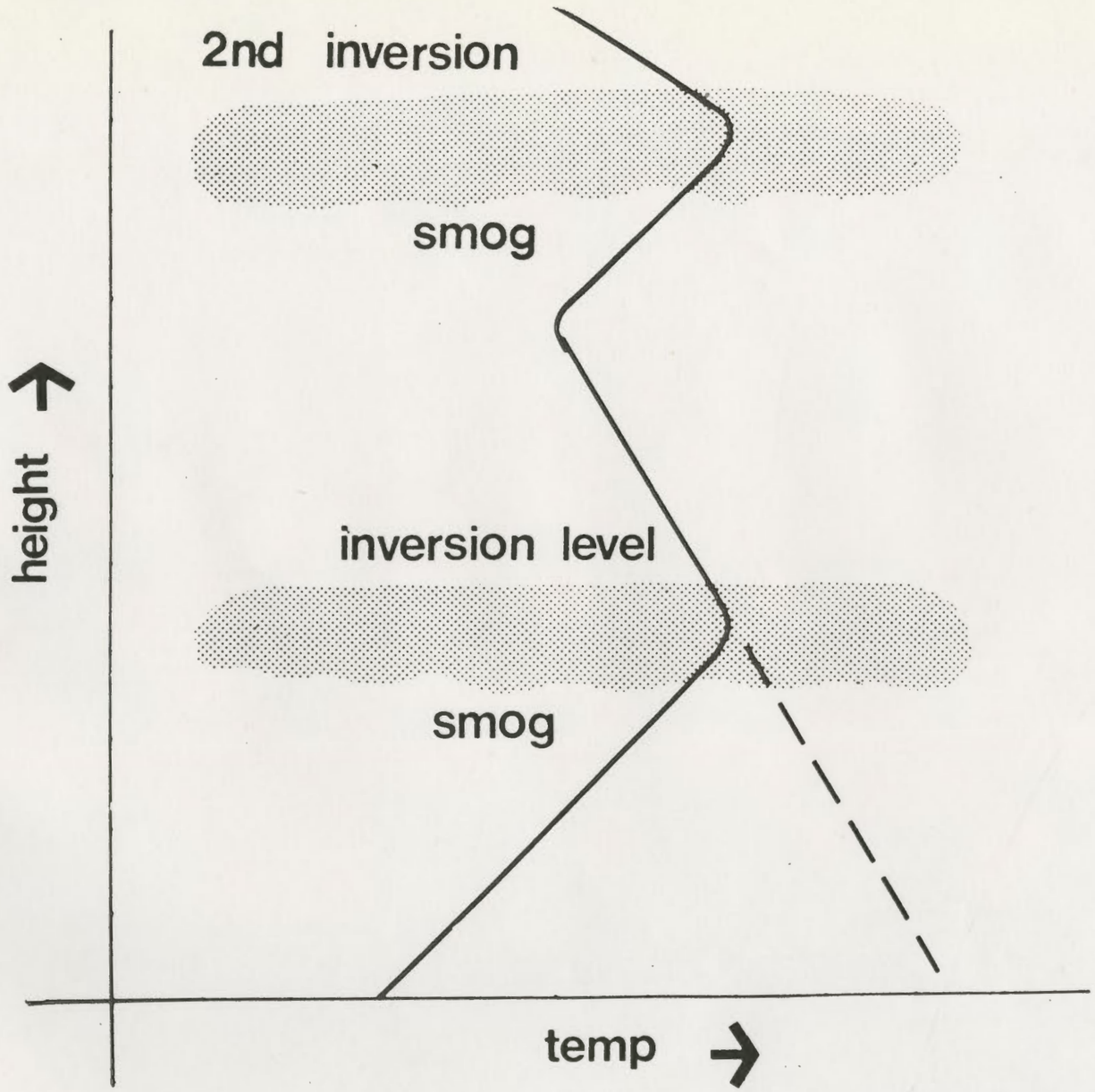
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RMP : Case Study in Design and Development

**Fig. 5.11** **1 : 50 000**

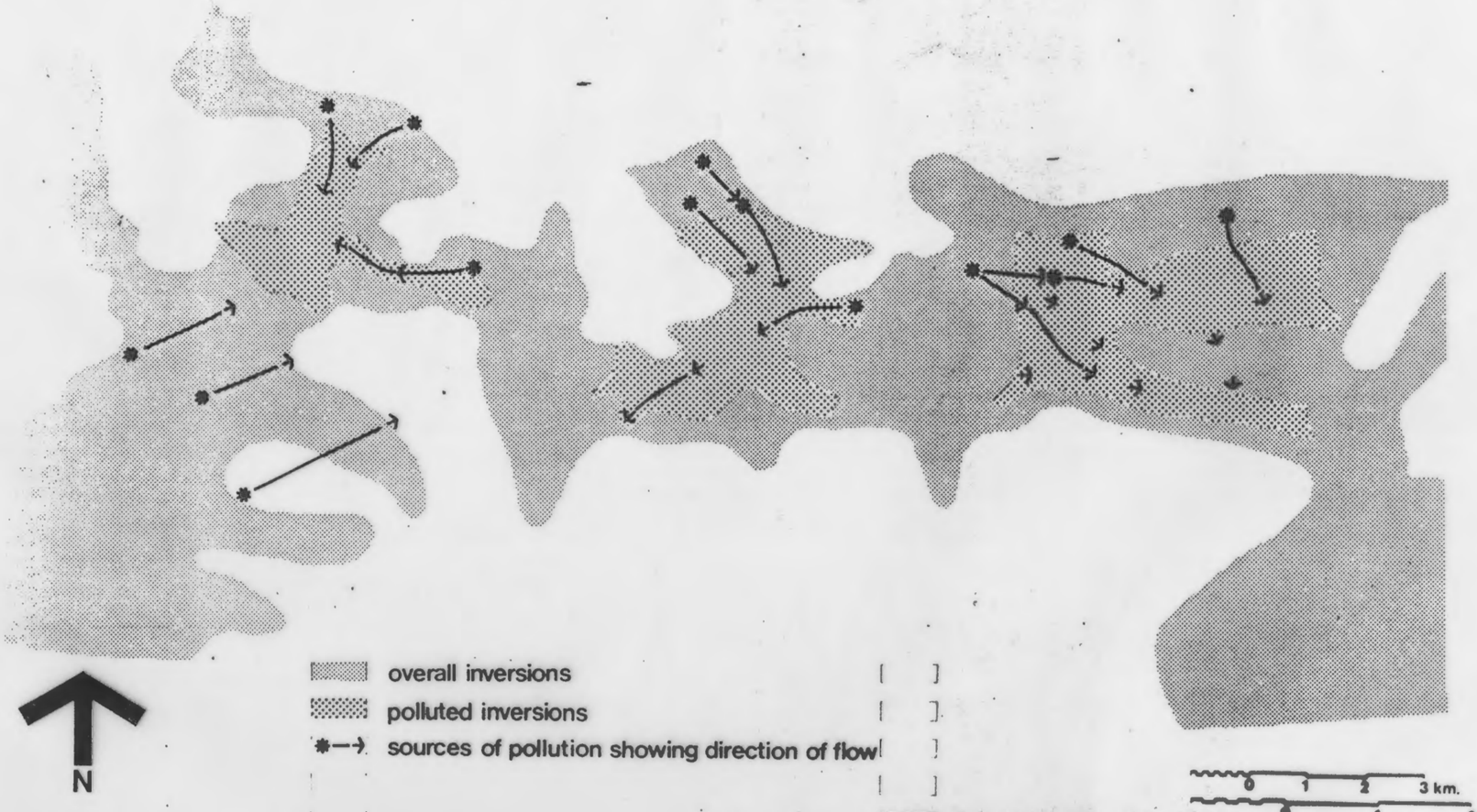
**MAP SERIES - MINING LAND PHYSICAL STUDIES**




RMP : Case Study in Design and Development

Fig. 5.11 1 : 50 000

MAP SERIES - MINING LAND PHYSICAL STUDIES




microclimate & pollution

# RAND MINES PROPERTIES LIMITED

RMP : Case Study in Design and Development

Fig. 5.11 1 : 50 000

MAP SERIES - MINING LAND PHYSICAL STUDIES

1



potential pollution zone
recommended planting
dumps important for microclimate

N

0 1 2 3 km.
0 1 2m.

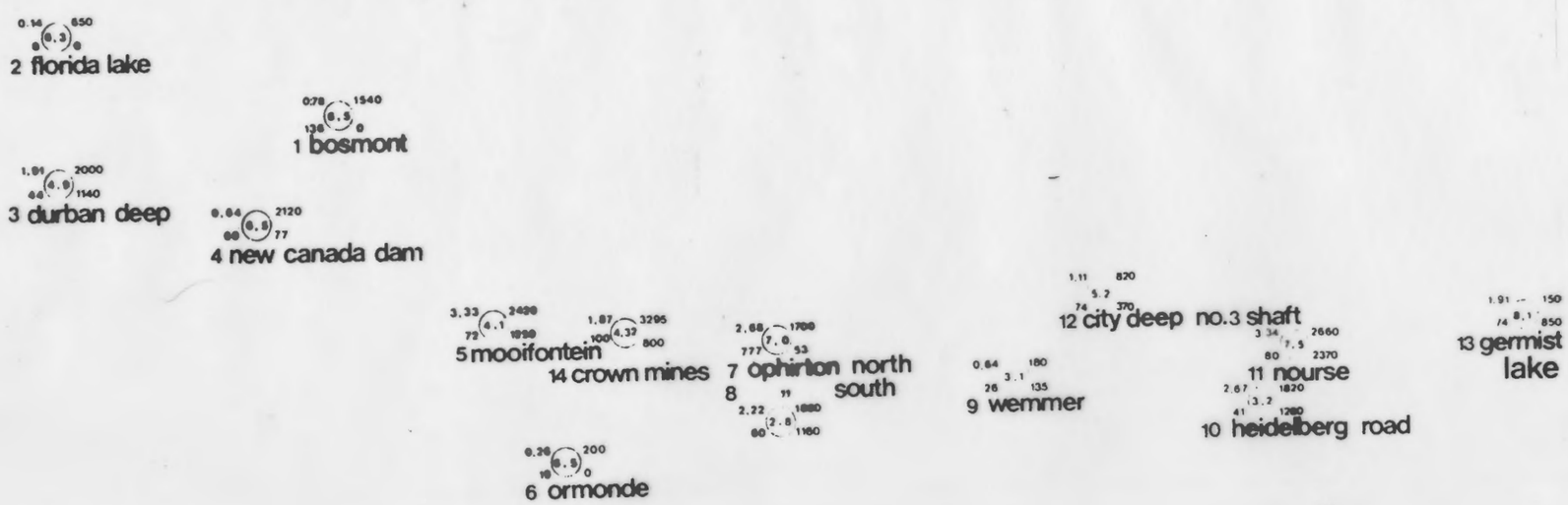
recommended planting

# RAND MINES PROPERTIES LIMITED

RMP : Case Study in Design and Development

Fig. 5.11 1 : 50 000
MAP SERIES - MINING LAND PHYSICAL STUDIES

2

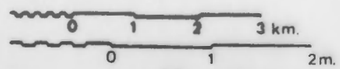






conductivity $10^{-6}$ ohms | pH | total solids ppm
chloride ppm | sulphate ppm

| | |
|---|---|
| acid water | pH 2–6 |
| neutral or sweet water | pH 6–8 |




## water pollution

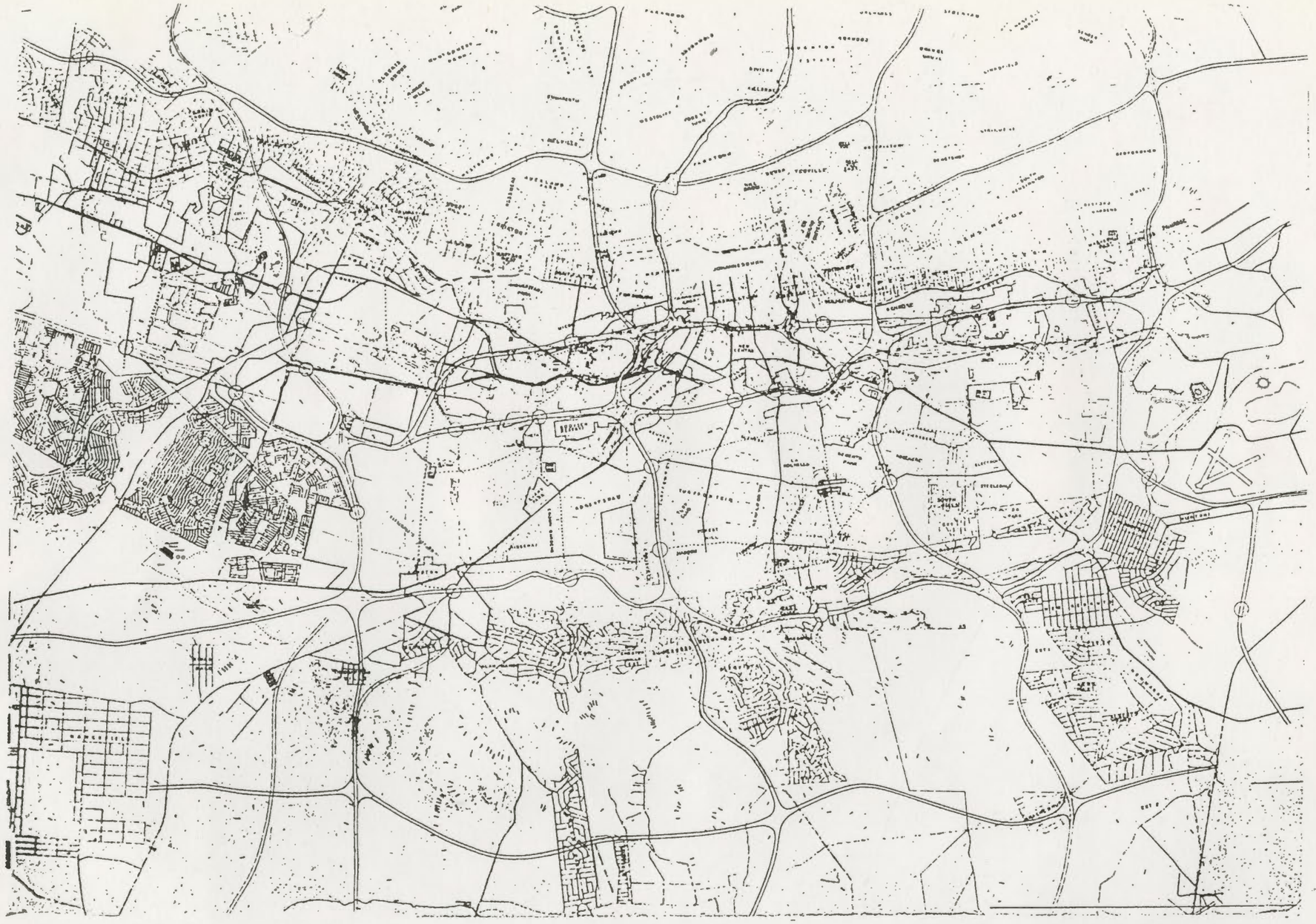
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RMP : Case Study in Design and Development

Fig. 5.11 1 : 50 000

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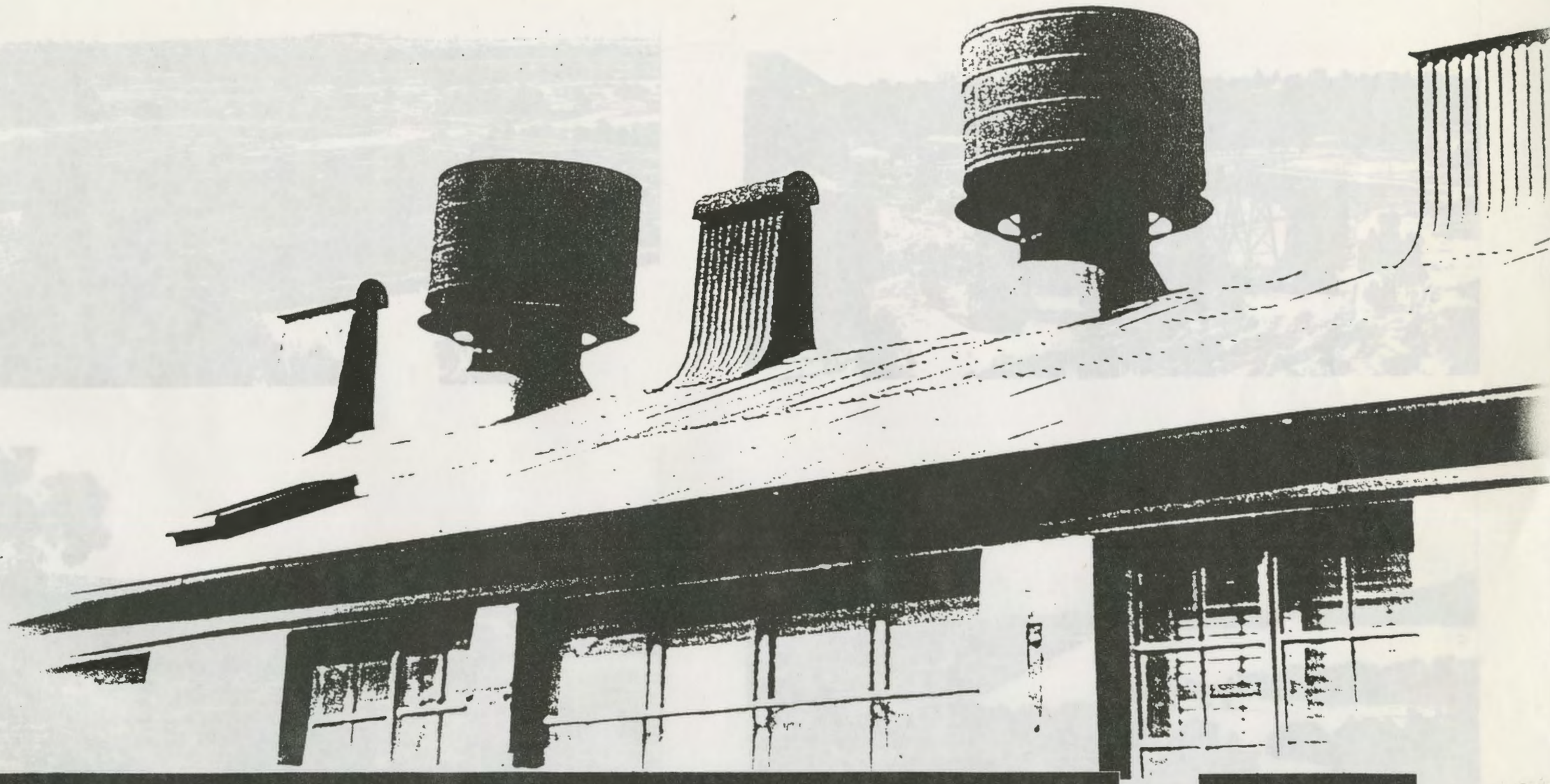
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RMP : Case Study in Design and Development

**Fig. 5.11** **1 : 50 000**

**MAP SERIES - MINING LAND PHYSICAL STUDIES**



Rand Mines Properties : Case Study in Design and Development

# THE NEW SOUTH - CONCEPT

CHAPTER

6









Fig. 6.1

Figure 6.1 :
Views of RMP's Land
*( source : Photos Roger Boden )*

## 6.1 Introduction - The 'New South'

Essential to RMP's proposals was the supply of different land use types which they proposed to put onto the market. This implied a development over time in attempting to match these proposals with the estimated demand over time. As described in Chapter 5, an attempt was made to arrive at three alternative (Horizon year) land use plans but because of the existing infrastructure surrounding RMP's land, only two alternatives were viable. These were to emphasise residential and related land uses wherever possible or to emphasise industrial uses. Because of the relatively slow rate of demand for industrial land in relation to the size of RMP's land holding and the Government's policy of de-centralising industry[1], it was decided to achieve a greater mix of land use types by emphasising the residential component where possible. As a large proportion of RMP's land was not suitable for residential development *(Refer to Capability Studies, fig. 5.3)*, it meant that there was no shortage of potential commercial or industrial land.

*"The notion of a vast acreage of available urban land rested on a distant vision rather than present opportunity. Only by drawing the spatial and temporal boundaries very differently from the way in which people experienced them and were used to thinking of them, could the sense of a unique, dramatic opportunity be sustained." Marris (1987.63)*[2]

## 6.2 The Concept of the Land Use and Transportation Proposal

Two basic concepts evolved from which the land use plans were derived.

The first concept was to ignore the existing and historical infrastructure wherever it had the potential for supporting ' living ' activities and to develop the properties in the image of the ' poor south '. This would of meant extending Industrial development from Industria, Fordsburg, Selby, Benrose, Denver and Heriotdale. Industrial development would then extend from the main lines of communication i.e. Main Reef Road and the railway lines, over the derelict mining land until it reached the poorer Southern residential suburbs. This concept and its land use was rejected because :

- Its implementation would be contrary to Government Policy.
- The demand for Industrial land was not sufficient to consume RMP's land except over a very long time frame.
- The land use mix was unbalanced and inflexible which would have resulted in an unstable cash flow which was sensitive to slight changes in demand.

---

[1] Demand was clouded by apartheid legislation. Industry was encouraged to decentralise and industries were established on the periphery of " African Reserves".
[2] Although Marris is referring to the development of the London Docklands, this quote seems entirely relevant to the situation faced by RMP at the time.




**PROPOSAL** Johannesburg has grown around its mines and mining houses. Today the mine land to the south of the city centre provides an opportunity for new urban development -- a near New South ready to serve as a NEW and VITAL COMMUNITY.

This proposal is to support the Municipal and Provincial authorities in co-ordinating development in the near NEW SOUTH. City planners and private enterprise should jointly contribute towards a shared image of the City.

DOWNTOWN : Johannesburg is a City that is important to Africa. The Central Business District is vulnerable to unco-ordinated decentralisation by competing municipalities. The downtown area must be protected and encouraged towards GROWTH without congestion.

The OBJECTIVES of planning and development for the metropolitan area are necessary for public participation in the growth of their City.

MOBILITY : A modern community deserves diversity of choice in modes of travel : automobiles, express buses, rapid rail through the urban areas. People on the go need easy MOVEMENT.

The INFRA-STRUCTURE of roads and services should be co-ordinated into a metropolitan and regional framework to serve the citizen efficiently.

METROPOLITAN PLAY-GROUND : The City as a whole needs an operative outdoor system of recreation; lakes, parks, facilities for sport and leisure and ENTERTAINMENT. Land south of Johannesburg is waiting for this development.

Land-use and POLLUTION in the area must be controlled so as to revitalise the in-city recreational and residential locations. This will bring residents closer to Downtown so that the City can be used at night.

NEW TOWN IN TOWN : Ormonde, 6 Km from the centre of the City is planned to provide permanent residence for 37,000 people. Real diversity of choice will be available. A blend of town and country in the heart of the City : a NEW LIFE STYLE.

New ideas will always require new interpretations of layouts and buildings. CHANGE will facilitate a more economical move towards a PROPERLY PLANNED FUTURE

# THE NEW SOUTH
# A PROPOSAL

ormonde

development thrusts

corridor

express busroute

access

existing arterials

expanded arterial system

RMP boundaries

water

business

recreation

residential

agricultural

warehousing, industry

education & research

THIS PLAN WAS PRODUCED BY RAND MINES PROPERTIES LIMITED IN ORDER TO PROMOTE DISCUSSION WITH MUNICIPAL AND PROVINCIAL AUTHORITIES

Figure 6.2 :
The New South A Proposal
Map produced by Rand Mines Properties Limited in order to promote discussion with Municipal Authorities.
*( source : RMP )*

- Some of the existing infrastructure was ignored and would have required replacement resulting in opposition from the City Council.
- The concept did nothing to improve the image and thereby the value of the land, resulting in very little spin off in adjacent areas.
- The emphasis on only one land use would increase the burden on the communications and transportation system to a point beyond which it was feasible for it to function.
- The concept was not compatible with the company's policy of responsible development to the advantage of both the community and the company.
- The concept was likely to be rejected by all authorities.

The second concept was based on utilising and extending the existing and historical infrastructure wherever possible *(Fig. 5.5)*. An improved land use mixture was aimed for and community interests catered for.

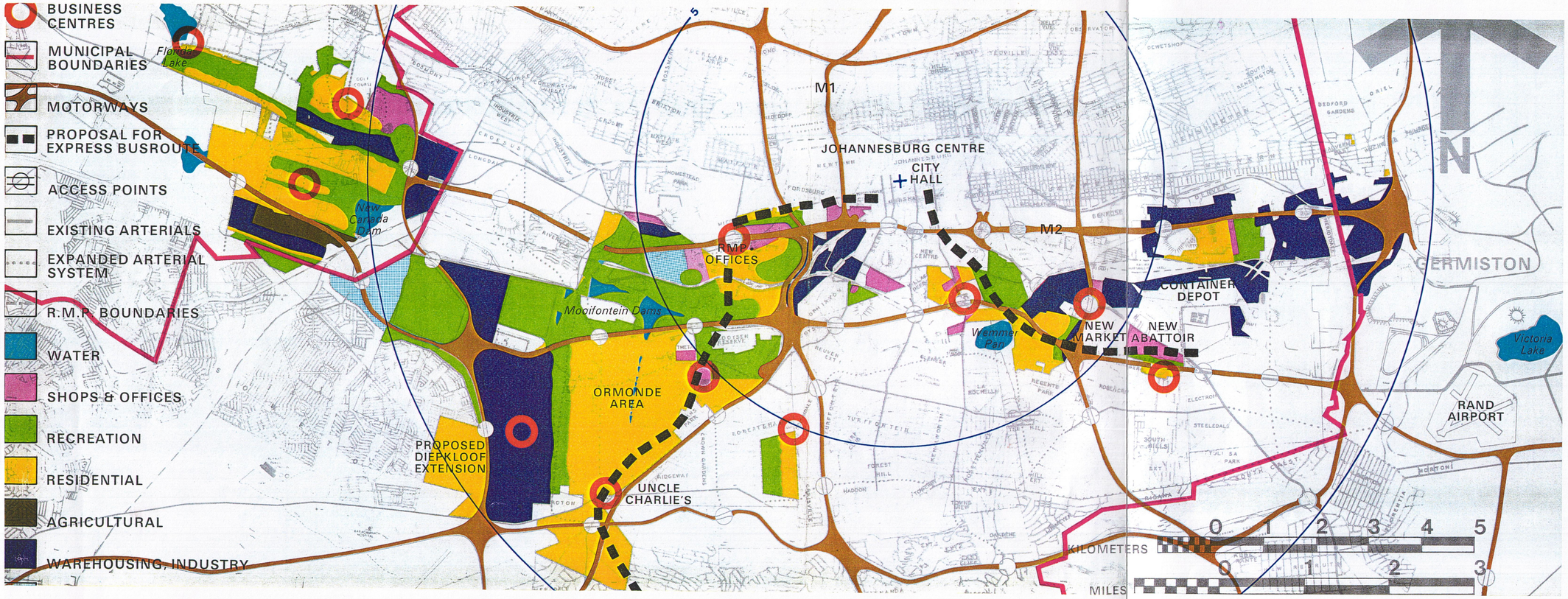
From early maps of Johannesburg it was seen that a string of pans and vleis paralleled the Witwatersrand to the South along the outcrops of the Kimberley and Jeppestown shales. These lay to the south of the main reef outcrop and formed an early recreational area for the miners.

The city was seen as a dynamic identity with growth expected to take place southwards. The expected expansion of the CBD would have increased values and densities. Therefore the restructuring of a recreational area between the expanded CBD and the suburban areas would allow increased residential densities, higher land values, improved transportation and better access. This would upgrade the area and improve its image which in turn would benefit the rest of RMP's land holdings. This proposed 'green area' would act as a break between the two major activity centres and increase land values on both sides of it, at the same time it offered an opportunity for improved urban design. It was hoped that by producing a more efficient urban environment the prejudice to the south would be overcome.

The second concept allowed for a better mix of land use types, maintaining greater flexibility in marketing and implementation. It was seen to encourage a rational structuring of the city and incorporated existing trends, such as Turffontein Race Course, Rand Stadium, Ice Rink and Wemmer Pan complex, which were seen as the start of the ' Metropolitan Playground ' idea.

The second concept was preferred because :

- It incorporated existing trends and infrastructure
- Its implementation was not contrary to Government Policy.




RMP : Case Study in Design and Development

Fig. 6.3 1 : 50 000
MAP - CONCEPTUAL LAND USE PROPOSAL

Figure 6.3 :
Conceptual Land Use Proposal
*( source : Drake (1973) )*

- There was a better balance of land use mix although it was still not as varied as demanded by a good cash flow.
- The concept would result in improved land values and image for all of RMP's land.
- The wider range of land use types and clearer separation of activities would ease the implementation of transportation networks and justify the construction of rapid transportation facilities.
- The concept resulted in an improved environment for the community and therefore a stronger financial future for the company.
- The concept could be justified to the authorities and the community because of the benefits to all parties.

### 6.3 Urban Design Criteria

This concept implied the following urban design criteria, which were presented by means of a conceptual map. *(Fig. 6.3, 6.4 - Map 1)*

The idea of developing an integrated recreational area running East - West linking the Germiston Lake area, Rand Airport, Wemmer pan, Turffontein, Rand Stadium and proposed recreational area on Crown Mines into an almost continuous belt along which various amenities and facilities for entertainment would be grouped. This formed the basis of the idea of the ' Metropolitan Playground '.*(Area one)*

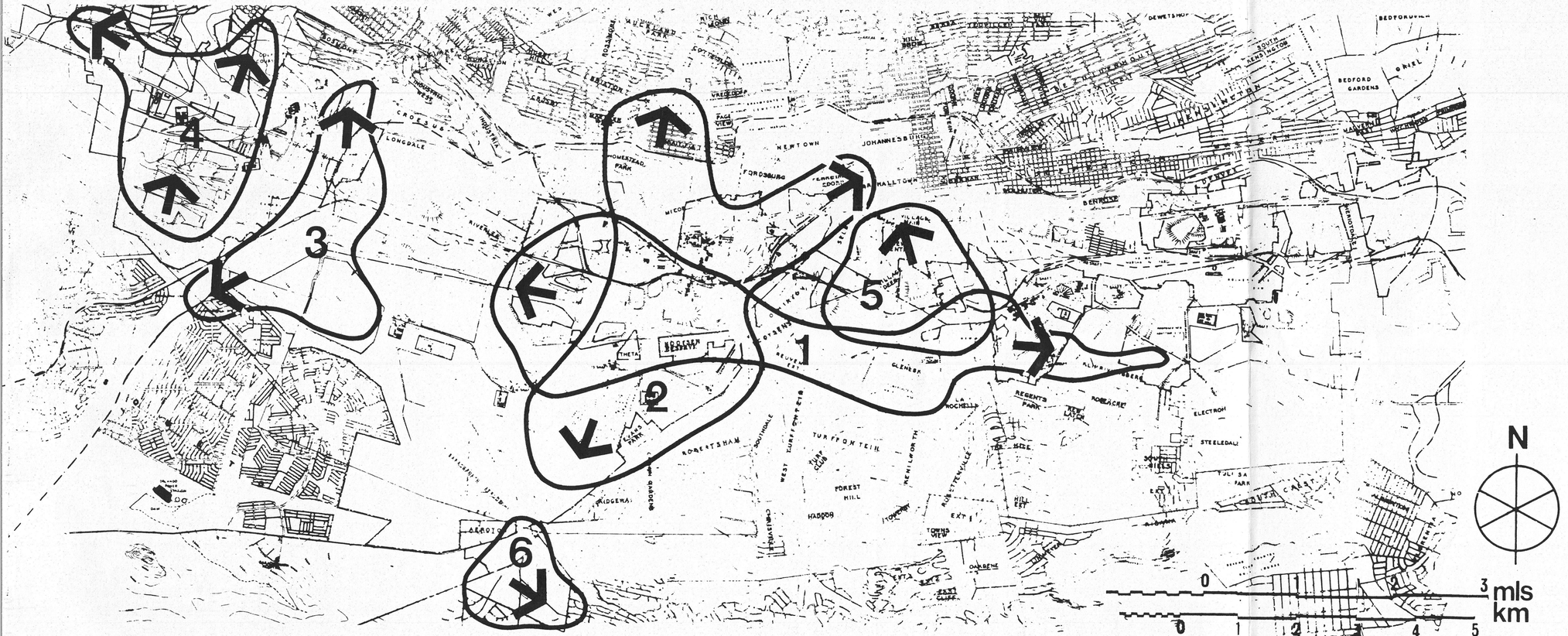
Upgrading the area from the proposed Ormonde residential area northwards to link with the new educational and business area in Auckland Park and Cottesloe and increasing the functional linkages across this area, linking the Ormonde area to the CBD by carefully located routes. *(Area two)*

Functionally linking Soweto with the ' Coloured areas' in the North by way of employment and recreational areas so as to reinforce the existing North - South pattern of movement. *(Area three)*

Functionally linking the C.M.R area northwards with Florida and Maraisburg and extending the Florida Lake recreational area southwards. *(Area four)*

Strengthening the CBD in the south by bringing in close to the CBD land uses which will support the ' hard core ' i.e. residential, offices and wholesaling. *(Area five)*

Development of the Uncle Charlie's area to provide a functional link with the far South so as to form a logical chain , south of Ormonde to northern areas and the western section of the CBD. *(Area six)*




1 to 6 : areas described in report

# CONCEPTUAL DIAGRAM

RMP : Case Study in Design and Development

Fig. 6.4 1 : 50 000

MAP 1 - URBAN DESIGN CRITERIA

Figure 6.4 :
Map 1 : Urban Design Criteria - Conceptual Map
*( source : Drake (1973) )*

The urban design concepts were based on the principles of linkages, movement and the strengthening of existing patterns. The ideas were linked to the concept of developing RMP's land in a way so as to stimulate the development of sub - nodes.

The urban design concepts formed the basis for the land use and transportation proposals and laid the broad conceptual base for the proposal for developing 'The New South'. Although the initial concept was broadly stated in terms of the land use proposal and its urban design intentions, the ideas provided the framework for a strategy. Thus the ideas which informed the concept were multi - layered and expanded and developed in terms of a greater and in places, more idealistic vision.

**6.4 The 'New South' : Ormonde and the 'Metropolitan Playground' Concept.**

The key to the proposal for the New South was the proposed development of Ormonde, which was seen as a major 'implant' as well as the concept of the 'metropolitan playground', proposals linked to the ideas of urban entertainment and recreation, characterised by limited on -off interventions within an overall land use and transportation framework.

One - off land uses were important in terms of the overall development strategy as they stimulated demand, improved land values and land uses in an area, while absorbing larger areas of land. Several unique land uses were proposed in response to a series of demand studies and conceptualised in terms of the overall 'metropolitan playground' framework.

The concept behind the 'metropolitan playground' idea was based on the perceived emerging trends in urban recreation. RMP had 1020ha suitable for all types of entertainment and recreational activity. It was seen that such urban recreation areas would include multi-storey entertainment areas, cinemas and sports complexes. Information was obtained from '6 Flags over Texas' and Disneyland in the USA in regard to entertainment developments.[3] A Disneyland Complex of 100ha[4], an Olympic style Sports Centre of 100ha[5] , the relocation of the Showgrounds (from Milner Park) 100ha[6] and Ellis Park

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[3] Information was also obtained from other sources such as Magic Mountain in S.California and Disneyworld, Florida. This information was to be used more specifically in connection with the proposed redevelopment of Pilgrims Rest, a historic mining village in the Eastern Transvaal which also formed part of RMP's portfolio.

[4] This concept involved Coca Cola who said that unless the development was racially integrated it would not be economically viable (Drake)

[5] As a result of a proposal for Johannesburg to bid for the 2004 Olympics, an Athletics Stadium was built at the Ellis Park precinct in 1995. (Time frame in relation to RMP's proposals : 27 years later)

[6] The Showgrounds were relocated to the National Exhibition Centre (Nasrec) in 1984/5. Nasrec was established on part of RMP's land. Wits University bought the Milner Park Showgrounds for Campus expansion. They now form part of West Campus, which was established at the beginning of 1985.



Fig. 6.6

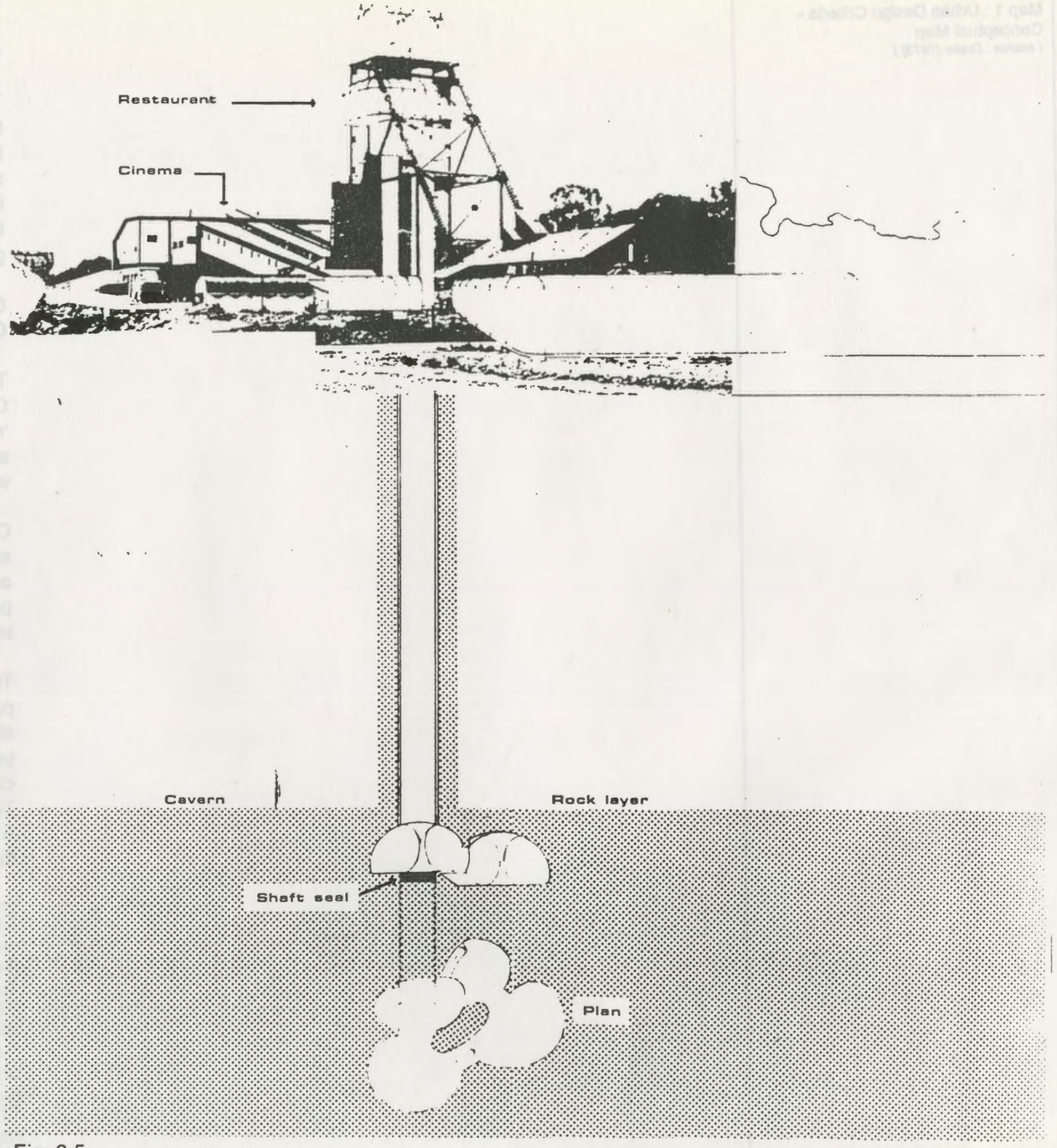



Fig. 6.5

POTENTIAL USE : Nº 7 SHAFT

Figure 6.5 :
Potential Use : No 7 Shaft
Drawing by Norbert Rozendal.
*( source : Drake (1973) )*

Figure 6.6 :
Photograph of Crown Mines No 7 Shaft.
*( source : Photos Roger Boden )*

100ha; a total of 400ha of active entertainment within 20 years, were proposed as part of this concept.

It was also proposed that a Mining Museum / Restaurant be established at Crown Mines Shaft No 7[7], *(Fig. 6.6)*. This concept was presented by Norbert Rozendal to the board of RMP.
Other unique land uses responded to perceived regional demands. In response to Peter Rich and Jason Collett's final year B.Arch Thesis of 1971[8]; 'Crown Campus, a proposed University Campus at Crown Mines North', land was offered to Wits for a University Campus[9].

The idea of developing Ormonde held similar benefits : in raising the image of the entire south it would help to increase the attractiveness of RMP's land elsewhere in the south. Careful planning and design would ensure its functioning as an advanced development and trend leader. The benefits would be measured in terms of increased land values and credibility in the company's intentions as well as stimulating demand for other land uses such as entertainment, shopping and office developments. It was difficult to measure the benefits in immediate financial terms, however it was clear that the poor residential image of the South needed to be altered if RMP was to maximise its potential.

The concept of withholding land from development could also be exploited to RMP's advantage. In terms of the overall plan, Ormonde was to develop from the periphery inwards. The idea would be to retain ownership of the most central and well located pieces of land for as long as possible. These nodes would increase in value as development went ahead further out of town. This would not cost the company anything as long as the land was still designated as mining land. Thus when all the surrounding land was developed RMP would still own the 'node' and be able to develop it cheaply as they were already the owners.[10] Land values would increase as development accrued around these nodes. Where land values were not high enough to justify a large development, they would be improved by adjacent company development and at a later point in time large profitable development would become feasible. This was true of growth centres or nodes, the majority of which related to the proposed transportation network. It was proposed that

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[7] Gold Reef City, a themepark around the idea of the existing Mining Village and Crown Mines No 14 Shaft, which allows visitors to go down a 'gold mine', was established in 1988.
[8] Peter Rich and Jason Collett both worked as students in RMP's Planning Office.
[9] This was seen as a regional facility. There was a possibility of getting an Atomic Accelerator, therefore this would have been a shared Research Centre between other Universities in the region.
Wits opted not to take up this offer and subsequently sought to expand into their property at Frankenwald. The anticipated expansion of Wits at Frankenwald did not materialise and the property was used as a research centre. (This property was sold in 1995 for further developments in Alexandra, but the sale is now subject of a dispute.)
[10] This concept was based on Charlie Claw in London who was able to make money in the form of capital gains by keeping his office tower empty, thereby creating an office space shortage. This pushed up the value of office buildings in that area of London.

RMP retain ownership of buildings and land in these centres and thereby create a 'rent roll' which would generate capital for further development. These centres would be planned and phased so as to co-ordinate with the sale of adjacent land so that maximum benefit would accrue to them as RMP developed their market and infrastructure. Thus RMP would benefit twice from its own development, something only a large company would be capable of doing. Withholding land from development was weighed against demand and its discounted value over the time it was to be held. The holding concept had validity as RMP was unlikely to dispose of its vast land holdings in the short term.

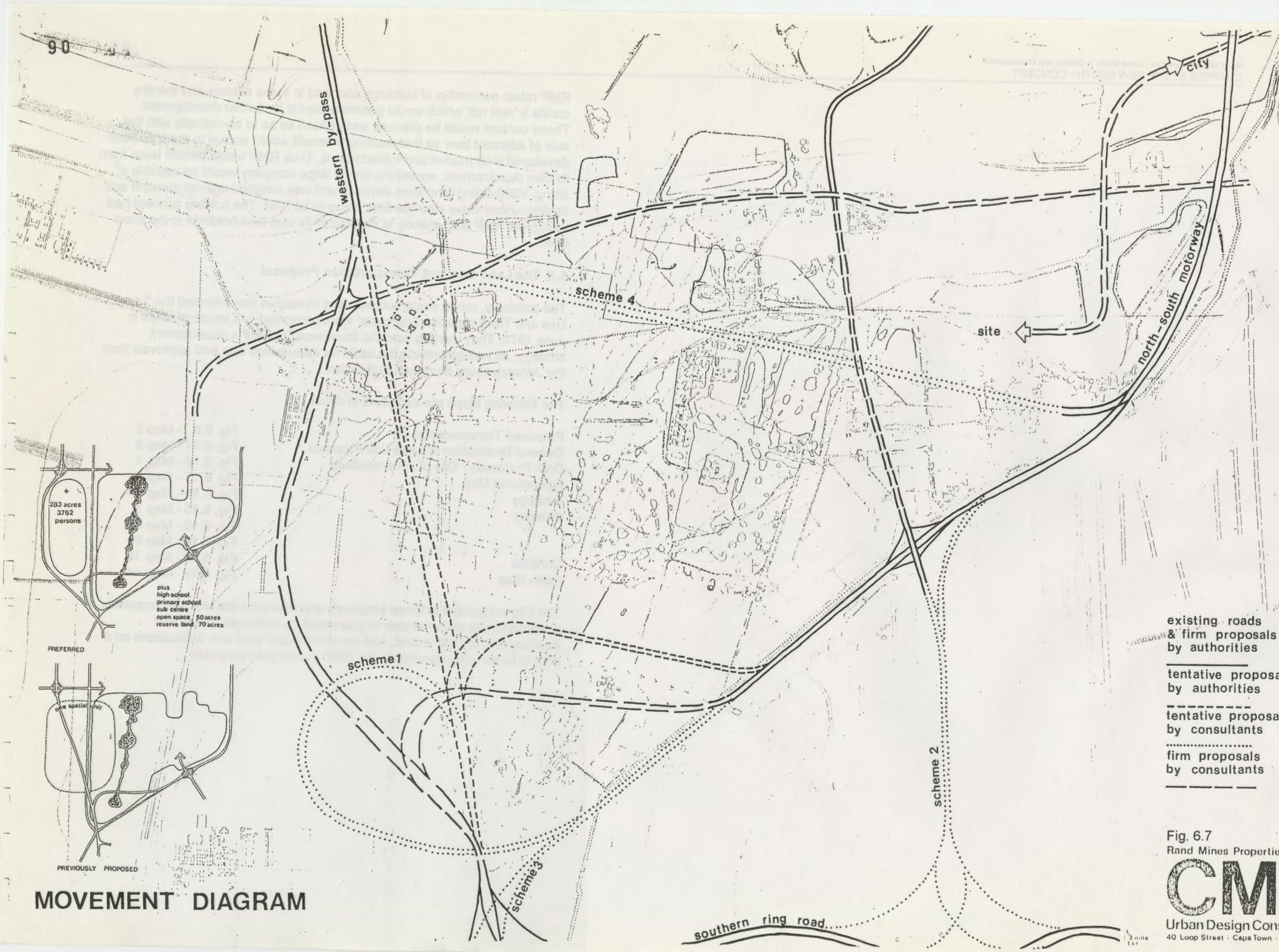
### 6.5 The Land Use and Transportation Proposal.

The concepts, urban design criteria, and strategies that informed the 'Land Use and Transportation Proposals' were presented in a series of maps in June 1970. They were to form the framework for RMP's development strategy, as well as provide the basis for discussions with and approvals from the Johannesburg Municipal Authorities.

The following Maps are explained in detail :

| | |
|---|---|
| Proposed Transportation | Fig. 6.8 - Map 2 |
| General Description of Land Use Proposal | Fig. 6.11 - Map 3 |
| Draft Proposals - City of Johannesburg | Fig. 6.12 - Map 4 |
| Operational Map | Fig. 6.13 - Map 5 |
| Strategy | Fig. 6.14 - Map 6 |
| Phasing | Fig. 6.15 - Map 7 |
| | Fig. 6.16 - Map 8 |
| | Fig. 6.17 - Map 9 |
| Controls | Fig. 6.18 - Map 10 |
| Index Map | Fig. 6.19 - Map 11 |

The City responded to these proposals and accepted the land use proposals in principle, but were not able to guarantee co-ordinated control and development of RMP's land, and therefore would deal with applications on a project basis with reference to the RMP overall plan proposal.




# MOVEMENT DIAGRAM

Fig. 6.7
Rand Mines Properties Limited

CMP
Urban Design Consultants
40 Loop Street · Cape Town · South Afri

Figure 6.7 :
Movement Diagrams with specific reference to the Ormonde site as prepared by Urban Design Consultants. Inset highway alternatives as proposed by Urban Design Consultants.
*( source : Urban Design Consultants (1969) )*

### 6.5.1 Proposed Transportation - Map 6.8

This map was produced was prepared by De Leuw Cather and Associates working in conjunction with the planning team employed by RMP.
It was generally concluded that the transportation planning and construction at the time offered certain opportunities while simultaneously posing some problems for the development of RMP's land and for the City. For this reason it was proposed that all planning should be carried out in conjunction with the City in order to be effective.

The map took as its point of departure proposals for the south contained in the Greater Johannesburg Area Transportation Study of 1970, and was amended according to information gained in discussions with the City Council during 1970 and early 1971.

The city transportation plan covered transit systems. However it did not allow good access to the mining land and failed to significantly improve the problem of internal east - west movement. Additional problems occurred where Provincial and Municipal motorways met on RMP's land and therefore liaison between other municipal areas, the Province, central Government and the Johannesburg City Council was required[11]. RMP found that the motorway proposals tended to divide its land into pockets which were difficult to develop as comprehensive units and had poor access. This is illustrated by a diagram *(Fig. 6.7)*, produced by UDC in relation to the Ormonde development.

At the time the traffic consultants for Ormonde, Ove Arup and Partners, had completed a detailed study and developed an internal road system which separated pedestrian and vehicular movement while at the same time carrying the high internal traffic load. The major problem posed to RMP was to co-ordinate the road proposals of the many parties concerned in the area. At this time the Provincial authorities were planning the Western and Southern by-passes which were to form part of a ring road system, and the new West Rand motorway was being planned through C.M.R and Roodepoort. The City was finalising its proposals while RMP was proposing amendments to all the systems.

In an attempt to co-ordinate the regional aspects of the transportation system and to marry the City's proposals to RMP's land use proposal, an additional firm of traffic consultants, De Leuw Cather and Associates, who had previously worked with the City Council's data were employed with the City's approval.

The corridors suggested by the City in their transportation study were located without the City having the benefit of RMP's understanding of their own land use potential, which in the light of the proposed areas and magnitude of

[11] RMP paid Aircraft Operating Co. to map the area next to Diepkloof Soweto (the 'buffer zone') and gave this data to the City and Province, so as to allow them to plan the Western bypass closer to Soweto and not in the Golf Course.

Overleaf :

Figure 6.8
Map 2 : Proposed Transportation
1 : 50 000
*( source : Drake (1973) )*

expropriations was a major consideration. The M4 corridor was particularly significant, as in addition to its primary function of providing a through route for east - west traffic along the reef, as well as City centre distribution, it provided access to areas which were mainly owned by RMP. It was believed that some adjustment to this corridor could be effected in order to achieve appropriate access without weakening the other functions.

An area which posed problems not only for RMP but also for the City was the triangle roughly defined by Booysens Road, Main Road and Soweto[12]. It was felt that motorways envisaged by the City and other agencies offered limited opportunities for access and had some undesirable features in terms of the surrounding motorway system. As the proposals to develop motorways in this area occurred at the same time as the intention of RMP to develop land in the area, it was seen as an excellent opportunity to consolidate the motorways and integrate them with land use planning.

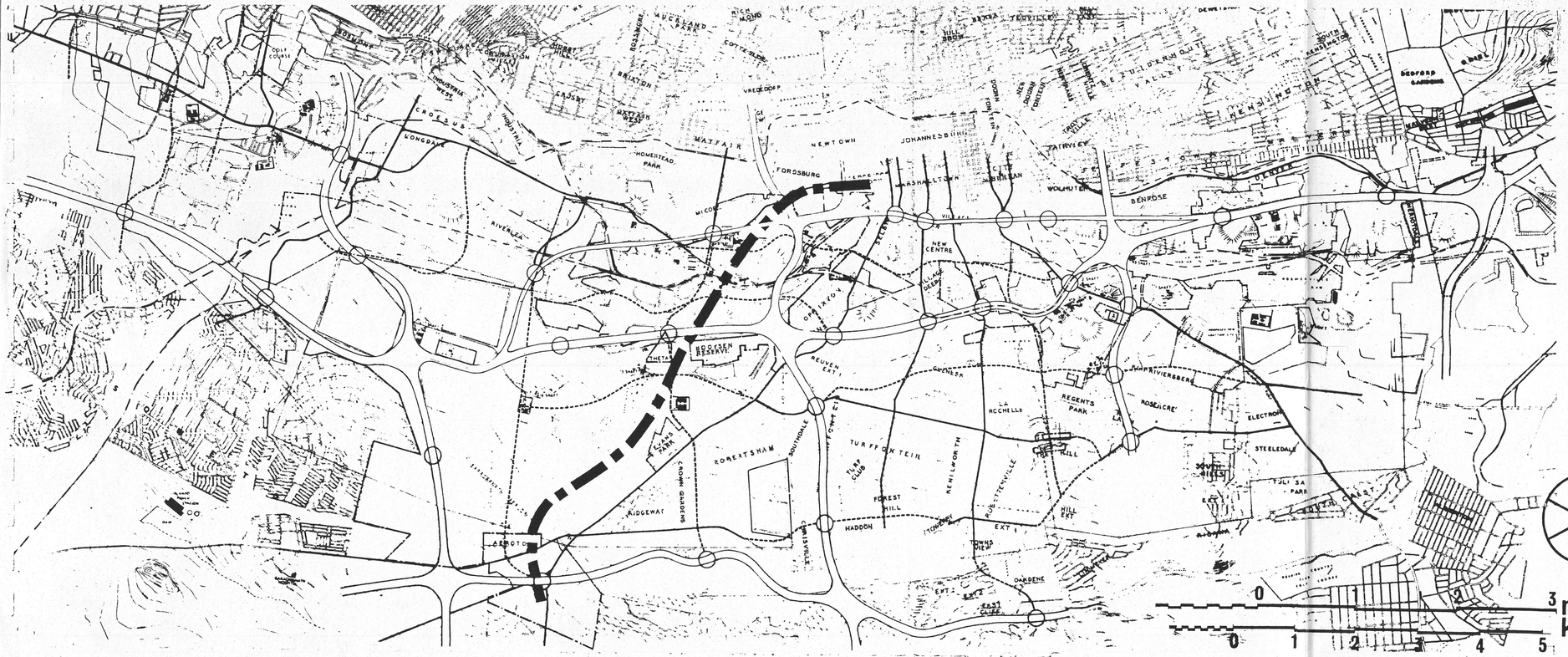
The City had also given some consideration to a transit line to the south as part of an overall transit network. A co-operative effort between RMP and the City offered the opportunity of achieving compatibility between land use and transit.

It was proposed that the Ormonde area be linked to the CBD by an express bus route which would link a series of growth points between the Southern Terminus of Uncle Charlies and the City Terminus of Ferreira. It was envisaged that this facility would serve to create new growth points.

In assisting the De Leuw Cather motorway network it was suggested that RMP give the land to the city. This financial saving could then be put into the construction costs of the motorway and thereby assist in its early completion.

In this way it was seen that RMP could assist the City financially while achieving a motorway system which would serve the existing and future south more effectively. However in reality, large amounts of RMP's land had been expropriated for motorway developments. Also the relationship between the Council and RMP had been soured by the dispute and subsequent arbitration over the amount of compensation offered to City Deep for expropriated land.

[12] The lack of access to Soweto from the motorway network was a deliberate one. There were no off ramps provided along this part of the motorway. This remains a problem to this day, as the motorway is effectively a barrier between Soweto and Johannesburg. This is an issue that has to be addressed in future developments by RMP, if they are to be successful, in providing a link between the city and Soweto.




corridor

access

existing arterials

expanded arterial system

RMP boundaries

express bus

# PROPOSED TRANSPORT'N

RMP | Case Study in Design and Development

Fig. 6.8 1 : 50 000

MAP 2 - PROPOSED TRANSPORTATION

Overleaf :

Figure 6.9 :
Table : Land Use Categories
*( source : Drake (1973) )*

Figure 6.10 :
Land Use Diagrams
1 : 50 000
*( source : Drake (1973) )*

### 6.5.2 General Description of Land Use Proposal - Map 6.11

An overall development plan was produced in a relatively short space of time. It divided RMP's land, from Roodepoort to Germiston, into parcels based on physical characteristics, accessibility and land use. Within this overall plan, priority areas were identified for development and broad land use patterns proposed.

The land uses shown on the map were seen to indicate the areas in principle and were intended as a point of departure for further work.

It was also noted that derelict land or land that could not be used was not isolated. In certain areas it was assumed that it would be possible to build on undermined areas. It was felt that it was not possible to generalise on the viability of undermined areas as each area would have to be considered on its own merits and that it would often be a matter of cost.

The land use categories were as described in table form, *(Fig. 6.9)*.

The distribution of land uses was dictated by the objectives and concepts outlined previously. These concepts provided a broad outline into which the following provided another level of detail.

The CMR area, Roodepoort Municipality. This area was seen as an activity system with Florida and Maraisburg.

- The residential and recreational uses linked the existing Florida Lake to the New Canada Dam.
- Warehousing / industrial uses were grouped together around existing areas
- Agricultural use was proposed as a buffer strip between Soweto and white residential areas.
- The eastern portion of the land provided north / south linkage.

The Crown Mines area was governed by the proposed Ormonde residential development.

- Warehousing / industry was proposed between Soweto and Ormonde to act as a 'buffer' and to provide employment opportunities.
- The area north of Ormonde formed the western edge of the recreational belt.
- The northern section was proposed for residential, business and educational uses. These were to form a link with the existing northern residential areas and the proposed Auckland Park and Cottesloe developments i.e. Rand Afrikaanse Universiteit, the SABC Headquarters and Goudstad Teachers' Training College.
- It was generally proposed that the northern sections of the land be upgraded both functionally and aesthetically.

The Uncle Charlie's area was proposed as the possible terminus for the proposed Express Busway and was shown as business and residential.

Fig. 6.9 : LAND USE CATEGORIES

| | | Johannesburg C.E.D Land use Chart | |
|---|---|---|---|
| 1. | Residential :<br>All residential functions. No reference is made to densities at this stage; includes compatible utilities<br>Notes :<br>( i ) Public open space that relates to specific residential areas are included in this category ie parks etc. required within the township. | 0.0<br>8.0 | Residential<br>Services & Utilities |
| 2. | Business :<br>Retail, other businesses, wholesale, offices, banks etc. Excludes warehouses. Includes entertainment. Includes compatible utilities<br>Notes :<br>( i ) The areas shown are intended to indicate growth points or centres for the surrounding developments<br>( ii ) The category is intended to include all those activities normal to the idea 'centre' | 1.0<br>5.0<br><br>8.0 | Business<br>Social & Recreational<br>Services & Utilities |
| 3. | Warehousing / Industry :<br>Excludes Noxious Industries<br>Notes :<br>( i ) Areas which have industrial rights are not shown separately. | 1.0<br>2.0 | Business<br>Industrial |
| 4. | Education and Research :<br>Notes :<br>( i ) This category is limited to those research types of land uses compatible with residential development. | 4.0 | Educational & Research |
| 5. | Recreational :<br>Active and passive recreation. no distinction between public open space and private open space.<br>Notes :<br>( i ) Active recreation ie. entertainment, private golf courses etc., have not been separated from public open space. | 5.0 | Social and Recreational |
| 6. | Agricultural, Market Gardens, nurseries, hot houses etc.<br>Notes :<br>( i ) Small holdings are not included in this category | 7.0 | Agricultural |

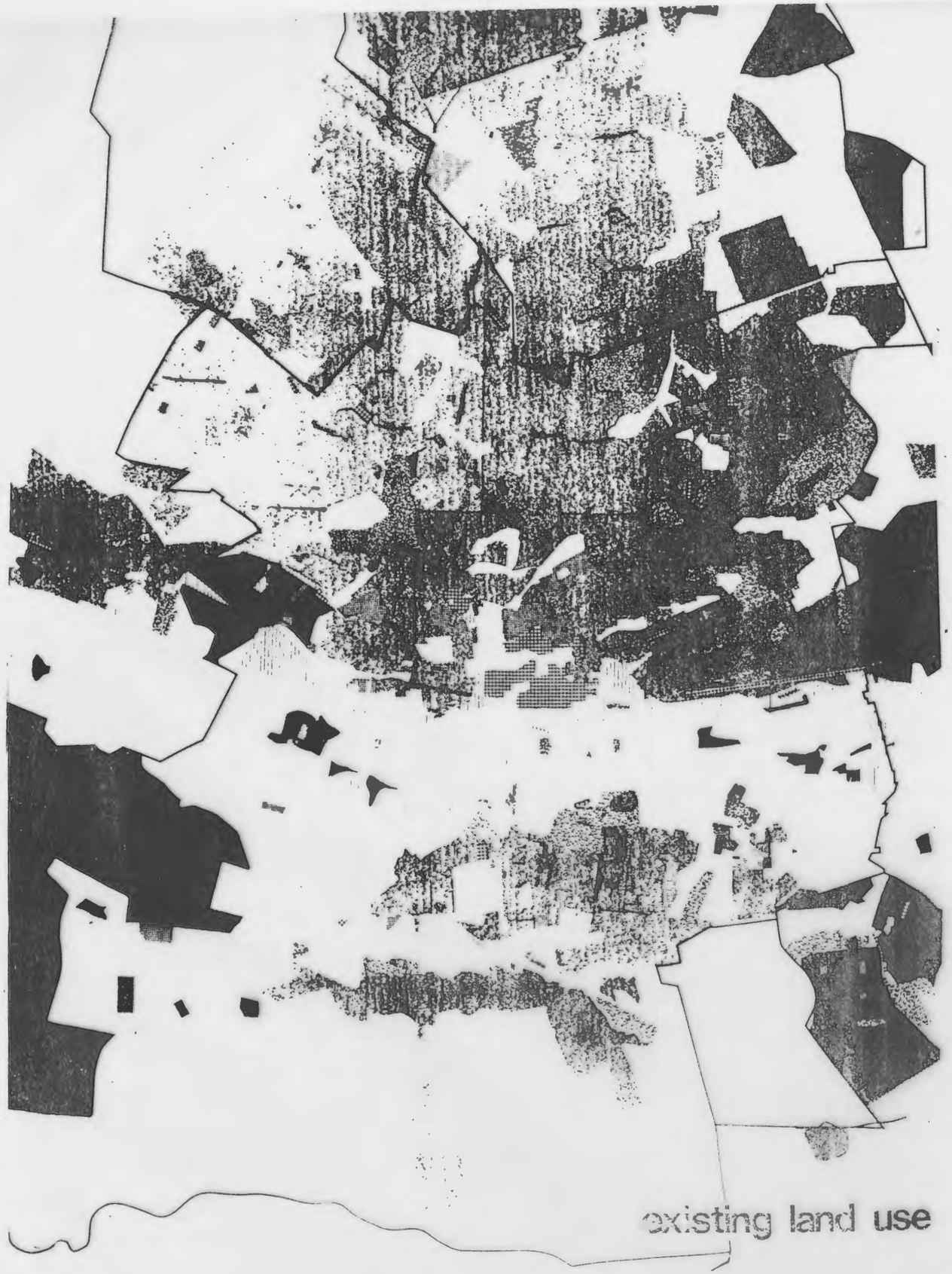
*source : RMP Report (1973)*




RAND MINES PROPERTIES LTD

RMP : Case Study in Design and Development

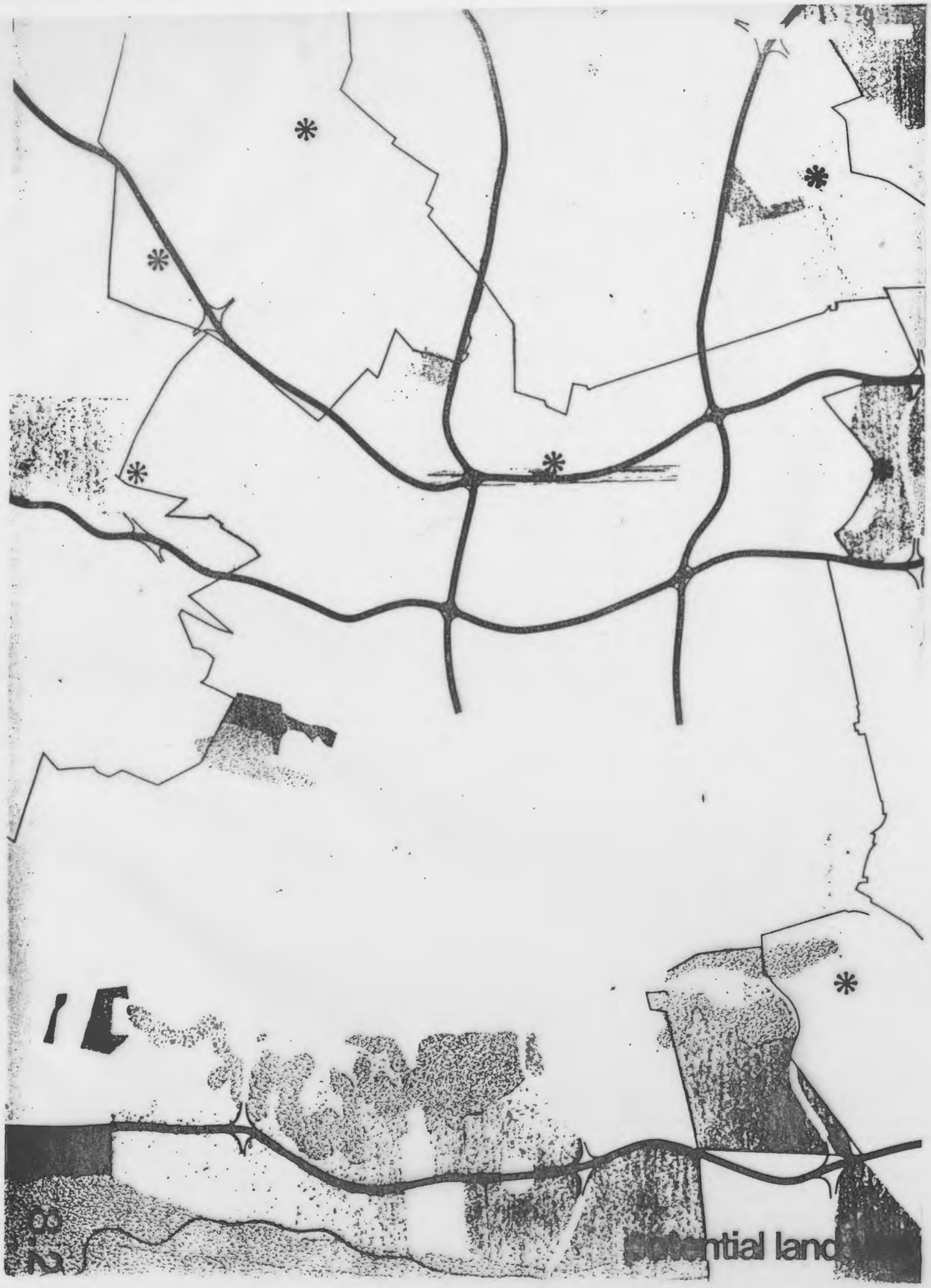
Fig. 6.10 1 : 50 000
LAND USE DIAGRAMS




RMP · Case Study in Design and Development

Fig. 6.10 1 : 50 000
LAND USE DIAGRAMS

1




RMP : Case Study in Design and Development

Fig. 6.10 1 : 50 000
LAND USE DIAGRAMS

2




RMP : Case Study in Design and Development

Fig. 6.10 1 : 50 000
LAND USE DIAGRAMS

3

Overleaf :

Figure 6.11 :
Map 3 : General Description of Land Use Proposal
1 : 50 000
*( source : Drake (1973) )*

The Ferreira / Selby area was shown as business and warehousing / industry. Proposed developments in the area at the time indicated that demand existed for office developments.

The Robertsham area was shown as a comprehensive residential development linking to the Southdale shopping area and to apartments south of the shopping area.

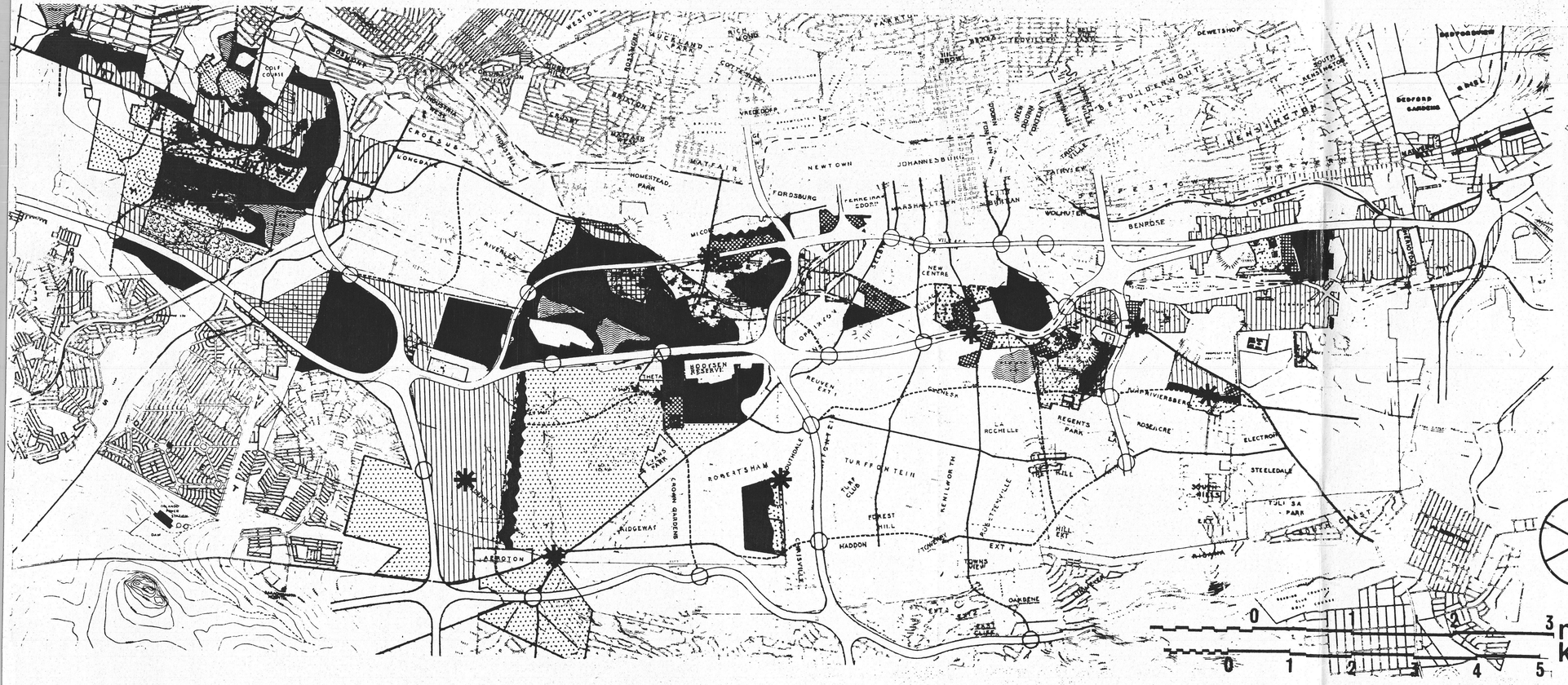
The Wemmer Pan area was shown as a comprehensive residential development with closely integrated residential and business areas.

The areas surrounding the proposed Market and Abattoir were shown as being predominantly warehousing / industry.

- The remainder of the City Deep Golf course would be developed as warehousing / industry and as a recreational space forming a buffer between the warehousing / industry and the surrounding and proposed residential areas.
- The area where Outspan Road joins Heidelburg Road was shown as possible area for a business motel, hotel and shopping, an idea which presupposed that the Abattoir did not cause any atmospheric pollution in the area.

The Far East was shown as predominantly warehousing / industry to consolidate the existing patterns of development.

- The Nourse Mine area was shown as a comprehensive residential development
- The Rosherville Dam area was considered for recreational purposes but the intended S.A.R Expropriation mitigated against this.




connector distributor

corridor

access

existing arterials

proposed arterials

RMP boundaries

centres

recreation

residential

business

warehousing, industry

institutional

agricultural

water

comprehensive dev.

# PROPOSED LAND USE

RMP: Case Study in Design and Development

Fig. 6.11 1 : 50 000

MAP 3 - DESCRIPTION OF LAND USE PROPOSALS

Overleaf :

Figure 6.12 :
Map 4 : Draft Proposal - City of Johannesburg
1 : 50 000
*( source : Drake (1973) )*

### 6.5.3 Draft Proposals : City of Johannesburg - Map 6.12

The draft proposals shown were those made by the City of Johannesburg and were included for comparative purposes.

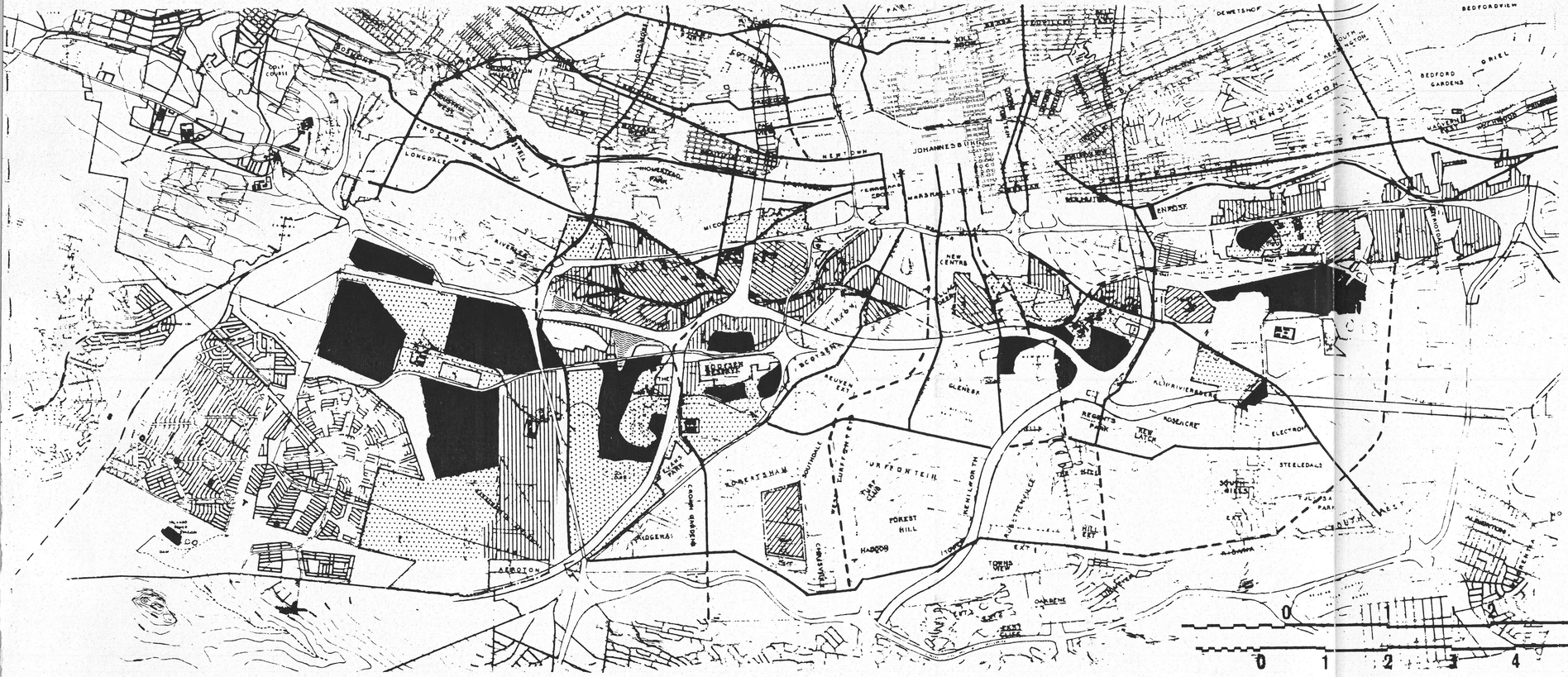
The draft proposals for the land uses were based on a number of assumptions that RMP did not necessarily share with the City Council. RMP commented in detail on the City's proposals at the time.

The main areas in which the proposed plans varied were the following :

- In the west, areas surrounding Soweto and Riverlea were basically shown as public open space.
- The area between Soweto and white residential areas was shown as a prison site
- The area to the north of Crown Mines was shown as possible showgrounds, commercial townships and for unspecified municipal uses.
- The Rosherville Dam area was shown as public open space and white residential areas. However much of this was destined to be expropriated by the S.A.R for its proposed container depot.
- Various unspecified municipal and special uses were not shown.

One of the goals of the plan was the formation of an integrated park system for Johannesburg. This idea was retained in RMP's proposals with the important difference that it was seen as an integrated recreational and entertainment area, which meant that they could be revenue producing, thereby 'guaranteeing' their development and maintenance.

RMP was of the opinion that the best land use for an area would be determined by those immediately adjacent to it, that the land uses proposed by RMP would allow for an efficient public transport scheme, that small scale manufacture and warehousing should be situated near to central areas and along major routes, and that mine dumps and slimes dams had no potential for building.


JOHANNESBURG
NEW TOWN
NEW CENTRE
NEWTOWN
NEWTOWN EXT
MARSHALLTOWN
MARSHALLTOWN EXT
BRAAMFONTEIN
BRAAMFONTEIN EXT
BRAAMFONTEIN WEST
BRAAMFONTEIN EXT
BRAAMFONTEIN EXT
BRAAMFONTEIN EXT

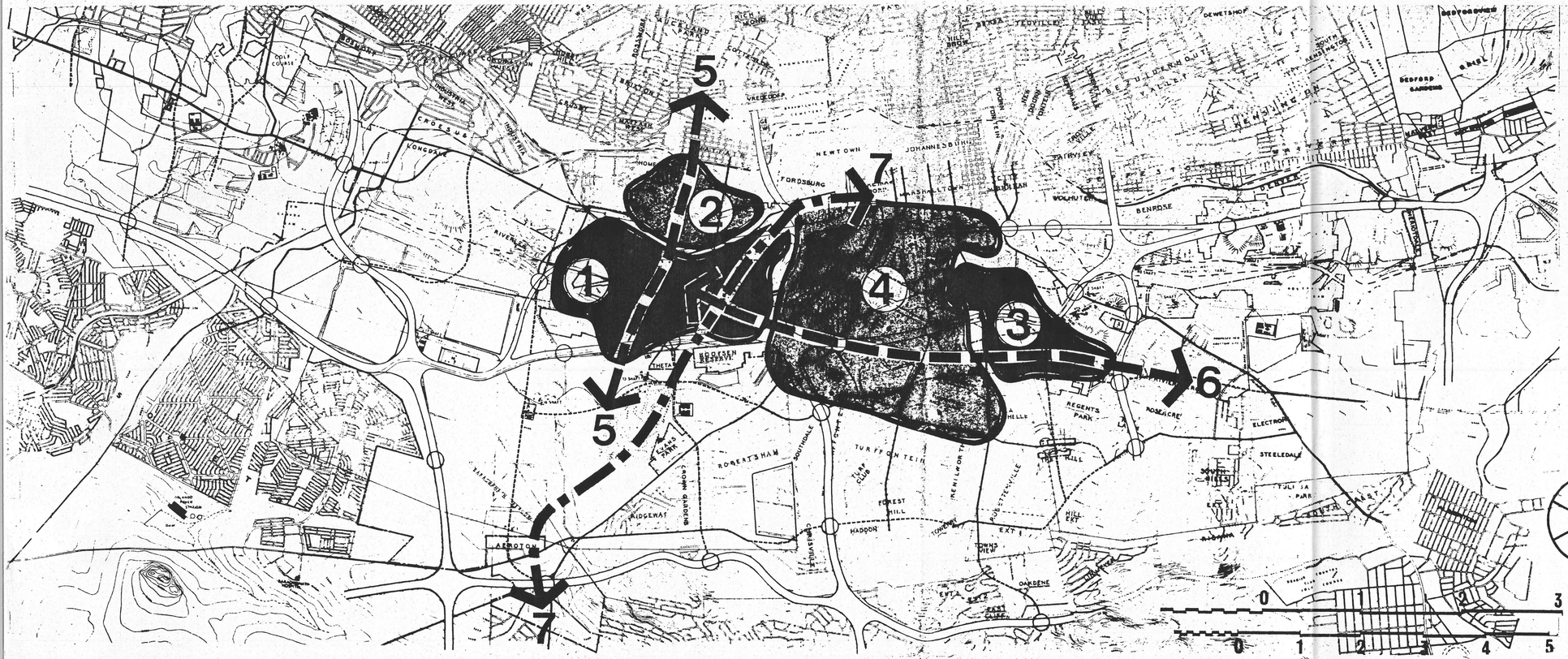
Overleaf :

Figure 6.13 :
Map 5 : Operational Map
1 : 50 000
*( source : Drake (1973) )*

### 6.5.4 Operations - Map 6.13

The following were seen as priorities for RMP to execute once the principles underlying their proposals were finalised.

1. Upgrading the area north of Ormonde and establishing active and passive recreational facilities.
2. Establishing detailed controls on the area between Crown Mines and the North, and obtaining active support from the city in aesthetic control and upgrading of the Homestead Park Lake area. (Area 2)
3. Upgrading the area surrounding Wemmer Pan so as to stabilise land and to prepare for future development. (Area 3)
4. Establishing a likely pattern of development in this area and obtaining support from the city in aesthetic and locational control. (Area 4)
5. Collaboration with the city in facilitating the upgrading of existing arterials and the establishment of new east - west arterials as soon as possible.
6. Collaboration with the city in facilitating north - south routes as soon as possible.
7. Establishing an express busway in conjunction with the city.




corridor

access
existing arterials
expanded arterial system
RMP boundaries

1 UPGRADE: top priority: R.M. Props.
2 UPGRADE: top priority: City
3 UPGRADE: second priority: R.M. Props.
4 UPGRADE: second priority: City
5 North/South linkage
6 East/West movement
7 Express bus

# OPERATIONAL MAP

RMP : Case Study in Design and Development

Fig. 6.13 1 : 50 000
MAP 5 - OPERATIONAL MAP

Overleaf :

Figure 6.14 :
Map 6 : Strategy
1 : 50 000
*( source : Drake (1973) )*

### 6.5.5 Pilot strategy - Map 6.14

The pilot strategy was to be used as a basis for the following work items :

- To provide the physical base for a first definition of a corporate strategy.
- To form the basis of the first cash flow calculations which would indicate the rate and type of investment.
- To indicate where potential problems lay.
- To form a working base for the definition of functional strategies and operations to be performed by various departments.

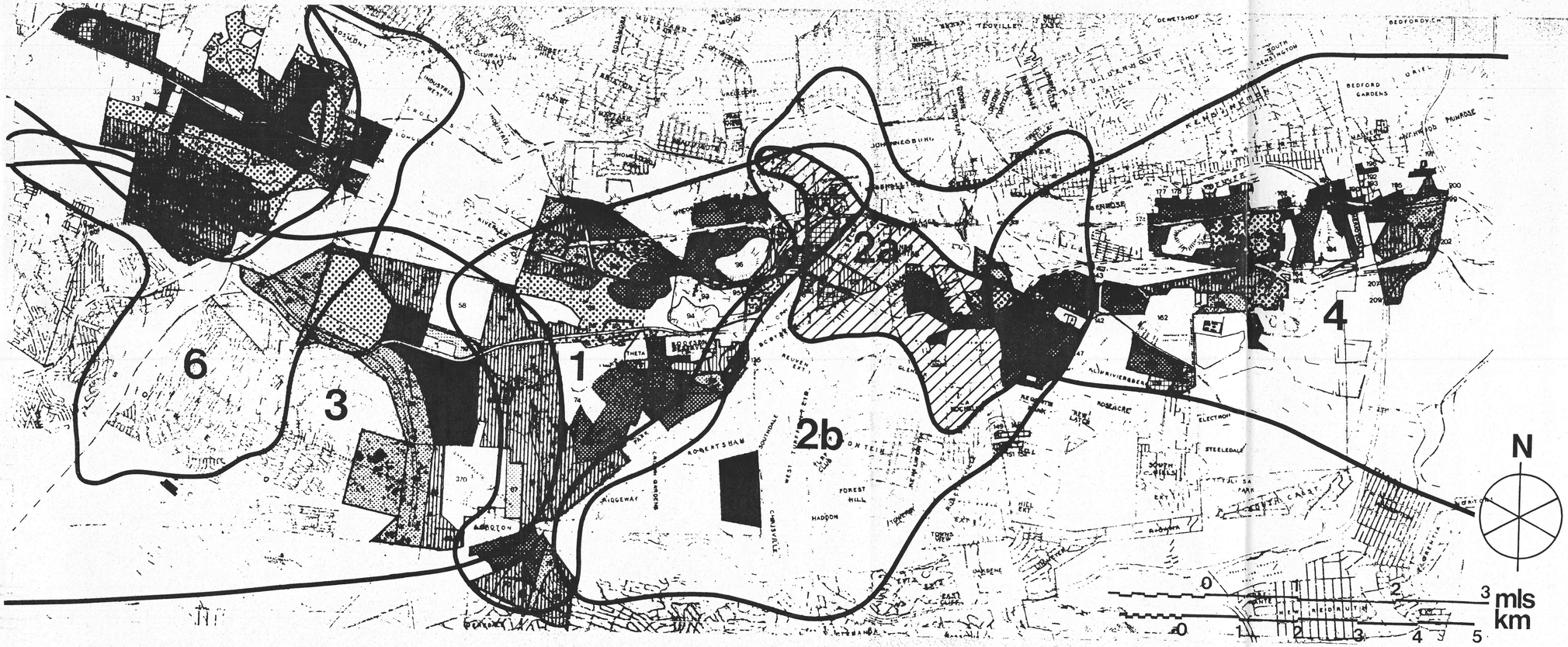
The following categories were used to indicate activities on the pilot strategy map. They did not correspond with those shown on the Conceptual Diagram. *(Fig. 6.4 - Map 1).*

**Area One :** This zone which included Ormonde was given top priority. Detailed plans were to be produced giving layouts, planting programmes, upgrading programmes, bus route locations, as well as design proposals for various key points.
**Area Two :** This central area was where the effects of growth and change in the city would be most notable. A planning study was proposed which would be directed towards establishing criteria for recognising future business opportunities.

Primary Study Area - 2a : This area contained the central land holdings of RMP as well as expected key growth areas i.e. the Wemmer Pan area, New Centre South, the market in Newtown and Fordsburg. It was noted that RMP land in this area should be used for interim land uses until larger areas could be accumulated for major development at a later date.

Primary Study Area -2b : This area was considered to be the zone of influence which should be studied so as to focus on the Primary Study Area.
Most of this land did not belong to RMP.

**Area Three :** This was a study area in order to put forward a case for the possible location of industry as a border area to Soweto. It was seen as an important study as various government departments viewed this land for a wide range of conflicting land uses.
**Area Four :** An area in which RMP should sell as much land as possible, holding only growth points.
**Area Five :** An area in which RMP should sell as much land as possible, holding only growth points.
**Area Six :** Area in which possible direct involvement in directly serving the ' non Europeans' would be explored. It was felt there was great potential in a development of this nature.




1 to 6: areas described in report

- raw land
- upgrade
- develop
- build
- multiple choice
- required for mining
- sell
- not within time scale

## PILOT STRATEGY

RMP : Case Study in Design and Development

Fig. 6.14 1 : 50 000

MAP 6 - STRATEGY

### 6.5.6 Strategy

The land use proposals were seen to be the basis for a strategy for development as well as a marketing strategy.
The initial strategy was referred to as the Pilot Strategy, and the initial commitment was to the Ormonde development and the need to link it to the city structurally. This was a major determinant in the definition of the pilot strategy.

The key to RMP's marketing policy was the classification of the land into three broad categories ; that which they were prepared to sell as soon as townships were proclaimed, that which they would sell at a later date if anticipated growth did not materialise, and that which they intended to hold because of future developments that would increase its value. It was clear that the land should be used as a means of generating cash from areas of low potential to develop areas of greater potential.

The decision to hold land would depend on the estimate of the probable value that could be added through development of the land by RMP, or through the possible upgrading of the adjacent land by others. Land would also be held at expected future growth points. However land holdings would always be related to cash or financial restraints.

Two specific strategies would be adopted in areas where RMP had decided to hold land :

Development : development would take place in certain areas such as Ormonde where RMP as the developer wished to set the tone for future developments. Alternatively development would take place where it was considered that it would add value to adjoining land owned by RMP.
Areas : Ormonde, Area One

Interim Use : This policy would be used as a means of generating short term revenue where it was seen that the land itself had high long term growth potential. It was understood that the actual interim use philosophy would require a highly innovative spirit. At the time RMP had embarked on an investigation into an industrial building application for warehouses, termed KOPS - 'Kit of Parts', as discussed in Chapter 7 of this document. Another (improbable) proposal was the use of inflatable buildings.[13]

Areas : Central area, Selby to Wemmer Pan and specifically the John Street area.

---

[13] This idea may have been based on an early inflatable office building by Norman Foster (Bill Spooner 19/12/1995) and negotiations were entered into with Gundelfinger & Co. (Drake). The only inflatable building in Johannesburg at that time was a pneumatic greenhouse for Gundle Plastics at Isando, which is referred to in Credo. *(Fig. 6.48)*

Overleaf :

Figure 6.15 :
Map 7 : Phasing 1971 - 75
1 : 50 000
*( source : Drake (1973) )*

Figure 6.16
Map 8 : Phasing 1976 - 80
1 : 50 000
*( source : Drake (1973) )*

Figure 6.17
Map 9 : Phasing 1981 - 90
1 : 50 000
*( source : Drake (1973) )*

Land would be sold in areas which were seen to have short or medium term growth potential and the extent of sales would be determined by the need to generate revenue to finance development on other land, or to purchase new land holdings in areas of greater potential. Land sales were to be governed by a schedule of land sale priorities.
It important to note that at this time RMP saw their role as developers and not as mere property brokers.
Areas : CMR, Geldenhuis, all other areas not included in the hold or interim use areas.

RMP was aware that tracts of land of greater potential than that owned by RMP existed, and that failure to appreciate this through sentimental or historical reasons could impact negatively on the company, both financially and in terms of its image. Therefore, as a means of diversifying their land holdings into key areas in Johannesburg, particularly to reinforce their planned development of the south, a policy of acquiring land in areas of expected growth was adopted.

### 6.5.7 Phasing - Maps :

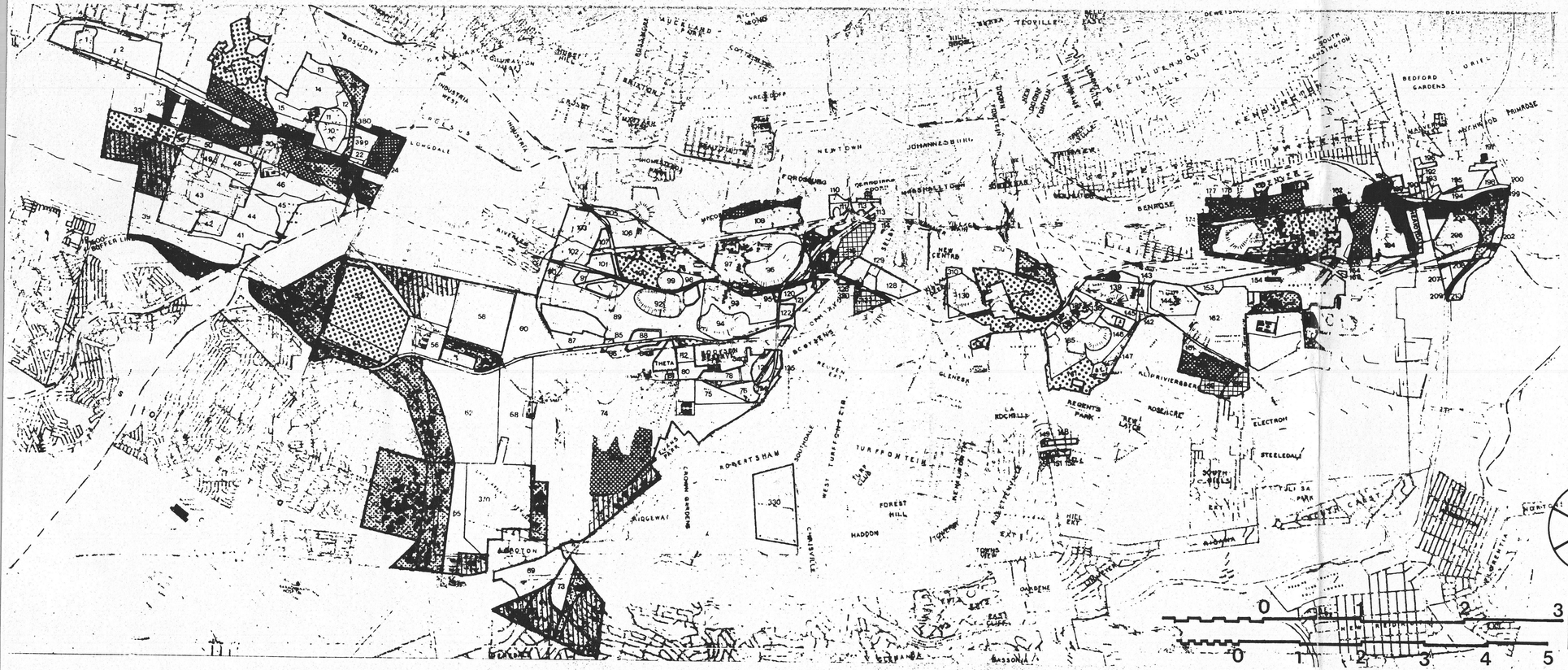
Once the Land Use Plan and demand studies were completed, the data was collated in order to produce a proposed phasing plan for development. This plan could then be costed in order to calculate a cash flow, and if need be the phasing plan could be readjusted to obtain a more desirable cash flow.

The phasing of proposed development was done over a 20 year period, from 1971 to 1990 with the following time intervals.

| | | |
|---|---|---|
| Phase 1 | Fig. 6.15 - Map 7 | 1971 - 1975 |
| Phase 2 | Fig. 6.16 - Map 8 | 1976 - 1980 |
| Phase 3 | Fig. 6.17 - Map 9 | 1981 - 1990 |

The categories for the initial cash flow analysis were as follows :

- Upgrade
- Develop
- Build
- 'Multiple Choice' : develop to township form, sell parts of the land, build on other sections, sell or retain buildings.
- Required for mining
- Sell



raw land
upgrade
develop
build
multiple choice
required for mining
sell
not within time scale

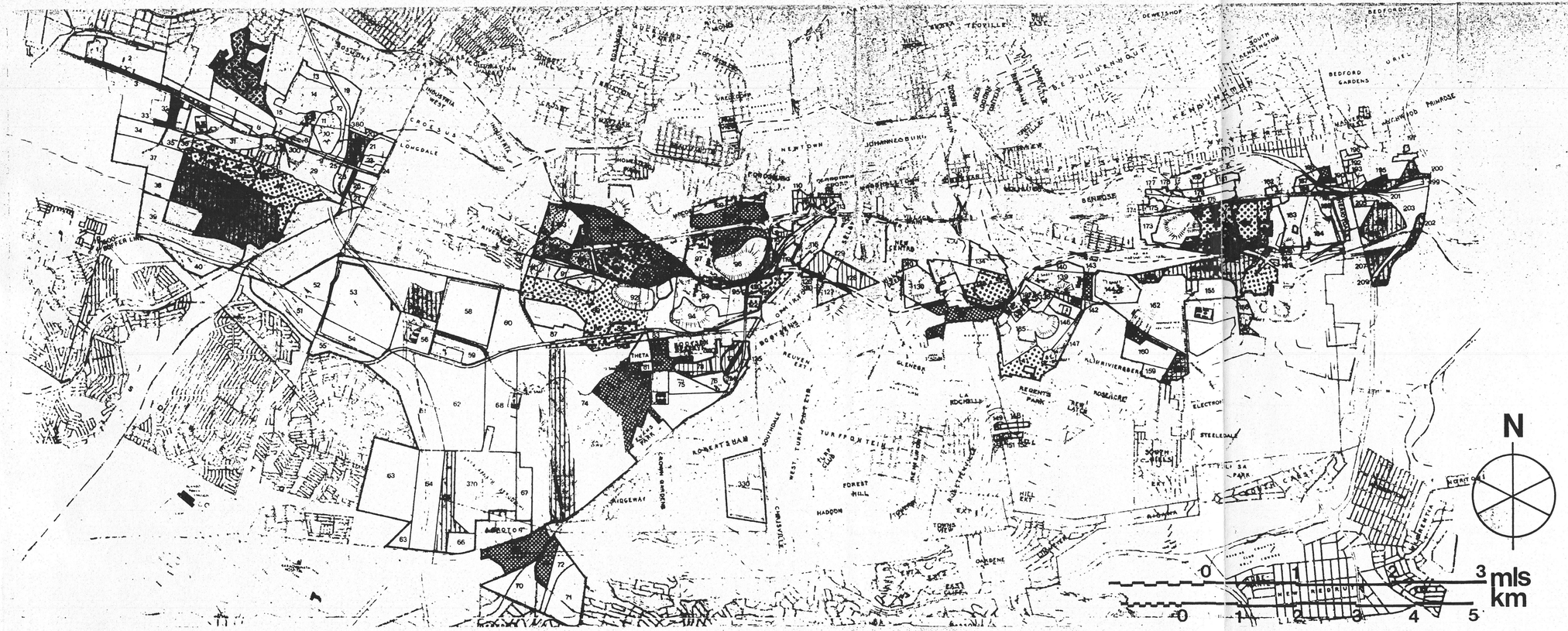
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0 1 2 3 mls
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# PHASING 1971-75

RMP : Case Study in Design and Development

Fig 6.15 1 : 50 000
MAP 7 - PHASING 1971 - 75



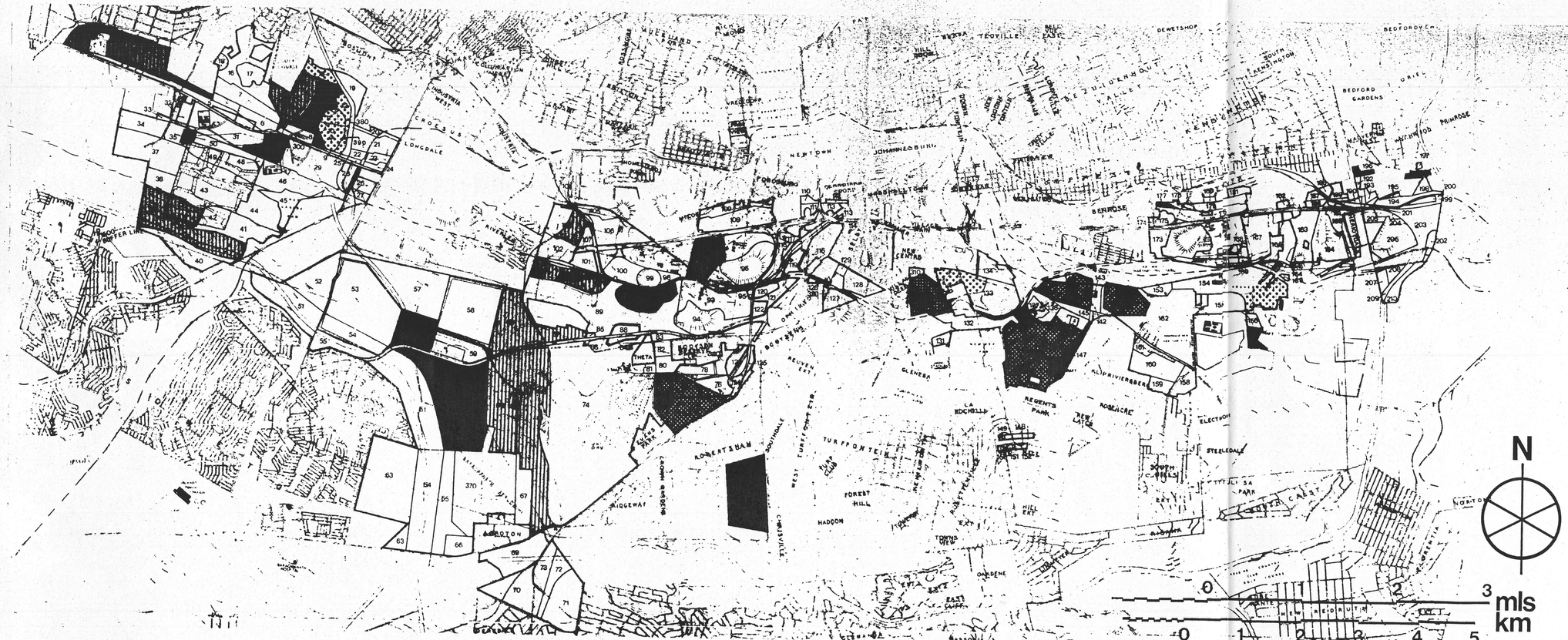

raw land
upgrade
develop
build
multiple choice
required for mining
sell
not within time scale

# PHASING 1976-80

RMP : Case Study in Design and Development

Fig. 6.16 1 : 50 000

MAP 8 - PHASING 1976 - 80




raw land
upgrade
develop
build
multiple choice
required for mining
sell
not within time scale

# PHASING 1981 – 90

RMP : Case Study in Design and Development

Fig. 6.17 1 : 50 000

MAP 9 - PHASING 1981 - 90

Overleaf :

Figure 6.18
Map 10 : Controls
1 : 50 000
*( source : Drake (1973) )*

Figure 6.19
Map 11 : Index Map
1 : 50 000
*( source : Drake (1973) )*

### 6.5.8 Controls - Map 6.18

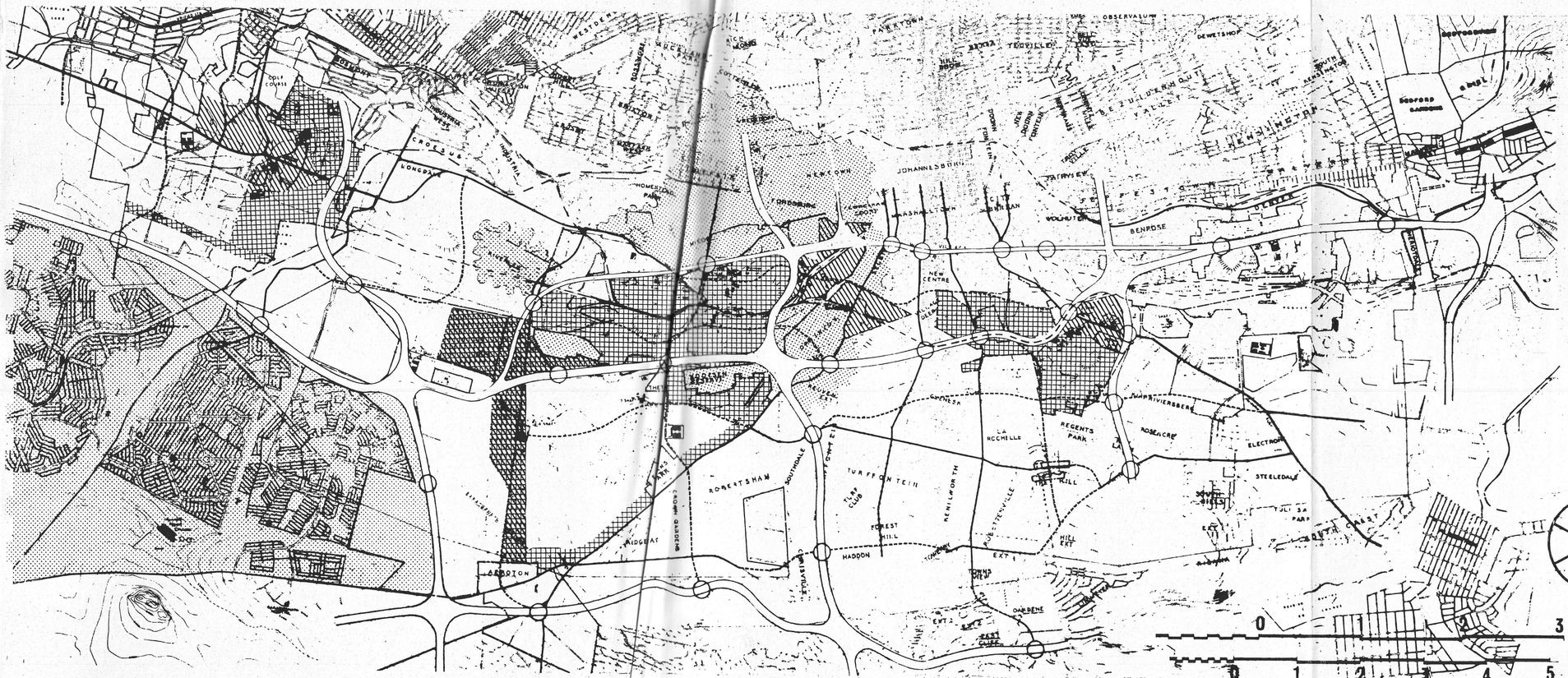
It was implied in the optimal development of RMP's land that long term controls be put in place in certain areas. During the winter of 1970, a detailed study was undertaken of the micro climate and patterns of pollution *(Fig. 5.11)*. It was shown that Ormonde was relatively unpolluted but vulnerable to pollution from other areas.

A number of controls were therefore defined for the following purposes :

- To protect the land from actions in adjacent areas which might have a detrimental effect on the surroundings.
- To ensure that certain areas were developed in a manner that the land could be re-accumulated at a future date for a more profitable usage.
- To protect vulnerable residential areas from pollution originating in areas not owned by RMP.

The controls included the following :

Physical Control : planting of trees, controlled dumping of soil.
Legal and building type control / land use type control.
Legislative or land use control on land not owned by RMP, mainly to control air pollution and environmental standards and adjacent areas to which RMP's land was vulnerable.




corridor

access
existing arterials
proposed arterials
RMP boundaries

PHYSICAL CONTROL: (Planting, Dumping etc.)

LEGAL, AND BUILDING TYPE, OR LAND USE TYPE CONTROL: (Conditions of sale and ownership)

LEGISLATIVE OR LAND USE CONTROL REQUIRED ON LAND NOT OWNED BY THE COMPANY.

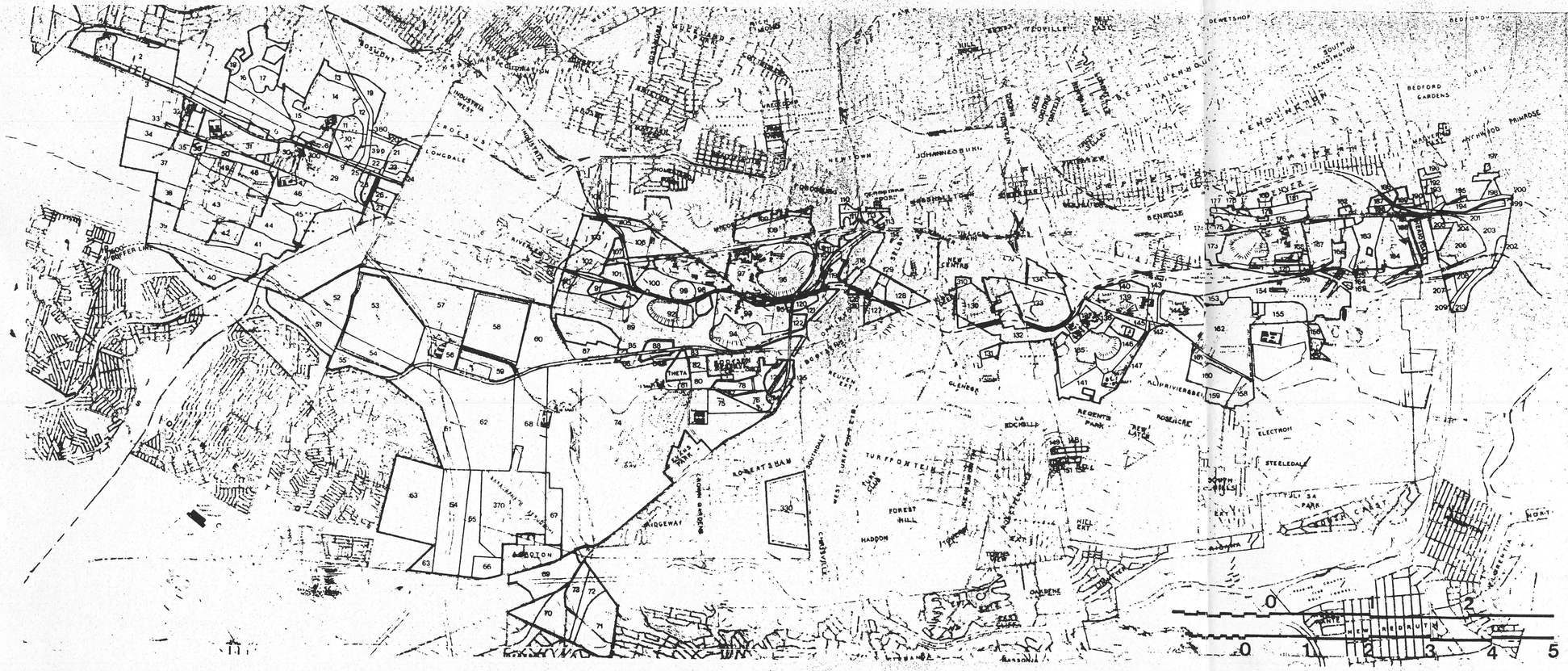
NOTE: This control map applies to the February 1971 Land use Map. Any alterations in the proposed land use may necessitate changes in the control areas.

# CONTROL AREAS

RMP: Case Study in Design and Development

Fig. 6.18 1 : 50 000

MAP 10 - CONTROLS




numbered areas for cash flow studies

## INDEX MAP

RMP : Case Study in Design and Development

Fig. 6.19 1 : 50 000

MAP 11 - INDEX MAP

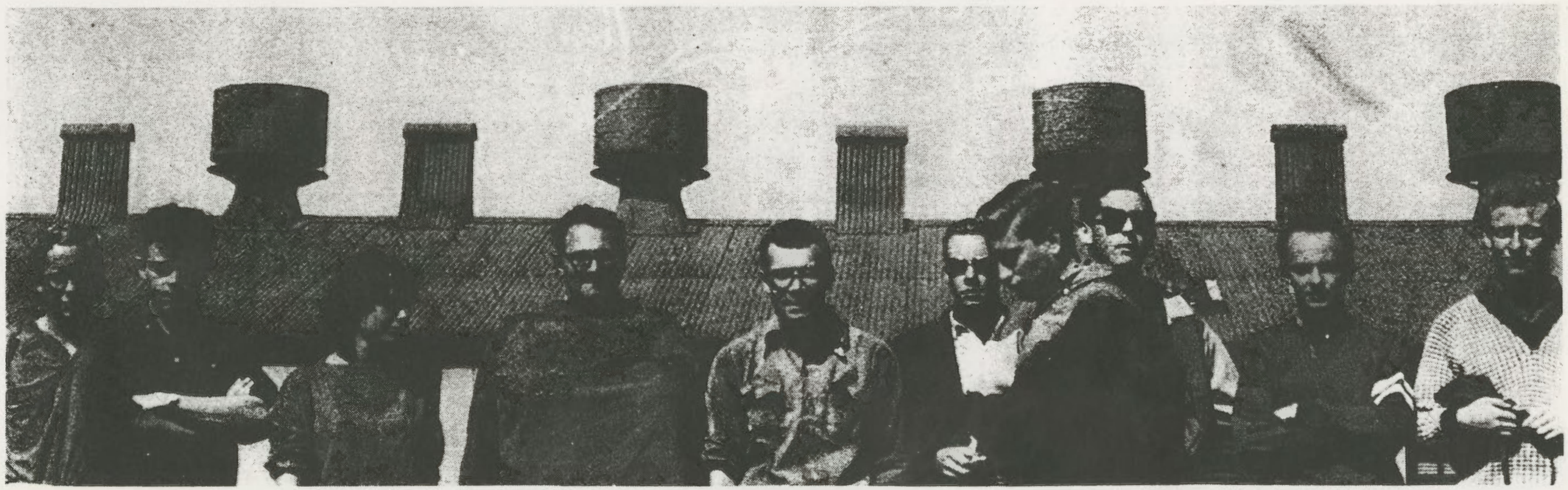
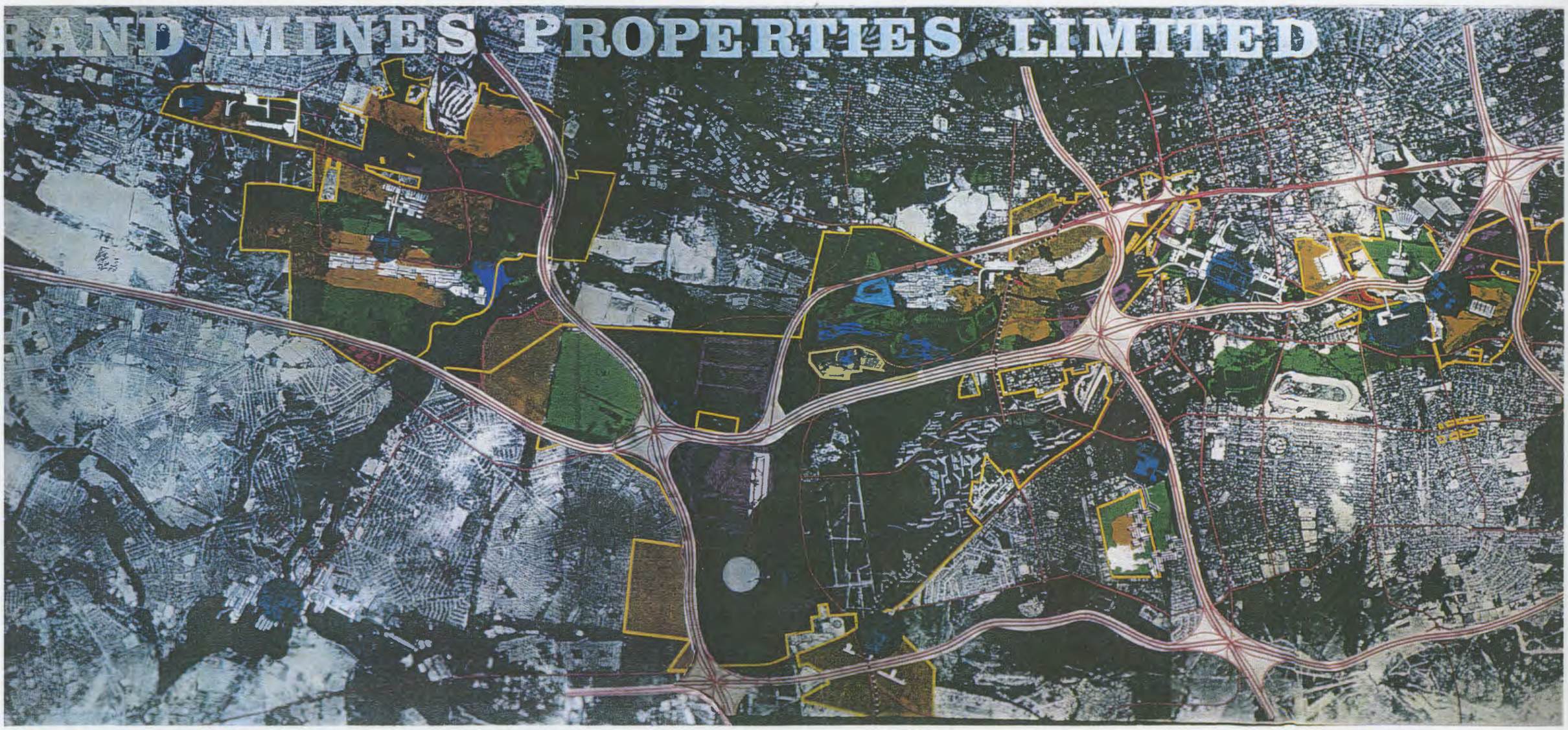


Fig. 6.21




RMP : Case Study in Design and Development

**Fig. 6.20** **1 : 50 000**
**THE DREAM MAP**

Previous Pages :

Figure 6.20
The Dream Map
1 : 50 000
*( source : Colour Slide Roger Boden )*

Figure 6.21
Theme Photo of September 1962 Exhibition which features some members of the incoming class of 1960 at the University of the Witwatersrand.
From left to right :
Roger Boden, Dennis Playdon, Lorna Taylor (A Fine Arts student), Ivor Prinsloo, Antonio de Souza Santos, ?Duncan Howie, ?, ?, Andrew Berman, Frank Loewenburg.
*(Source : Prinsloo (1993) )*

## 6.6 The 'Dream Map'

The Land Use and Transportation proposals and the resultant series of maps had produced a series of fixes, opportunities and constraints.

In addition to these maps, a conceptual map was produced in order to interpret the proposals in a very specific way, this map was termed the 'Dream Map' *(Fig. 6.20)*, as it conceptualised 'the dream' of what was envisaged. The Dream Map was used as a way of contextualising the overall strategy and concept and of understanding the nature of the context in relation to the action and intervention. It was a 'mental map', used as a device in terms of restructuring the perception of the city through intervention. It also 'concretised' building form as an urban element within this structure.

The principle behind this strategy was the idea of realising movement and mass transportation[13] as principle devices in terms of restructuring the perception of the city and its relationship with certain key interventions or 'urban fixes'.

This was done through the technique of collaging known elements as representations of the kind of interventions envisaged over an aerial map of Johannesburg.

Both the idea of collage as a technique and the notion of transportation as an urban catalyst and of urban fixes, related to a specific set of influences both in terms of the conceptual approach and specifically to the urban theories of the time.

An examination of the background thinking and theory in terms of the 'Dream Map' is linked to the background of the RMP Team and specifically Ivor Prinsloo in formulating a specific direction. Ivor Prinsloo as well as other members of the RMP and Ormonde Teams[14] had been part of the incoming class of 1960[15] at the University of the Witwatersrand (Wits).[16] A series of influences in terms of specific experiences and discoveries as students can be isolated in relation to RMP. These are related to a specific set of references, with the result that the approach taken by the RMP team was different from the conventional approach to development that would have been undertaken by a property company at the time.

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[13] A rail linkage to Soweto was also looked at within the context of mass transportation.
[14] Further reference is made to the background of the Ormonde Team members / Urban Design Consultants, further on in the document.
[15] Members of the class that were involved in RMP included Ivor Prinsloo and Roger Boden. Antonio de Souza Santos was a member of the Ormonde design team. However although specific reference is made to the class of 1960, some of the same influences extended to other students within the school at the time, who also formed part of the RMP team. These included Ronnie Levitan, Julian Cooke, Norbert Rozendal and Terry Bracher.
[16] Further reference to this period can be gained from Prinsloo. The Sixties Revisited in Architecture SA July / Aug. 1993.

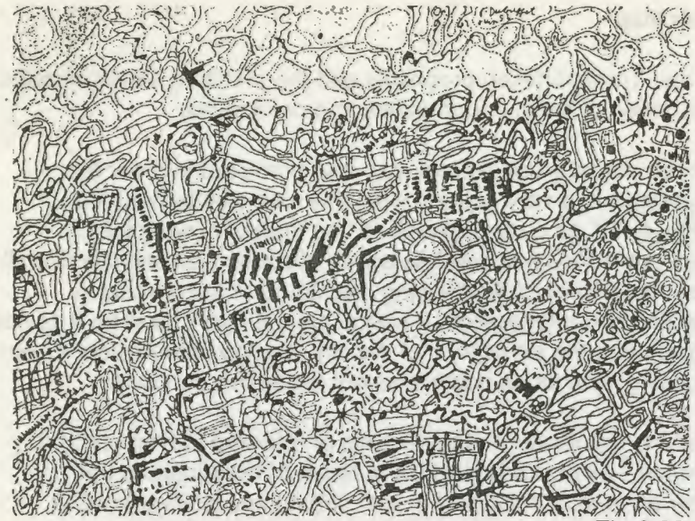


Fig 6.22



Fig 6.23

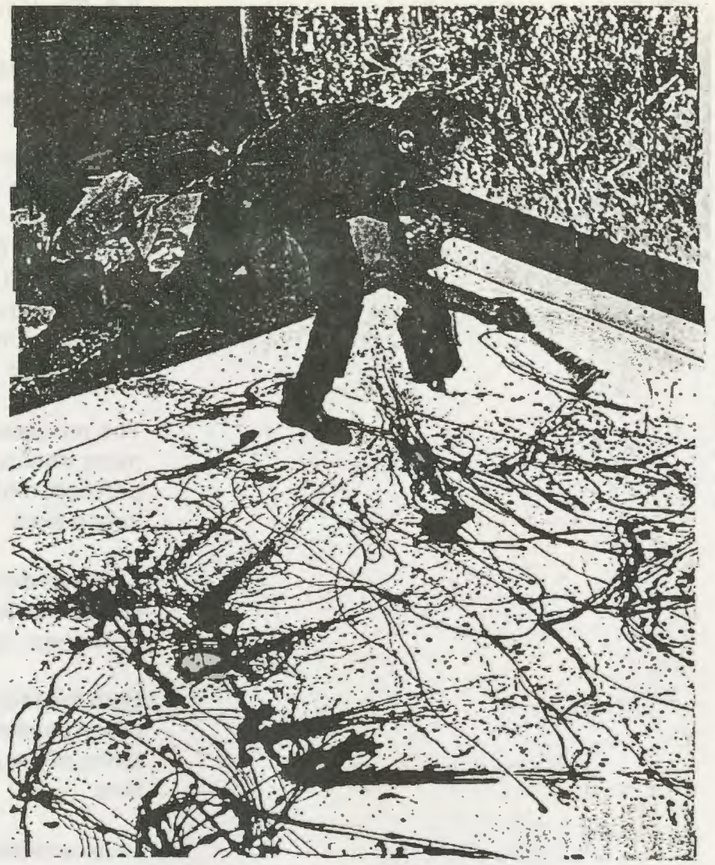


Fig 6.24



Fig 6.25

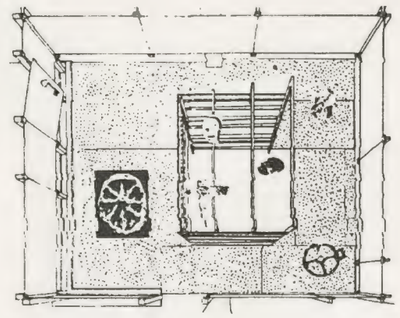


Fig 6.26



Fig 6.27





Figure 6.22 :
Jean Dubuffet : Dematerialisation (1952) Ink Drawing
*( source : Smithson (1970.87) )*

Figure 6.23 :
Nigel Henderson : Photographich series
"Documenting a calligraphy of time, the breakdown of materials that reveal their innate quality."
Prinsloo (1993:33)

Figure 6.24 :
Jackson Pollock at work
"Painting which derives its visual value from the act of painting itself and the authentic gesture."
Prinsloo (1993:33)
*(source : Smithson (1970.85) )*

Figure 6.25 :
Photograph Nigel Henderson
*(source : Smithson (1968:97) )*

Figure 6.26 :
This is Tomorrow Exhibition 1956
Patio and Pavilion line drawing by Peter Smithson
*(source : Smithson (1970.120) )*

Figure 6.27 :
Photographs of existing structures Crown Mines.
*( source : Photos Roger Boden )*

Below :

Figure 6.28 :
Substation on the Reef
Industrial Building Typology
View of Johannesburg over RMP's property.
*( source : Photo Ronnie Levitan in Prinsloo (1993))*

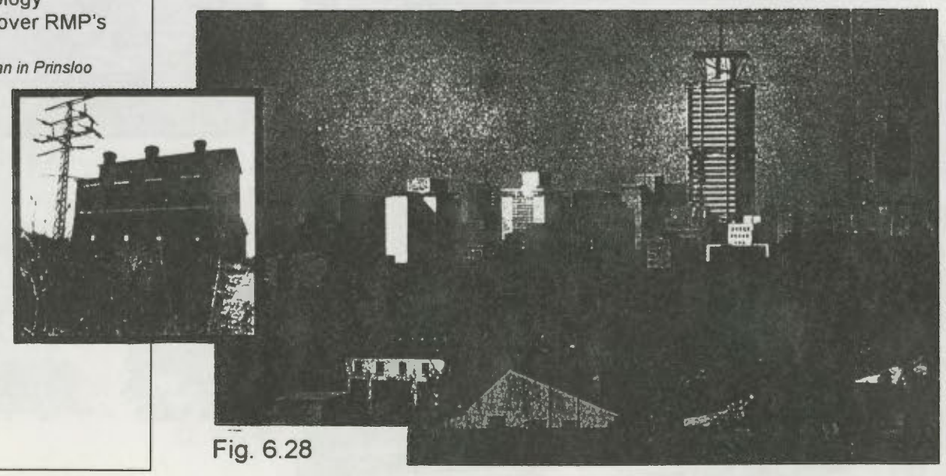


Fig. 6.28

*"Ideas and images may be very powerful. When they are strong, cogent and persuasive enough to become paradigms , or guiding examples, they become central in influencing human action, and in architecture, they govern and determine the design responses to opportunities and problems made by architects, other professionals, and even clients and users. These paradigms and images are an essential part of the landscapes of the mind and of the structures of perception. Such paradigms and images are often only tacitly recognised and are sometimes consciously or unconsciously hidden."*
*Prinsloo (1993)*

Essentially the essence of a new understanding came out of looking at things in a new way. The key concepts that governed the responses in the Dream Map were the ideas of collage, process and the as-found object.

- Collage was explored in terms of its application to a process.
  It was explored architecturally in terms of the as-found object and in an urban context through juxtaposition in order to redefine meaning in relation to a particular context.
- Process was seen as governing the nature of action.
- The as-found object was seen to have a particular 'image value' in relation to process. Architecturally the as-found object was seen to be the equivalent of collage in building terms.

A brief examination of some of the issues that were current at the time highlights these essential themes.

### 6.6.1 Collage vs. Composition

The Class of 1960 had Julian Beinart, who had recently returned from studying at MIT[17], as a studiomaster assisted by Peter Eliastam, a young graphic designer. The teachings of Beinart and Eliastam were augmented by the students' own explorations and discoveries.[18] The basis of the studio work was "basic design" which attempted to return to the basis of human perception and the related design process. This was in contrast to the 'Beaux Arts' values of good draughtsmanship, composition and drawings preferably in watercolour prevalent in the school at the time.[19] Questions relating to Collage vs. Composition, the relative image value of each and the understanding of the meaning behind images are important in relation to the approach taken with the Dream Map which uses collage in order to understand the meaning behind certain interventions. Composition was seen

[17] Julian Beinart had worked with Kevin Lynch at MIT.
[18] Antonio de Souza Santos had a good background in contemporary literature and had been a protégé of Pancho Guedes. He was able to contribute intellectually in terms of criticism and judgement. Ivor Prinsloo had worked as a learner draughtsman on the mines for four years prior to university and had discovered the work of Le Corbusier and Frank Lloyd Wright during this time. Dennis Playdon had an understanding of the work of Aalto. Thus between staff and students there was a diverse range of experiences which set up a framework for intellectual discourse and debate.
[19] Under the headship of Prof. John Fassler, who was known for his skill in watercolours



Fig 6.29



Fig 6.30



Fig. 6.31

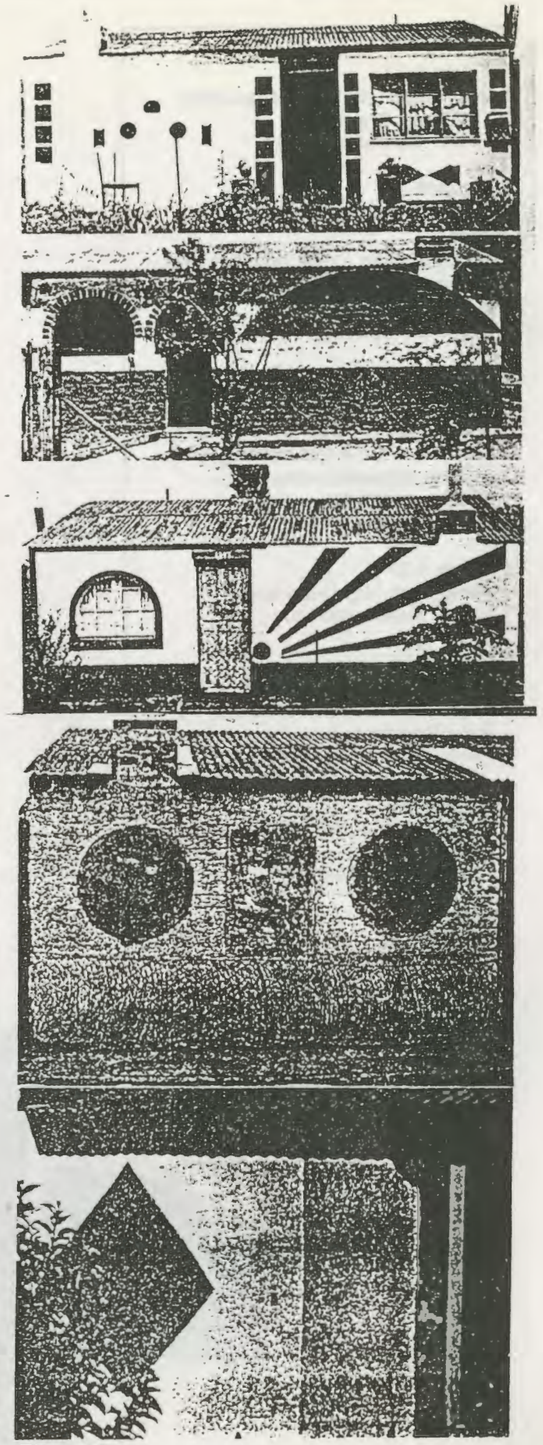


Fig 6.32

Figure 6.29 :
'Patterns of Association and Identity'
Photograph by Nigel Henderson
*( source : Smithson (1967:9)*

Figure 6.30 :
'Life of the Streets'
Photographs by Nigel Henderson
*( source : Smithson (1967:9)*

Figure 6.31 :
Collage of photos taken in the 60's
Ivor Prinsloo as a young man
Children of Western Native Township
Substations on the reef with Security Policemen
*( source : Photos Ronnie Levitan in Prinsloo (1993))*

Figure 6.32 :
'A Tale of two cities and the story of a community' : Photos of decorated house elevations in Western Native Township taken by Julian Beinart which appeared in the 'For Us' Manifesto
*( source : Beinart in Jones (1962) )*

as a vision of totality, where every element contributes to the whole, whereas collage was seen as a device which used juxtaposition to re-structure meaning.

### 6.6.2 Image Value

The impact of the Smithsons, published at that time in a series of publications entitled Uppercase, edited by Theo Crosby, was important both in terms of a shift in image value and in terms of a search for a new urban structure that would reflect that.

*"Looking back, it would seem that a shift took place in the aesthetic of our architecture in the late sixties. The preparation for this shift and the first evidence of the conviction that there was a need for a shift can be found in the emphemera (sic) of our work. To see things in a new light, and the capacity to act in the way revealed, often needs little encouragement beyond an audience of like minds." Smithson, A and P. (1982.9)*

Uppercase 3 of 1960 outlined the Smithsons' search for an urban structure in terms of a series of themes : Association, Identity, Patterns of Growth, Cluster and Mobility. The origins of these ideas came out of a series of studies undertaken by Nigel Henderson, a photographer, and his wife Judith, a sociologist, on the sociology the neighbourhoods in central London in the 1950s. A specific study of Bethnal Green was particularly influential in terms of the 'life of the streets', a typological study of the relationships between house, street and district, as elements of the city *(Fig. 6.29/6.30)*. Photographs by Nigel Henderson of people using the streets and spaces, and of children playing in the streets, provided powerful images which were used by the Smithsons in their CIAM Grille *(Fig. 8.49)*, at the ninth meeting of the Congrès Internationaux d'Architecture (CIAM) in Aix-en-Provence in 1953. Ronnie Levitan took a series of photos of children playing in the street in Western Native Township *(Fig. 6.31)*, that emulated this genre. Norbert Rozendal also took photos of signs of process inspired by Henderson and by the idea of collage.

The Smithsons highlighted a shift in their thinking about architecture in terms of the image as well as the object and the 'as found' aesthetic when saying :

*"In the early fifties the things thrown away by our own culture, as yet unrecognised as the carriers of a story of identity, were transformed in the images made by Nigel Henderson, whose vision through the camera lens made us look differently, and at least twice, at every old door, boot or rusty nail. Things found, things cast away." Smithson, A and P (1982.9)*

Reference to the work of Paolozzi and Jackson Pollock as a search for a complete reference system was also made in these publications. Both Paolozzi and Pollock were involved with Nigel Henderson and the Smithsons in the exhibition 'Parallel of Life and Art' at the Institute of Contemporary Art in

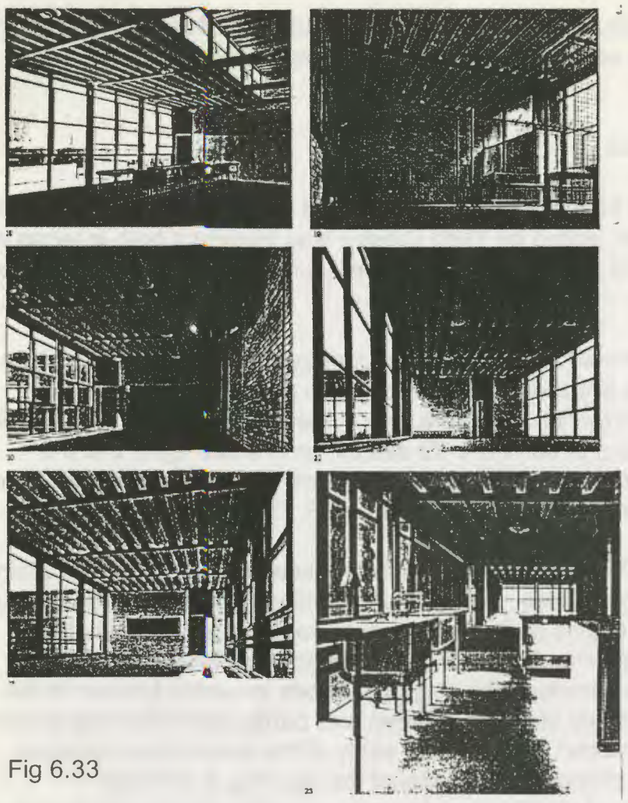


Fig 6.33

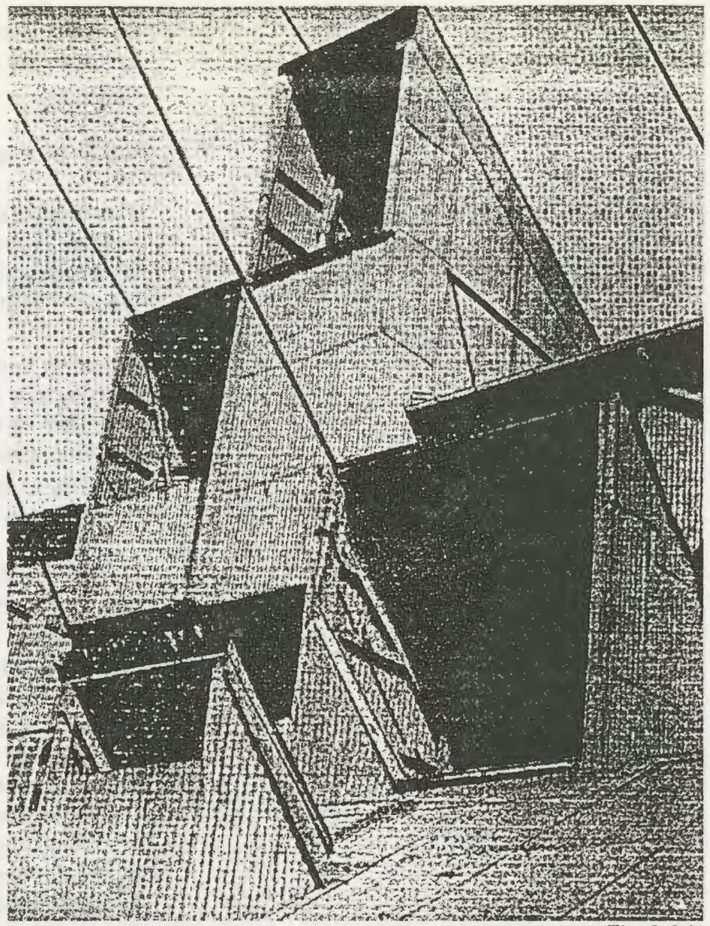


Fig 6.34

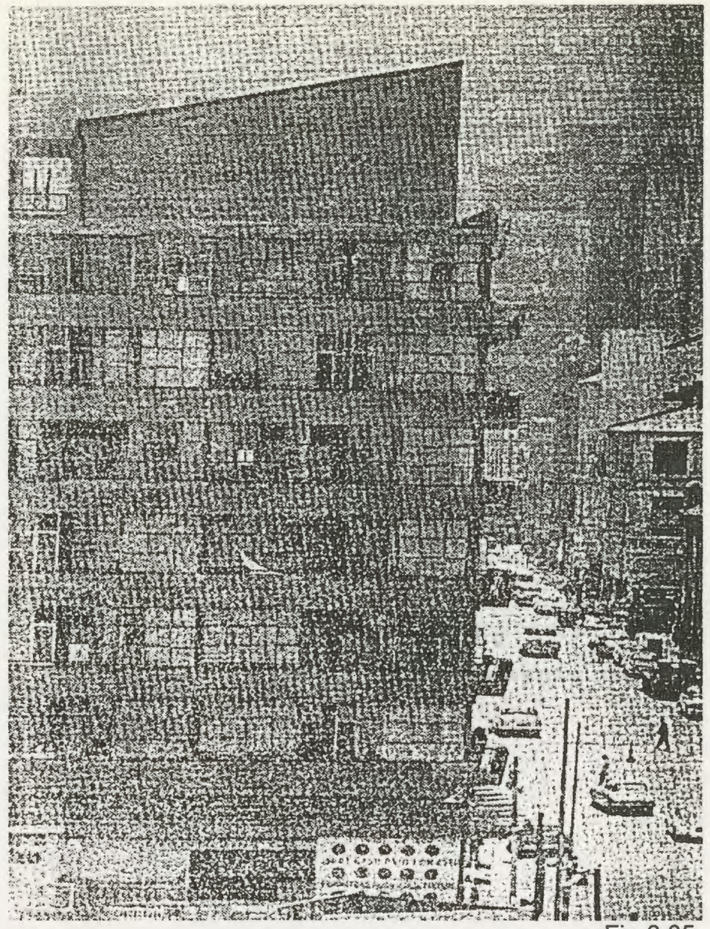


Fig 6.35



Fig. 6.39

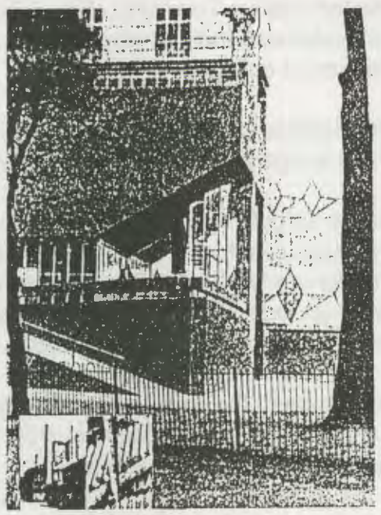


Fig. 6.38

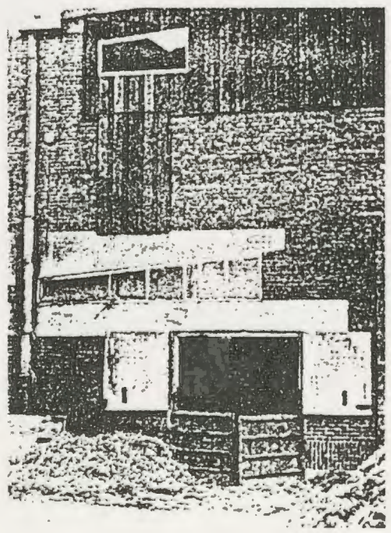


Fig 6.36

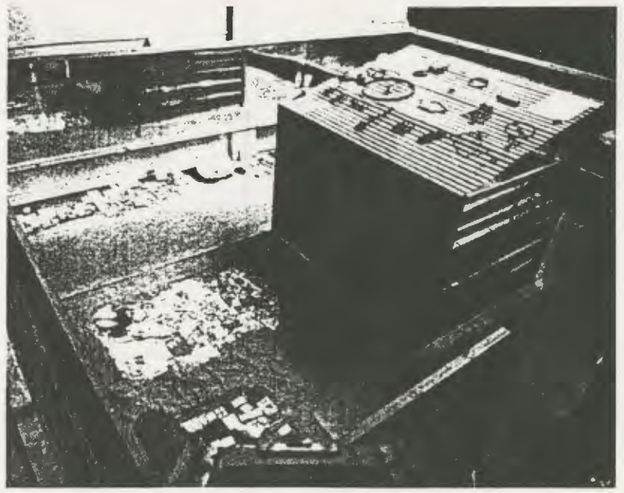


Fig 6.37

Figure 6.33 :
Alison and Peter Smithson : School at Hunstanton (1949-54)
Interior Views

Figure 6.34 :
For Us Manifesto : Industrial Shed
*( source : Jones (1962))*

Figure 6.35 :
Hanson, Tomkin and Finkelstein : Denstone Court. 'Signs of Occupancy'
Photo from For Us Manifesto
*( source : Jones (1962))*

Figure 6.36 :
Hugo Haring : Gut Garkau (1923)
*( source : Prinsloo in Jones (1962))*

Figure 6.37 :
E.Paolozzi : Signs of Occupation
This is Tomorrow Exhibition
"We accept as basic the individual urge to identify himself with his surroundings with familiar objects and familiar symbols"
Smithson (1982)
*( source : Smithson (1970.21) )*

Figure 6.38 :
Stirling and Gowen : Leicester Engineering Building (1963-4)
*( source : Prinsloo in Jones (1962))*

Figure 6.39 :
Duiker : Cineac (1934)
*( source : Prinsloo in Jones (1962))*

London, in 1953. The action paintings of Pollock were seen to derive their image value from the act of painting itself - the action, and the authentic gesture *(Fig. 6.24)*, while the photographs of Nigel Henderson showed the documentation of a 'calligraphy of time' *(Fig. 6.23/24)*. Thus the process of production lay in the action itself.

A further exhibition in 1956 entitled, 'This is Tomorrow' *(Fig. 6.26/6.37)*, searched for relevant images within the typology of the everyday, referred to as 'signs of occupancy'. 'Signs of occupancy' were seen in the passage of time as reflected in specific buildings that became important for a generation of Wits architecture students. *(Fig. 6.48)*

### 6.6.3 'Signs of Occupancy' and Process.

The identification of the 'industrial vernacular' of the mining and industrial buildings on the Reef was an important discovery *(Fig. 6.34/7.5)*. These buildings were seen to show a direct response in formal terms to a set of basic functional requirements, which could seen as nevertheless poetic and architectural. They were seen to be the 'constructional' equivalent of collage as 'as found' objects. There was a certain mythology surrounding these buildings in their stark mining and mine dump environment. These buildings as well as other structures and the backs of buildings were explored and documented by the students. Ronnie Levitan's photographs were used in the September Exhibition of 1962. These ideas were subsequently explored in terms of the RMP site, the environment of RMP provided the ultimate 'as found' landscape. Photo collages *(Fig. 6.43/6.47)* such as those of Peter Rich and Jason Collett in their final year dissertation, Crown Campus, testify to the allure and mythology of the environment.

The work of the Modern Movement in Johannesburg in the 1930s was also examined, particularly those buildings that had withstood the demands of time, climate, use and changing context. Denstone Court by Hanson, Tomkin and Finkelstein *(Fig. 6.35)* was seen to have held its formal integrity in terms of architectural presence despite the 'acts of occupancy and use'.[20] There was a resonance between what people did to Denstone Court in living in the building and the building itself; *"It had weathered man and his impositions with dignity. Soffits of balconies and window frames had been painted different colours by successive tenants; washing hung from the balconies and the natural corrosion of the elements bore evidence of the building's ability to cope with its human occupants." Jones (1962)*

Allied to this was that the backs of buildings were seen to be more expressive and 'architectural' than their facades. This was because while their facades may have been carefully considered in terms of composition and aesthetics, the backs of buildings were merely the result of a rational process. This led to

[20] Ivor Prinsloo used to take tours around Johannesburg and Denstone Court was one of the highlights.



Fig 6.40

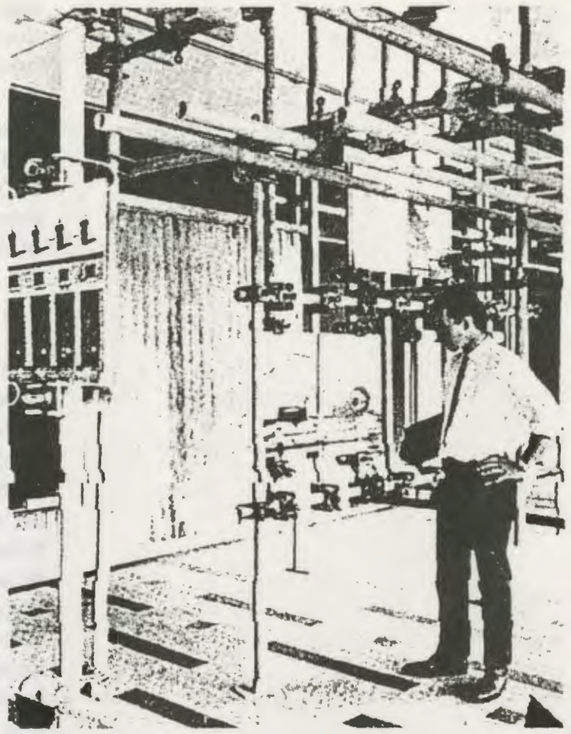


Fig 6.41

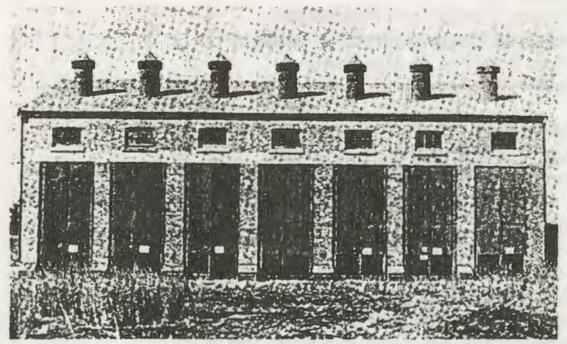


Fig 6.42

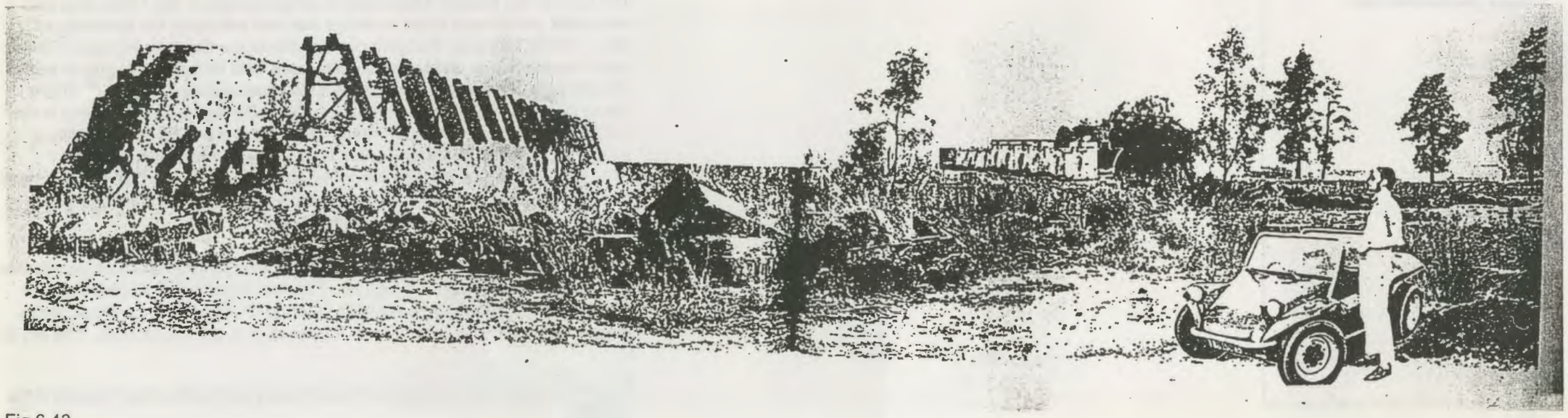


Fig 6.43

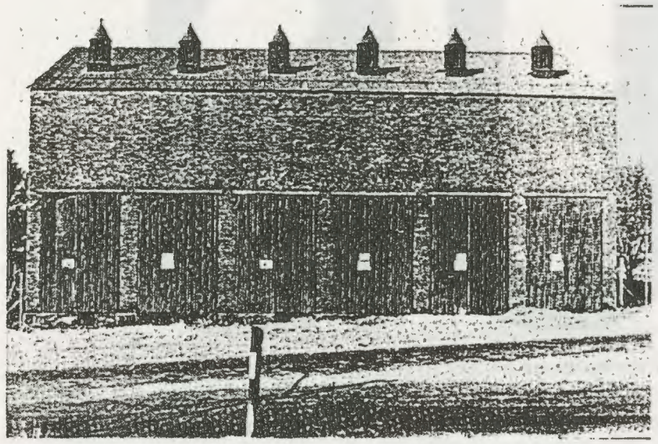


Fig 6.44



Fig 6.45

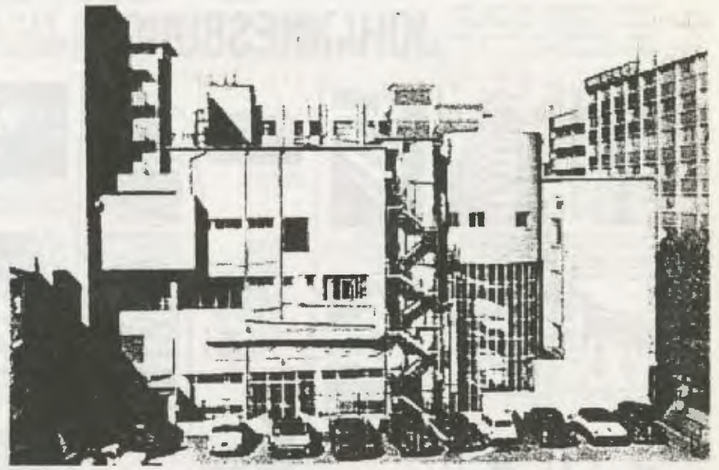


Fig 6.46

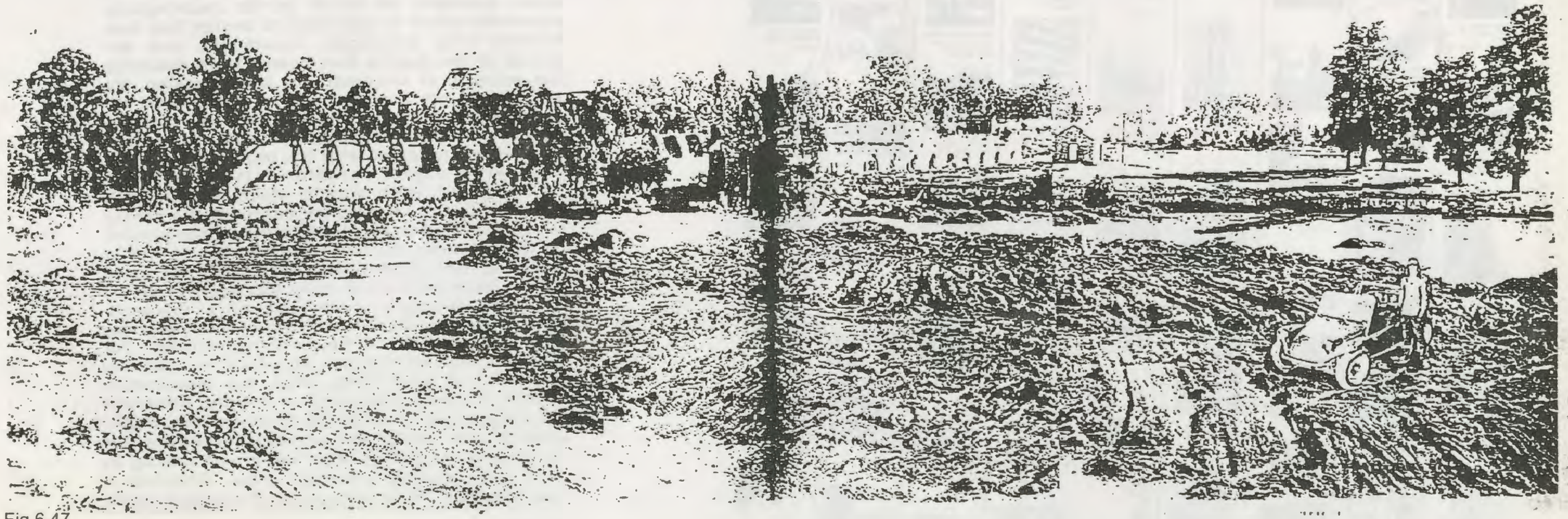


Fig 6.47

AUGUST 1970 • 25 DITTON AVE. • AUCKLAND PARK • JOHANNESBURG • NO. 24

# CREDO

*Credo is 4 jaar gelede begin. Op daardie stadium was daar groot frustrasie by die jonger argitekte oor 'n professie, wat skynbaar onbewus was van die ontwikkelinge in Europa en Amerika na die Tweede Wêreldoorlog. Intussen het verskeie gebeure opgegaan om hierdie ontwikkelinge ook plaaslik te demonstreer. Daar vind egter alweer groot veranderinge oorsee en hier plaas. Baie hoer eise gaan in die toekoms aan die professie gestel word. As gevolg van die uitgestrektheid van die land en die klein getal argitekte, is daar tans nie die nodige uitbouing in breedte en diepte nie. Daar sal spoedig aandag gegee moet word aan hierdie vernuwing van die professie.*

*Thanks to Stanley Saitowitz and Robbie Schlosberg of Wits, who prepared this issue. We also wish to thank DUNLOP for footing the bill for Credo so far.*

## JOHANNESBURG IS FULL OF BEAUTIFUL THINGS. THESE ARE SOME THAT WE DIG.




Fig. 6.48

# FOR US

We decline to accept architecture as the complacent perpetuation of standards and concepts that are no longer valid. Shining ultimate certainties, tidy circumscribed schools of thought, smug bodies of self-contained beliefs, exclusive systems of personal dissolution, hot-housed academic precepts, we reject as the meaningless paraphernalia of an approach to design that has become trite, automatic, inauthentic and deprived of the dignity that comes from realising the urgency of circumstance and occasion. By not taking into account man's fundamental requirements, demands and expectations, contemporary architecture betrays its roots, and forces us to come to terms with the implications of its original message. This exhibition is an expression of our search for a way in which we can, with conviction, face a situation deprived of a centre and a living purpose. In the buildings presented in this exhibition we find the evidence of a way of building that has not lost contact with the basic facts and mysteries of daily life. From them we gain the courage to consciously reflect this reality, and to confront man who lives from day to day with a truer picture of his present condition. For this we must be capable, above all, of a lucidity unafraid of controlling what the imagination might discover. Adequacy of means, relevance of purpose, pertinacity of decision, are the implements with which we propose to shatter the senseless vocabulary that has grown among us — in order to study grammar anew. Students of architecture, Witwatersrand. September, 1962.

Fig. 6.49

Previous Pages :

Figure 6.40 :
September Exhibition of 1962
University of the Witwatersrand
Exhibition Image One
*( source : Prinsloo (1993) )*

Figure 6.41 :
September Exhibition of 1962
University of the Witwatersrand
Exhibition Image Two
*( source : Prinsloo (1993) )*

Figure 6.42 :
September Exhibition of 1962
University of the Witwatersrand
Exhibition Image Three
*( source : Prinsloo (1993) )*

Figure 6.43 :
Photocollage : Jason Collett in Crown Mines Landscape
*( source : Rich and Collett (1971) )*

Figure 6.44 :
September Exhibition of 1962
University of the Witwatersrand
Exhibition Image Four
*( source : Prinsloo (1993) )*

Figure 6.45 :
September Exhibition of 1962
University of the Witwatersrand
Exhibition Image Five
*( source : Prinsloo (1993) )*

Figure 6.46 :
September Exhibition of 1962
University of the Witwatersrand
Exhibition Image Six
*( source : Prinsloo (1993) )*

Figure 6.47 :
Photocollage : Peter Rich in Crown Mines Landscape
*( source : Rich and Collett (1971) )*

Facing Page :

Figure 6.48 :
'Credo' August 1970
A Collection of buildings in Johannesburg admired by Students of Architecture at the University of the Witwatersrand.

Figure 6.49 :
For Us Manifesto - September 1962

the realisation that the designers' desire to compose facades often led to sterile formalism while the backs of buildings which were not intended to be seen were in fact more expressive of the process of building.[21]

All the above examples were seen to display a visual aesthetic that was derived from process in its different manifestations.

These attitudes and discoveries led to the September Exhibition and Manifesto of 1962 held by the students of the Architecture School at the University of the Witwatersrand. The exhibition presented a series of visual images in conjunction with a manifesto *(Fig. 6.40-42/6.44-46/6.49)*. The ideas of collage, objects-as-found, a questioning of image value and process vs. form, were all part of the exhibition. The exhibition material and manifesto were sent to people such as the Smithsons and Aldo Van Eyck.

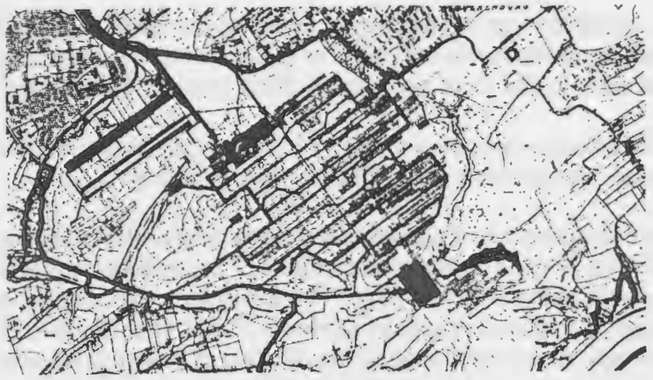
### 6.6.4 Visual Images and References

The work of contemporary architects such as Paul Rudolph, Philip Johnson, Louis Kahn and the work of Kevin Lynch on the analysis and visualisation of the city and the idea of urban design as a separate discipline from architecture, were also introduced to the students by Beinart.

Readings such as Reyner Banham's "Theory and Design in the First Machine Age"[22] made evident the rich antecedents of the Modern Movement in terms of the images and structures underpinning the work of the Modern Movement. There were also noticeable absences in the book[23] that were uncovered by the students, notably the work of Terragni and Alvar Aalto, which prompted further inquiry into their work as well as into the work of Le Corbusier. The work of these 'Masters' was a seminal influence on the students, as can be evidenced by the examples later chosen to represent typical solutions in terms of the Dream Map.

Projects such as the Hunstanton School by the Smithsons (1952) *(Fig. 6.33)*, the Beach House by Venturi (1959), and the Eames House by Charles and

[21] This was a consideration for the Smithsons when they were designing the Hunstanton School, where rather than designing the plumbing in terms of an aesthetic composition they instead composed a series of rules that would determine the way the plumbing revealed itself on the facades instead of leaving this to a random layout of the plumber.
[22] Ivor Prinsloo recalls buying the second copy of a total of six, from Vanguard Booksellers in Joubert Street, Johannesburg. The first copy had been bought by Pancho Guedes on a trip from Lorenco Marques. (Interview I. Prinsloo. Cape Town 22/6/1996)
[23] Architects like Aalto and Terragni were not included in studies like this as they were seen to stand outside the linear descriptions of the Modern Movement which essentially followed a Corbusian lineage. Pevsner also failed to include them in his seminal book "Pioneers of the Modern Movement". Ivor recalls 'kidnapping' Pevsner together with Dennis Playdon and Tony de Sousa Santos, one night in Johannesburg. They demanded to know why Aalto was not in his book. Aalto did appear in subsequent editions, so they like to think that they were somehow influential. (Interview I. Prinsloo. Cape Town 22/6/1996)



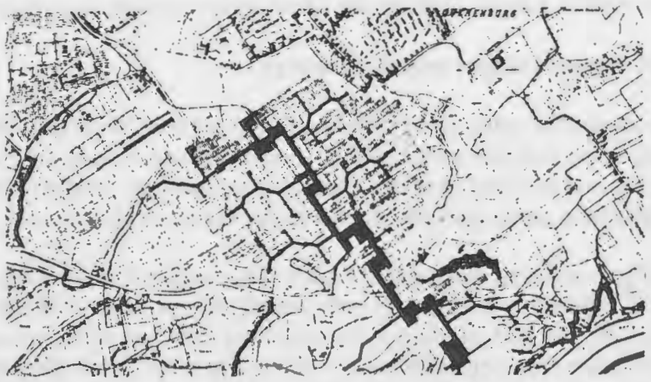


Fig 6.50

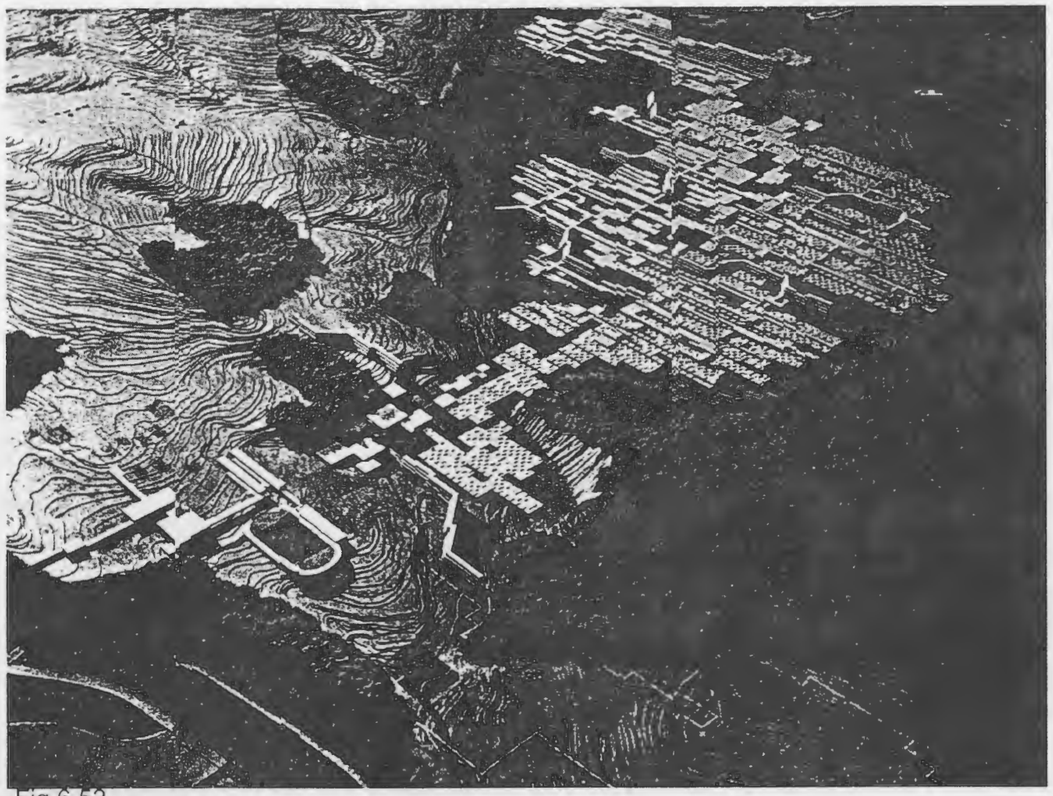


Fig 6.52

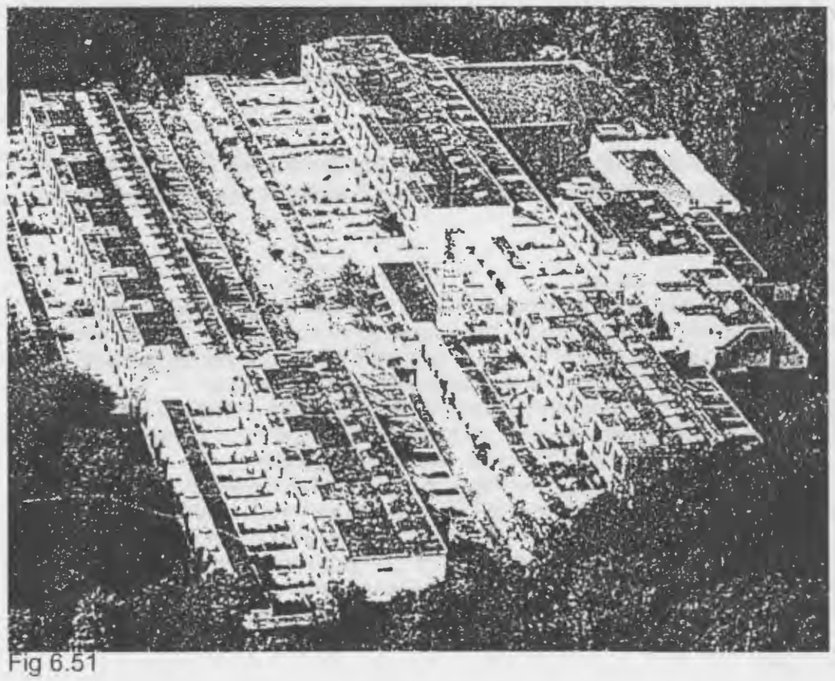


Fig 6.51

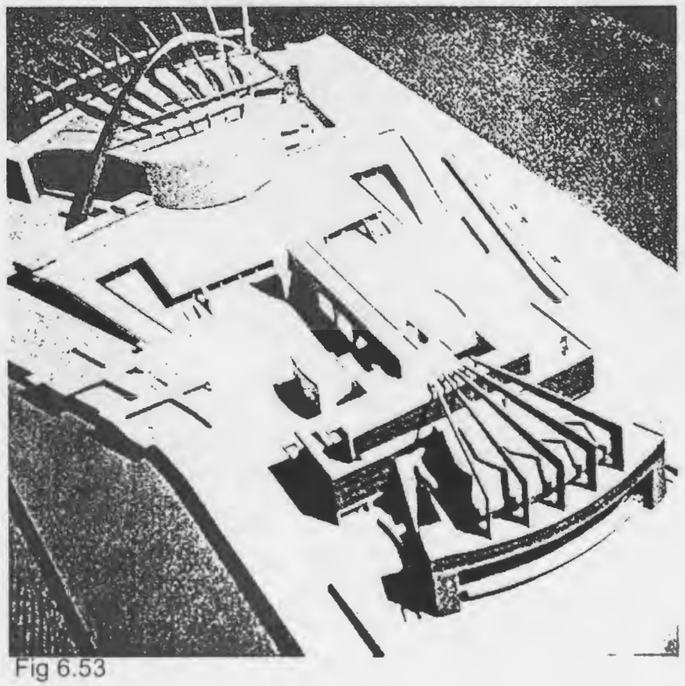


Fig 6.53

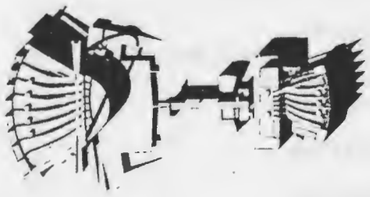


Figure 6.50 :
Candilis, Josic and Woods : Bochum University Competition (1962)
*( source : Joedicke (1968.197)*

Figure 6.51 :
Atelier 5 : Siedlung Halen Berne (1960)
*( source : Jencks,C. (1985) )*

Figure 6.52 :
Candilis, Josic and Woods : Bochum University Model
*( source : Joedicke (1968.198)*

Figure 6.53 :
Le Corbusier : Palace of the Soviets (1931)
*( source : Le Corbusier (1960.105) )*

Ray Eames (1949) *(Fig. 7.6)* showed a different set of references and aesthetic.[24]
1963 marked a split in the initial group of 1960, where some students moved into fourth year travel and work experience while others transferred to the University of Cape Town (UCT).[25] The fourth year proved to be a seminal experience, in terms of seeing the work of Aalto, Le Corbusier and Terragni and the Team X Group. Ivor Prinsloo worked in the offices of the Smithsons in London in 1964[26] and Candilis, Josic and Woods in Paris in 1965, where he also came into contact with Jean Prouvé.

These explorations and discoveries set a framework for an intellectual and poetic understanding of architecture, as well as a framework in terms of visual references and images. Although specific reference is made to the incoming class of 1960, the ideas generated during this period influenced a generation of Wits Architecture students. All of the influences described above formed part of the experiences that were brought to bear on projects undertaken within the RMP Office.

### 6.7 The Dream Map - Visual References and Images.

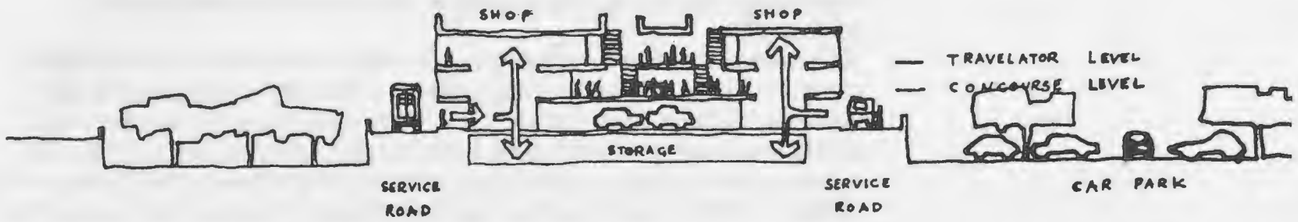
In terms of the Dream Map images of certain buildings were used to signify the kind of intervention envisaged, particularly in terms of the one-off interventions of the 'metropolitan playground' idea. Each image was a reminder of a wider set of concerns. Thus precedent was used within the technique of collage to signify a relative 'image value', rather than suggesting the use of the actual image as a stylistic 'icon'. Thus the Munich Stadium of Frei Otto (1968-72), signified the proposed Olympic Stadium and in order to conceptualise the idea of the 'Olympic' Sports Centre, the Munich Olympic layout was taken and fitted into the Mooifontein Spruit area, north of Ormonde and across the railway lines and Soweto highway. Bochum University by Candilis, Josic and Woods (1962), was used to signify a new university campus *(Fig. 6.50)*. The unifying characteristic of buildings chosen was that they were either grids, or buildings where movement was a organising factor within them. The theme of 'megastructure' was also a prevalent theme.

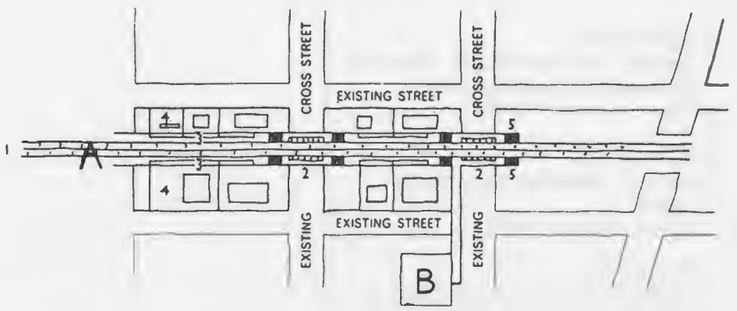
### 6.8 The Dream Map - Urban Theories

The Smithsons' London Roads Study of 1959 *(Fig. 6.54)*, is an important precedent in terms of the Dream Map. The ideas of the Smithsons in terms of

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[24] The Eames House showed an attitude to prefabrication, the 'as found' object and the expression of the assembly of the building. The Beach House by Venturi broke away from the 'flat roof' aesthetic of the Modern Movement with a pitched roof. Venturi showed an aesthetic that was not revivalist despite the use of a pitched roof. Both were seen as precursors to New Brutalism.
[25] Antonio de Souza Santos and Dennis Playdon both transferred to the University of Cape Town, after failing to pass Applied Maths and Physics after a second try, as was mandatory at the time.
[26] This had been facilitated by Pancho Guedes, who knew the Smithsons through Team X.


SHOP
SHOP
TRAVELATOR LEVEL
CONCOURSE LEVEL
STORAGE
SERVICE ROAD
SERVICE ROAD
CAR PARK


CROSS STREET
EXISTING STREET
CROSS STREET
A
EXISTING STREET
EXISTING
EXISTING
B



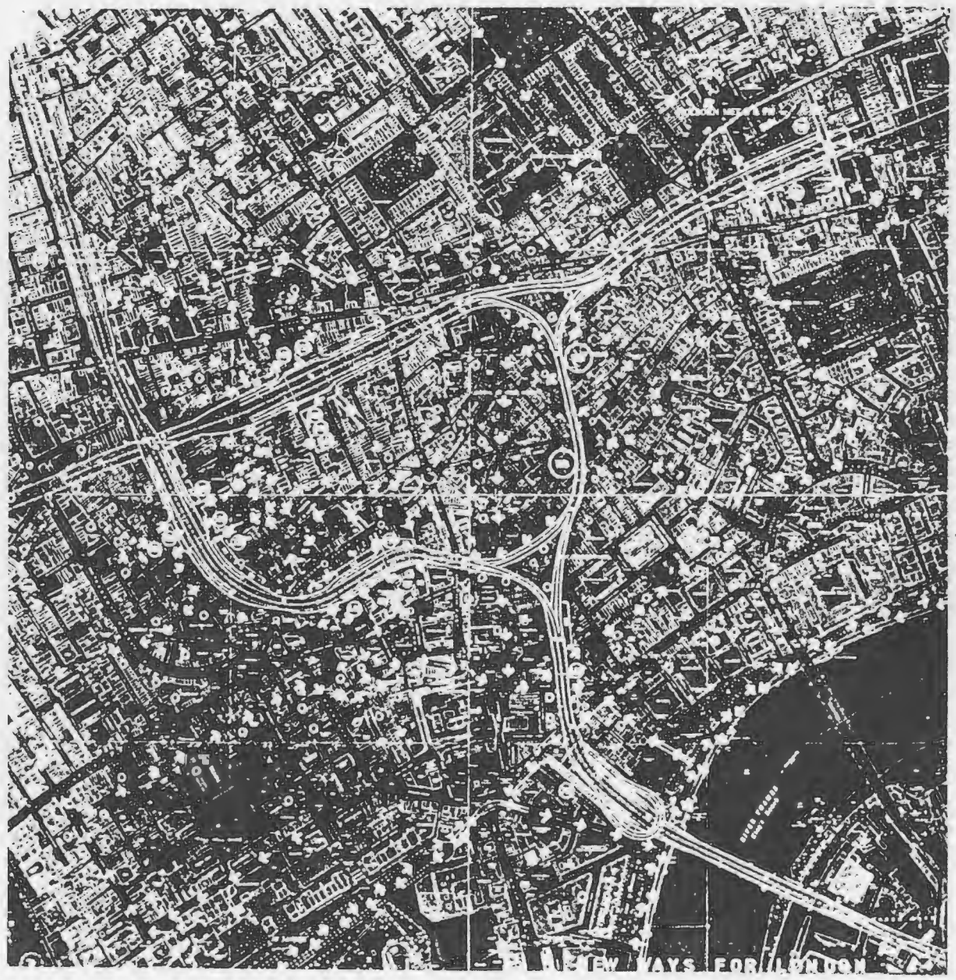


Fig. 6.54

Figure 6.54 :
Smithsons : Soho Study (1959)
Section of Route Building
Plan of Route Building
"New Motorway superimposed upon the existing street pattern demands a change in scale in the redevelopment which must follow it. Motorway sections are linked by route buildings"
Smithson (1967.71)
*( source : Smithson (1967.70) )*

restructuring urban systems by superimposing new movement structures into the city, were understood in terms of the concept of collage.

The Smithsons stated that in big cities the old identifying devices that had given the city a feeling of its structure no longer worked and that the only phenomenon that offered that structure was the road system. The city was analysed in terms of a series of interlocking 'town structure - architectural form theories' described as Patterns of Movement, Association, Cluster, Identity and Patterns of Growth. The London Roads Study was seen as an example of their town structure - architectural forms theories.

*"The most immediate task was to find a way of making a structure, for a big community - a metropolis - which was comprehensible and at the same time had within it the possibility for change." Smithson In Newman (1961)*

The study was founded on two basic tenets. Firstly, that *"flow from every point to every other point is best served by a net"*, and secondly that *"a comprehensive system of urban motorways is the only thing capable of providing the structure for a scattered city." Smithson (1967.62)*

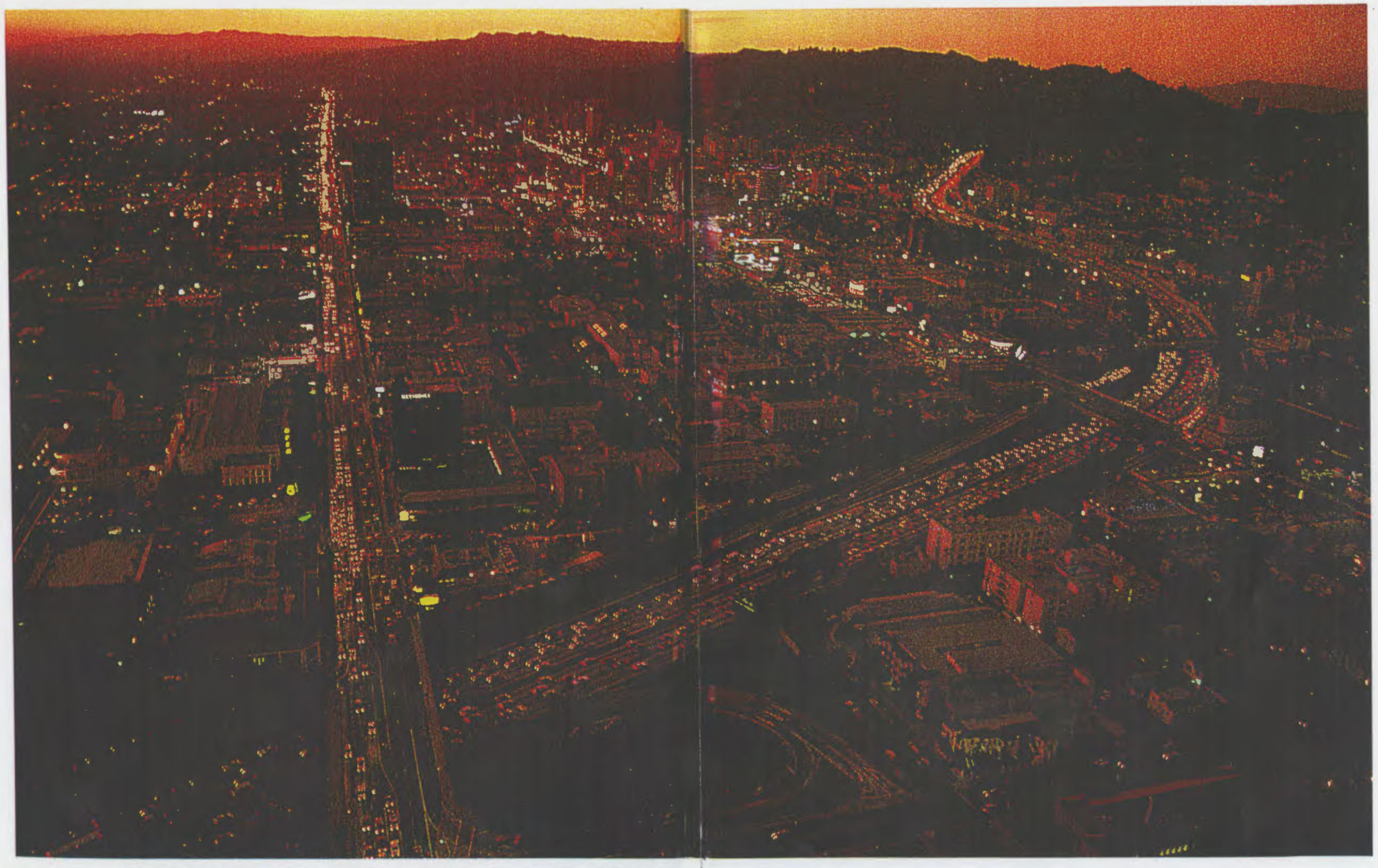
The Smithsons constructed what they termed an ideal concept of a road pattern which essentially distributed roads in a triangulated system which was part of the concept of the cluster city. The system of urban motorways was to introduce an element of an entirely new scale into the city - termed as 'the scale of geography'.

The essence of the London Roads Study was to make the city more comprehensible by developing the road and communication systems as the urban infrastructure and 'to realise the implication of flow and movement in the architecture itself.'

The essential concept was that of the road pattern becoming a structure that fixes geographically and connects mechanically. An important realisation was that it was possible, by routing a road in a certain way, to connect historical fixes with new fixes. Motorways were to be routed to provide a series of 'identifying fixes' - places where a relationship to the city structure could be observed. This was described as being part of a mental system in terms of understanding the city.

However a new system of an entirely new scale imposed over an existing street pattern, demanded a change in scale in the redevelopment that was to follow. Hence the route building *(Fig. 6.54)*, in which the traditional multi purpose street[27] with buildings alongside concept was abandoned and replaced by a system of interconnected 'route-buildings', which included

[27] This in itself was a contradiction of the previous admiration for the typological lessons inherent in the 'Bye-Law' street, albeit in the residential sense. Here the Smithsons propose to eradicate the old street structure in favour of a new type - the route building.



STREET TO THE STARS

# SUNSET BOULEVARD

*Getting wealthier as it moves west, Sunset Boulevard, at left, streaks through Hollywood on its way to Beverly Hills and the Pacific.*

Fig. 6.55

Figure 6.55 :
Sunset Boulevard : the image of an overiding circulation system.
*( source : Gore (1992.41) )*

pedestrian travelators, vehicular services combined with shops, restuarants etc. *(Fig. 8.83)*

It is obvious that elements of the general theory were problematic and were in fact unworkable in their totality. These were highlighted at the time, when the Smithsons were challenged by Ernesto Rogers at CIAM 59 at Otterlo. Rogers questioned destroying the context of the city in order to achieve a new structure. When Peter Smithson acknowledged that in order to achieve the Soho Redevelopment, as part of the London Roads Study, they would probably have to destroy everything stage by stage, Ernesto Rogers stated that the Smithsons contribution to history destroyed history itself. Newman (1961.77)

The London Roads Study provided the RMP Dream map with a example of understanding interventions in the city in terms of the scale of the motorway, and of spatial continuity in terms of transportation links in relation to nodes of development. The idea of fixes within a mental map of the city was important in redefining the context of RMP in a new way. The was critical to the success of the proposed development.

The Dream Map was used as a tool in understanding the impact of action within a particular context and planning strategy. Collage was used as a technique in planning which allowed the urban context of RMP to be redefined and understood in a new way. Unlike the concept of composition which would have defined a set of fixed parameters, the technique of collage allowed a process of planning to take place.

# Rand Mines Properties : Case Study in Design and Development

KOPS

CHAPTER

7







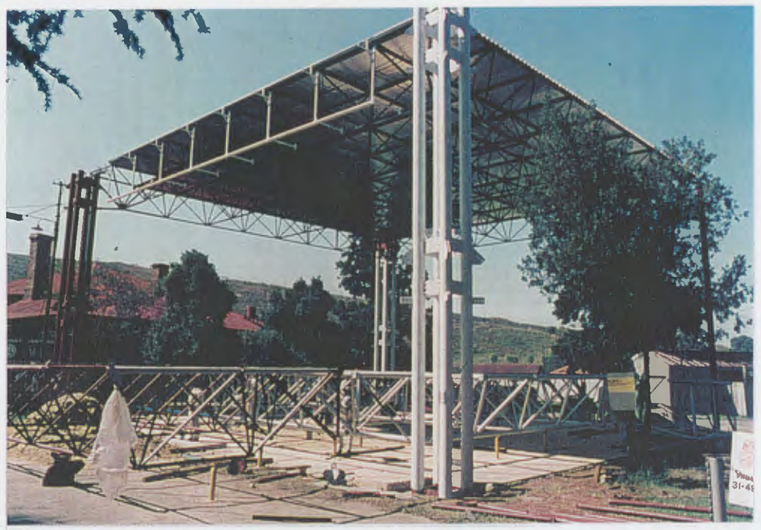






Fig. 7.1

Figure 7.1 :
Erection Sequence : KOPS Prototype Crown Mines
*( source : Photos Ronnie Levitan )*

## 7.1 Introduction : The KOPS System and the RMP Development Strategy.

KOPS - the 'Kit of Parts' building system, was an industrial warehousing application that came out of the research and development carried out by RMP[1]. The KOPS project was undertaken within the RMP Office by Bill Spooner, Charles Stretton and Jules Milner, based on the initial ideas of Charles Stretton.[2]

The context of KOPS was within the overall RMP plan strategy and system discipline. Its relationship to the overall plan was in terms of the industrial and warehouse demand studies, which indicated a need for small volume industrial and warehousing facilities. The KOPS system was viewed as the first implementary tool geared to the overall plan.

More importantly the KOPS concept was based on the use of building as a strategic tool in development. In this it was clearly linked to the overall RMP strategy. The key point of the interim land use policy was to generate short term revenue in areas that had long term growth potential i.e. in areas which were suitable for industrial development immediately but in the longer term would not inhibit more comprehensive development taking place. This was a tactical approach related to cash flows, where a quick cash turnover could subsidise other developments by RMP. Another important point was to design a system that could be used on land that could not be built on conventionally, as it was undermined or prone to subsidence.

Thus the rationale of a system that addressed generic rather than specific needs and that could be assembled, disassembled and reassembled on different sites, was to allow flexibility in terms of land use. This was conceptualised in terms of the use of typology and generic building types in developing and reinforcing a strategy for development. KOPS was important in terms of a method that addressed a specific strategy, as well as in terms of its role within a research and development (R & D) framework (Company framework / holding framework). The research and development component of RMP was an important part of the RMP process, and in this respect RMP distinguished itself from the normal commercial parameters of a property company.

Both KOPS and Ormonde were identified as part of a development strategy, and both can be examined as part of a set of guiding paradigms. Whilst KOPS was clearly an tool that responded to a set of pragmatic concerns in terms of a flexible development strategy, it also presented a parallel to the broader planning approach attempted at an urban design level through the Dream

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[1] The KOPS system was to be patented by RMP. However, there was a dispute between RMP and Charles Stretton over this issue, as he wanted patent rights to be registered in his name. The system was eventually patented by another company and examples of its use have been seen as far afield as Maseru, Lesotho. (Prinsloo)

[2] Charles Stretton came to see Ivor Prinsloo at RMP because he had heard that Ivor had worked with Jean Prouvé. Out of that initial contact came an offer of a job at RMP for Charles Stretton, by Ivor Prinsloo.









Fig. 7.2

Figure 7.2 :
KOPS Components
*( source : Photos Ronnie Levitan )*



Map, at the level of building. KOPS also responded to a set of ideas that formed part of a planning paradigm. These can be defined as follows :

- KOPS responded to systematic design criteria in terms of prefabricated component building.

- The 'industrial vernacular' buildings typified by the mining and industrial buildings on the Reef, were seen to have a particular 'image value'. This image value was two fold : these buildings were part of standard industrialised prefabricated systems, yet through a set of processes had come to represent a set of ideas that transcended their initial functional values. In terms of 'process', these buildings represented the idea of collage that had been explored in planning terms in the Dream Map. The image value of the mining structures; headgear and industrial 'sheds', was part of the 'poetics' of the Johannesburg landscape. The question was how to transfer these values into a new building type or system.

- The Eames House (1949) *(Fig. 7.6)*, typified an approach to the use of "off the shelf" standardised components within an overall framework. The Eames House brought into conjunction the act of doing and the realities of production. The approach to the Eames House embodied ideas inherent in the concept of 'systems building'. It became an icon for a generation of architects in terms of its particular image value which embodied the idea of the as-found object. This image value arises out the aesthetic of an industrialised vernacular that could contain a range of activities and objects, without affecting the framework of enclosure.

The essence of the above ideas in terms of KOPS, was the idea that prototypical buildings composed of standardised components, which would embody a certain 'image value' could lead to a viable built environment.

*" It also posed again all the questions we had hesitantly but still persistently asking; in particular, whether a system of factory-made parts could be devised in which the components were small and variable enough to make them equally useful and valid for all the buildings within the village, town, city; and then at what point, if any, some new order was necessary among this deliberate diversity of units." Brawne (1966)*

Thus KOPS provides a direct parallel in building terms for the ideas of city formation processes conceptualised through the ideas of collage in planning in the Dream Map.

### 7.2 The KOPS System

As a 'system', KOPS implied an economy of scale and certain design and organisational criteria, in responding to a set of requirements or specifications. This was of paramount importance in terms of a repetitive system using a set number of components while maintaining flexibility. Of particular importance in terms of the economy of systems was the aspect of volume and continuity of production from manufacturers, suppliers and contractors. This implied certain organisational aspects specifically in terms of

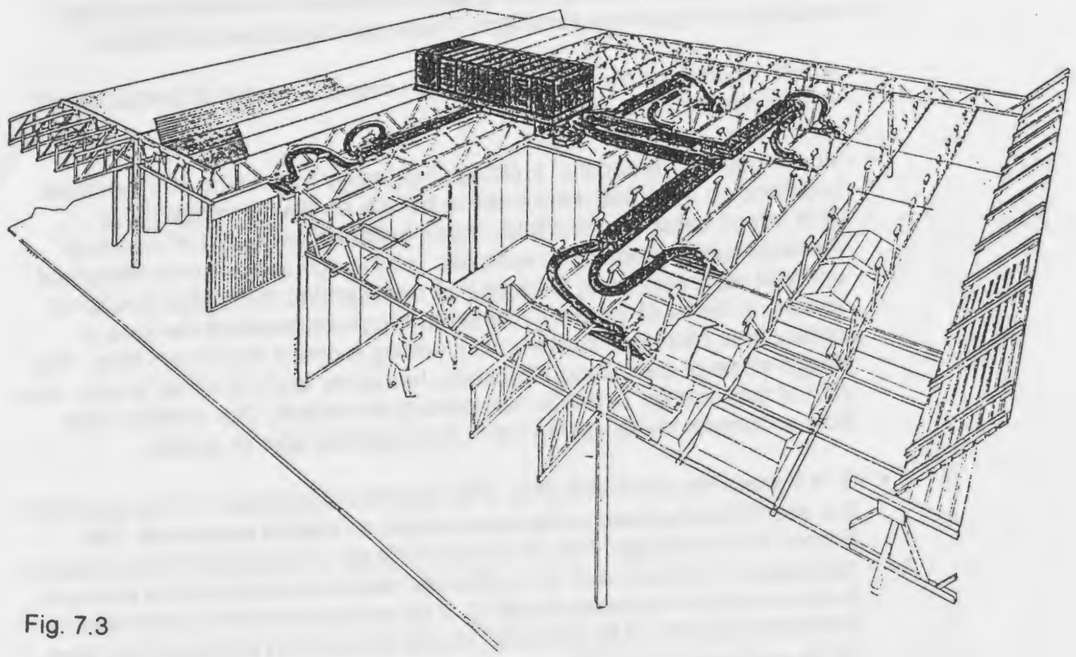


Fig. 7.3

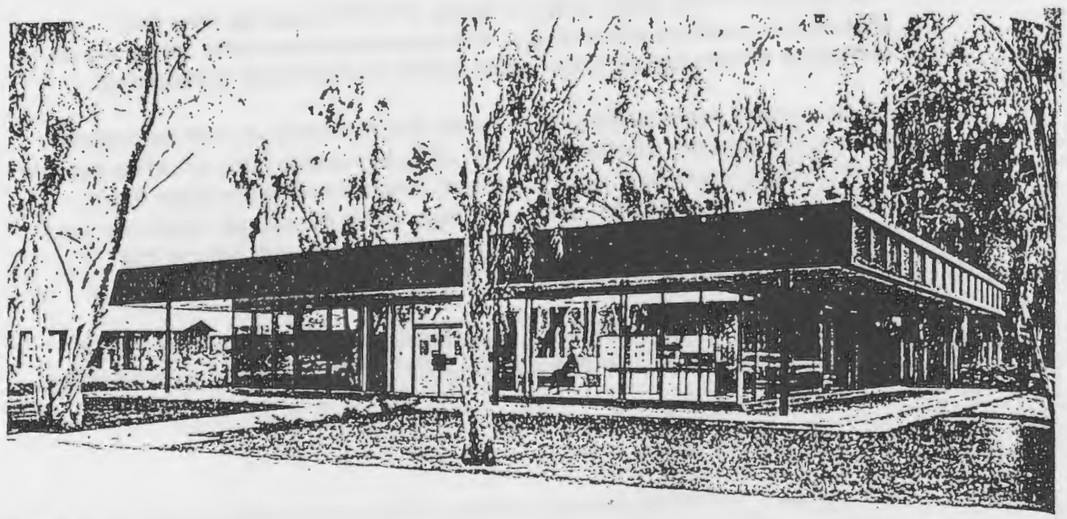


Fig. 7.4

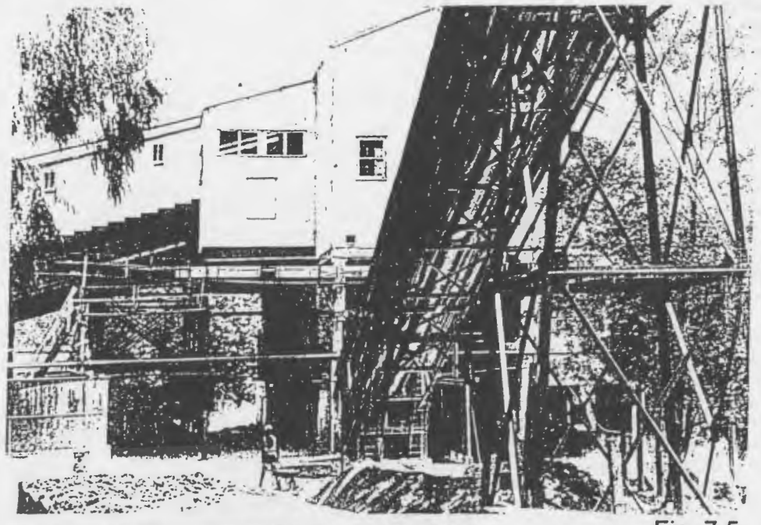
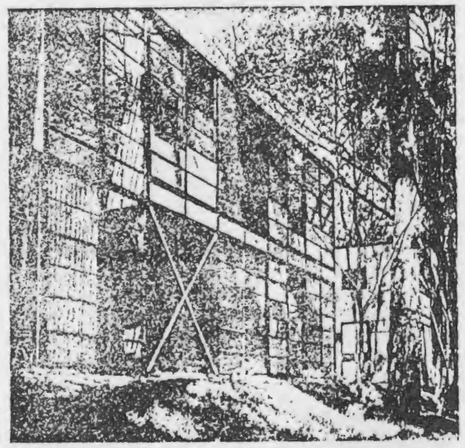


Fig. 7.5



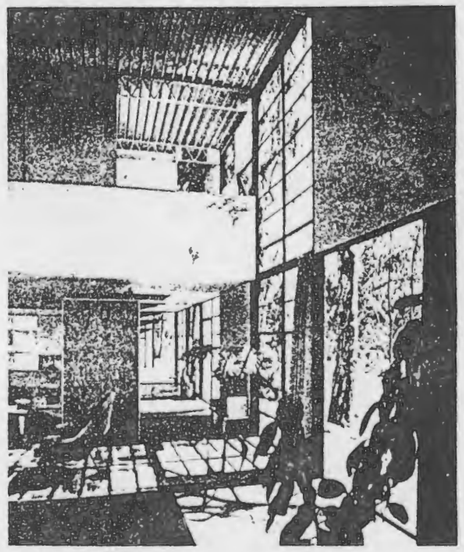


Fig. 7.6

Figure 7.3 :
SCSD Component Drawing
*( source : AD (1965) )*

Figure 7.4 :
SCSD Prototype Stanford Campus
*( source : AD (1965) )*

Figure 7.5 :
Prefabricated Industrial Building : Crown Mines
*( source : Photo Roger Boden )*

Figure 7.6 :
Charles and Ray Eames : Eames House (1949)
*( source : Jencks (1985) )*

information flow and system documentation, that ultimately would be as important as the technological aspects.

The fundamental principles of the KOPS system were flexibility, extendibility and demountability, within a general philosophy of prefabrication as the means to achieve this. The design of the elements of the 'Kit of Parts' was critical to the prefabrication and erection sequence. Also of importance was the concept that the aesthetic would arise out of the way the building was made, the idea of an aesthetic 'sum of parts'. Ultimately however, the concern with technology and structure can lead to the aesthetic of 'high-tech'.

The design criteria for KOPS could be summarised as follows :

- A minimum number of components, which could be prefabricated and rapidly assembled on site, thus reducing the lead time between the commencement of assembly on site and occupation by the client.
- A basic envelope which could be adapted to satisfy client needs from simple warehousing to more sophisticated factory enclosures and related office requirements which could change over time.
- The prefabrication of primary elements with additional sub elements eg. rooflight ventilator units, upper floor deck panels, partitioning services, and clip-on fixtures. *(Fig. 7.2)*
- Easy demountability and reusability of major system components.
- A 'lightweight' solution that could be built on a variety of ground conditions.
- Allowance for a maximum of 3 floor levels and double or triple volumes, with minimum half bay mezzanines.
- The mandatory allowances of lighting levels, ventilation etc. to be adequately satisfied.
- Major components to be maintenance free once assembled.
- Time and cost saving from the refinement and rationalisation of building procedures by repetition of standard operations.
- Cost reduction arising from bulk purchases over extended but programmed periods of time.

The KOPS prototype *(Fig. 7.1/7.2/7.15)* concentrated on 3 main enclosure aspects, namely structure, cladding and rooflights. Basic decisions about the main components of the structural and enclosure systems were made early on in the development. The structure consisted of tubular columns; singly and in bundles for adjacent bays, and a two-layer space deck, developed with Stewarts and Lloyds and their consultant engineer H.Lawrence and Partners, on a basic module of 1800mm, giving a single bay size of 16 850mm.
(9 modules x 1800mm with a 650mm peripheral track for gutters etc.)
The rationale behind the choice of a space frame was its high strength to weight ratio and its spatial non-directionality. Both glass reinforced plastics (g.r.p)[3] and pressed steel with inserted gasketted glazing were investigated in terms of enclosure panels. The depth of the space deck at floor and roof

[3] The idea of using g.r.p was introduced by Charles Stretton. Ironically, although he had a passion for the use of plastics in architecture, he was allergic to plastics. The thing most people remember about him is that he came to the office with gloves on, as he had an allergic reaction to working with plastic.

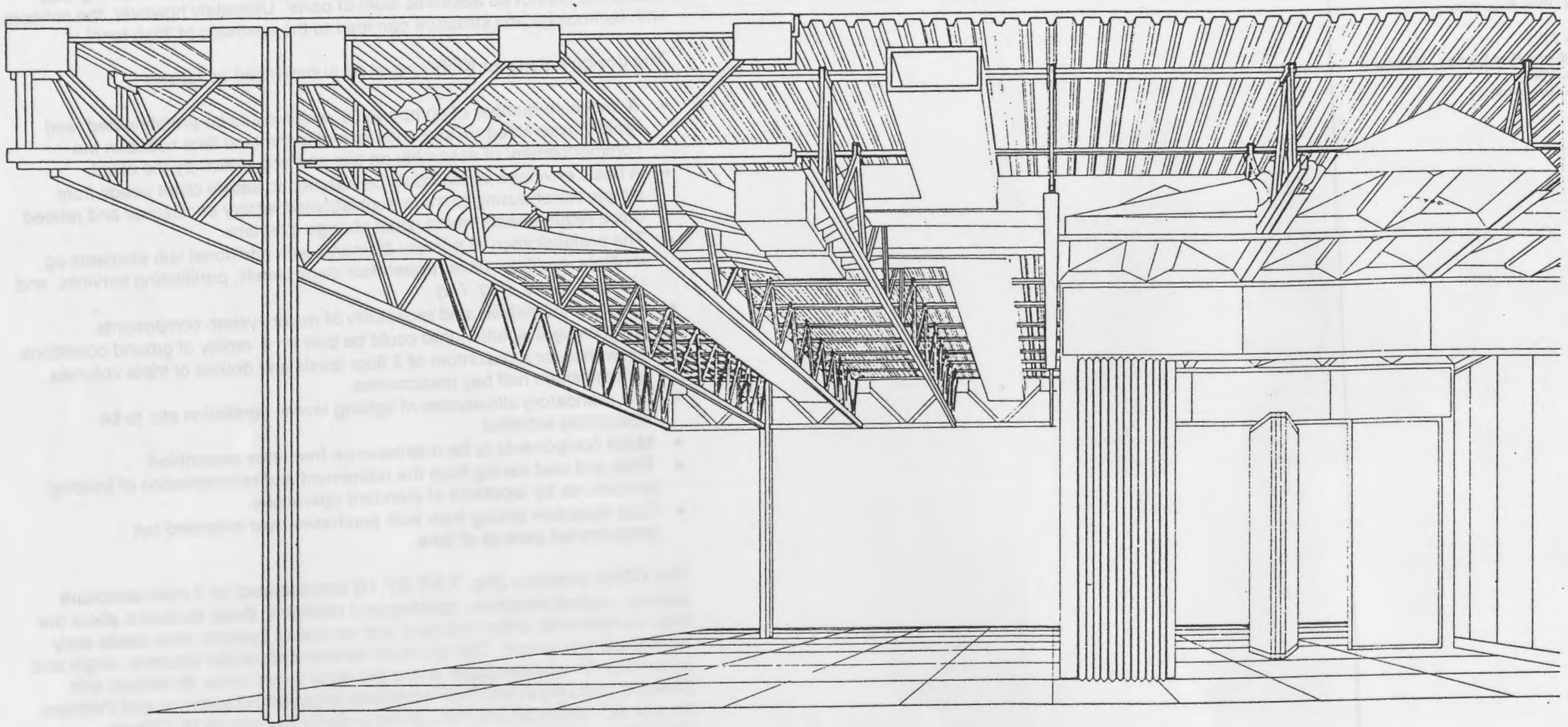


Fig. 7.7



Figure 7.7 :
SCSD : Diagram showing integration of various sub systems.
*( source : Ogg (1987) )*

levels was to be enclosed by a g.r.p unit shaped to wrap around the deck, which would also allow light to penetrate into the built volume.

The sequence of erection of the KOPS system *(Fig. 7.1)* was critical in terms of the system and was dependent on the production of a prototype. The prototype, which would also function as a marketing mock-up was erected at the RMP Offices at Crown Mines. The original intention was to use the prototype as a promotional and operational projects office. However it was subsequently dismantled, to allow for another development of the site. A series of photographs of the erection sequence were taken by Ronnie Levitan, who was working in the RMP Office at the time. A short 8mm film was also made by him in January 1971, which was shown to the board of RMP.

### 7.3 Design Precedents - CLASP and SCSD

The KOPS system, although unique in South Africa at the time, was not without precedent, the two most influential reference points being the CLASP (Consortium for Local Authority Schools Programme) system in the United Kingdom and the Schools Construction System Development (SCSD) in California. Both were school building projects. SCSD was extensively documented in Architectural Design in July 1965 and again in November 1967. The members of the KOPS team had direct contact with these systems and again the personal histories of the designers played an important role in the project. Bill Spooner had worked after graduating from the Architectural Association (AA), for the R&D Unit of the Ministry of Housing in London, working on an adaptation of the CLASP system for use in low rise high density housing, before immigrating to South Africa in 1965. He subsequently worked for a Technique Jean Prouvé (TJP) franchise in Pretoria.[4]
If one is to extract a chronology of precedent or influence architecturally as well as in terms of systems, it would include the work of Jean Prouvé, the Eames House and the SCSD Programme. Here it is seen that KOPS belongs to a family of systems

The SCSD Programme will be described in detail as it has certain parallels with the KOPS system in terms of structure, aesthetic and erection sequence *(Fig. 7.8-7.12)*. The SCSD was an experimental programme set up in September 1962 by Educational Facilities Laboratories Inc., a subsidiary of the Ford Foundation. The object of the programme was to experiment with new designs in construction procedures for the building of high schools in California. The idea was to provide a big enough market to enable manufacturers to design, tool up for and produce a series of building sub-systems specifically orientated to the school building market. The SCSD was a descendent of the British post-war industrialised component building systems, such as CLASP. However, whereas CLASP arose out of a context

[4] The TJP (Technique Jean Prouvé) franchise was set up under the IDC in Pretoria, for the building of schools for the Transvaal Provincial Administration (TPA). It looked at an alternative way of building schools for the TPA who had standard plans for schools at the time. The idea was a concrete frame with infill aluminium 'Prouvé Panels'. However, the lifting of one system and trying to transplant it into a foreign context together led to the collapse of the system with the space of 18 months.

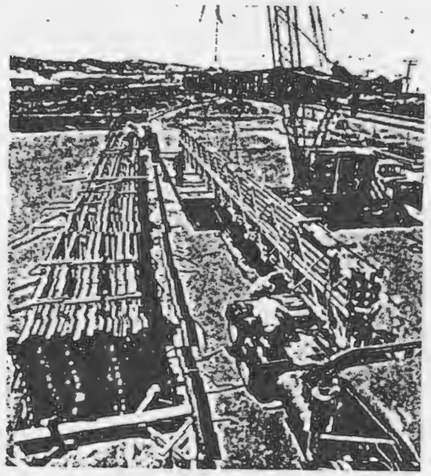


Fig 7.8

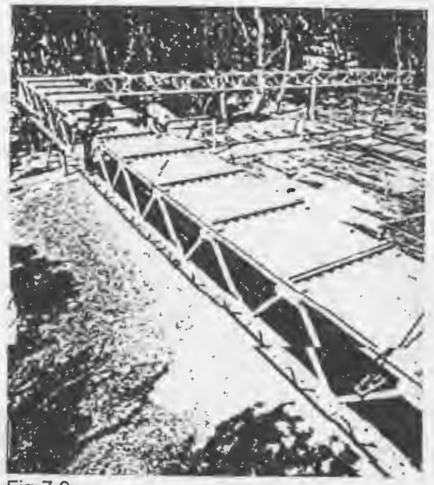


Fig 7.9

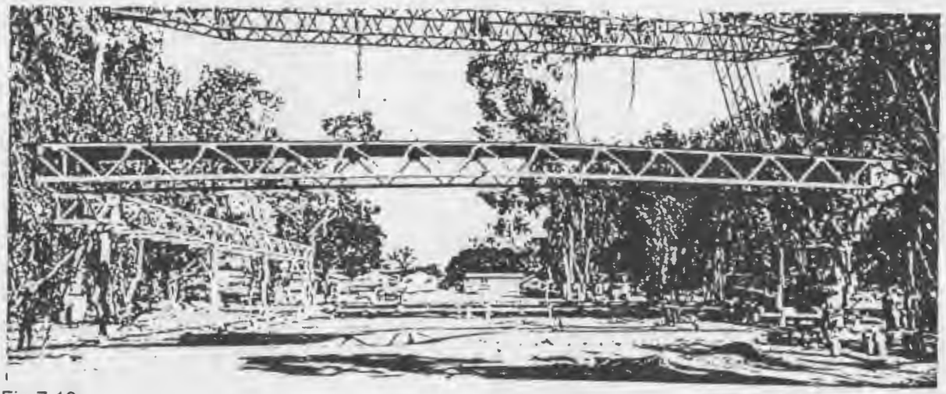


Fig 7.10

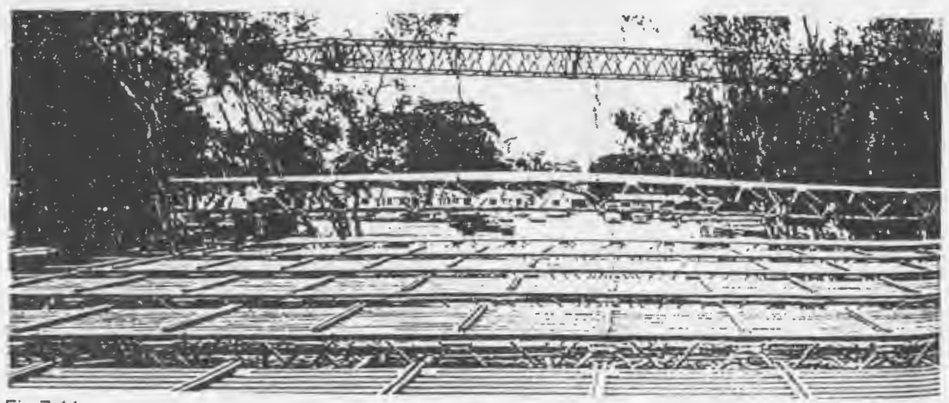


Fig 7.11

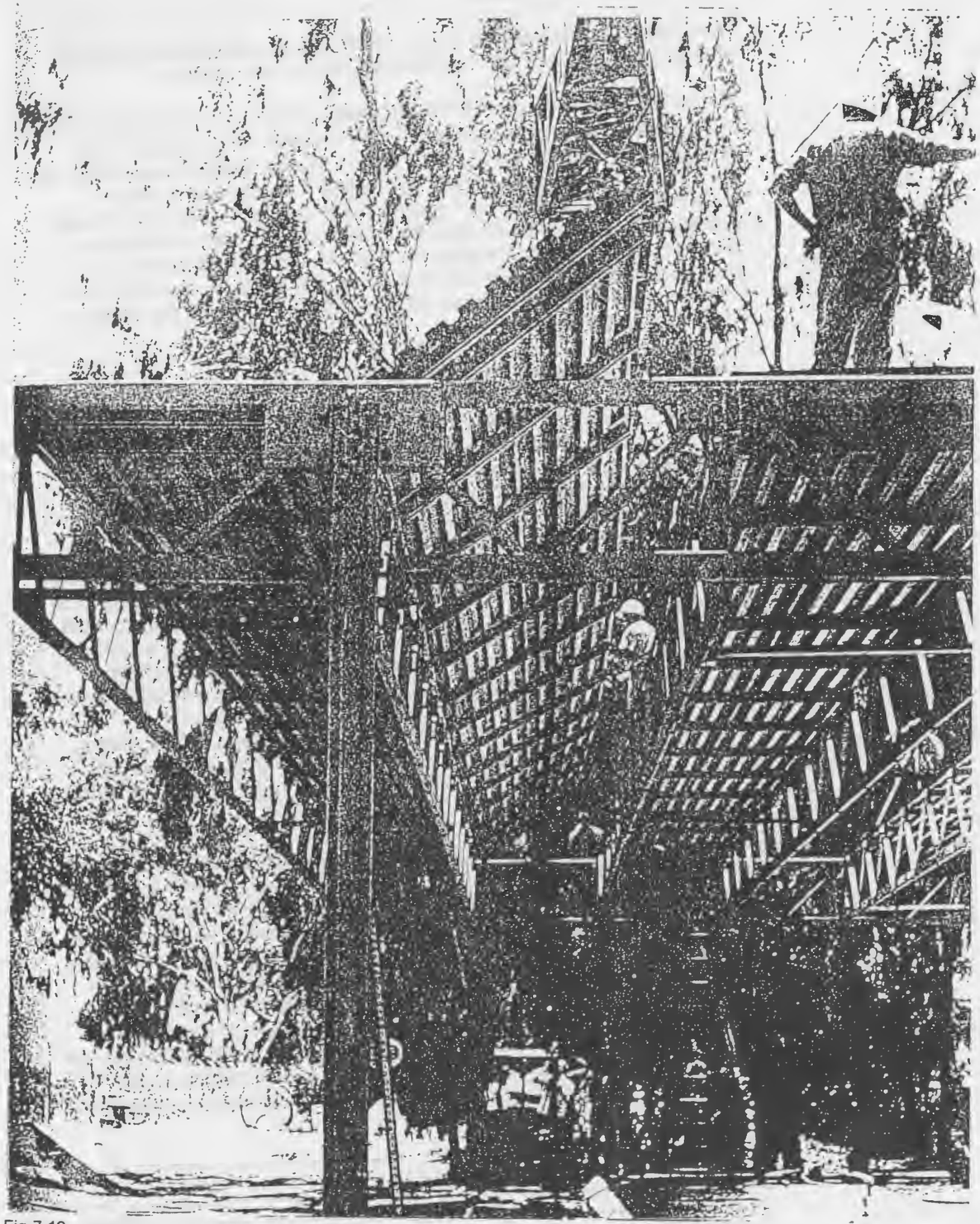


Fig 7.12

SCSD Erection Sequence
*( source : AD (1965) )*

Fig. 7.8
Folded truss deck sections arrive and are transferred to a truck for transportation.

Fig. 7.9
Deck units are unfolded manually to form trusses and are then erected with one 5ft wide deck section still unfolded, by crane.

Fig. 7.10
A 70ft deck unit being placed in position. The cantilevers to the primary beam have slot joints which are welded after assembly.

Fig. 7.11
The final truss deck sections being lowered into position. The hinged deck units are still folded back.

Fig. 7.12
Hinged deck sections being flipped into position to complete the roof deck, which is finally welded for stability.

of post-war material and labour shortages, the SCSD inserted itself into a highly competitive American building industry.[5]

A significant aspect of the SCSD Programme was the use of performance specifications. This process, where requirements were stated in such a way that industry could respond in ways best suited to it, was a major means of securing industry research and development for the SCSD Programme. It meant that the requirements would dictate the system and not vice versa, and also required co-ordination at the design phase between SCSD and industry.

The SCSD procedure was expressed within a chronological sequence. Firstly, of grouping together a number of school districts and defining their needs in technical terms in order to write the performance specifications for the required components and systems. From there the process of interesting industry in the potential market in order to find potential bidders, led to the systems' being let out to competitive tender in terms of 'product' development and pricing. Once systems within various categories were selected, they would be developed in conjunction with each other. This was a major difference in comparison with systems such as CLASP, which put a specific building system out to tender.

The educational programme set up a four component criteria which were defined by the flexible spatial requirements of a fixed structural 'umbrella'. They were :

1. Long-span structures
2. Varied moveability of partitions
3. Full thermal environmental control with the ability to adapt to changing plan configurations
4. An efficient low brightness lighting system adaptable to changing plan configurations

The performance specifications defined the structural requirements in terms of being able to plan using 5ft by 5ft module or multiples thereof. The structural system was to be designed to meet the requirements of an integrated structural, mechanical and lighting-ceiling sandwich (referred to as an integrated sandwich). At the opening of the bid period in July 1963, a conference was held at Stanford University to which all interested

[5] The SCSD programme also falls within the context of the Case Study Programme set up by John Entenza of Arts and Architecture magazine in California in 1945 and typified by projects such as the Eames House (otherwise known as Case Study # 8).
The programme comprised of 36 experimental modern prototypes for housing. The Case Study houses were designed and 25 of them were built between 1945 and 1966. The Case Study House programme was one of California's most important contributions to Architecture and featured some of the most important architects of the region and generation, such as Charles and Ray Eames, Pierre Koenig, Richard Neutra, Raphael Soriano etc. The programme aimed to influence the post World War 2 building boom towards widespread acceptance of modern architecture. The predominantly steel framed houses of the 1950's came to epitomise the direction of the Case Study Houses - technological experimentation with materials, manufacturing and construction methods. The pioneering study of the Case study Programme is Esther McCoy's "Modern California Houses" (1962) reprinted in 1977 as "Case Study Houses 1945 - 1962".





Fig. 7.13




Fig. 7.14



Fig. 7.15

KOPS Developments

Figure 7.13
Lamson Engineering
*( source : Photo Ronnie Levitan )*

Figure 7.14
Caribonum : Aeroton
*( source : Photo Ronnie Levitan )*

Figure 7.15
Interior KOPS Prototype
*( source : Photo Ronnie Levitan )*

manufacturers were invited, with the purpose of explaining the aims of the project and the details of the specifications. Following the conference SCSD worked continuously with interested manufacturers until bid submission. After a complex evaluation procedure six successful bidders were nominated in January 1964. Thus the components were divided into six :

A structural system.
Heating, ventilation and cooling.
Lighting-ceiling.
A demountable partition system.
Accordion type operable partitions.
Panel type operable partitions.
The six selected manufacturers began working in January 1964, with the SCSD as their co-ordinator to develop their systems in unison.

As part of the development programme, the manufacturers had committed themselves in their bids to a prototype building on the Stanford campus *(Fig.7.4)*. The prototype was intended as a check on components before the finalisation of details for production and where environmental standards could be tested against the performance specifications. Also it provided a general demonstration of the SCSD system. The building attempted to show the systems in as pure a form as possible, for this the exterior wall was designed as a glass curtain wall although this would not be typical of the schools projects.

The KOPS system differed from the SCSD system in certain fundamental aspects. Firstly, the structural system of SCSD was based on a long span girder, whereas KOPS was based on a space frame structure.
However, more fundamental differences can be pinpointed which are fundamental to the effectiveness of 'system building'.

### 7.4 KOPS Developments

The first production prototype of the system was built for Lamson Engineering at Aeroton *(Fig. 7.13)*. It consisted of five double volume bays and two single storey office bays. Expansion was possible in three directions. It was planned in close proximity to another project for Caribonum *(Fig. 7.14)*, with the idea of the eventual joining of the two buildings. The external walling departed totally from that used in the earlier mock-up (g.r.p) and consisted of full height Q-panels with separate window components.

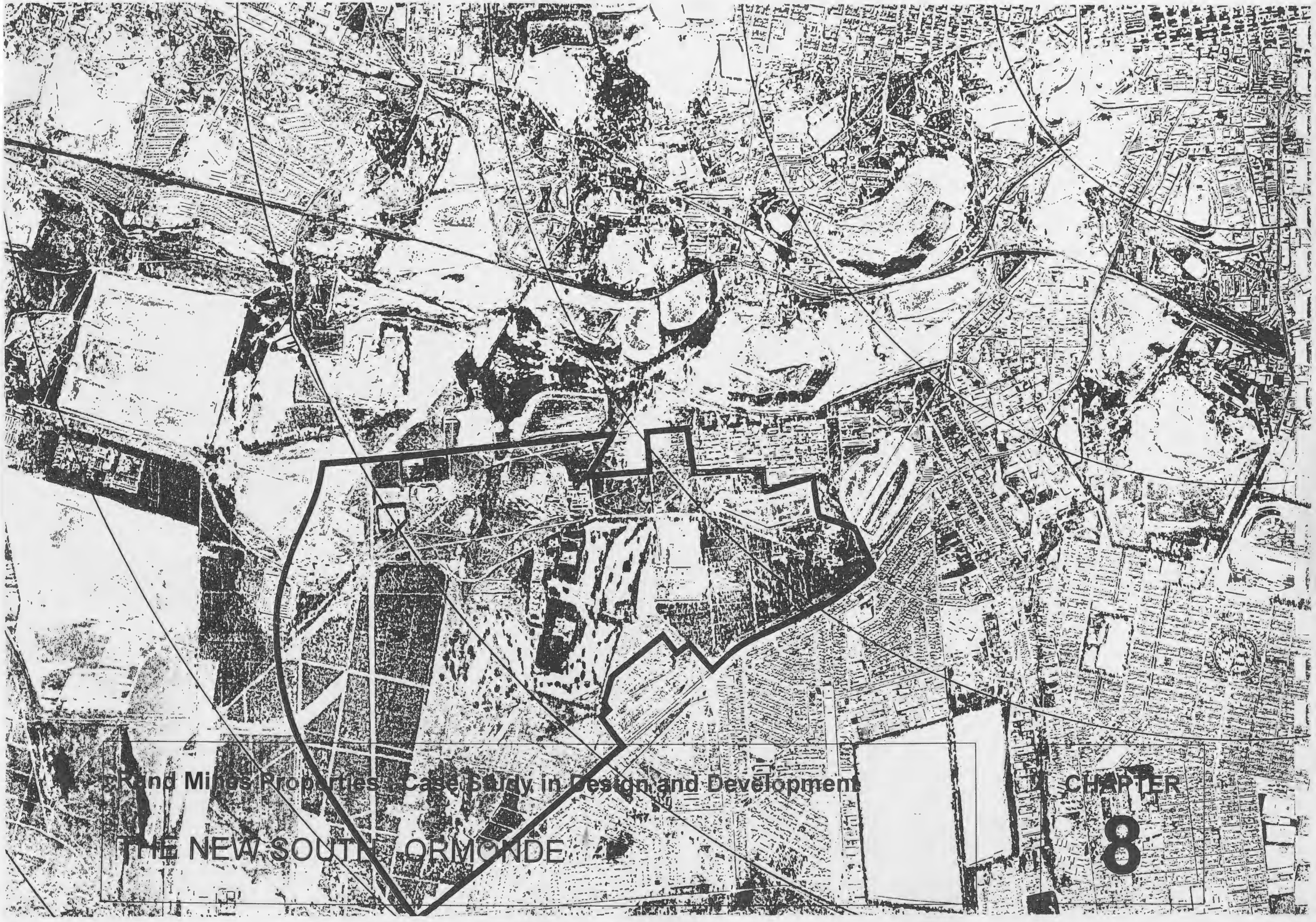
Several other projects were planned for Cargo Motors, Dryden Engineering and Greatermans in the Aeroton Township and it was proposed to co-ordinate them into a serial contract which would have given valuable feedback in terms of the effectiveness of the KOPS concept.

### 7.5 Conclusions.

Only two KOPS buildings besides the prototype were ever built. The initial concept of KOPS as a generic short term building solution within a long term development strategy, failed on two critical points.

Whereas both CLASP and SCSD were acting on behalf of client bodies, KOPS was developed by a 'developer', who relied on selling the development to a client. Most importantly the preconditions for effective systems building, namely production volumes and economy of scale, did not exist at RMP and KOPS could not be developed on sufficient enough scale.

Ultimately, a system cannot be derived the assemblage of a series of components or parts alone. A systems approach implies an underlying set of rules to which every part must adhere, and which define how the whole is constituted. Therein lies the difference between a series of buildings within a system and a building which is an assemblage of standard parts or prefabricated building, as KOPS ultimately was reduced to.



Rand Mines Properties : Case Study in Design and Development

CHAPTER

# THE NEW SOUTH ORMONDE

8

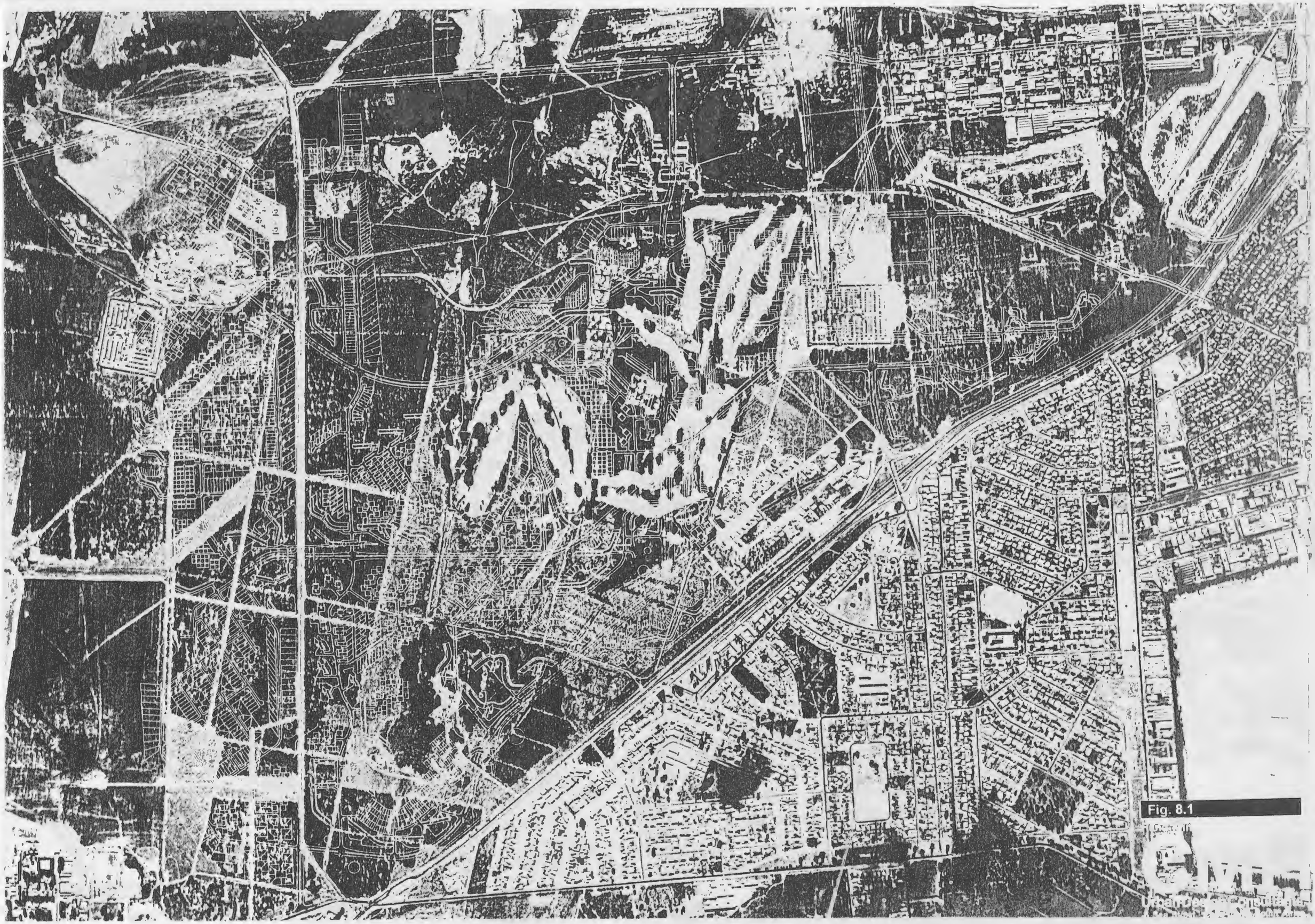


Fig. 8.1

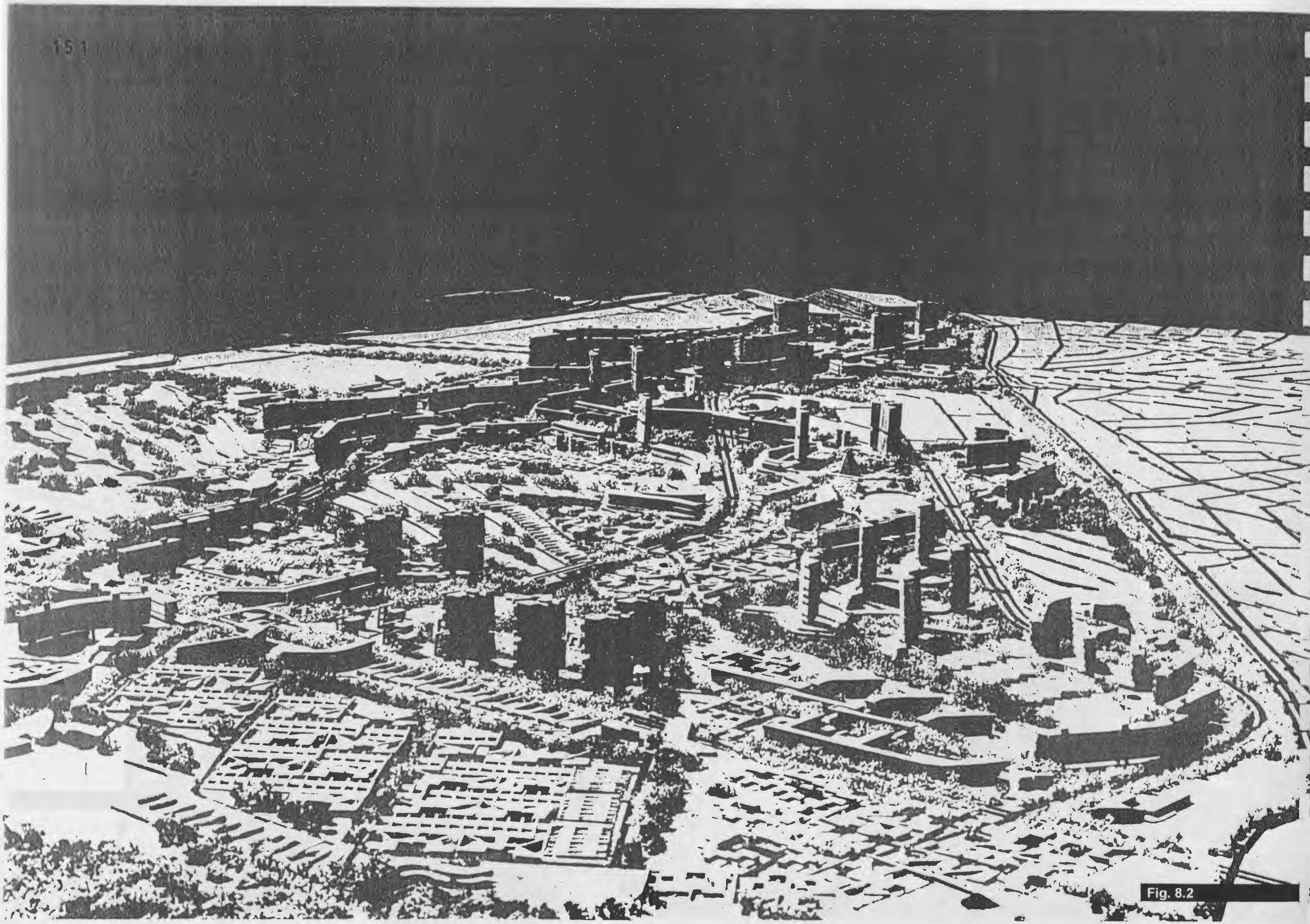


Fig. 8.2

Cover : Definition of Ormonde Site.
*( source : UDC (1969) )*

Figure 8.1 :
Ormonde Overall Plan.
*( source : UDC (1971) )*

Figure 8.2 :
Ormonde Model.
*( source : UDC (1971) )*

## 8.1 Introduction : The Appointment of Urban Design Consultants and the definition of the Ormonde Project

Ormonde was seen as the flagship development of RMP and was the key to the development of the 'New South'. Ormonde reveals a glimpse of the vision of a new part of the city, and is important as an example of the paradigm set by the overall strategy of RMP in terms of a 'real' project. Whereas the overall Land Use and Transportation Plan for RMP was a strategy for development and illustrates the model of 'planning as a strategy', Ormonde illustrates the model of 'planning as design'.

Ormonde was documented in a series of reports[1], the two most important being the Grey Major Report of April 1969 and the Blue Terminal Report of May 1971. They consisted primarily of visual documentation of the project, as well as brief descriptions of the components of the design.

RMP appointed Roloef Uytenbogaardt[2], who headed a consortium of Architects, Planners and Urban Designers called Urban Design Consultants (UDC), to undertake the Crown Mines Property (CMP) Development Project. It is important to differentiate between the RMP Planning Office and the Urban Design Consultants project team as being two separate teams, independent of each other with consequent differences in approach, with Urban Design Consultants being based in Cape Town. The project team headed by Roloef Uytenbogaardt consisted of Anthony Barac, Adele de Souza Santos, Antonio de Souza Santos and John Moyle, assisted by Dave Burde, an urban designer based in Johannesburg, who was to head the Johannesburg office of Urban Design Consultants.

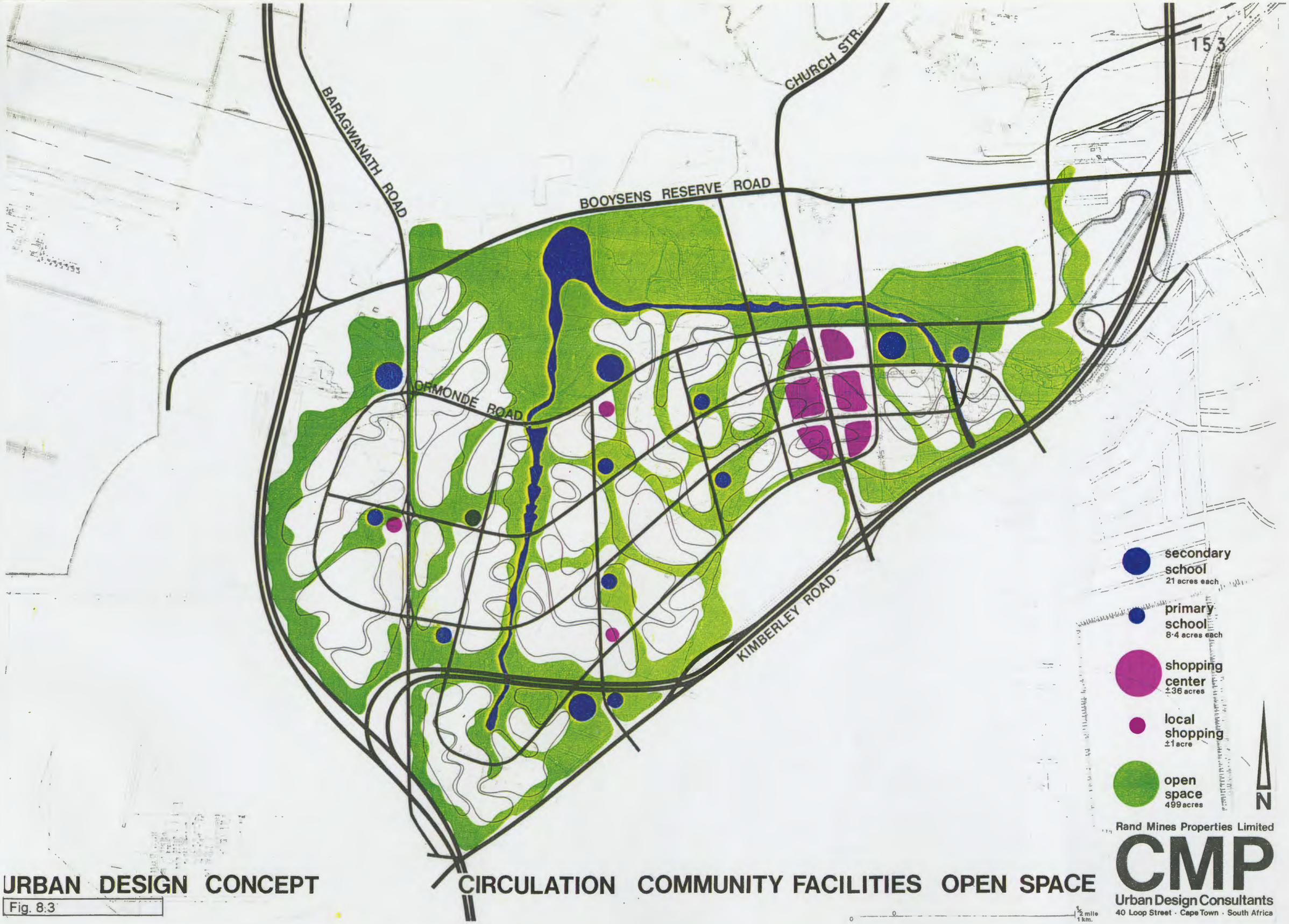
Urban Design Consultants' terms of reference was to prepare a broad outline design for the entire Crown Mines site, a portion of which was to become known as Ormonde, for residential use of a relatively high density for the middle to upper income range *(Fig. 8.1)*. The broad outline design would enable a first sector for stage one development to be identified and detailed design of the first sector to be completed for submission to the Township Board, to enable proclamation of a first township. In addition to this, the brief included detailed design of the remainder of the site and bringing the first sector design to a point where physical implementation could commence.

A series of study components were undertaken in order to structure the research and analytical phases of the planning and urban design work. The

---

[1] Major Report April 1969
Terminal Report May 1971
Landscape Planning and Design Report March 1971

[2] Further to Chapter 4 - footnote 1. Antonio de Souza Santos recalls being called by Max Kirchofer, while still in the USA. He asked whether he and Antonio de Souza Santos could work together on the project. He mentioned that Roloef Uytenbogaart had proposed the possibility of working together on Ormonde. Max Kirchofer also said that if their proposal was not accepted, Antonio de Souza Santos could 'jump the fence and work with Roloef Uytenbogaardt's team. Interview A. de Souza Santos Cape Town 21/6/1996




# URBAN DESIGN CONCEPT

CIRCULATION COMMUNITY FACILITIES OPEN SPACE

Fig. 8.3

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BARAGWANATH ROAD

CHURCH STR.

BOOYSENS RESERVE ROAD

ORMONDE ROAD

KIMBERLEY ROAD

non–manufacturing industry & research

low rise: low density 110 1980

secondary school 21 acres each

low rise: medium density 230 13800

primary school 8·4 acres each

medium rise: medium density 106 9278

shopping center ±36 acres

medium rise: high density 80 8400

local shopping ±1 acre

high rise: high density 39 4875

open space 499 acres

3 indicates acres
263 indicates population

N

0 ½ 2 mile

# URBAN DESIGN CONCEPT

Fig. 8.4

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**FIRST SECTOR**

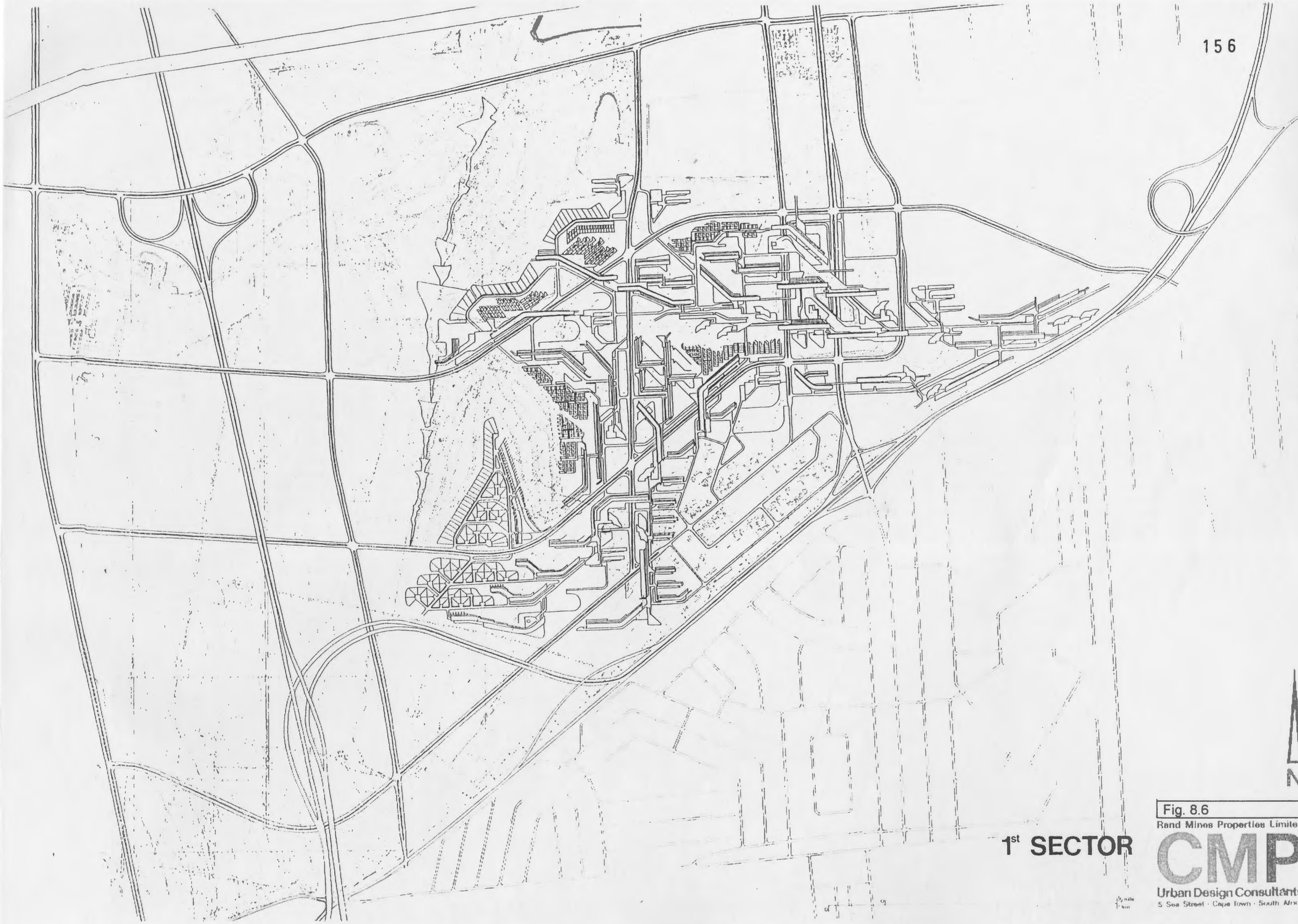
Fig. 8.5

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1st SECTOR

N

Fig. 8.6

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# LAND UTILIZATION SCHEME

NOTE:
MRS 15 and MRS 16 are incorrectly designated on this diagram and in all tabulations. The correct designation (according to which the buildings have, in fact, been measured) is 'M', not 'MRS'.

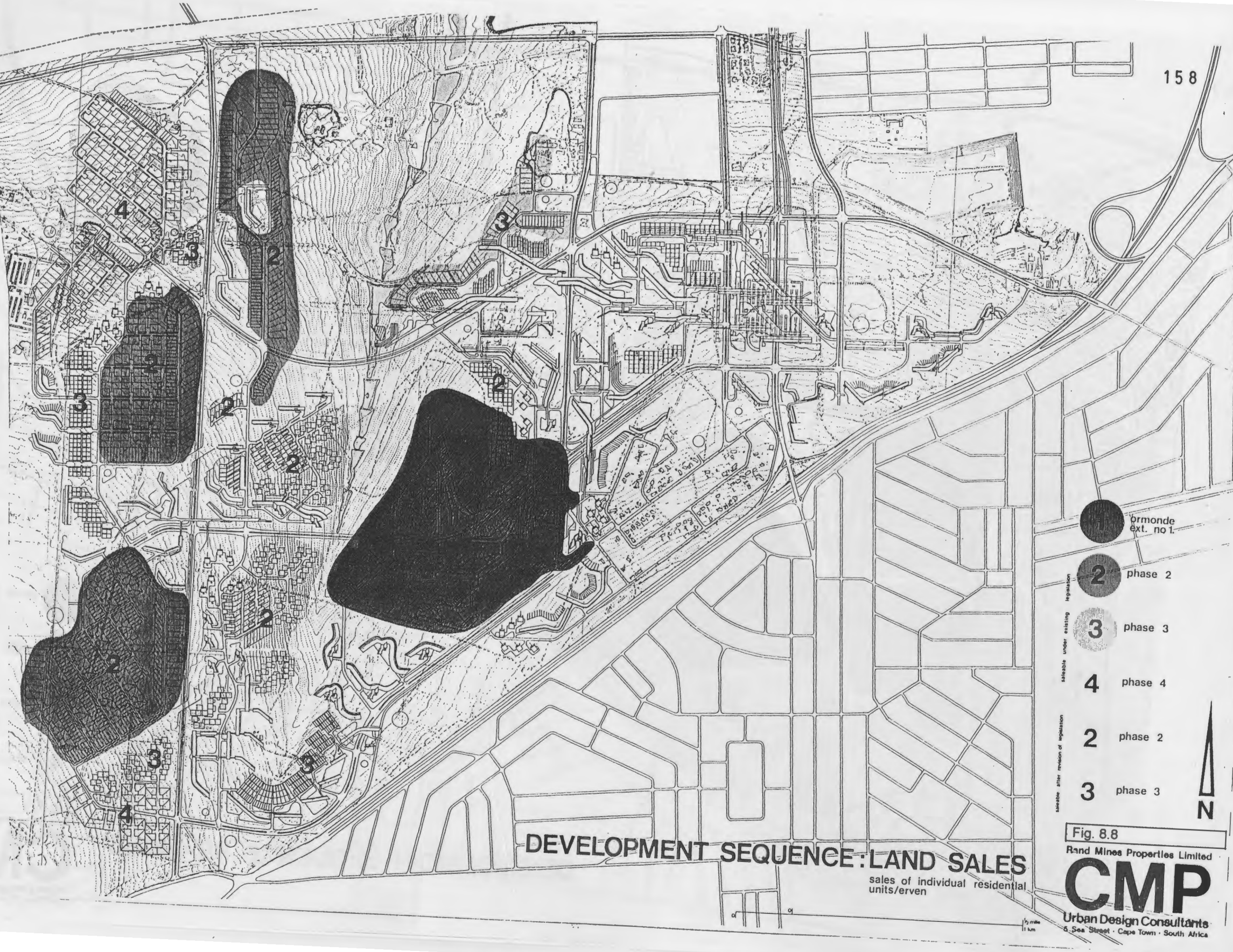
Fig. 8.7

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1 ormonde ext. no 1.
2 phase 2
3 phase 3
4 phase 4
saleable under existing legislation
2 phase 2
3 phase 3
saleable after revision of legislation
N
DEVELOPMENT SEQUENCE: LAND SALES
sales of individual residential units/erven
Fig. 8.8
Rand Mines Properties Limited
CMP
Urban Design Consultants
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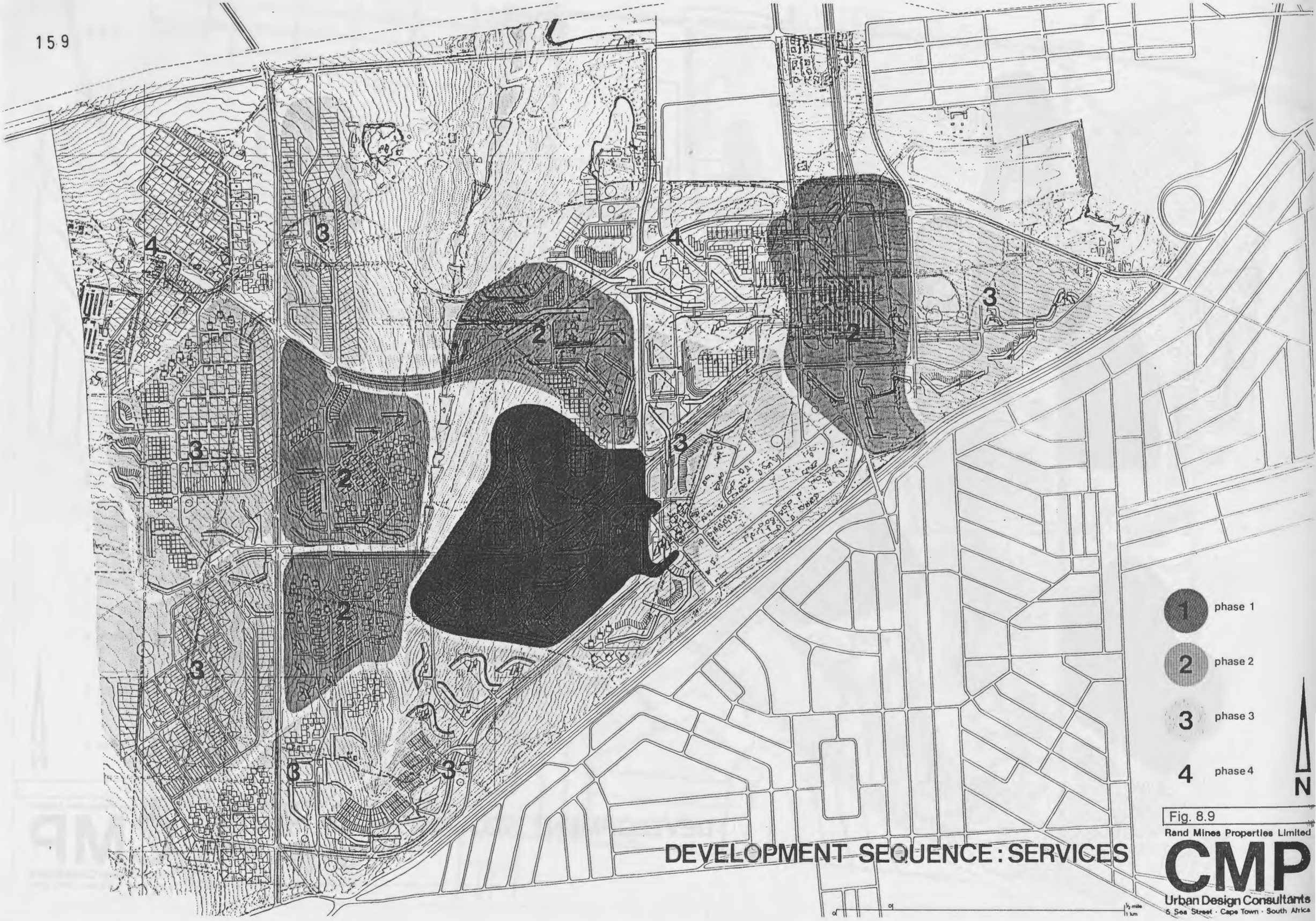



Fig. 8.9

DEVELOPMENT SEQUENCE : SERVICES

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Fig. 8.10

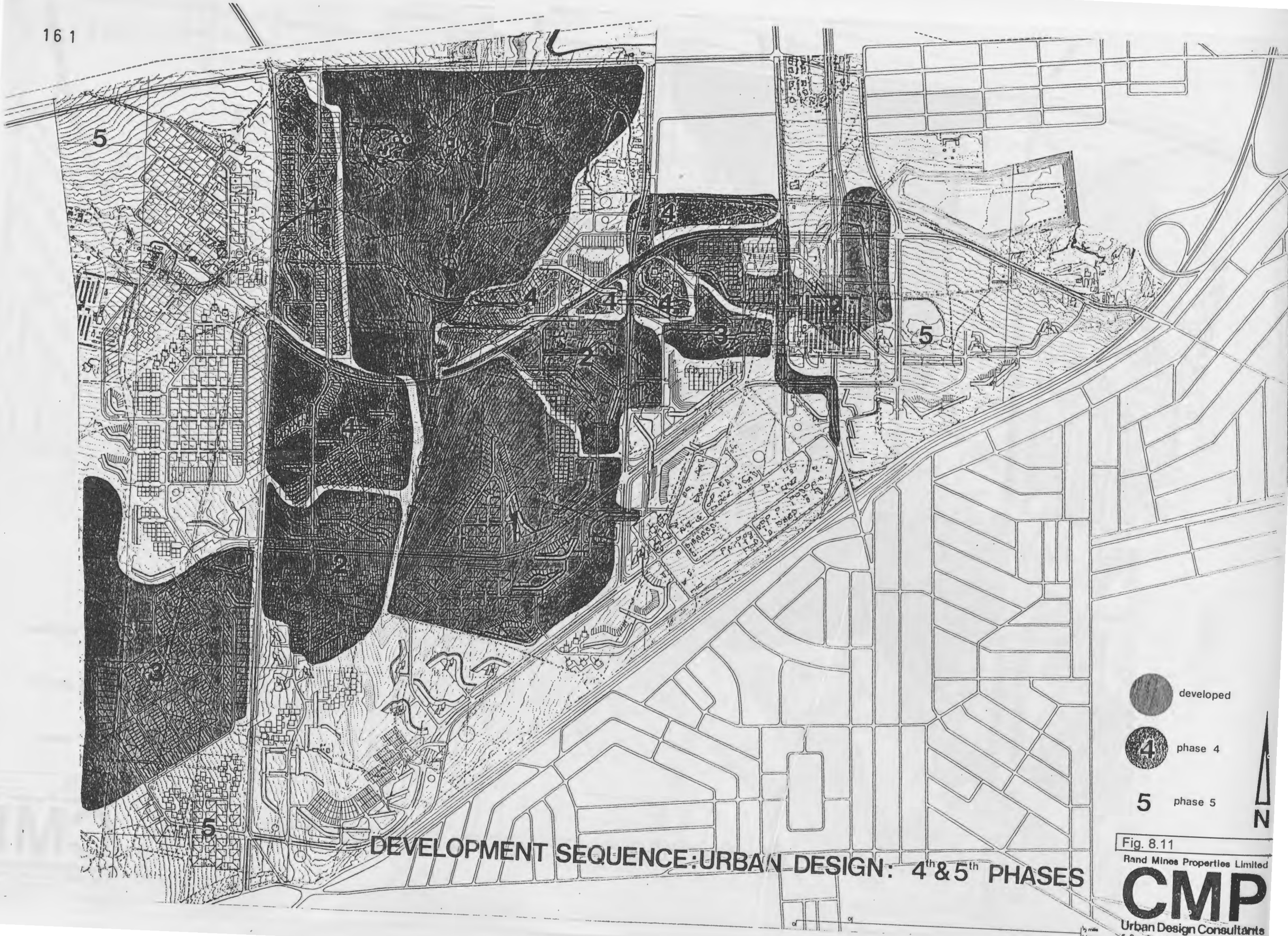
# DEVELOPMENT SEQUENCE: URBAN DESIGN: 1st, 2nd & 3rd PHASES

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DEVELOPMENT SEQUENCE: URBAN DESIGN: 4th & 5th PHASES

Fig. 8.11

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developed

6 phase 6

7 phase 7

# DEVELOPMENT SEQUENCE: URBAN DESIGN: 6th & 7th PHASES

Fig. 8.12

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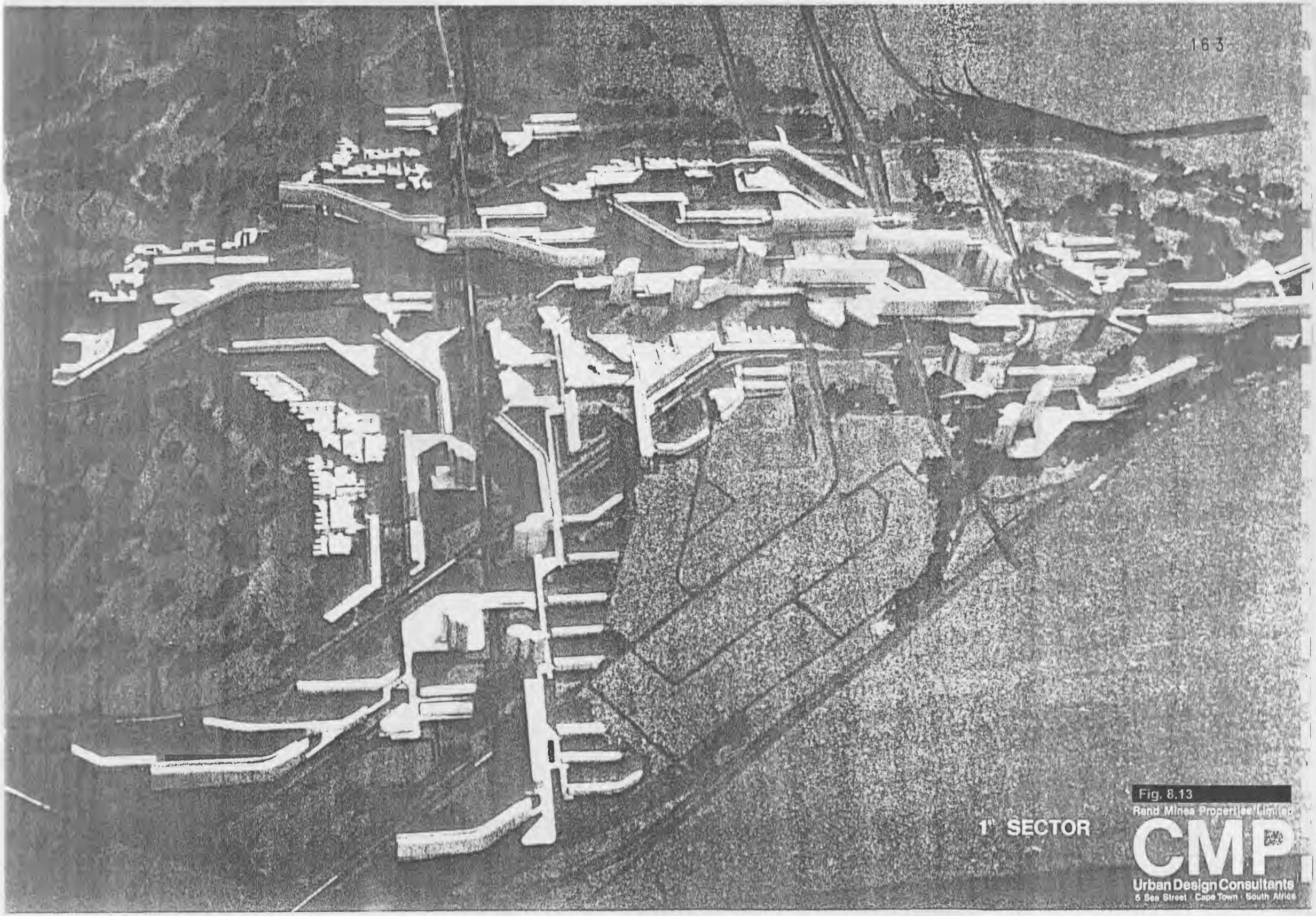



Fig. 8.13

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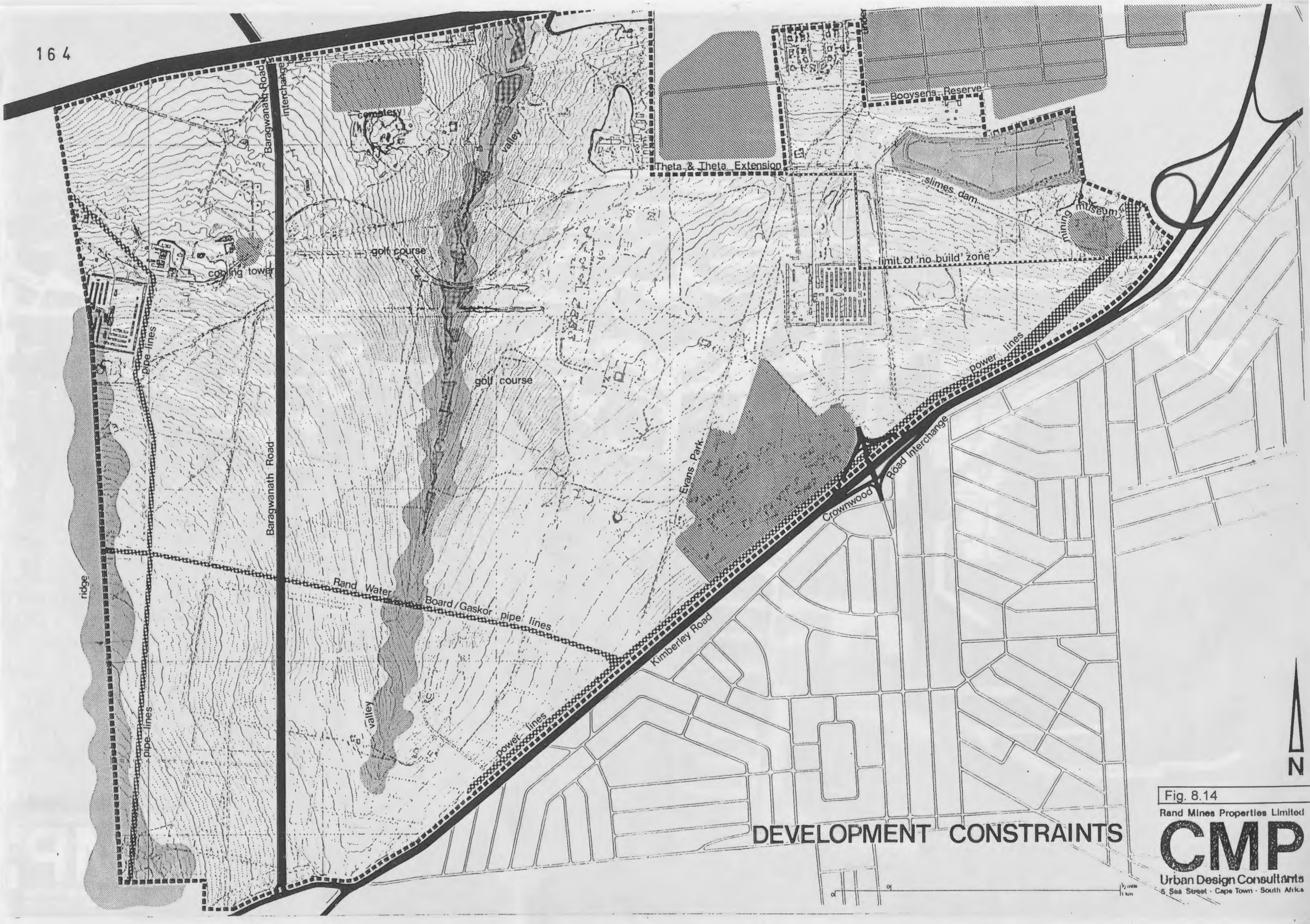



Fig. 8.14

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# DEVELOPMENT CONSTRAINTS

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Previous Pages :

Figure 8.3 :
Urban Design Concept - Circulation Community Facilities Open Space
*( source : UDC (1969) )*

Figure 8.4 :
Urban Design Concept
*( source : UDC (1969) )*

Figure 8.5 :
First Sector
*( source : UDC (1969) )*

Figure 8.6 :
First Sector
*( source : UDC (1971) )*

Figure 8.7 :
Land Utilization Scheme.
*( source : UDC (1971) )*

Figure 8.8 :
Development Sequence : Land Sales
*( source : UDC (1971) )*

Figure 8.9 :
Development Sequence : Services
*( source : UDC (1971) )*

Figure 8.10 :
Development Sequence : Urban Design 1st,2nd & 3rd Phases
*( source : UDC (1971) )*

Figure 8.11 :
Development Sequence : Urban Design 4th & 5th Phases
*( source : UDC (1971) )*

Figure 8.12 :
Development Sequence : Urban Design 6th & 7th Phases
*( source : UDC (1971) )*

Figure 8.13 :
Ormonde : First Sector Model
*( source : UDC (1971) )*

Facing Page :

Figure 8.14
Development Constraints
*( source : UDC (1969) )*

results of these were extensively documented in the Major Report of April 1969. The Project Components were as follows :

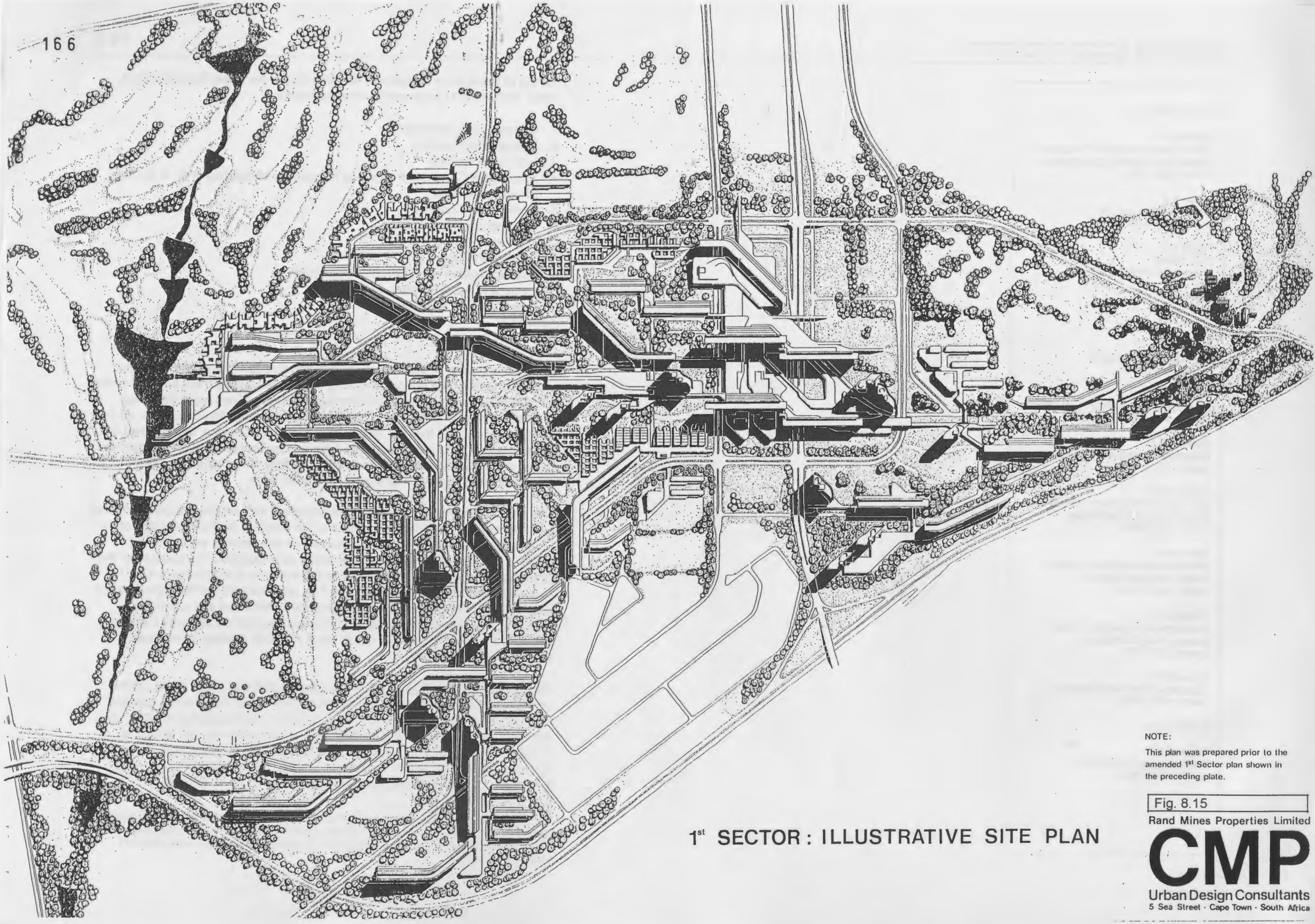
1. Conceptual Framework
2. Metropolitan Context
3. Site Opportunities
4. Residential Component - leading to typology of dwelling units & typology of unit groupings
5. Community Component
6. Commercial Component
7. Movement
8. Utilities and Services
9. Implementation and Economic Feasibility
10. Legal and Administrative Control
11. Construction Technology
12. Media
13. Project Control

An initial appraisal of the site was conducted through three interconnected studies and revealed factors favouring residential development but also some serious negative conditions. The immediate surroundings highlighted the serious problem of access and unsatisfactory neighbouring conditions. At the time it was stressed that the quality of access would have a critical effect on the success of the project, and that if the access routes were left unimproved in terms of convenience and visual amenity, they would jeopardise the promotion of the site as a desirable residential area.

The sector identified for first stage development was an integral part of overall plan. At that stage the final alignment of the Western By-Pass and that of the Link Road were not known which disqualified the extreme southern and western portions of the site from first stage development. The success of the entire development was dependent on the success of the first sector. Therefore the development was to be fully representative of the development with a range of housing types and adequate commercial and community facilities. The sector's relationship to the existing Golf Course was a major promotional amenity in terms of the value of the its existing established landscaping.

The Major Report of April 1969 introduces the concept of the broad outline overall design through a summary presentation of the conclusions reached through the investigation of the Ormonde site in its metropolitan context[3] and through a discussion of the principles and criteria informing the design of 'habitat'. The fundamental concept was to afford the greatest opportunity for individual choice within the framework of a system of habitat. Habitat was defined as the complete residential environment taken as a whole.

[3] The Study of Metropolitan Context was directed towards informing particular planning and design decisions. The study included population projections, target market projections in terms of income range, population characteristics etc., transportation analysis, work place and residential analysis



1st SECTOR : ILLUSTRATIVE SITE PLAN

NOTE:

This plan was prepared prior to the amended 1st Sector plan shown in the preceding plate.

Fig. 8.15

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Figure 8.15 :
1st Sector Illustrative Site Plan
*( source : UDC (1971) )*

*"This fundamental conception, as we have formulated it, can in its essence, be stated quite simply: it is the affording of the greatest opportunity for individual choice within the framework of an effective system of habitat. It will be seen that this formulation is based upon a tension between opposite poles: on the one hand, maximum freedom of choice implies total absence of any environmental constraints, while on the other hand, full effectiveness would entail a highly organised system imposing many constraints." CMP(1969.9)*

The overall design was described in a series of diagrammatic maps illustrating the movement framework *(Fig. 8.32)*, open space system *(Fig. 8.40)*, the distribution of community *(Fig. 8.42)* and commercial facilities *(Fig. 8.16)* and the disposition of the residential development *(Fig. 8.103)*. The description of the design concepts was relatively broad. The key concepts are described below.

## 8.2 A Description of the Ormonde Project

The First Sector design which included the first township known as Ormonde Extension No 1, was illustrated through a complete set of analytical maps and illustrative plans at a scale of 1:2500 *(Fig. 8.5-7/13-15)*. In terms of the overall plan, the 'kit of parts' concept described in the Major Report represented generic building types and building unit types required to be assembled in a meaningful way through adaptation and adjustment to other components. However, it was considered necessary to understand the physical implications of applying general principles to various environmental situations. In order to evolve a formal design vocabulary, existing conditions, development constraints, externally imposed constraints or policies were clarified in order to assess their effects on design. The relationships between components of environment were defined and constantly re examined in terms of the set performance standards.

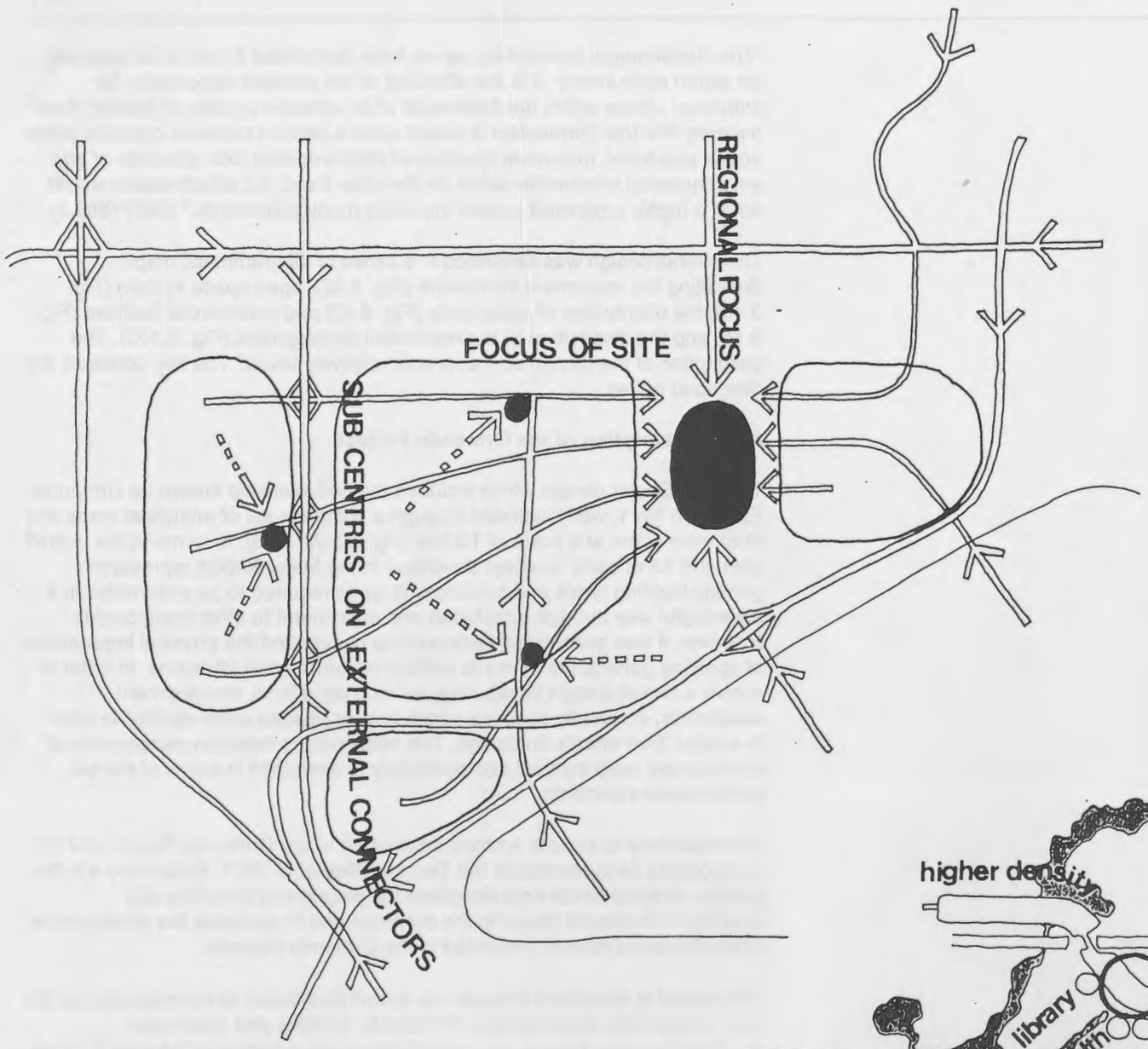
It is necessary to include a broad description of the Ormonde Project and its components as presented in the Terminal Report of 1971. Essentially it is the graphic material which best describes the project and therefore any description is directly linked to the drawings and in particular the photographs of the Ormonde model, presented in the Ormonde Reports.

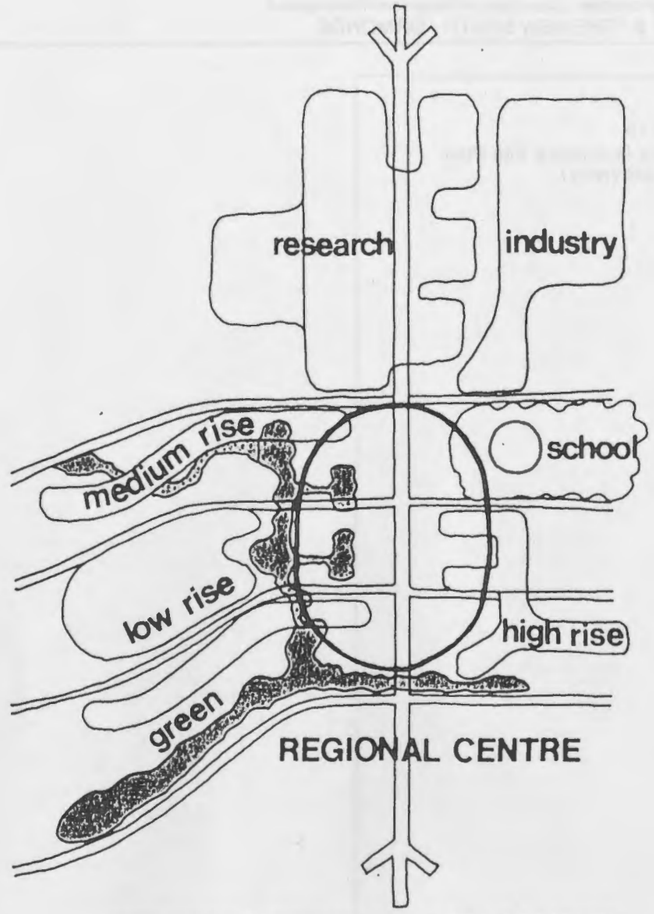
The project is described through the overall distribution of development on the site : commercial development, community facilities and residential development, and through the overall structuring systems of the plan in terms of the movement systems and the open space system.

### 8.2.1 Development Distribution

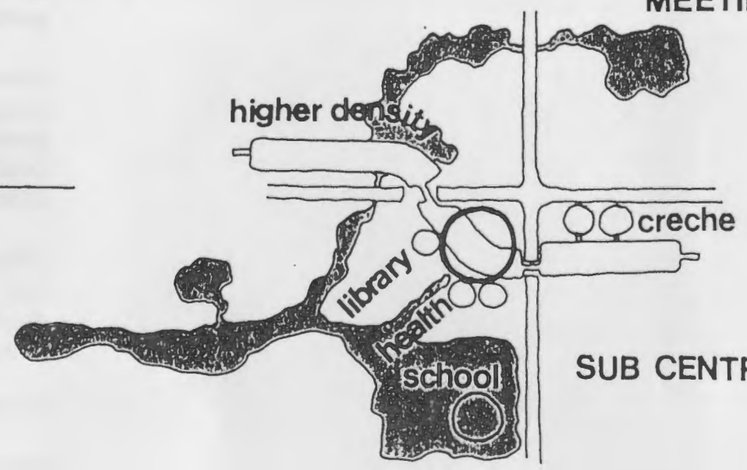
#### 8.2.1.1 Commercial Development *(Fig. 8.16-8.24)*

A full complement of retail facilities and locations were to be provided in Ormonde. These included local convenience shops, four sub-centres combining retail and other business uses planned in conjunction with other




MEETING POINT OF MANY USES




SUB CENTRE, EACH UNIQUE

# PRINCIPLES OF CENTRES

Fig. 8.16

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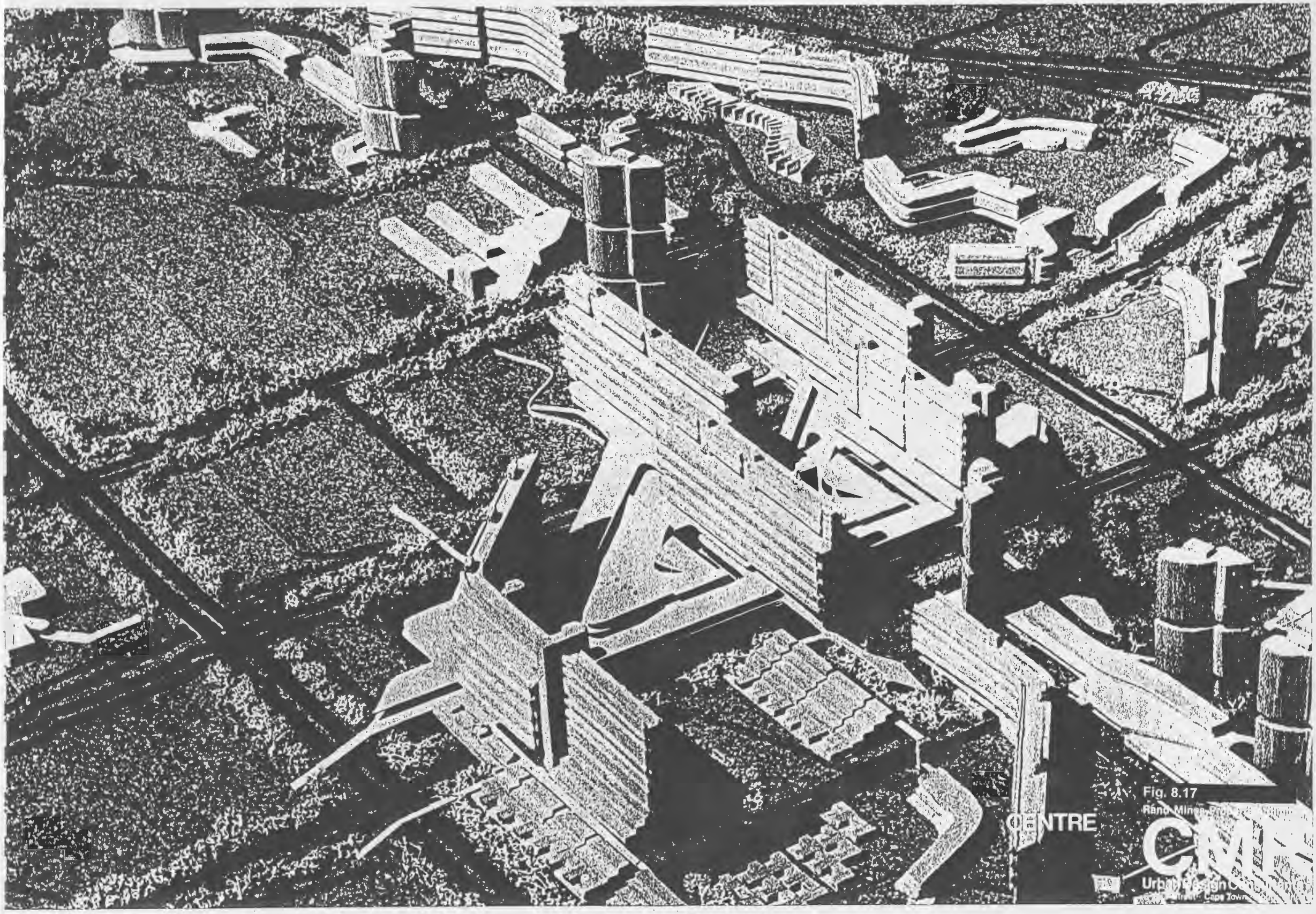
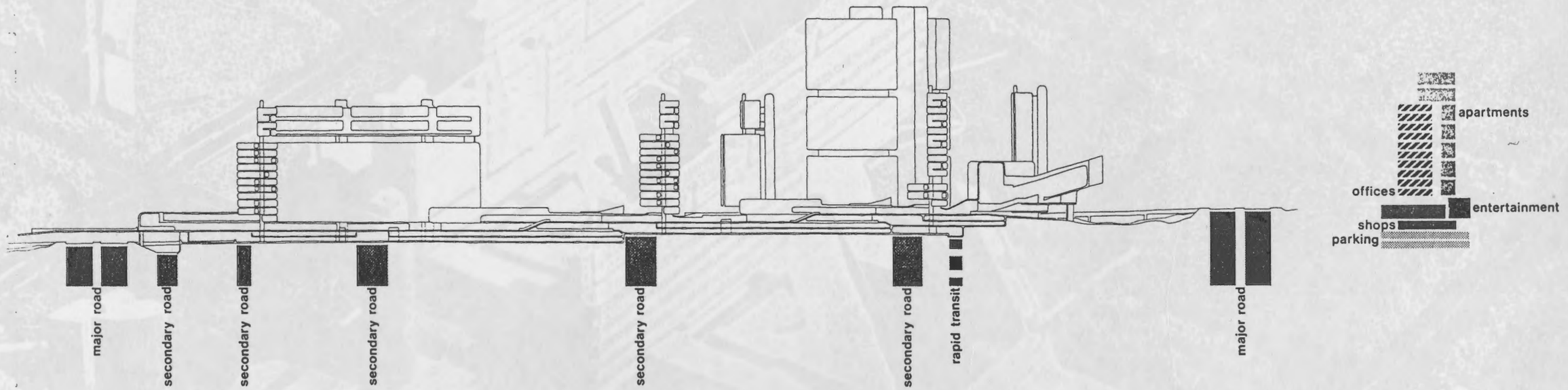


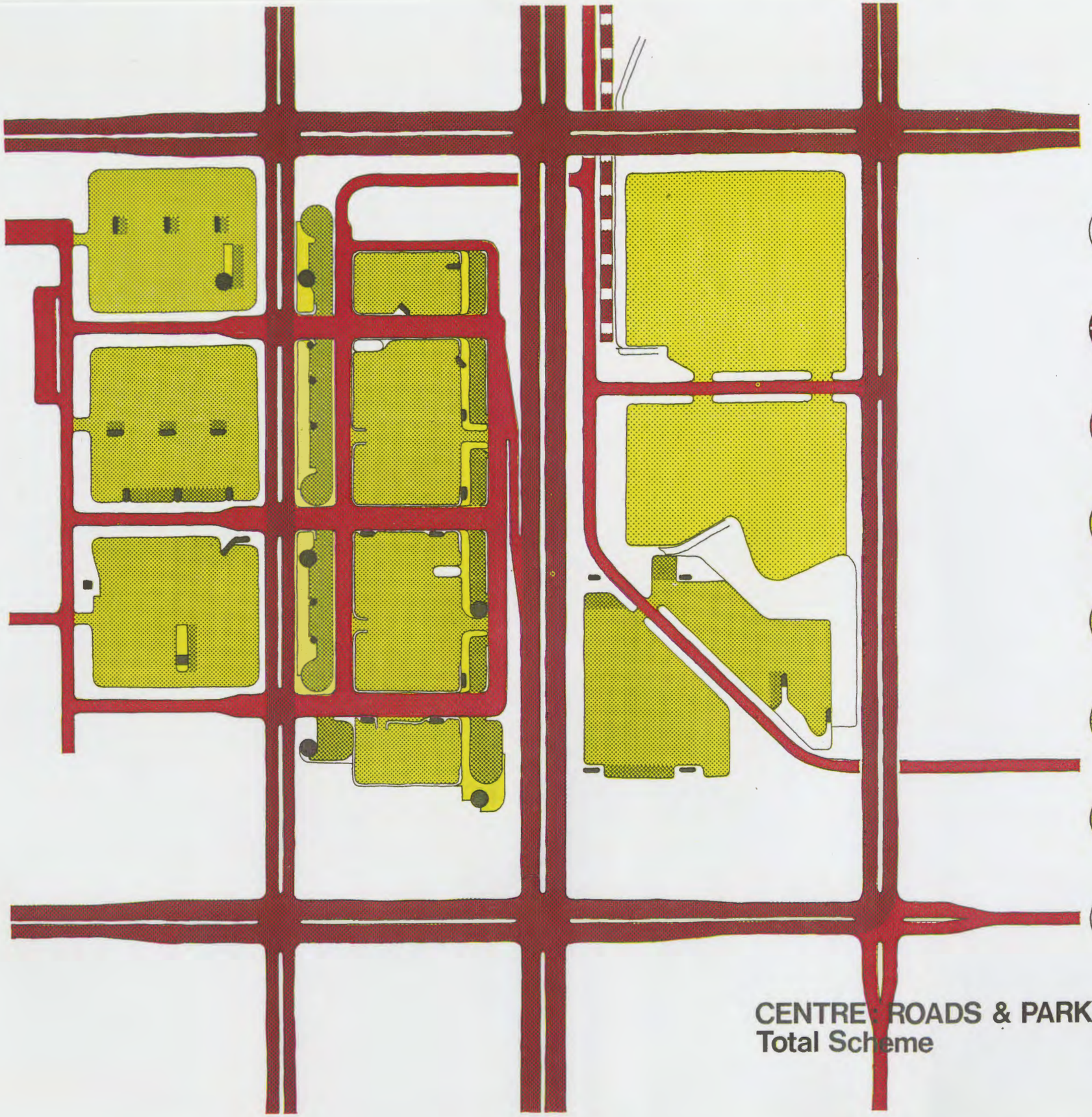
Fig. 8.17




CENTRE: NORTH-SOUTH SECTION LOOKING EAST
Total Scheme

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CMP
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5 Sea Street Cape Town South Africa

Fig. 8.18



rapid transit

major roads

secondary roads

open (one level) parking
total area: 32 150 m²
990 carspaces

structured (two level) parking
total area: 140 740 m²
4330 carspaces

service/ loading

service/ storage

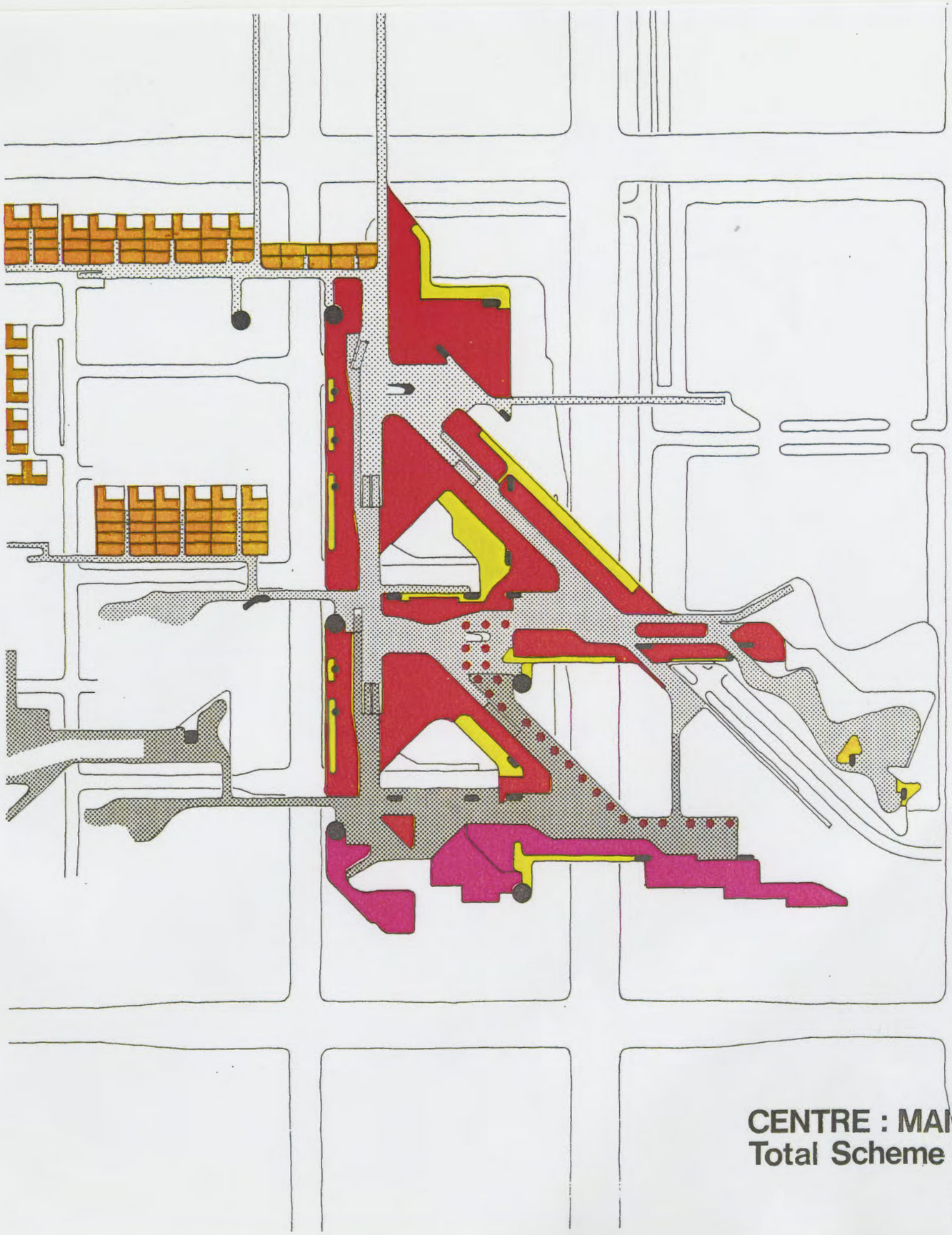
total area: 17 275 m²

vertical accessways

Fig. 8.19

CENTRE: ROADS & PARKING
Total Scheme

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shops: selling space
total area: 16 710 m²

service / storage
total area: 7 298 m²

stalls

entertainment

houses / apartments

vertical accessways

continuous shopping levels

upper

middle

lower

Fig. 8.20

**CENTRE : MAIN SHOPPING LEVELS**
**Total Scheme**

Rand Mines Properties Limited
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Urban Design Consultants
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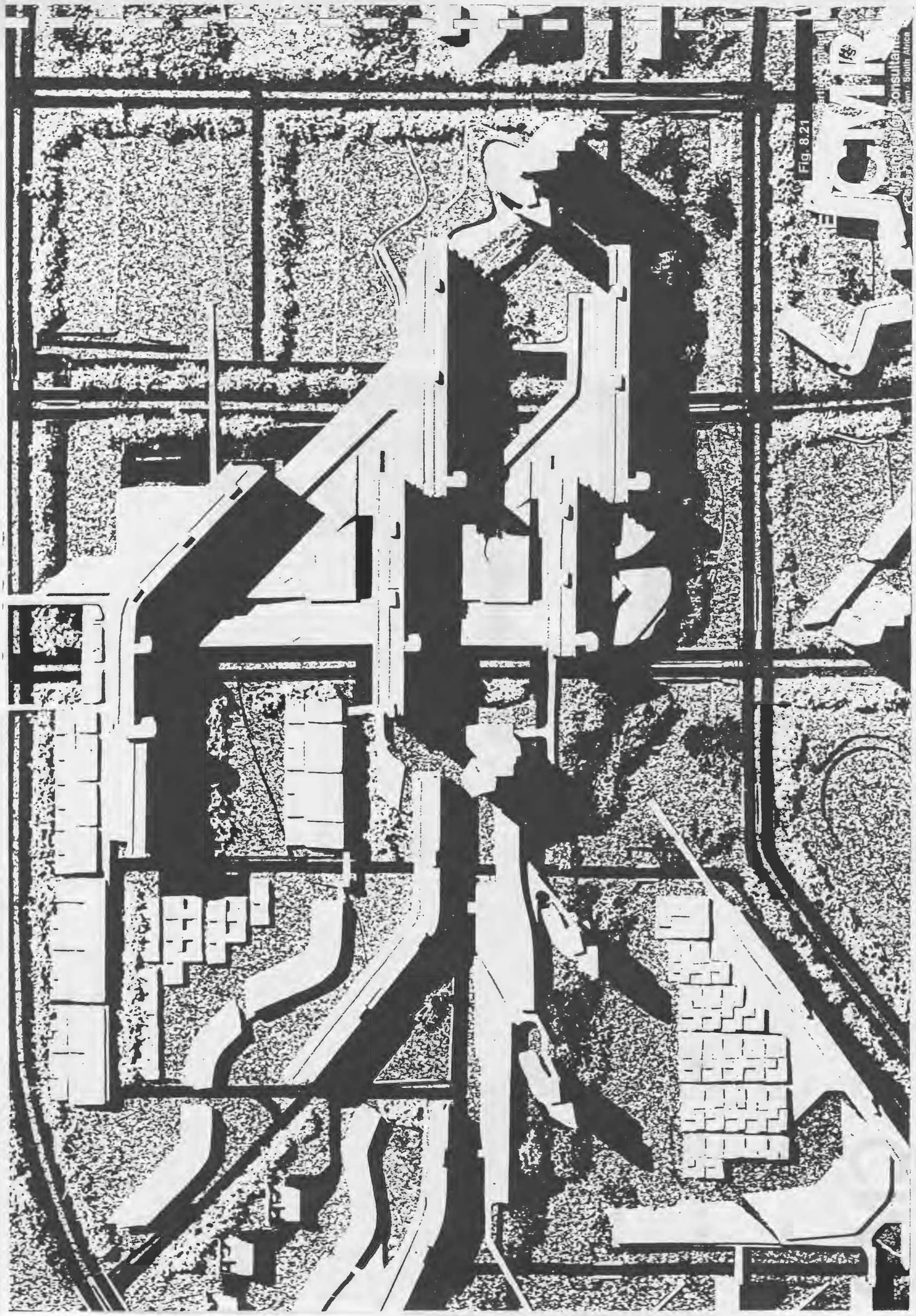
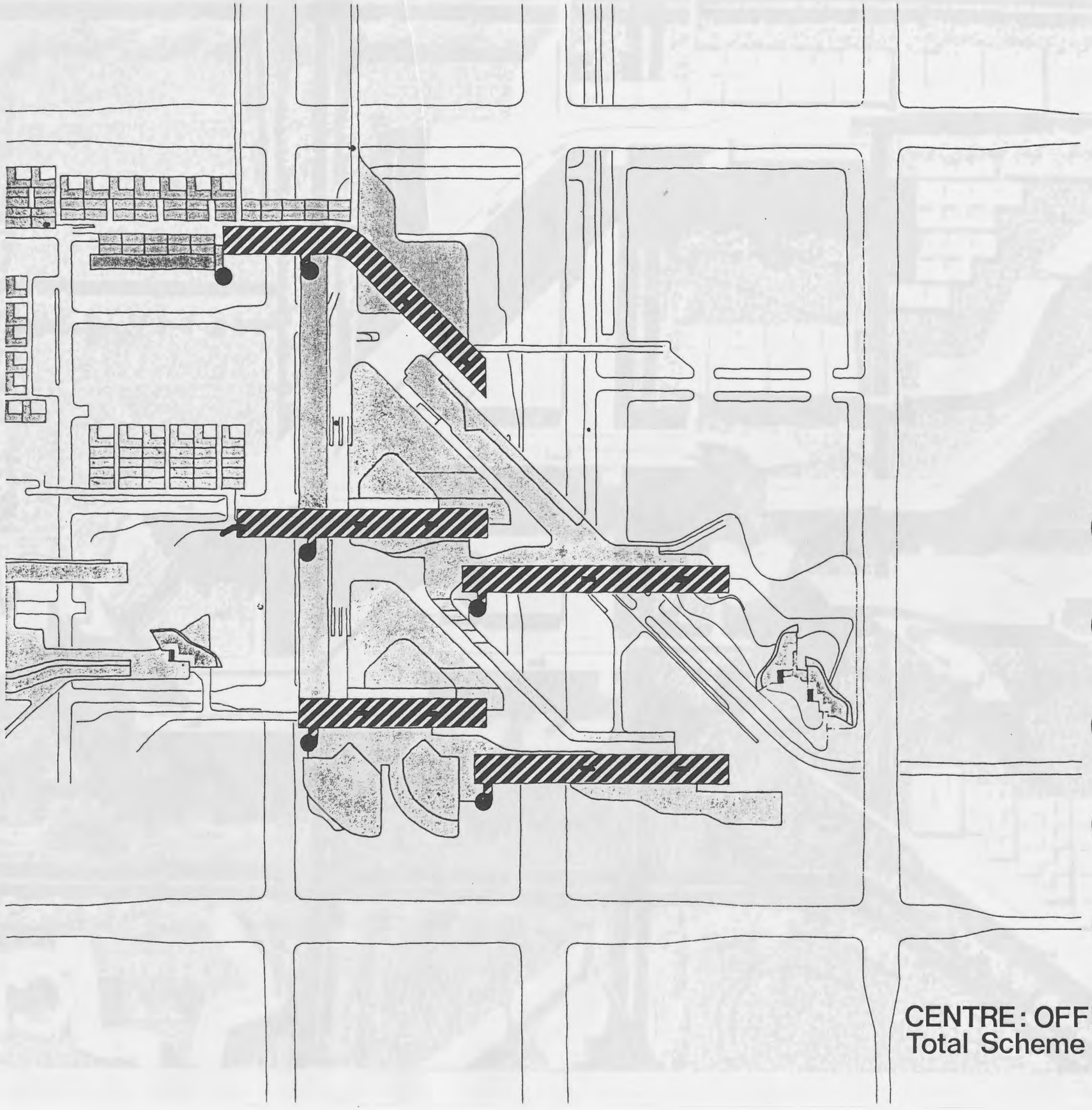


Fig. 8.21



offices
total area: 124 800 m²

apartments

service/storage

vertical accessways

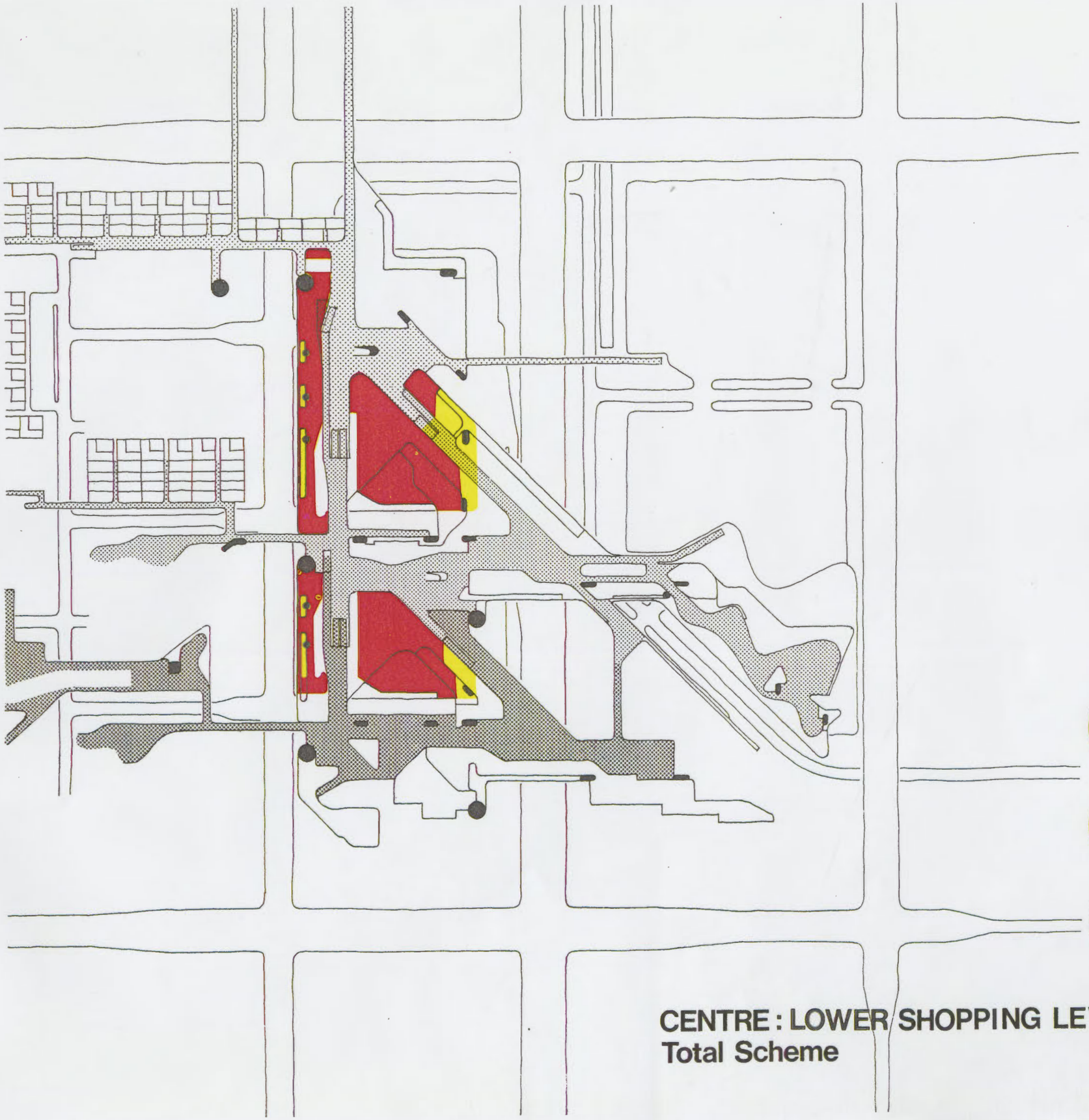
roofed areas

CENTRE: OFFICES
Total Scheme

Fig. 8.22

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shops:selling space
total area: 9350 m²

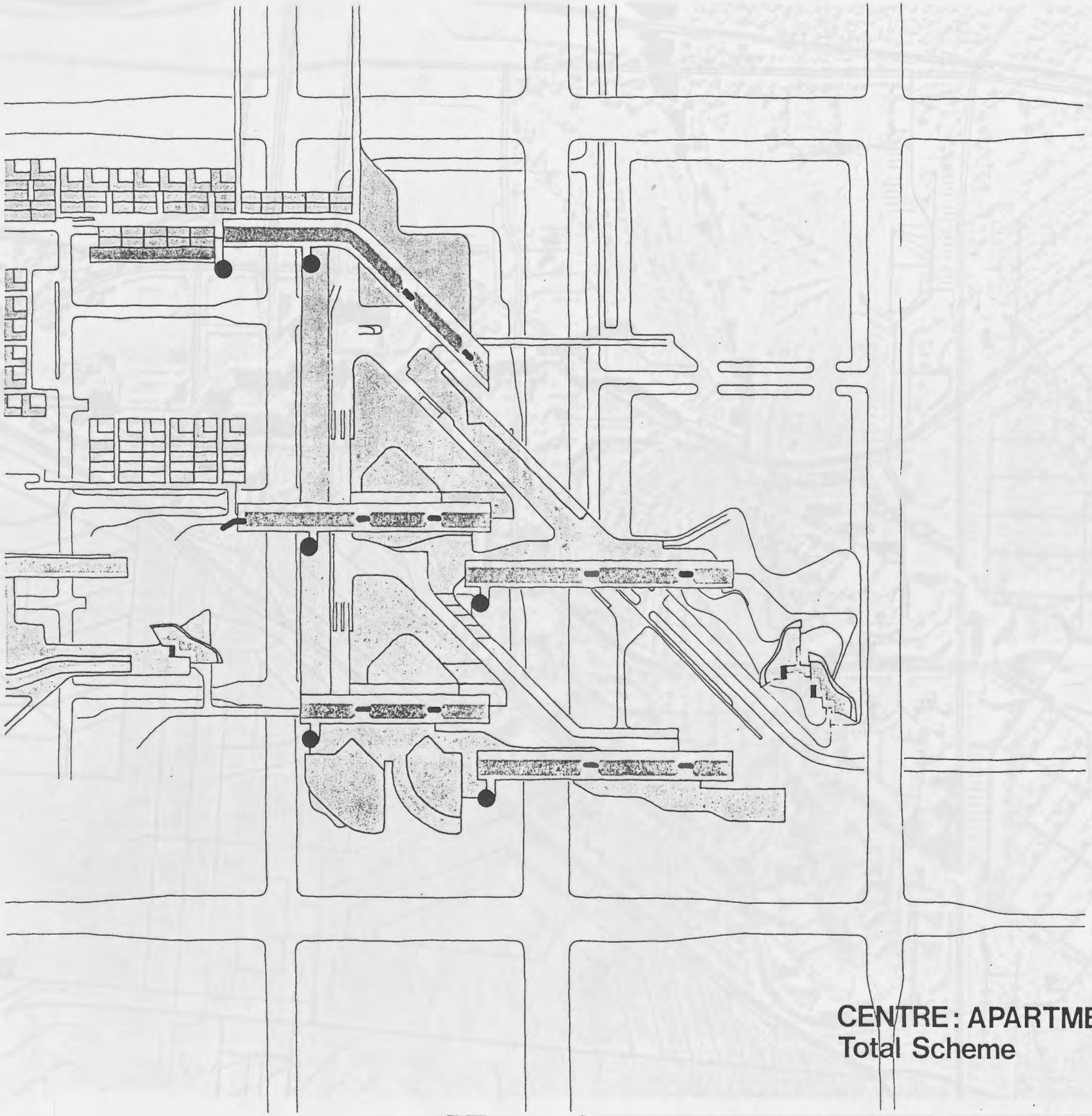
service / storage
total area: 4 082 m²

vertical accessways

Fig. 8.23

# CENTRE: LOWER SHOPPING LEVELS
## Total Scheme

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apartments

service/storage

vertical accessways

roofed areas

CENTRE: APARTMENTS
Total Scheme

Fig. 8.24

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Fig. 8.25

Previous Pages :

Figure 8.16 :
Principles of Centres
*( source : UDC (1969) )*

Figure 8.17 :
Centre : Model
*( source : UDC (1971) )*

Figure 8.18 :
Centre : north-south section looking east.
*( source : UDC (1971) )*

Figure 8.19 :
Centre : Roads and Parking.
*( source : UDC (1971) )*

Figure 8.20 :
Centre : Main Shopping Levels
*( source : UDC (1971) )*

Figure 8.21 :
Centre : Model
*( source : UDC (1971) )*

Figure 8.22 :
Centre : Offices
*( source : UDC (1971) )*

Figure 8.23 :
Centre : Lower Shopping Levels
*( source : UDC (1971) )*

Figure 8.24 :
Centre : Apartments
*( source : UDC (1971) )*

Facing Page :

Figure 8.25 :
1st Sector Model
*( source : UDC (1971) )*

community facilities and a major centre combining service, convenience and consumer goods outlets with entertainment, business and office premises as well as residential accommodation. The UDC reports describe the Ormonde centre as a unique urban complex which would be an activity focus for the entire community. UDC(1971). The centre was to be located on Crownwood Road, a major north-south arterial road, within view and easy access from Kimberley Road and at the point of convergence of the east-west parkways, which were to be the principal internal traffic arteries of Ormonde. The centre was also to incorporate a transit stop. In terms of the development form and pedestrian connections, the centre acted as a pivot for surrounding areas. It was to be the focus of structured and unstructured pedestrian routes in the eastern half of the site, and consisted of a variety of uses within a series of inter connected platforms and several medium and high rise structures.

To the north of the centre, on the other side of the northern parkway and adjacent to Theta, an area was reserved for non-manufacturing and research related industries. Adjoining this an area was set aside for special use. This location had good accessibility to the Ormonde Centre. To the south of the centre a site for a hotel was designated.

Four sub-centres were planned to serve the immediate needs of distinct residential sub-areas planned in conjunction with other community facilities such as schools, religious and service institutions, open space and recreation facilities. The largest sub-centre consisting of 200m2 of retail space was to be located in the western part of the site at the intersection of the other major city wide arterial, (Baragwanath Road) and the central east-west parkway. It was to be associated with substantial medium rise residential structures and was adjacent to the 'common' - an important element of the open space-pedestrian system.

To the south-west of the main centre, two smaller sub-centres were planned, which were similarly to be associated with other community facilities and located in relation to east-west parkways and transit stops. The centre serving the first township was to be the focus of the pedestrian network of the area and was to be marked by high rise apartments and an internal plaza. The other sub-centre was to be located off the southern parkway in relation to more intense residential development at the head of the Concordia Valley. The last of the sub-centres was situated in the north-westernmost part of the site, serving the lowest density residential development.

**8.2.1.2 Residential Development *(Fig. 8.25/8.26-31).***

The residential component was the basic land use component of Ormonde and occurred throughout most of the site in complex and multiple relationships with the components of 'habitat', such as community and commercial facilities, open space, movement and services. The concept of 'habitat' was to reflect different functional needs, distinct daily life patterns and diverse life styles of the community. *"Variety, therefore, as a result of the process of affording the greatest possible choice of living circumstances,*

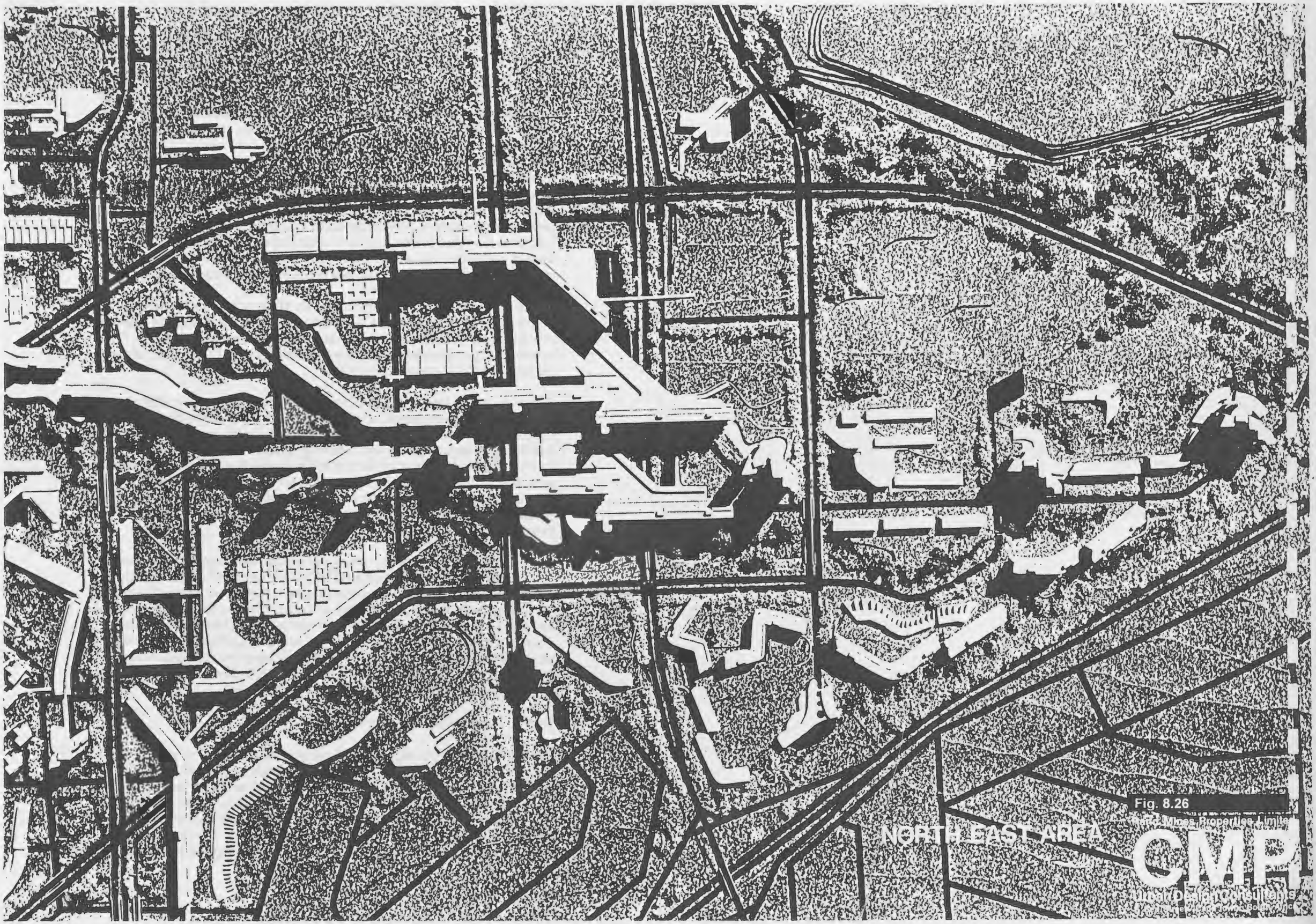



Fig. 8.26

Figure 8.26 :
Ormonde Model :North East Area
*( source : UDC (1971) )*

*characterises the residential environment." UDC(1971:10).* 'Choice' was to be provided in terms of the size and layout of the dwelling, the type of building or group of buildings of which the dwelling was a part and in terms of the immediate environment and particular relationships with other buildings, community facilities and amenities.
The 'composition and design' of different areas varied in response to a wide range of site conditions and opportunities. *"In this way and as a result of functional interrelationships between residential development and other habitat components, variety and identity of neighbourhoods at the large scale, as well as intelligibility of the whole scheme are achieved." UDC(1971:10)*

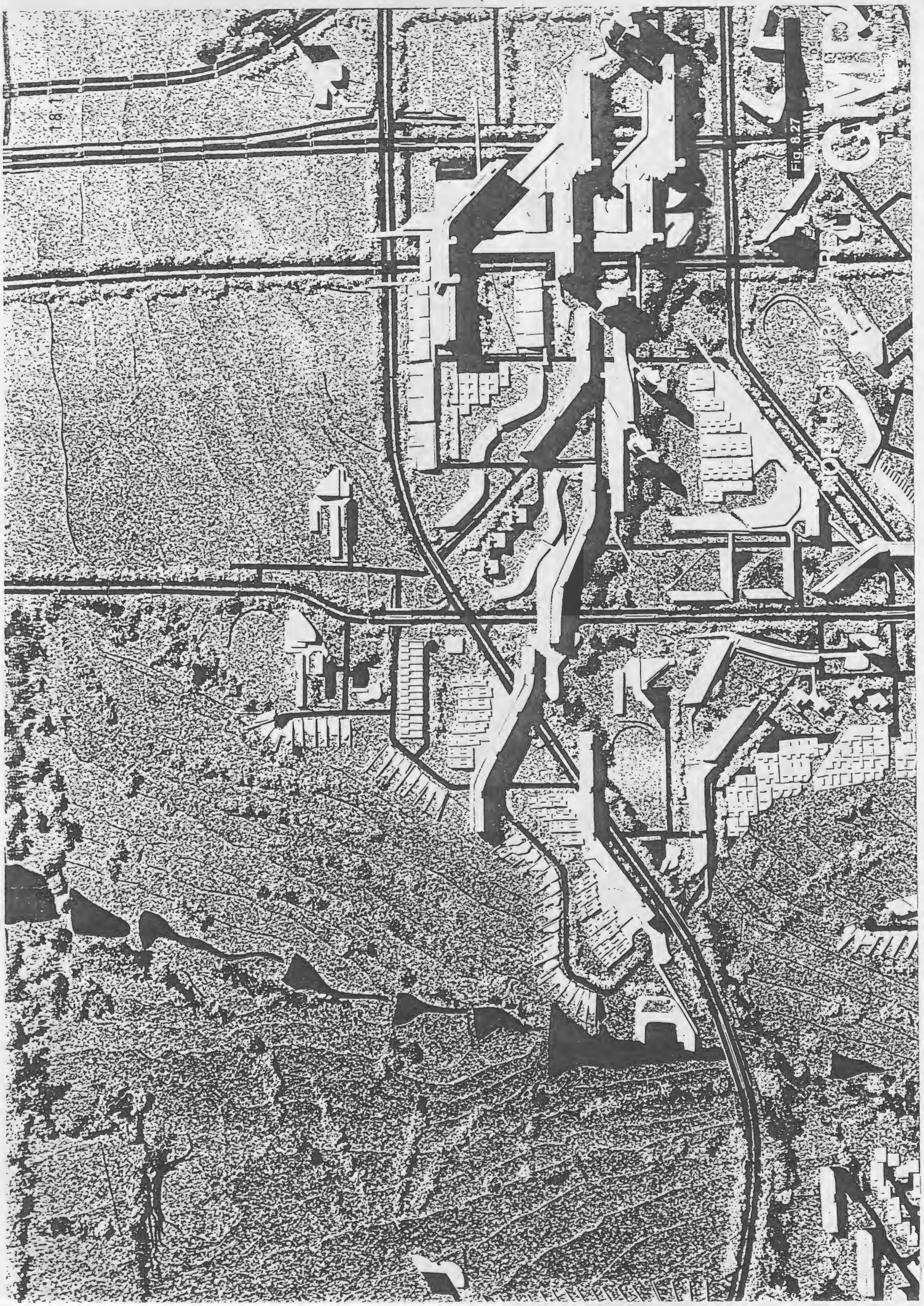
The intensity of development decreased from east to west and higher density zones were associated with the centre and sub-centres.
Density and height of buildings was not necessarily proportional and within any area low, medium and high rise structures could occur, arranged for mutual benefit in respect of privacy, orientation and view. A northern aspect was favoured for most dwellings. The valley, considered the 'genius loci' of the site, and its extensions in the form of major linear open spaces acted as the visual foci of the development. Distant views of the city possible from many parts of the site were influential in the layout of the centre and eastern zone. *"The overall pattern of development is calculated to cause an impression of unity in diversity; and to make visible the benefits of an integrally conceived system of habitat." UDC(1971:10)*

In order to present an overall picture of the residential development environment that was proposed, a sequential area by area description in conjunction with detailed photographs of the Ormonde was provided in the Terminal Report.

- Fig. 8.26 : The North Eastern Area

As part of the Ormonde Centre, residential accommodation of an essentially urban character was provided. This was to be a zone of high convenience to transportation, shopping, places of work and entertainment. The dwelling units were to be small, catering for young singles, couples without children, urbanites and the elderly. Simplex and duplex apartments were to benefit from distant views of the city and from close association to the Ormonde Centre. The concept of linking a residential component to the centre ensuring that it did not 'die' after hours was important. Residential buildings were connected to the movement structures of the centre allowing easy access to amenities as well as to other apartment buildings in the west, as well as allowing access to non-central units and to public and private open space. Green areas were to be provided between high rise structures on the roof decks of the shopping platforms, so that 'nature' would not be excluded from the centre.

To the east and immediately to the south of the centre, a relatively high density zone was planned, defined to the north by school and sports grounds, and by Kimberley Road to the east, the power line reserves on the south and


18
Fig. 8.27

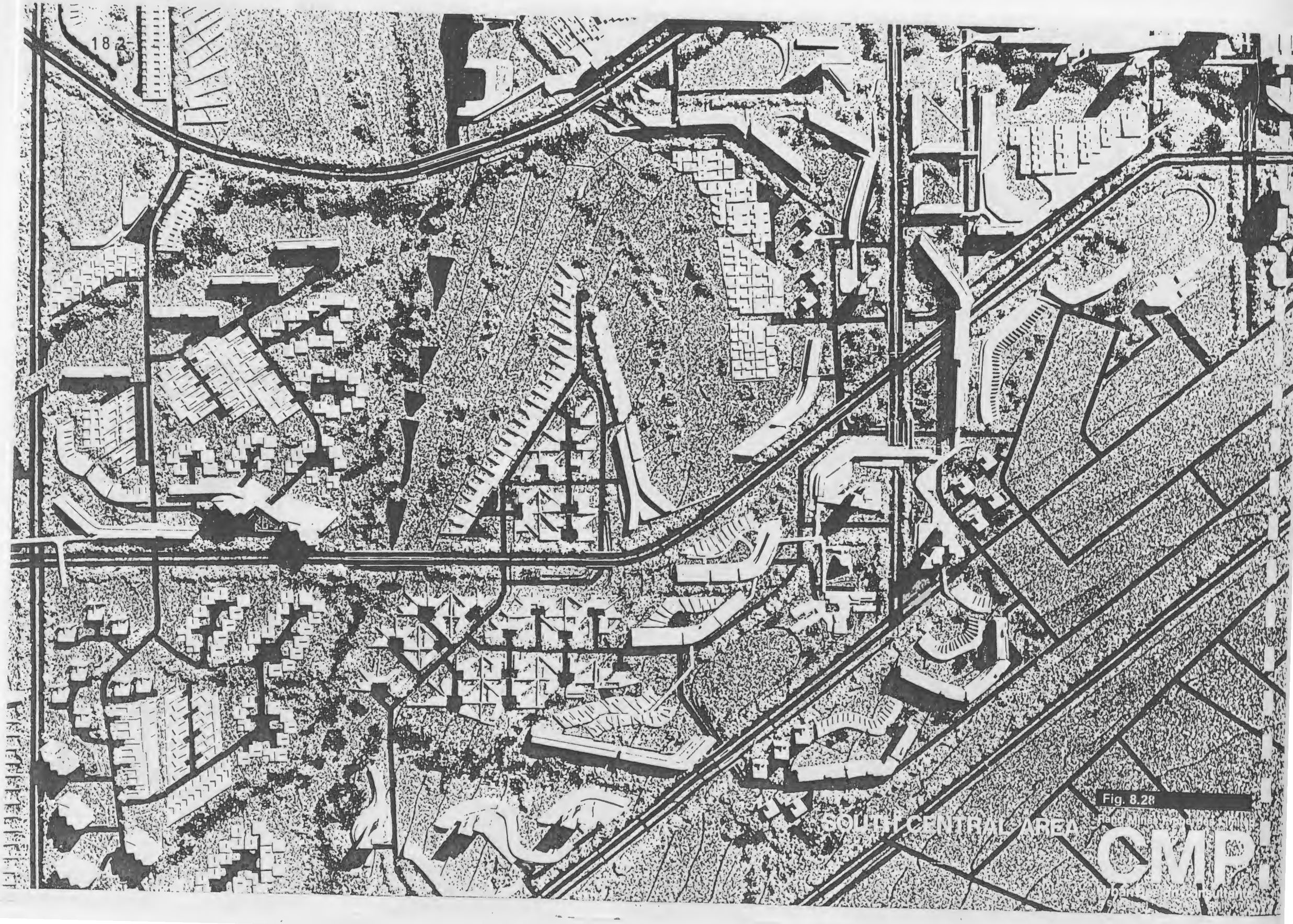


Fig. 8.28

SOUTH CENTRAL AREA

CMP

Previous Page :

Figure 8.27 :
Ormonde Model :North Central Area
*( source : UDC (1971) )*

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Figure 8.28 :
Ormonde Model : South Central Area
*( source : UDC (1971) )*

Evans Park in the west. The north frontage of the development, onto school and sports grounds, was made up of a continuous band of low rise terraces and maisonettes (two and four storeys high), punctuated by two tower clusters. Forming the edge to Kimberley Road but separated from it by a landscaped strip, a series of tall articulated buildings (six, eight and twelve storeys high) overlooked the eastern end of the mall. The articulations were to define private open spaces and lend scale to the sweep of the main roads and the mall. The land in this part of the site had a north-easterly slope and this together with the disposition of the low rise development on the other side of the mall, directed the view towards the centre of the city. Maisonette buildings occurred on both sides of Crownwood Road, those on the west facing the mall and the centre across the central parkway were complemented by a tower. The whole of this zone was tied together by a network of pedestrian ways, including underpasses and major road crossings, related to open space and linking to the centre.

- Fig 8.27 : The North Central Area

This area was one with a variety of residential building types. It was bounded by an area of 'no building' land to the north, the centre to the east, the mall to the south and the new golf course to the west. A large part of the area incorporated the mature vegetation of the northern part of the old golf course. Adjoining the centre, and directly connecting into it on shopping and residential levels, was a low rise complex of town, patio row and stepped houses which partly covered parking structures related to the centre. This was backed up by a medium rise slab, also connected at concourse level to a low linear structure with terraced houses above which served three off set towers approximately 80m apart. The landscaped deck of this linear structure formed the beginning of a route 900m long, which as part of the public level of the two medium rise slabs further west, extended from the centre to the golf course edge. Local commercial and community facilities occurred on this route, which offered views over low rise development towards the golf course and school grounds beyond. To the south and to the west, at the head of the mall, a medium rise slab was placed, turned towards the golf course, the pedestrian concourse of which started on the mall, and led to the social and recreational centre in the valley. Villas lined the edge of the new golf course.

- Fig 8.28 : The South Central Area

The southern edge of the mall was formed by a low rise development of a relatively high density, which was made up of patio and stepped houses, four storey court and maisonette buildings and some cluster apartments.
The low rise complex was designed to benefit from and contribute to the mall as a visual, environmental and recreational resource. The elements of the open space system as well as the community facilities were conceived in relation to the mall. The taller buildings; medium rise slabs and a tower, further up the contour were also orientated towards to the mall. The easternmost of these, parallel to the central parkway, incorporated the beginning of a structured pedestrian route which extended from the mall in




Fig. 8.29

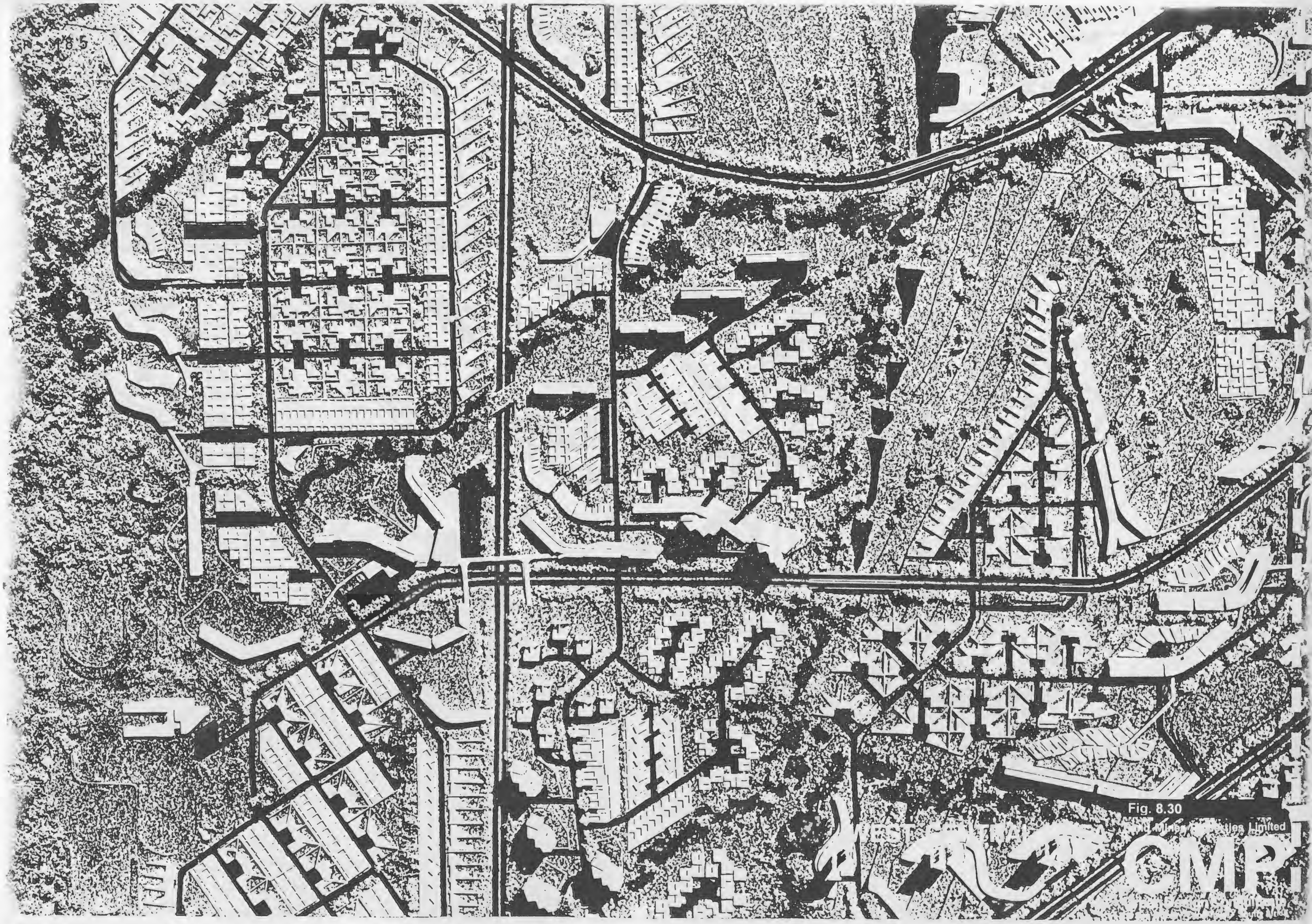


Fig. 8.30

Previous Page :

Figure 8.29 :
Ormonde Model : South West Area
*( source : UDC (1971) )*

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Figure 8.30
Ormonde Model : West Central Area
*( source : UDC (1971) )*

the centre through another medium rise building across the parkway to a part of the development associated with the first township and the western edge of Evans Park.

The first township included a representative cross section of development types, from low rise/low density to high rise/high density residential and included a commercial sub-centre. The neighbourhood open space system, recreation facilities and the provisions of the movement network all represented proto-typical situations in terms of the project as a whole.

- Fig 8.29 : The South West Area

The southernmost development of Ormonde related to the head of the Concordia Valley and represented a particular response to the unique site conditions and opportunities. It was one of the areas with the greatest potential residential amenity, with contact with the valley, the steepest slopes of the site, established vegetation, unobstructed views northwards and good accessibility. The north-eastern section which overlooked the valley and the open 'reach' space of the Rand Water Board Reserve was planned as an open area of terraces fitted into the hillside with widely spaced towers. At the head of the valley, stepped houses formed a wide amphitheatre with its upper perimeter defined by medium rise slabs. These short blocks were disposed of in a fan like pattern to avoid the effect of a wall and to present interesting visual juxtapositions when seen from the valley. The north-easternmost of these buildings carried the local network of structured pedestrian ways over the southern parkway to the sub-centre, served by a transit stop. On the north-west slopes an interconnected group of low-rise apartments was planned which allowed a transition between the public space of the valley and the private garden courts of the buildings. This development area was bounded on the north by another major open space extension of the valley, termed the 'reach'. Associated with it were two complexes of grouped houses, the garden spaces of which merged with the public green.

- Fig 8.30 : The West Central Area

This section closely connected to the valley was situated on the western slopes opposite the first township. A large proportion of houses were provided, although points of intensive development indicated that this area had a high degree of convenience, good accessibility and could sustain a large population without loss of amenity. The southernmost portion between the central parkway, the valley and a wide planting area on Baragwanath Road consisted of four towers on the high contours, several cluster apartments and low rise town and grouped houses stretching down into the valley. In the northern position, the development reflected the variety of conditions and opportunities which informed the design. Parallel to the central parkway, at the convergence of neighbourhood pedestrian routes, a north facing medium rise building was placed. A pedestrian link to the sub-centre across Baragwanath Road was provided from the public level of this building. Row houses and terraces relating to the two towers stepped down the

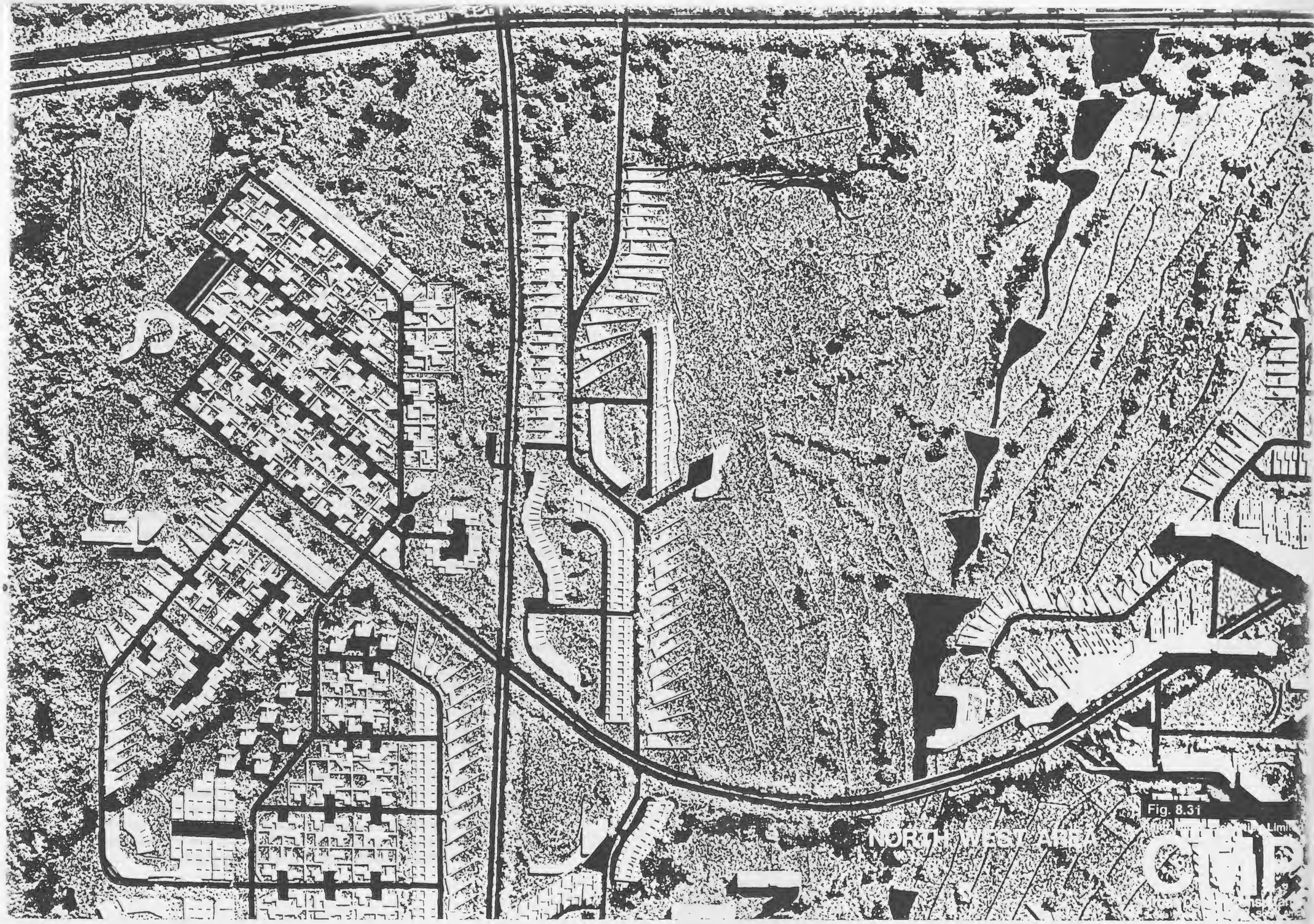



Fig. 8.31

Figure 8.31 :
Ormonde Model : North West Area
*( source : UDC (1971) )*

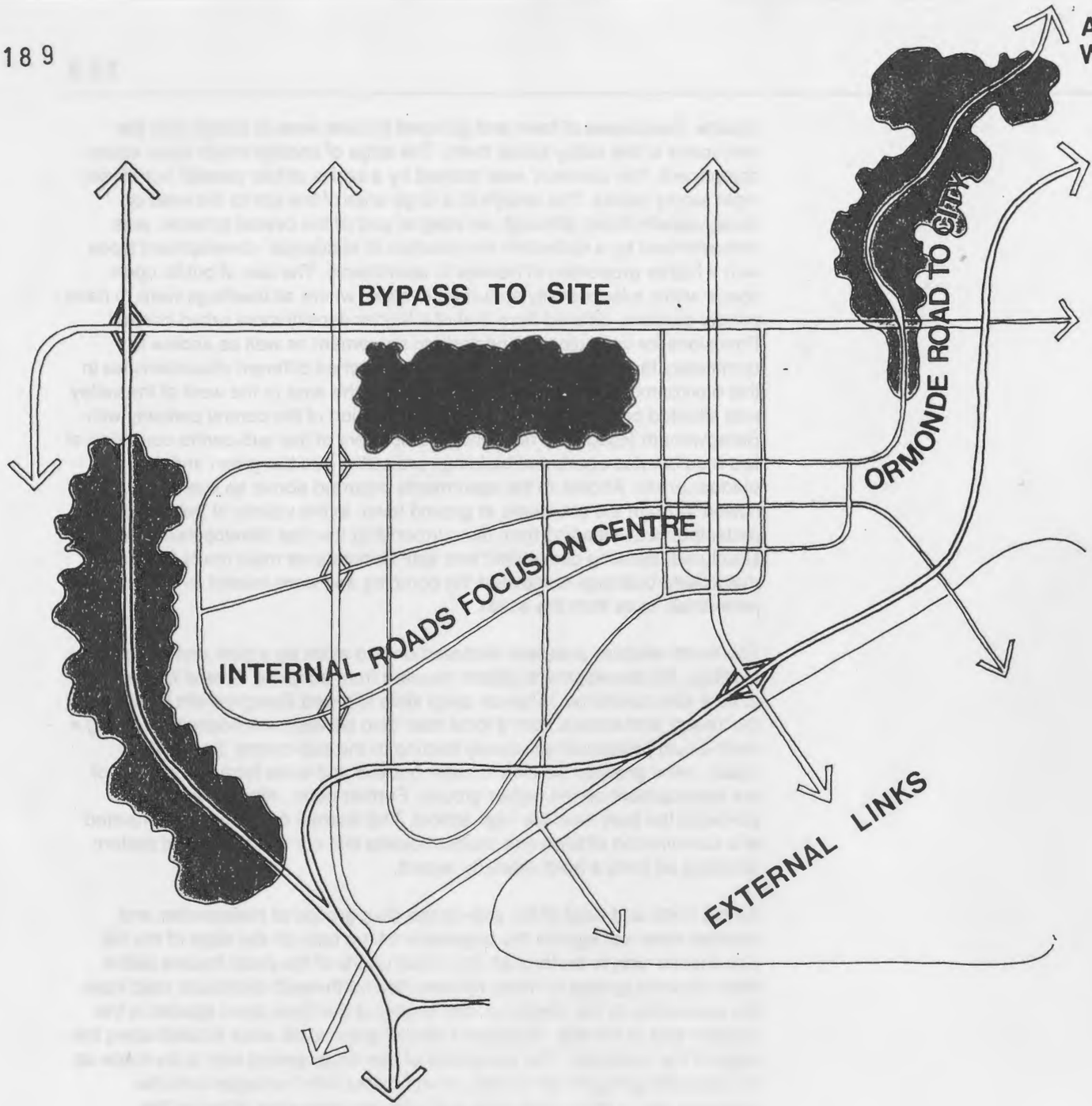
hillside. Complexes of town and grouped houses were to merge with the landscape of the valley below them. The edge of another major open space component, 'the common' was marked by a series of four parallel but off-set eight storey blocks. The design of a large area of the site to the west of Baragwanath Road, although an integral part of the overall scheme, was characterised by a distinctive composition of residential development types with a higher proportion of houses to apartments. The use of public open space within a low density suburban context, where all dwellings were to have private gardens, differed from that of a higher density more urban context. Provisions for vehicular and pedestrian movement as well as access to community facilities and other amenities assumed different characteristics in this environment. A large sub-centre serving the area to the west of the valley was situated on the 'common' at the intersection of the central parkway with Baragwanath Road. The residential component of this sub-centre consisted of two medium rise apartment buildings projecting into the green and defining outdoor areas. Access to the apartments occurred above so that public space flowed through the structures at ground level. In the vicinity of the sub-centre, pedestrian ways leading from the surrounding low rise developments were structured, allowing convenient and safe access over main roads. Two maisonette buildings completed the complex and were related to the pedestrian route from the south.

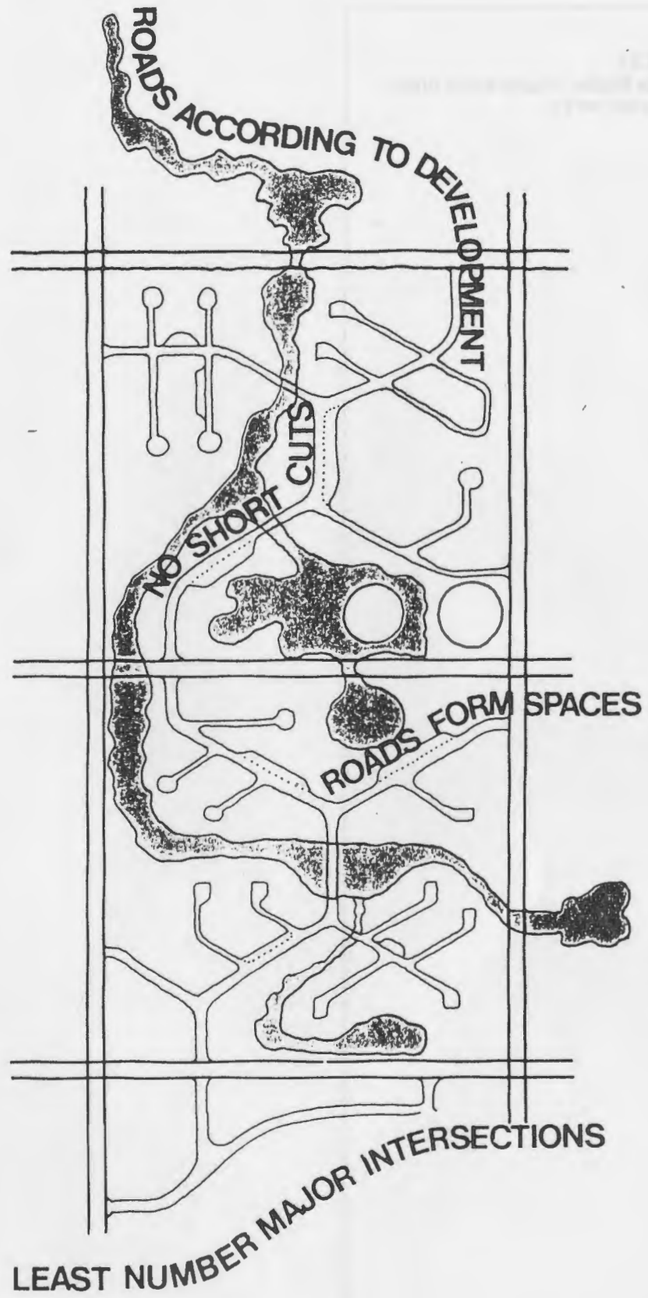
The south western area was enclosed on two sides by a park and recreation facilities, the development pattern resulted from adapting several house types to their site conditions. Villas on deep sites followed Baragwanath Road up to the 'reach' and access from a local road also served town houses bordering a north-south pedestrian greenway leading to the sub-centre. South of the 'reach' were grouped houses. Cluster houses and villas formed the edge of the development on the higher ground. Further north, villas on large sites bordered the park near the high school. The internal development consisted of a combination of town and cluster houses laid out in a single grid pattern affording all units a north easterly aspect.

To the north and west of the sub-centre, four groups of maisonettes and terraces were set against the vegetation of the park on the ridge of the hill. Car access was to be through the motor courts of the patio houses below them. Several groups of these followed the north-south distributor road from the sub-centre to the 'meadow', the largest of the three open spaces in the western part of the site. Staggered cluster apartments were located along the edge of the 'meadow'. The remainder of the development was to be made up of villas with grouped car access, town houses with frontages onto the 'common' and a green park strip and villas on large sites following the alignment of Baragwanath Road.

- Fig 8.31 The North West Area

The residential development in the north western corner of the site consisted entirely of houses and was enclosed by large open spaces, traversed by park strips allowing pedestrian movement. Non-residential uses; a primary school,




## PRINCIPLES OF MOVEMENT

Fig. 8.32

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Figure 8.32 :
Principles of Movement.
*( source : UDC (1969) )*

Figure 8.33 :
Vehicular Movement
*( source : UDC (1971) )*

Figure 8.34 :
Vehicular Movement
*( source : UDC (1971) )*

Figure 8.35 :
Pedestrian Movement
*( source : UDC (1971) )*

Figure 8.36 :
Pedestrian Movement
*( source : UDC (1971) )*

Figure 8.37 :
Ormonde Vehicular and Pedestrian Movement Diagrams compared with the Smithson's Hierarchy diagram and Built Pedestrian System as proposed in Candilis, Josic and Woods Toulouse le Mirail Project in 1961.
*( source : UDC (1971), Newman (1961.68). Joedicke (1968,188) )*

Figure 8.38 :
Ray Affleck and Partners :Place Bonaventure Montreal (1962-6)
*( source : Jencks (1985.303) )*
Sixties precedent in terms of built-in movement structures.

Figure 8.39
Smithsons : Sheffield University Project (1953)
*( source : Smithsons (1967.47)*
Patterns of pedestrian movement are the key to the architectural organisation of the buildings.

sports complex and a shopping sub-centre were related to the extension of the northern parkway. To the north and south of this road, north east facing blocks of sites for villas were planned as the predominant housing types in this area. Townhouses with narrow frontages faced open landscaped areas. Some large villa sites were placed in different positions on the periphery of the development. The last residential area described related to the golf course. Two storey row houses on the high ground alongside Baragwanath Road protected by a planting border fronted onto a pedestrian green space overlooked single storey town houses and villas towards the valley. Large villa sites were to have frontages directly onto the golf course and further north nearer the centre of the area, a maisonette block was set back from townhouses fronting directly onto the golf course. More large sites were planned further north extending up to the park running along the boundary of the site. The main pedestrian route followed the road, traversing the open space in front of the row houses and the parkway by means of an underpass connecting to the primary school. Two groups of town houses were placed between the school and the common. The common merged with the valley and the valley merged with the mall extending the community open space network eastwards to the opposite end of the development.

### 8.2.1.3 Movement Systems *(Fig. 8.32)*

The Ormonde Movement System was planned for efficient external and internal access. It included provisions for vehicular traffic, pedestrian circulation and transit. External connections were determined by existing facilities and by proposed improvements to the city's arterial system. Internal connections were a result of the access requirements of the development and site constraints.

- External Connections :

The two most important external vehicular connections were to be provided by the major north south arterials which traversed the site; Crownwood Road in the east and Baragwanath Road in the west. Crownwood Road was connected southwards to Kimberley Road on the boundary of the site.

- Internal Roads :

The vehicular movement system was planned hierarchically to provide a range of service levels. Four road types were proposed :

Parkways carrying heavy traffic loads at high speeds. Their primary function was to provide external access and connect broad areas of development.
Local Distributor Roads whose primary function was to distribute traffic to local roads. They were connected to parkways and because they were continuous, they acted as linkages between development areas.
Local Roads served adjacent developments directly and were not necessarily continuous.




# VEHICULAR MOVEMENT

Fig. 8.33

192

development roads & parking

single-carriageway roads

major single-carriageway roads

parkways & major roads

rapid transit route

N

Fig. 8.34

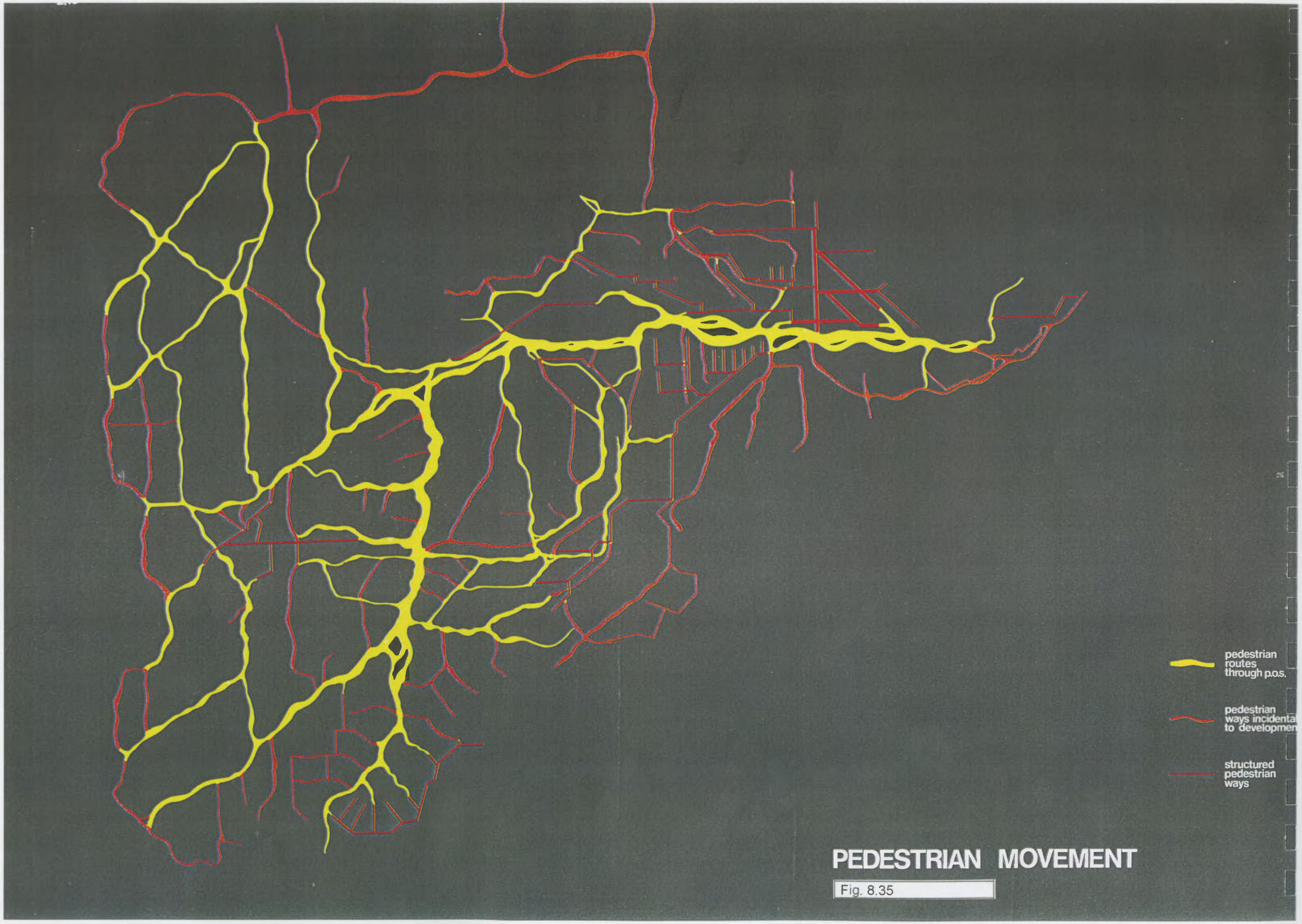
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# VEHICULAR MOVEMENT

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**PEDESTRIAN MOVEMENT**

Fig. 8.35

pedestrian routes through p.o.s.

pedestrian ways incidental to development

structured pedestrian ways

N

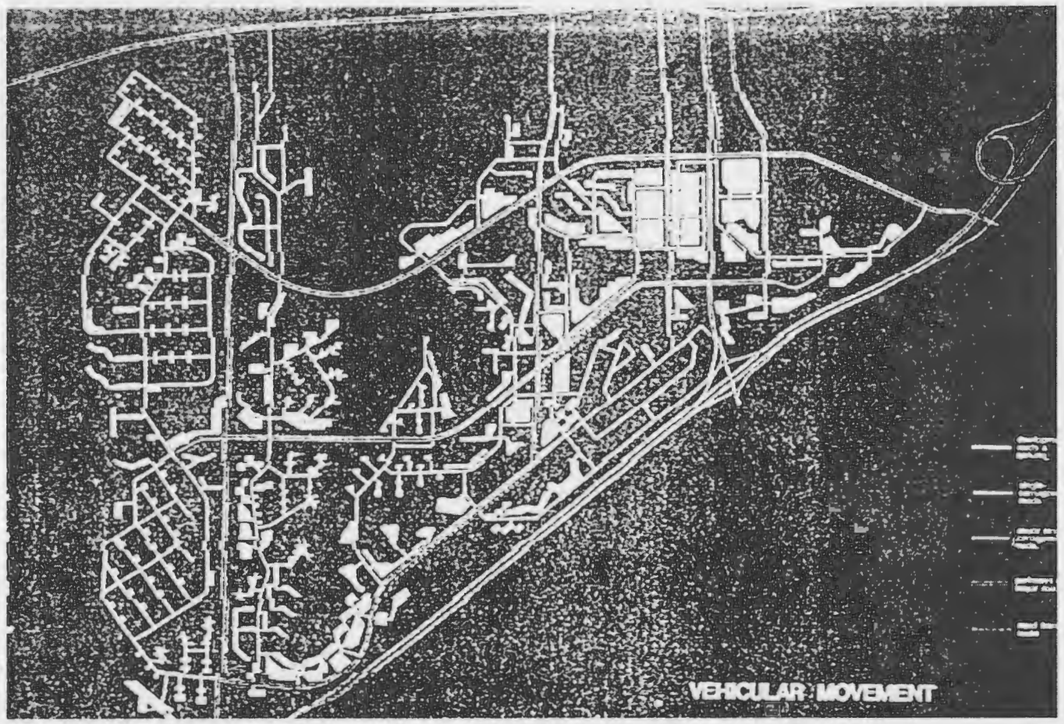
Fig. 8.36

# PEDESTRIAN MOVEMENT

0 ½ mile
0 1 km

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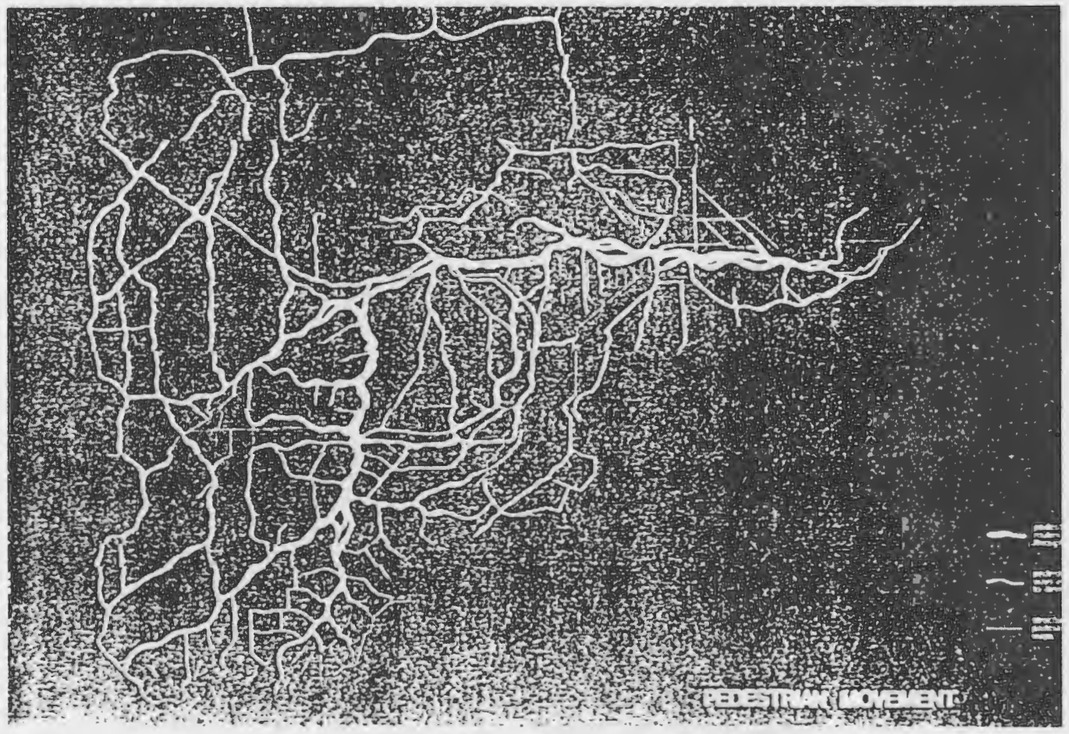
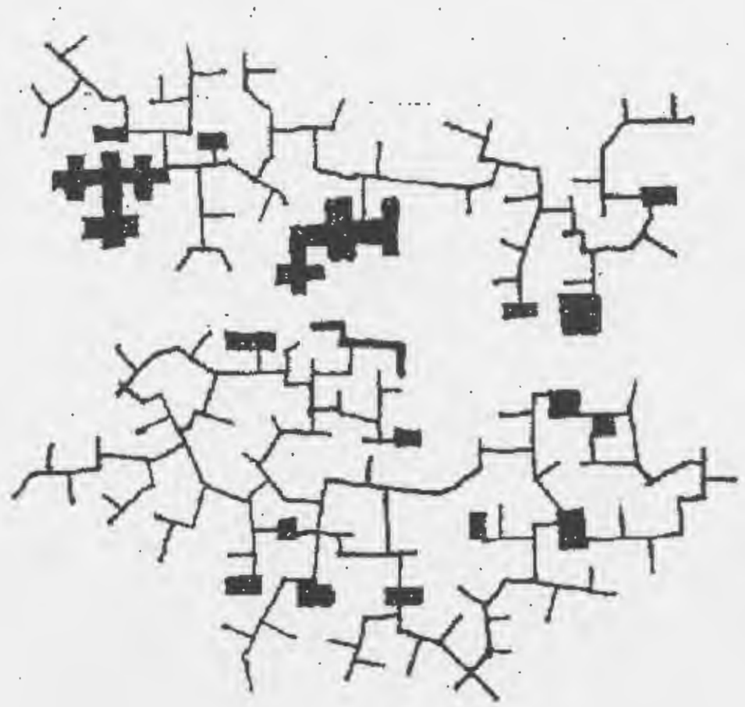




Fig. 8 37



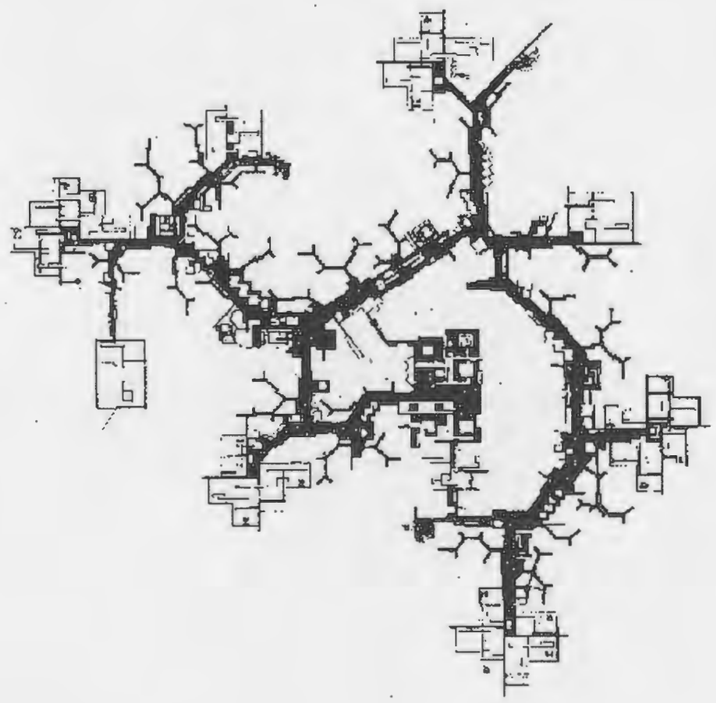
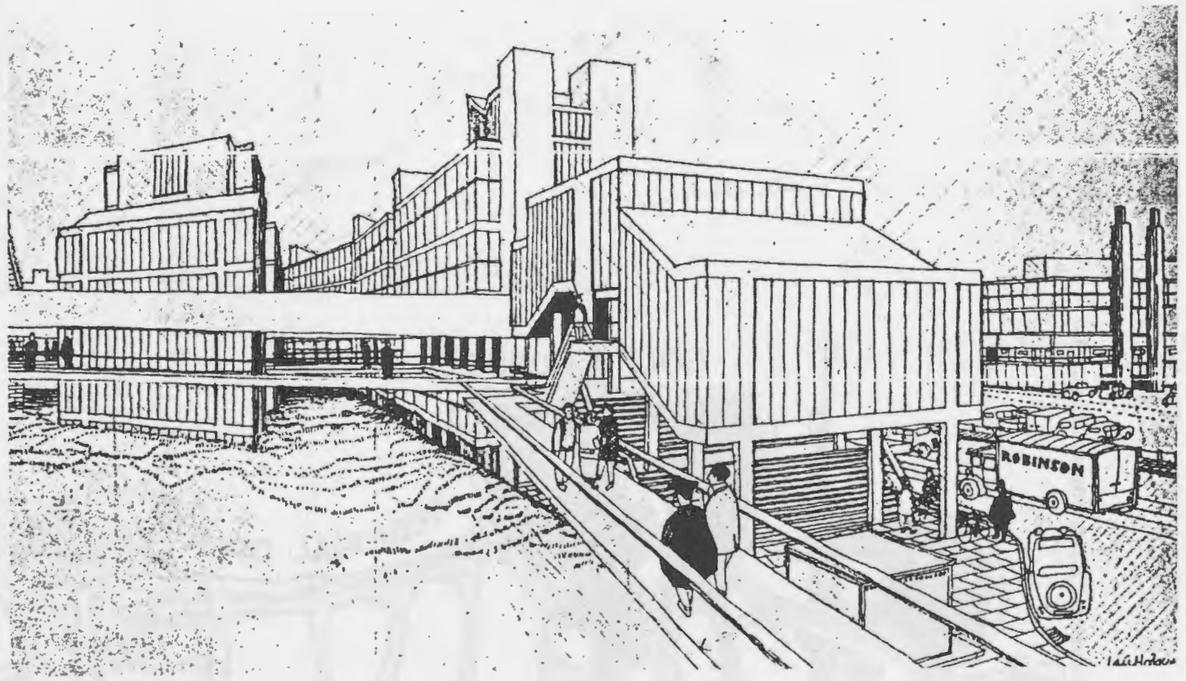





Fig. 8.38



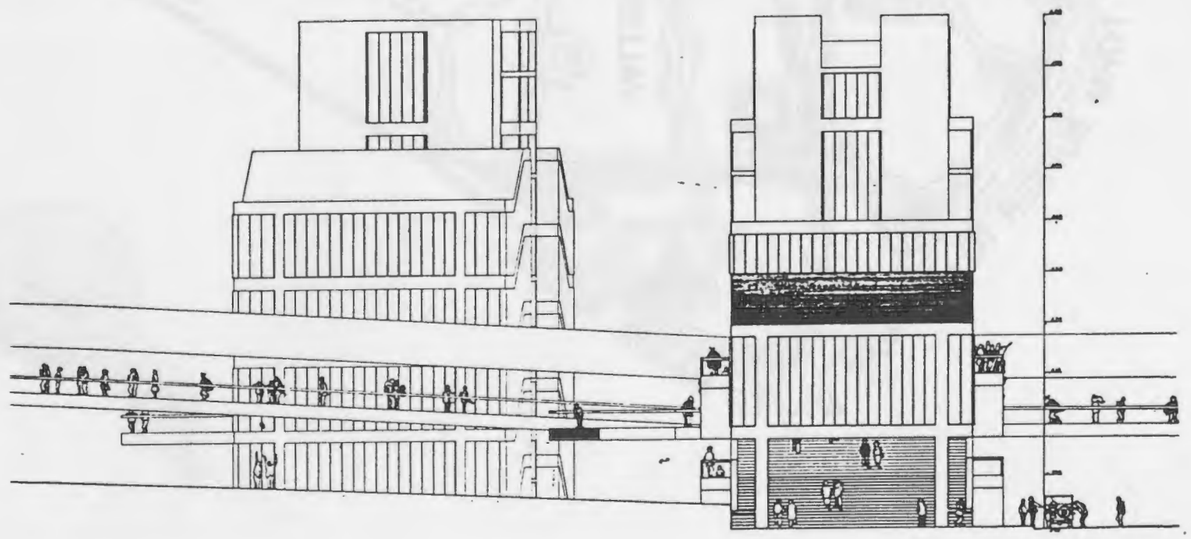



Fig. 8.39

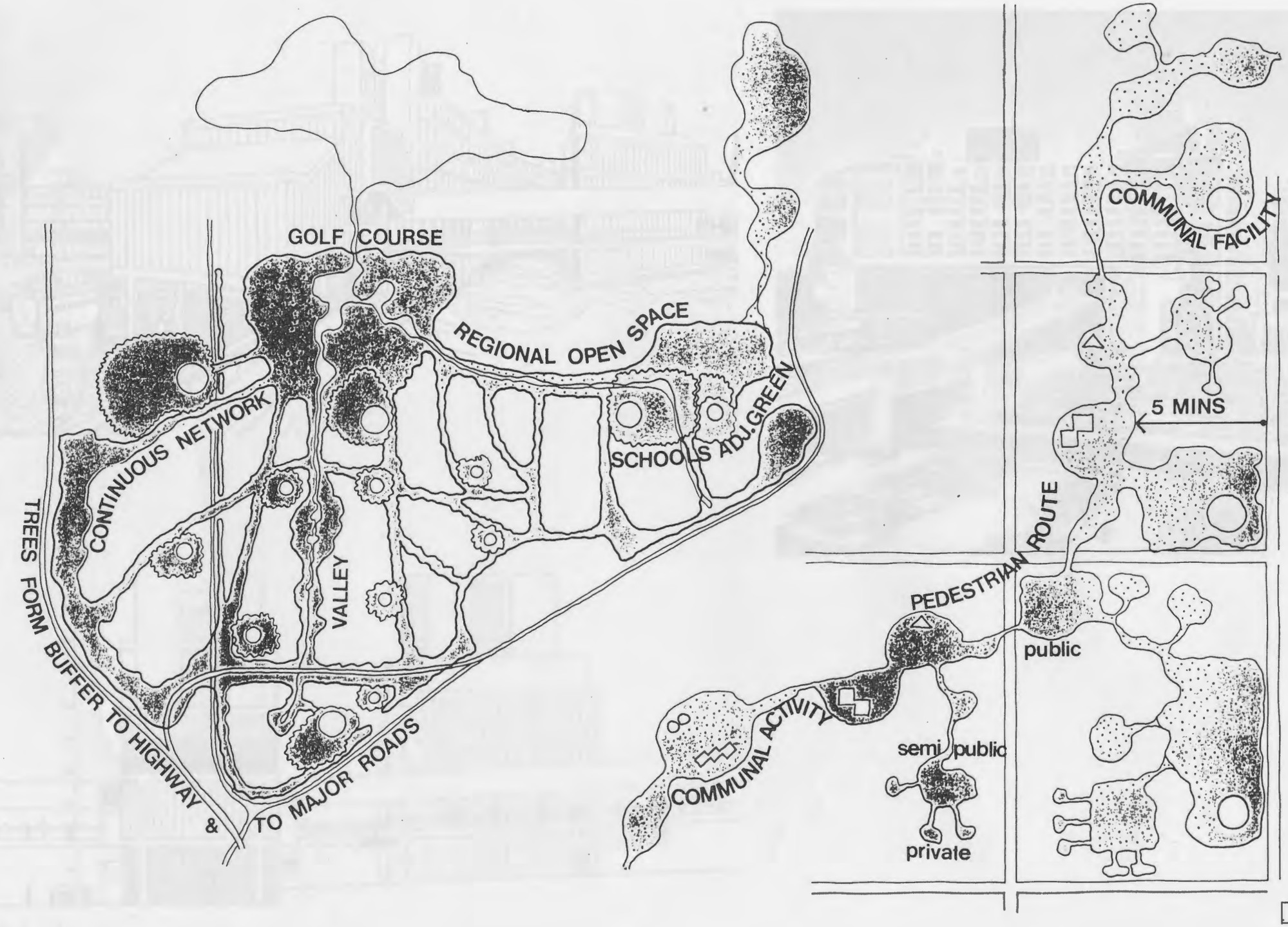



Fig. 8.40

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## PRINCIPLES OF OPEN SPACE

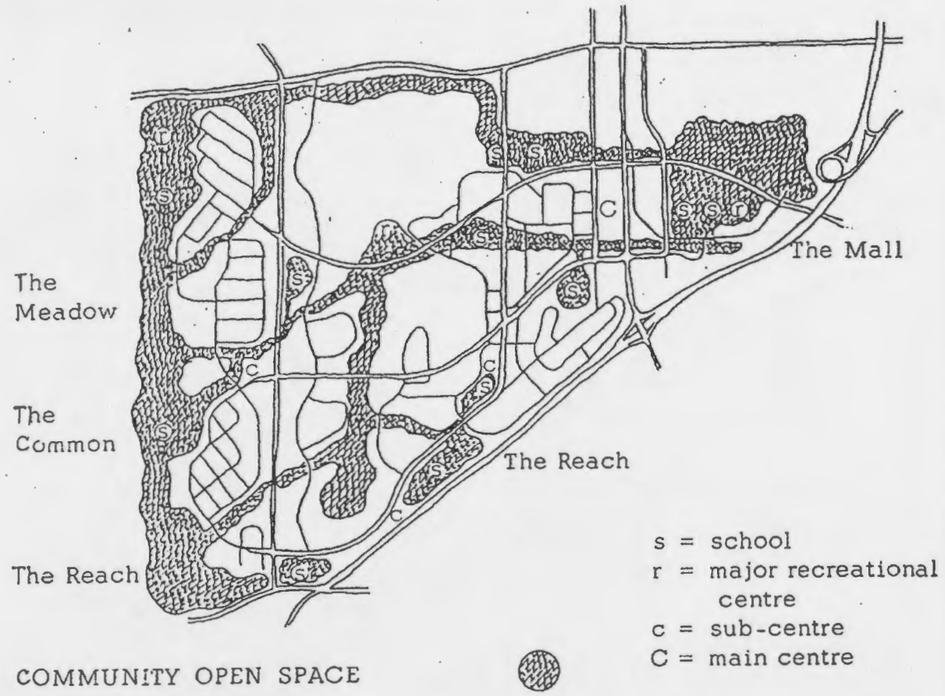



Figure 8.40 : Principles of Open Space
*( source : UDC (1969) )*




Figure 8.41 : Community Open Space Neighbourhood Open Space
*( source : UDC (1969) )*

Development Roads were contained within properties and formed an integral part of development. They were generally related to parking and service and often occurred within structures.

The internal movement system of Ormonde together with the open space system formed what was termed the *"design infrastructure" UDC(1971:14)* of the scheme.

The parkways together with the major arterials Crownwood Road and Baragwanath Road as well as Booysens Reserve Road formed a large scale irregular grid over the site. The grid was warped to fit the configuration and the topography of the site and to correspond to the intensity of the development which decreased from east to west. The road layout determined the form of the development to a large extent, particularly in areas where houses requiring frequent access occurred. In higher density zones with infrequent access points, the layout of local roads was subservient to the form of the development. In different contexts and in relation to different building types, local roads assumed the form of urban streets, loops, crescents, cul-de-sac lanes, courts etc. *(Fig. 33/34)*

- Pedestrian Movement *(Fig. 35-39)*

The pedestrian network was designed as an integral part of the residential environment. Three types of pedestrian ways were differentiated in the plan : those within public open space, those incidental to the layout of buildings and roads and those carried by special structures or part of other structures.

The most extensive part of the structured network allowing protected pedestrian movement uninterrupted by road crossings or other obstructions, occurred in the vicinity of the Ormonde Centre. This formed an extension of the pedestrian spaces of the shopping, entertainment, business and residential complex. A major route, approximately 900m in length, linked the public levels of medium and high rise apartment buildings, following the northern edge of the mall from the centre to the golf course. Pedestrian ways through public open space assumed a variety of forms, depending on the nature and character of the spaces they formed part of and the movement function they served.

- Transit

The overall plan included provision for a transit link from the centre of Johannesburg to Ormonde and other destinations further south. The alignment and profile of the planned route made it suitable for either an express bus or rail system. The route entered the site from the north on grade, ran parallel to Crownwood Road, crossed the centre diagonally at basement level and emerged to the south of the central parkway on grade. Three stops were envisaged approximately 1km apart, corresponding to the Ormonde Centre and two sub-centres. All three locations were at the confluence of vehicular and pedestrian movement channels.

major
open space

neighbourhood
open space

recreation

school
play grounds

community
facilities
churches; institutions;
museums; centres;
recreation; schools

N

Fig. 8.42

# OPEN SPACE & COMMUNITY FACILITIES

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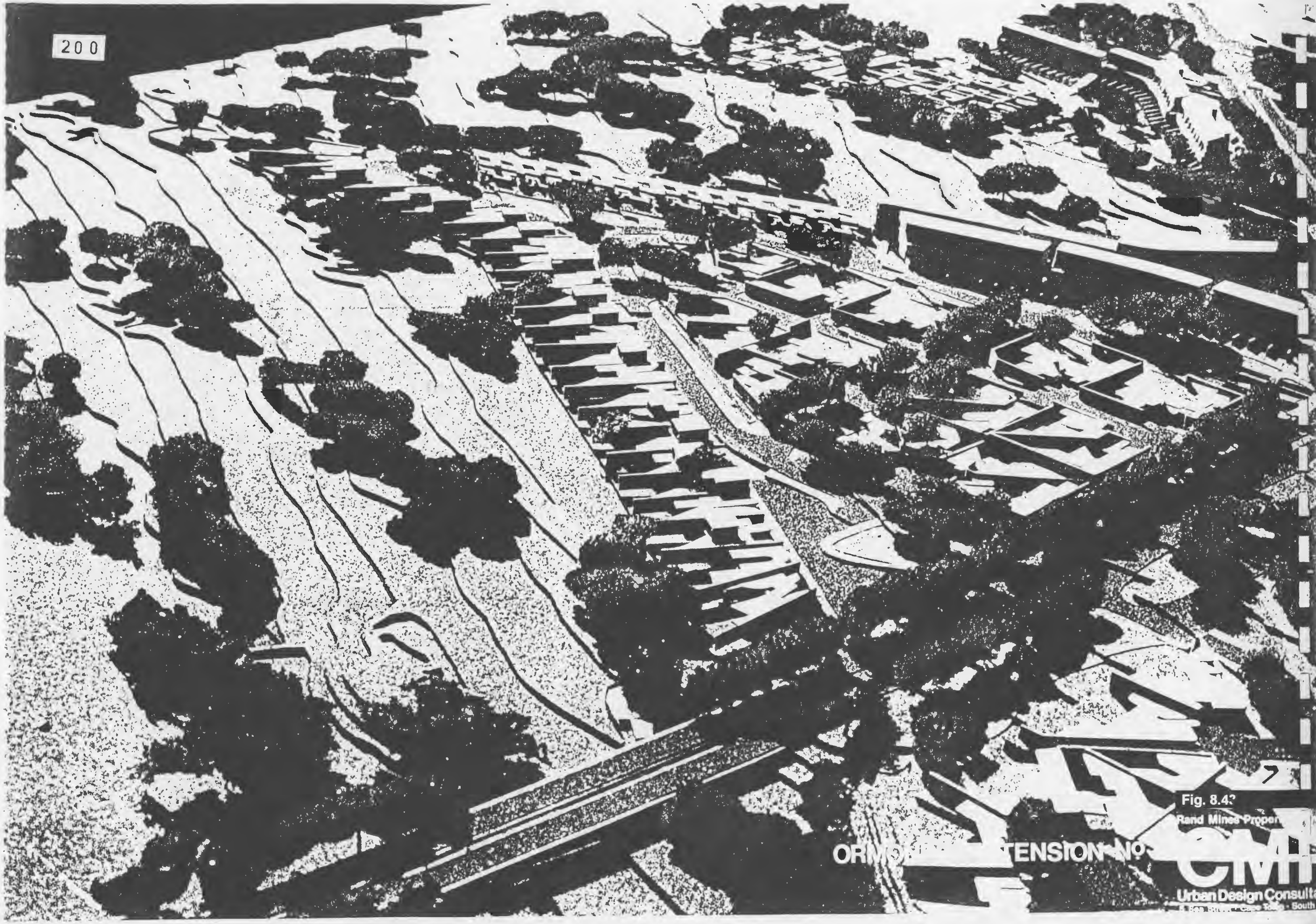



Fig. 8.4?
Rand Mines Proper

Previous Page :

Figure 8.42 :
Open Space and Community Facilities
*( source : UDC (1971) )*

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Figure 8.43
Model Ormonde Ext. No 1
Figure 8.
*( source : UDC (1971) )*

### 8.2.1.4 The Open Space System (Fig. 8.40-42)

The open space system together with the movement system acted as a primary element of the urban design framework of the scheme. The provision of the two systems constituted the most permanent and inflexible part of the plan, whereas the design of the developments was seen to be flexible. Public open space was seen as the most important environmental 'image maker'. Ormonde was seen to have several good natural amenities : the Concordia Valley and stream, the mature landscape of the old Crown Mines golf course, the wooded areas, the northerly sloping terrain and the prospect towards the centre of Johannesburg.

Several important functions were associated with the open space framework including recreation and certain community facilities. Open space was to fulfil a number of visual ordering functions with major components of the system used as visual foci for the development. The large linear open spaces were aligned to allow long views to the centre of Johannesburg and to the west of Ormonde. Public space was used to ensure visual and functional continuity between developments. Immediately accessible green open areas were seen as a necessity in a relatively high density residential area.

A hierarchy of open space components was distinguished in the plan : community open space, neighbourhood open space, development open space and private open space. These components were discussed in detail in the Landscape Planning and Design Report of March 1971[4].

The central spine of the open space structure and the visual focus of the whole development was the Concordia Valley lying in a north south direction. To the north of the public area of the valley the golf course, built on low lying land, acted as a visual extension of the space. To the south, the valley widened forming a natural amphitheatre accentuated by stepped housing. From the valley a series of large linear spaces extended laterally to the ridge of the hill on the west, (the reach, the common and the meadow), and to the centre (the mall) and the highest point of the site (the reach) in the east. *(Fig. 8.41)* Connecting the western extensions of the valley along the ridge, a linear park stretched from the southern most portion of the site to the Soweto highway and continued eastwards forming a buffer along the Booysens Reserve Road, finally connecting to the proposed Mining Museum and sports complex at the opposite end of the site. Community open space formed a complementary pattern across the parkway grid. The neighbourhood open space connected residential areas to the primary structure.

## 8.3 Ormonde : The Conceptual Approach.

Several key concepts can be extracted from the documents and are important in the analysis of the project, particularly in terms of the process and methodology of Ormonde.

[4] This report was prepared by Richard K. Untermann Landscape Architect in association with and assisted by the Urban Design Consultants Team.

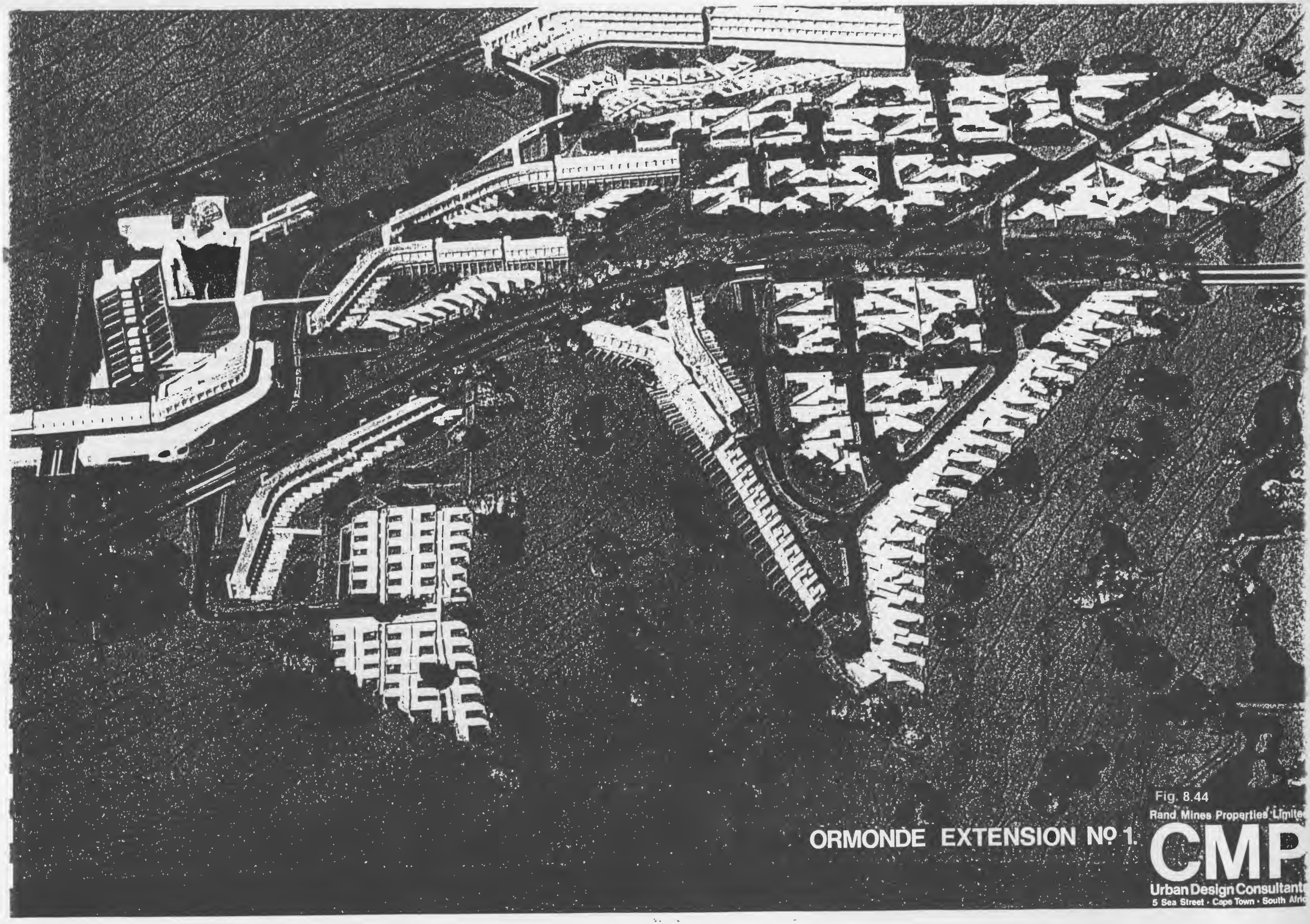



Fig. 8.44
Rand Mines Properties Limite

Figure 8.44 :
Model Ormonde Ext. No 1
*( source : UDC (1971) )*

The concept of habitat and 'total environment' form a central part of the argument. The premise that 'habitat' should reflect different functional needs and that variety should characterise the residential development, is an attempt to build into the environment meaningful opportunities for choice.

*"When the idea of choice is mentioned in planning and urban design terms, it is often accompanied by the idea of variety, and essentially, the term 'choice and variety' means 'choice and the visible manifestations of opportunities for choice'" UDC(1969.11)*

Central to the idea of choice and variety in determining 'habitat' was the acknowledgement of typology or prototype in determining a 'kit of parts', UDC(1971:4)[5] approach. Where reference is made to the word typology, it is in the sense of an architectural method of referring to the use of precedent. This set of 'generic' building types were used to define sets of requirements, establish principles and to understand the nature of the 'pieces', in terms of the architectural and urban synthesis of the urban fabric.

The idea of choice within habitat hints at an open ended approach rather than aiming at a 'masterplan'. However, within these conceptual approaches are inherent contradictions which can be explored through the project.

Just as the overall RMP Land Use Plan was conceptualised within the model of 'planning as a strategy' , which encompassed a Rational Comprehensive Process, the plan for Ormonde was also not intended as a *"blueprint for execution but as a comprehensive statement of a meaningful concept of habitat" UDC(1971:41).* This was seen as being capable of change to incorporate different circumstances and new possibilities. Thus the stated intentions were the same, the final 'product' would be the result of a process that resulted from the interplay between intention and experience.

*"The statement should be capable of change to incorporate different circumstances and new possibilities. The concept, although it results in a complex environmental relationships, invokes simple principles which should not be confused with specific solutions." UDC(1971.41)*
Here Ormonde is described as falling within a process orientated planning method.

However the overall plan is also described as a "fait accompli", a *"comprehensive self justifying statement which encompasses and supersedes all previous statements" UDC(1971:7).* Both statements are contained in the Terminal Report of May 1971 and highlight the contradictory nature of the approach to Ormonde.

Two essential themes emerge, firstly, that of the dichotomy between a masterplan / total environment and a more open ended process driven

[5] It is important to differentiate between the reference to a 'kit of parts' approach used here and the Kit of Parts - KOPS industrial warehousing project undertaken by the RMP team. Although the terminology used is the same, they are totally unrelated.



Fig. 8.45

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ORMONDE EXTENSION Nº 1.

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Figure 8.45 :
Model Ormonde Ext. No 1
*( source : UDC (1971) )*
Note Le Corbusier's Church of Saint Pierre, Ferminy Vert (1960) in the bottom left hand corner.

approach, which aimed at a variety of alternative solutions within a set framework; and secondly the idea of typology in driving this approach. It could be argued that the two themes, although of opposing natures; one based on planning concepts and the other on architectural concepts, are nevertheless critically interlinked, which presented a unique situation at the time.

Whilst the concept of a variety of solutions within a set framework suggested an open ended process orientated approach, the result was a Utopian masterplan, a composition of pieces, which failed to reach a synthesis in terms of the stated concept of total environment. Thus Ormonde falls within the idea of 'planning as design', where the future is shown as a completed plan, the physical representation of which is much like a painting on a canvas, a composition where every element contributes to a vision of totality.

### 8.4 Ormonde in the Context of the late Sixties - Architectural Theories

It is important to remember that both the RMP strategic framework and the Ormonde project occurred within a specific conceptual and social paradigm. Although separate projects, one can link the overall RMP Proposal and Ormonde together in terms of certain influences. As a piece of work Ormonde was heavily influenced by the architectural and planning theories of the time.

In piecing together a coherent story of the project, it is important to define and consider the lineage of the project in terms of the broader context of the time frame in which the project was undertaken, 1969 - 1971. It could be argued that the Ormonde project was very much a product of the utopian ethos of the times. In doing so it is important to understand the benefits of hindsight and post - rationalisation in recording a theoretical framework which may not have been so well defined at the time.

Several sources of influence are clear, firstly the personal histories of the designers, and secondly, the influence of the prevalent theories and architects of the time. These influences establish the hereditary or evolutionary thread of ideas, where approach is circumscribed by experience. It is important to note that these were not necessarily uniform and point to divergent approaches.

Ivor Prinsloo had worked for the Smithsons during his practical year of study in 1963 on the Economist Building, and in a subsequent year for Candilis Josic and Woods in Paris. Roelof Uytenbogaardt had returned from the University of Pennsylvania (Penn), influenced by Kahn and Crane. He had also spent two years (1961-63), working with David Crane at the Boston Redevelopment Authority. Antonio de Souza Santos had also studied at Penn, although at a different time to Roloef Uytenbogaardt.[6] De Souza Santos also brought an understanding of a systemic approach to the project.[7]

---

[6] Roloef Uytenbogaardt studied at Penn from 1959 -61, whilst de Souza Santos studied there from 1966-68.
[7] This was in common with Ivor Prinsloo. Refer to earlier references to systemic theory in Chapter 5.




Fig. 8.46

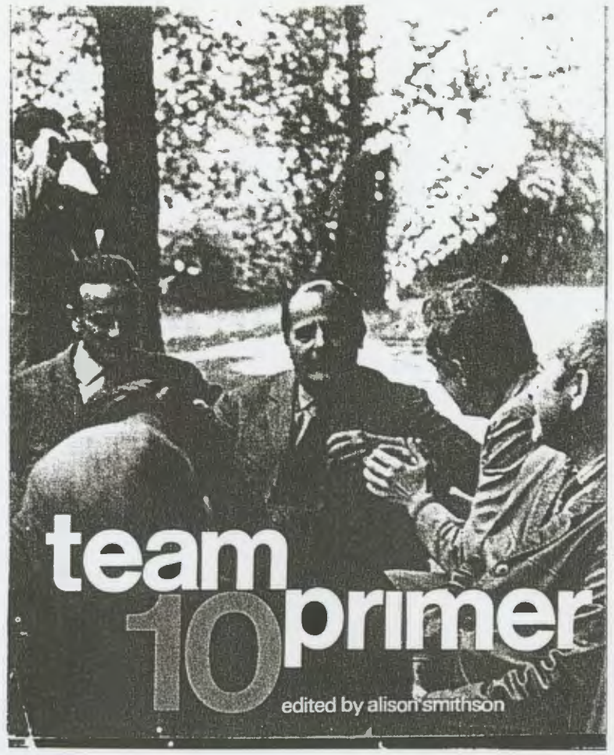



Fig 8.47



Fig 8.48



Fig 8.49

Figure 8.46
Team X Photo 1978 taken at Bonnieux.
From left to right :
Bakema, Peter Smithson, Alison Smithson, Candilis, Aldo Van Eyck, Manfred Schiedhelm, de Carlo, Erskine.
*( source : cover Deutche Bauzetung 11.78 )*

Figure 8.47
Team 10 Primer
"Architects from many countries document a new view of the sort of commitment architects need if we are to build a more effective twentieth century environment."
Smithson (1968)
*( source : Smithson (1968) )*

Figure 8.48
Aldo Van Eyck with Peter Smithson and Pancho Guedes
*( source : Smithson (1991.76) )*

Figure 8.49
Shadrach Woods, Alison Smithson and Adele Santos Naude
*( source : Smithson (1991.89) )*

He also acknowledges the Smithsons as being part of his intellectual formation, and of Aalto as being a 'sentimental favourite',[8] essentially one could describe de Souza Santos' background as being essentially a 'Modernist' one. An important point here is that all had at some time studied and / or worked overseas, and brought those experiences into their work.

An Overseas Study Tour to Europe, Britain, Canada and the United States of America was undertaken from the 20th September - 19th November 1968[9], and provided a series of influences that were studied and analysed *(Refer to Appendix 1)*. The Study Tour group consisted of Ivor Prinsloo and Roelof Uytenbogaardt, as members of the RMP and Ormonde design teams, accompanied by members of the RMP Management and of Real Estate Development and Research Company. The object of the Study Tour was to see a cross section of new developments and trends in order to provide a common base or background between members of RMP Management and specifically the designers of Ormonde. Particular effort was made in visiting large scale housing complexes, housing generally, buildings of other types that could be considered as possible components or parts of a large scale housing complex and industrialised building systems.[10] Buildings that were visited included the newest and most influential in terms of the 'gurus' and theories of the day as well as those works approaching seminal work status by the so called 'masters', like Le Corbusier.

One of the most important influences on the Ormonde Project was the work of Team X, particularly the work of Alison and Peter Smithson and Candilis Josic and Woods. The ideas of structuring urban areas and buildings through movement are evident in the Ormonde plan, as part of the utopian vision of the time. The work of Team X was widely published at the time, notably in magazines such as Architectural Design (AD). Several key projects can be pinpointed in terms of their specific influence. Although the work of Team X and specifically Alison and Peter Smithson was highly theoretical, it is important to establish the nature of the specific influences on the Ormonde project. It can be argued that it is the visual image that was the primary influence and not necessarily the theoretical component.

---

[8] Although he acknowledges the Smithsons as being part of an intellectual foundation, he does not acknowledge them as an influence in terms of form. He remains critical of their built work, particularly Robin Hood Gardens, which he visited. Interview A. de Souza Santos 21/6/1996

[9] The itinerary of the First Study Tour was designed by Ivor Prinsloo, with the intention of giving the RMP Management an overview of housing approaches. In retrospect Ivor Prinsloo thinks that this was a mistake, the tour group started with housing in France by Candilis, Josic and Woods, and this made everyone depressed by the time they left France. The best received of the high density developments was Peabody Terrace in Cambridge, Massachusetts, while the best of the low density developments was the new Californian developments, like Irvine Ranch. A subsequent Study Tour to Europe, America , the Far East and Australia was undertaken during June and July of 1970 by members of RMP Management only.

[10] The housing component categories were high rise-high density and high rise-low density as characterised by the 'tower block' or 'slab block', medium rise-high density, low rise-high density and low rise-low density, as characterised by the single family house, the row or terrace house, and courtyard or patio house. These categories translate into the categories presented in terms of the proposed housing typology.

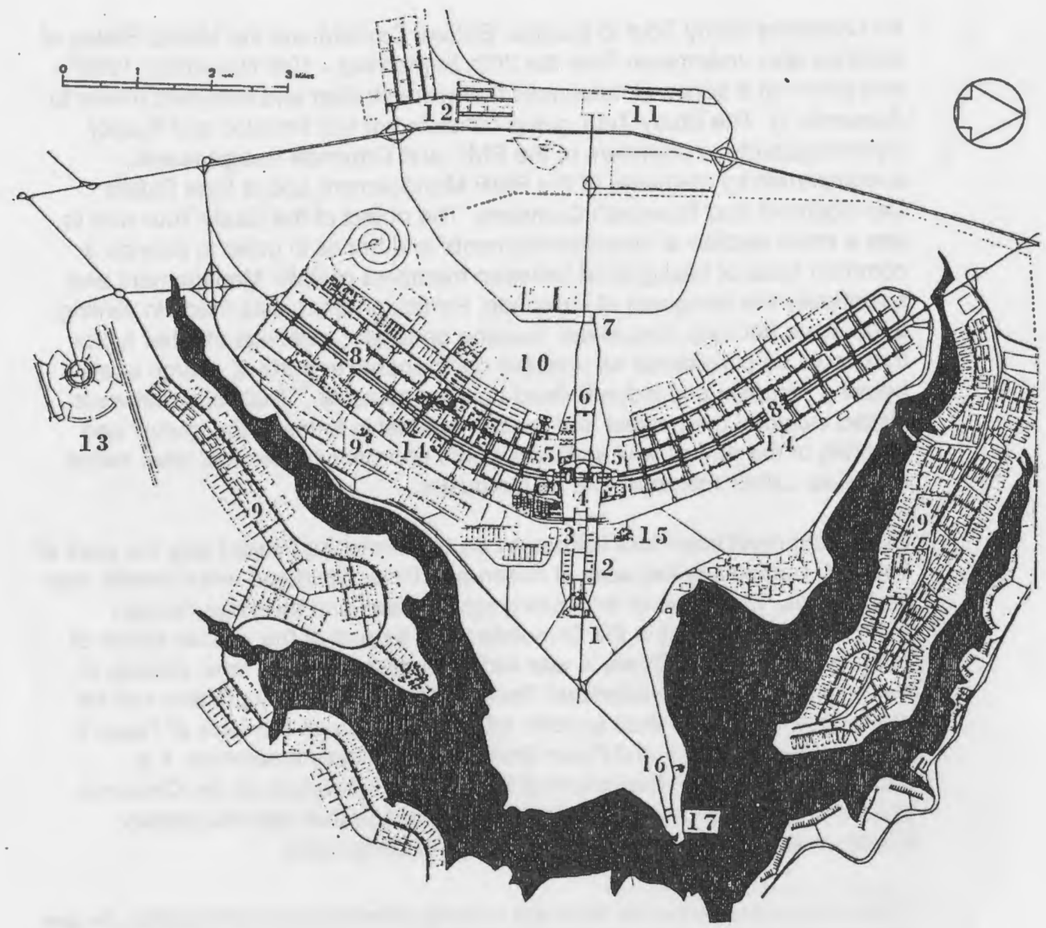



Fig 8.50

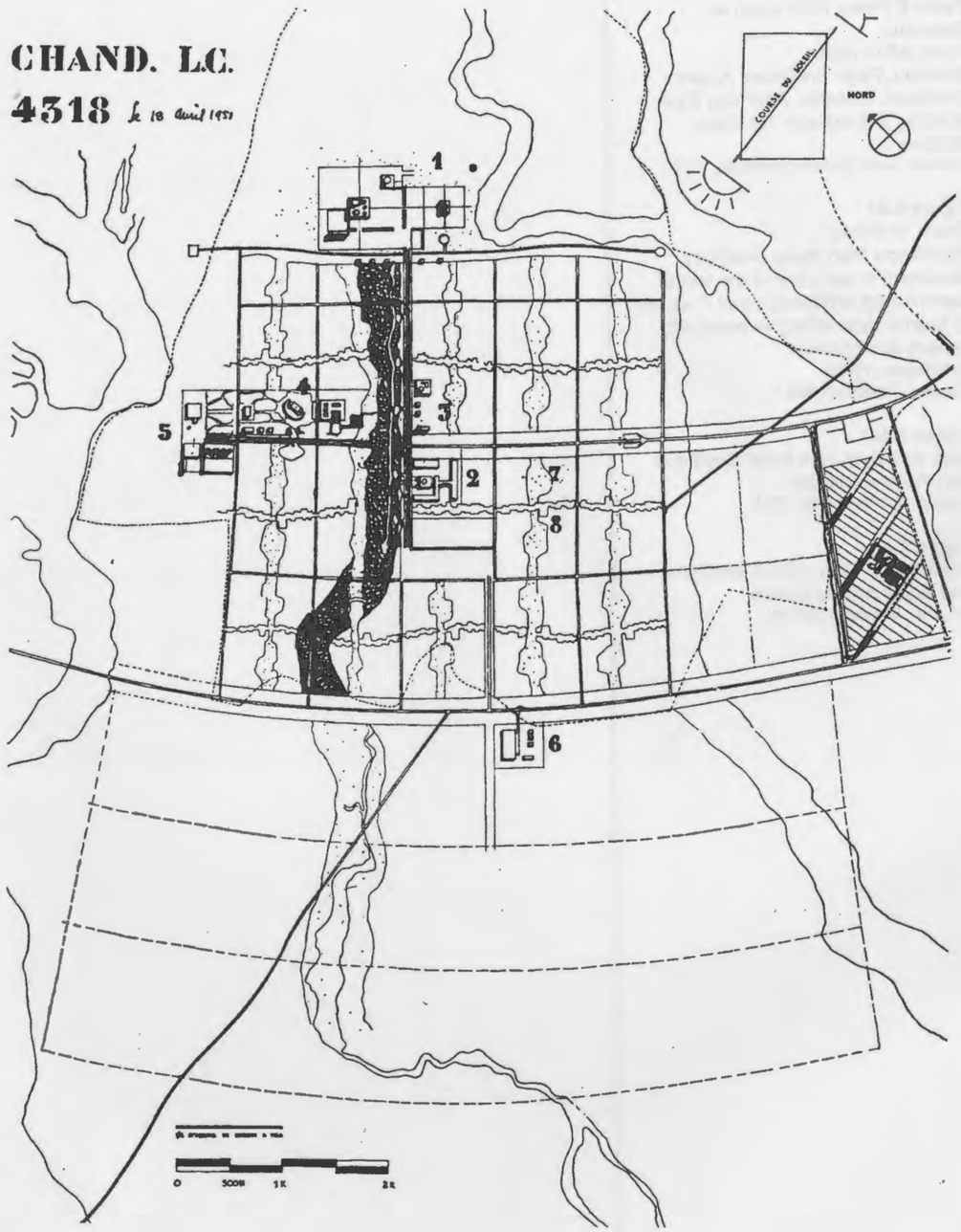



Fig 8.51

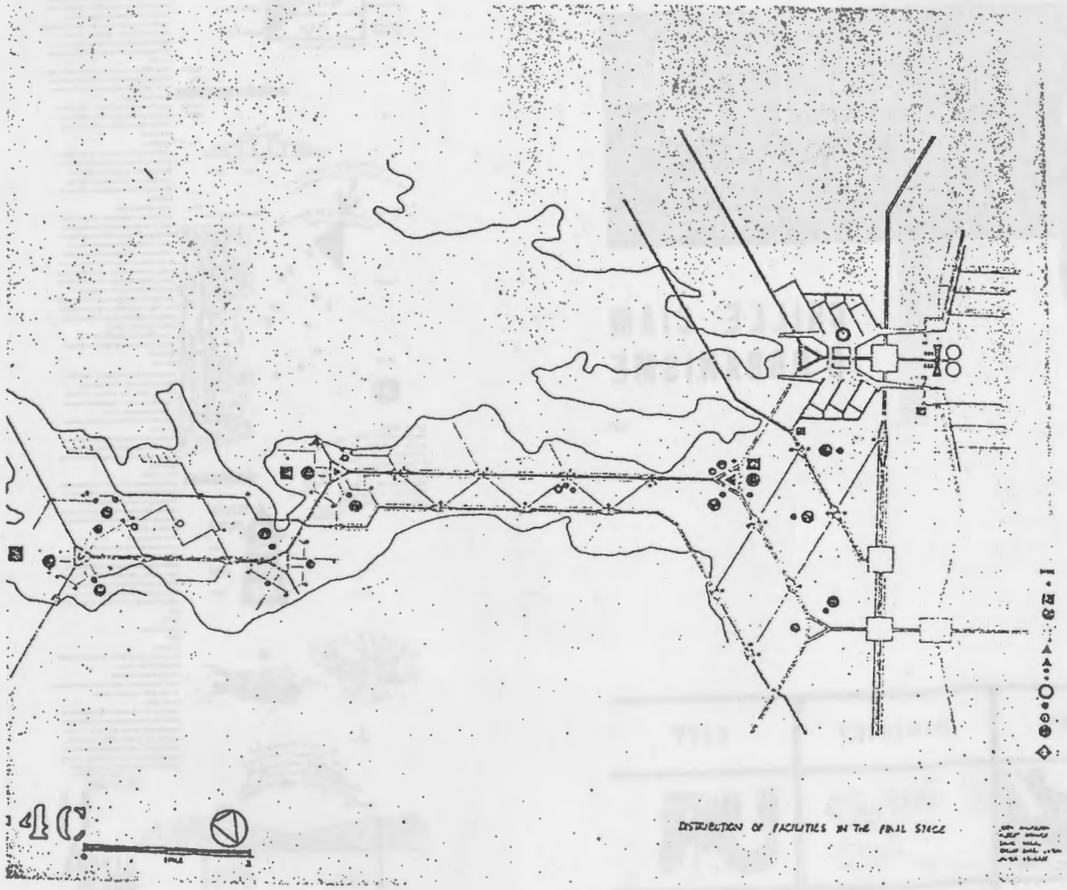



Fig 8.52

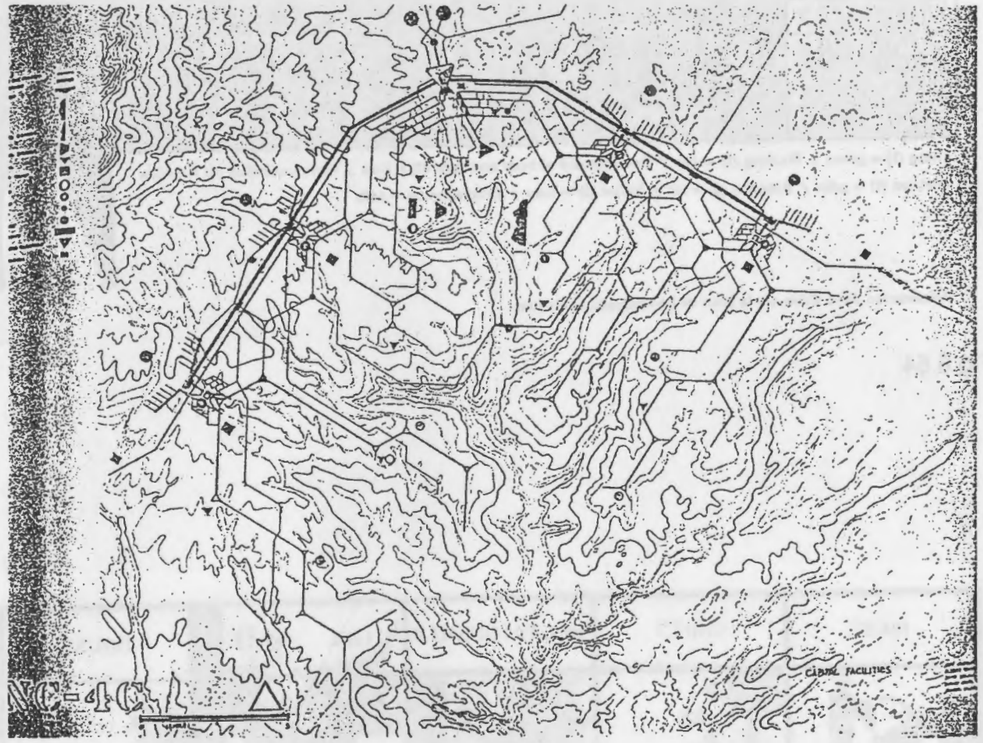



Fig 8.53

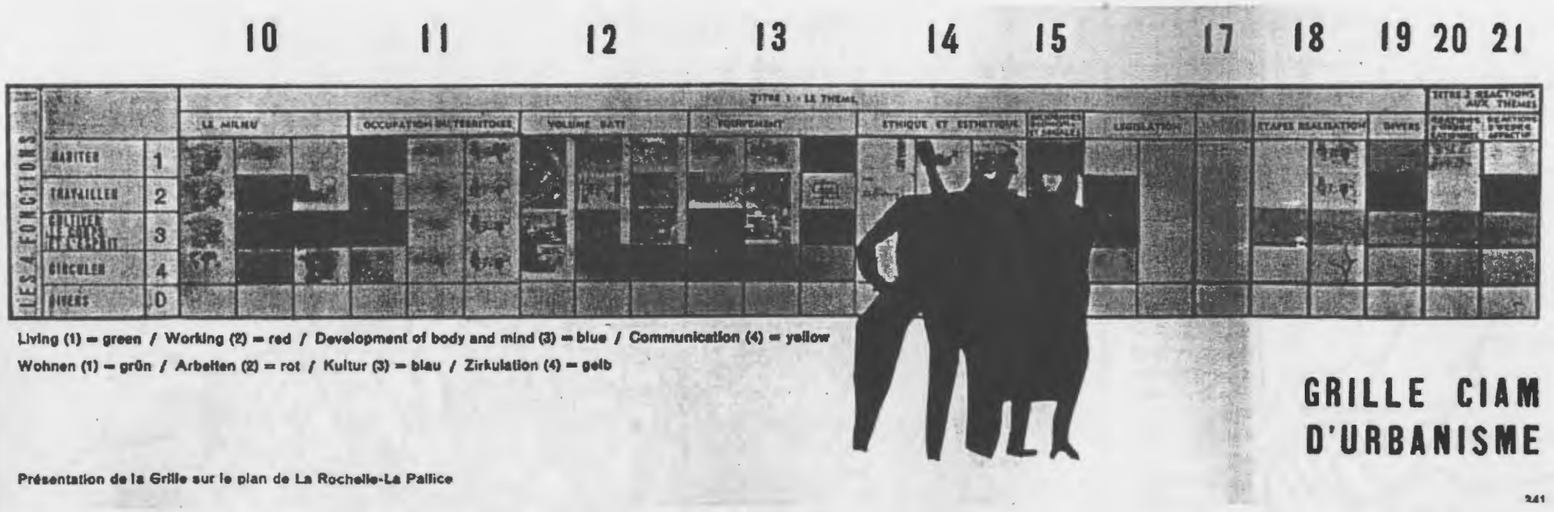



Fig 8.54

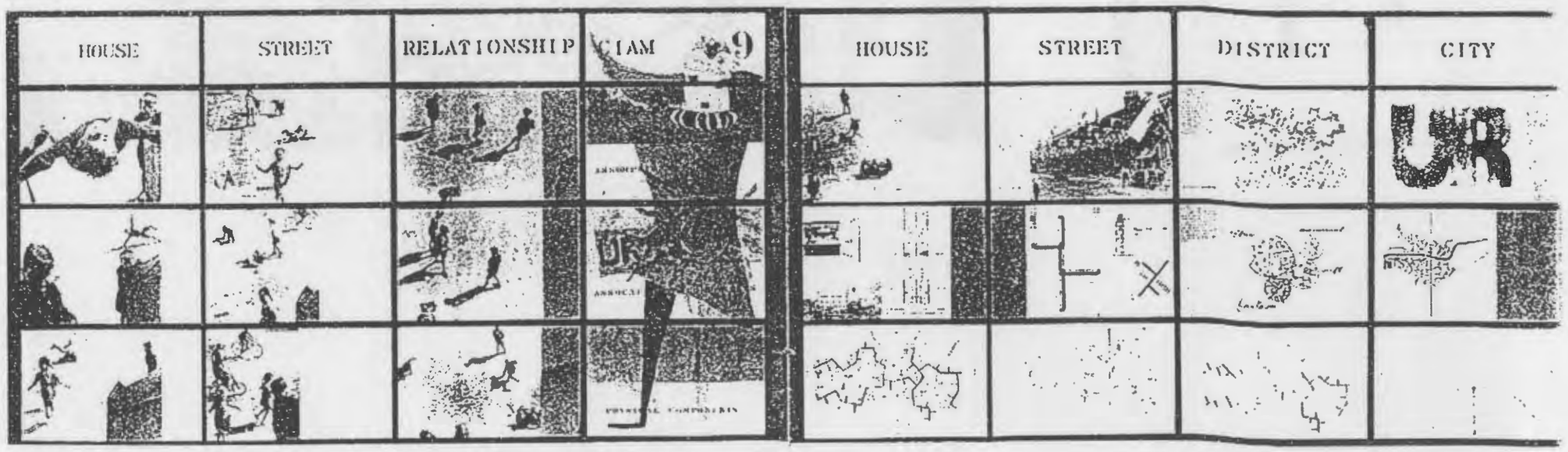



Fig 8.55




Fig 8.56

Previous Pages :

Figure 8.50
Lucio Costa : Brasilia (1956)
*( source : Banham (1962.137) )*

Figure 8.51
Le Corbusier : Chandigarh (1952)
*( source Le Corbusier (1960) )*

Figure 8.52
Roelof Uytenbogaart : "An exercise in systematic rhythm : A plan for a new city of 500 000 people in Four Corners, Utah. Continuity and symbolic recognition are conferred by relating unique topological characteristics of the Core, industrial districts (N,W and N.E of main circulatory spine), Promontory, Communication and Promontory Gateway cores. Crane ( - .290) Urban Design project undertaken while studying at Penn under David Crane.
*( source : Crane (-.290)*

Figure 8.53
Uytenbogaardt : An exercise in Systematic Locations : Triangular intersections contain prime subcore culture and commerce and give an unmistakable foothold for related facilities and changes. Crane ( - .291) Urban Design project undertaken while studying at Penn under David Crane.
*( source : Crane (-.290*

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Figure 8.54
Le Corbusier : Grille CIAM d'Urbanisme created by ASCORAL in December 1947 and adopted by CIAM Council at Easter 29th-31st March 1948.
*( source Le Corbusier (1960.341) )*

Figure 8.55
Smithsons : CIAM Grille (1953)
Prepared for CIAM meeting at Aix-en-Provence
*( source : Smithsons (1982.30) )*

Figure 8.56
Smithsons Dubrovnik Scroll (1956)
*( source : Smithsons (1991.24) )*

### 8.4.1.1 Team X and the legacy of CIAM .

The work of Team X was based within the context of evolving ideas on urbanism as presented during the 1950's and 60's and was influential in terms of the kind of urban environment that Ormonde sought to emulate and was based on. It is necessary to expand on the work of Team X in order to contextualise Ormonde within a broader framework and to a establish a lineage of ideas. The following is not a comprehensive history of the work of Team X by any means, but it should serve to introduce the complexities of the time.

The history of Team X is intrinsically linked to the history of CIAM - the Congrès Internationaux d'Architecture, in its final phases. In order to understand the paradoxes and contradictions prevalent in the work of the Smithsons and other members of Team X, it is necessary to understand the legacy of CIAM and particularly of Le Corbusier's Urban Theories.

The fourth congress of CIAM (CIAM IV), held in Athens in 1933, whose theme was 'The Functional City' was the most comprehensive congress from an urbanistic standpoint. Out of this congress came the articles of the Athens Charter. The hundred and eleven propositions that made up the Charter consisted of statements about the conditions of towns and of proposals for the rectification of those conditions, grouped under five main headings, namely dwellings, recreation, work, transportation and historic buildings. The Athens Charter committed CIAM to rigid functional zoning of city plans with green belts between areas reserved for different functions and to a single type of urban housing. This was expressed as high widely spaced apartment blocks, wherever the necessity of housing high density populations existed.

The congresses following CIAM IV explored themes ranging from the house to the city. Yet despite the concern for the qualities of place, the 'old guard' of CIAM had very little indication that they were capable of realistically addressing the complexities of the post war urban predicament. Thus the younger generation of CIAM became increasingly disillusioned and restless.

During the 50's, planners thought of the city in terms of land use areas and separate zonings, dividing the city up into functional parts e.g. residential, commercial, industrial, open space etc., based on the four functions that CIAM laid down in the 30's. The city was divided into conceptual 'pieces', which could be inflexible and unchanging. Chandigarh (1950) *(Fig. 8.51)* and Brasilia (1957) *(Fig. 8.50)* were seen as good illustrations of how these abstract ideas could generate a physical plan. It was obvious to the architects of the 50's that this kind of abstract planning was inadequate and the major shift from CIAM to Team X occurred over this point.

The decisive split came with CIAM IX held at Aix-en-Provence in 1953, where the first cracks in the ideological and theoretical solidity of the Modern Movement arose. It was here that the Alison and Peter Smithson met Candilis, Bakema and others who found the Athens Charter obsolete. They



Fig 8.57



Fig 8.57



Fig 8.57

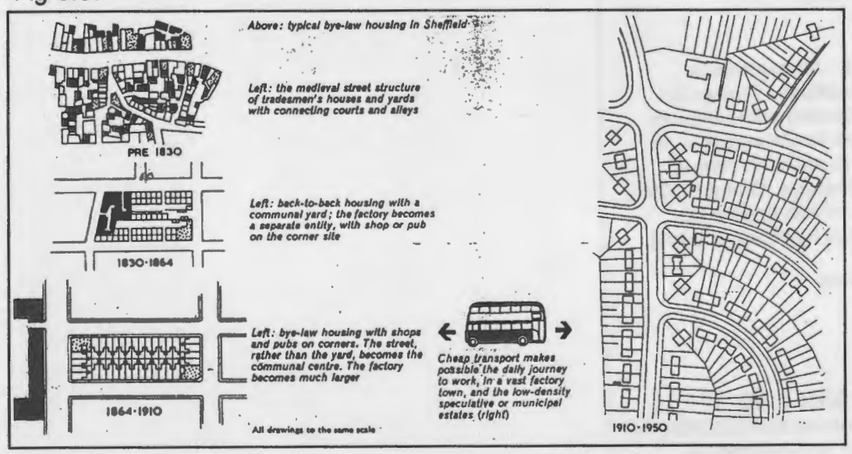



Fig 8.58

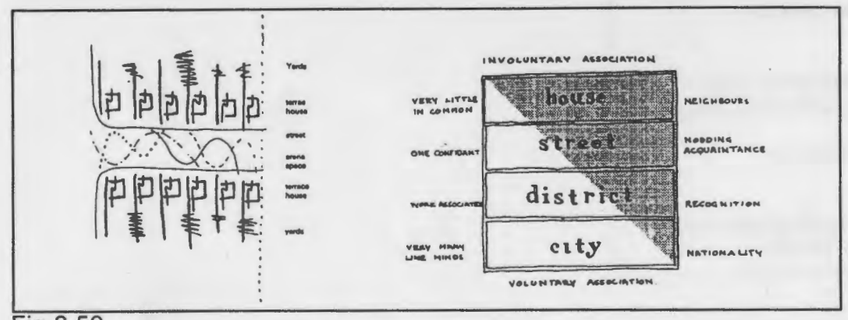



Fig 8.59

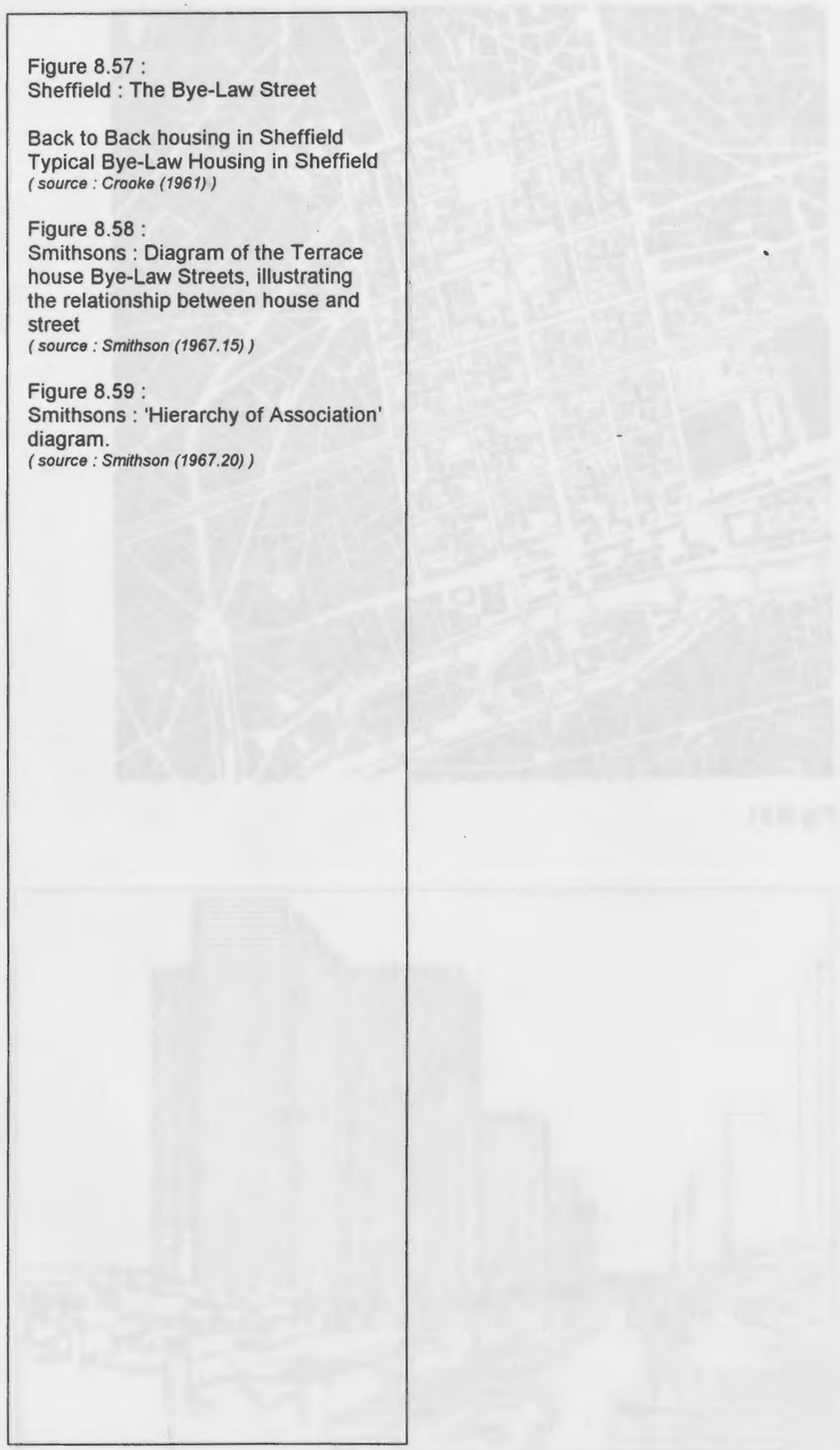


Figure 8.57 :
Sheffield : The Bye-Law Street

Back to Back housing in Sheffield
Typical Bye-Law Housing in Sheffield
*( source : Crooke (1961) )*

Figure 8.58 :
Smithsons : Diagram of the Terrace house Bye-Law Streets, illustrating the relationship between house and street
*( source : Smithson (1967.15) )*

Figure 8.59 :
Smithsons : 'Hierarchy of Association' diagram.
*( source : Smithson (1967.20) )*

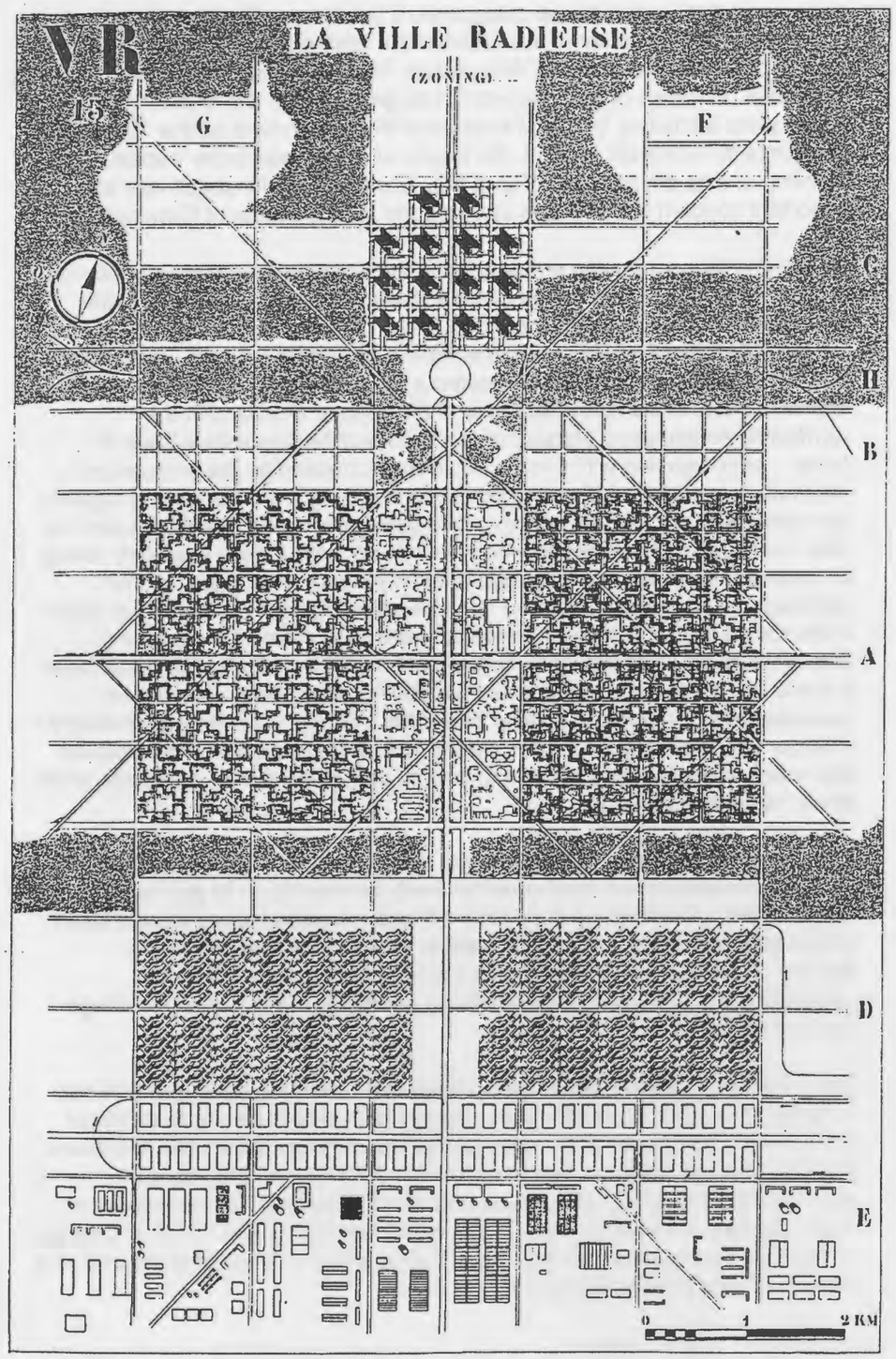
challenged the four functional categories of the Athens Charter. Instead of offering an alternative set of abstractions the Smithsons, Van Eyck, Bakema, Candilis, Woods, Voelker and William and Jill Howell searched for the 'structural principles of urban growth'. This group led to the formation of Team X and were entrusted by CIAM to prepare the programme for the 10th CIAM Congress in Dubrovnik in 1956, the theme of which was to be 'habitat' - the dwelling and its environment *(Fig. 8.56)*. The concept of 'habitat' was an important concern of the sixties and was the central theme of Ormonde.

*" Following the recognition encapsuled in the phrase evolved in Commission 6, La Charte de L'Habitation, at CIAM 9 Aix-en-Provence, 1953: 'Life falls through the net of the four Functions', Team 10 came together as the Heroic Period of Modern Architecture had achieved its simple dreams. Team 10 did not repudiate the Functions; we wanted a more delicate, responsive net. We shared a belief in the basic rightness of the original aims and in the worthwhile continuance of trying to make an architecture with a 'spirit of hope'....but observing with fresh eyes, were distressed by the unexpected shortfalls in modern architecture practised in the 1950's....To varying degrees we considered our 'uncles' of the middle generation - and 'the professors' as Aldo Van Eyck called those founders then in America - were singularly failing to meaningfully extend its language or even embody that 'hope' in their architecture....All team 10 shared an understanding of the principles at stake in the tussle for CIAM's continuance because their memories were long enough to know what had gone before in the 1930's and why there had been a battle in Europe for 'espace, soleil, verdure'....why these ....should be extended to other pleasures, other freedoms...'choice; identity; possibilities for change; connection (both actual and the sense of); protection from violation (by noise; of one's sense of privacy; and so on); release from pressures of all kinds.'* Smithson (1991:9)

The Doorn Manifesto of 1954 proposed that *"to comprehend the pattern of human associations we must consider every community in its particular environment" Smithson, A & P (1967.18)* and presented ideas around ideas of habitat, community and environment in terms of the Geddes Valley Section. This new way of thinking was in fact the old way of thinking reformulated in new categories of human association; the city, town, village and homestead.[11]

The meeting of CIAM X attempted to formulate a new way of thinking about urbanism that would consider each problem as a unique example of human association rather than functional organisation at a particular time and place. At Dubrovnik the split between the founders of CIAM and the younger members became clear. The official demise of CIAM and the succession of Team X was confirmed at what was to be the last meeting of CIAM at Otterloo in 1959. At the beginning of the 60's, it seemed that they stood at the end of a movement and the beginning of its successor.

[11] These categories were in themselves not new, they in fact date back to the ideas of Patrick Geddes at the turn of the century, in terms of the Geddes Valley Section.




Satellite cities. e.g.: government buildings or center for social studies, etc.

The business center

Railroad station and air terminal

Hotels
Embassies

Housing

Factories

Warehouses

Heavy industry

Fig 8.60

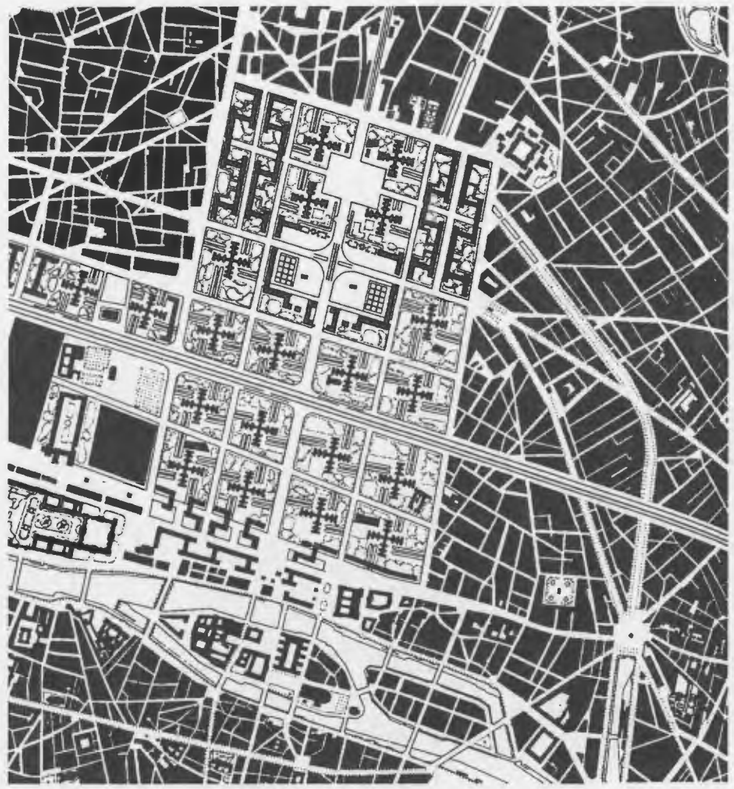


Fig 8.61

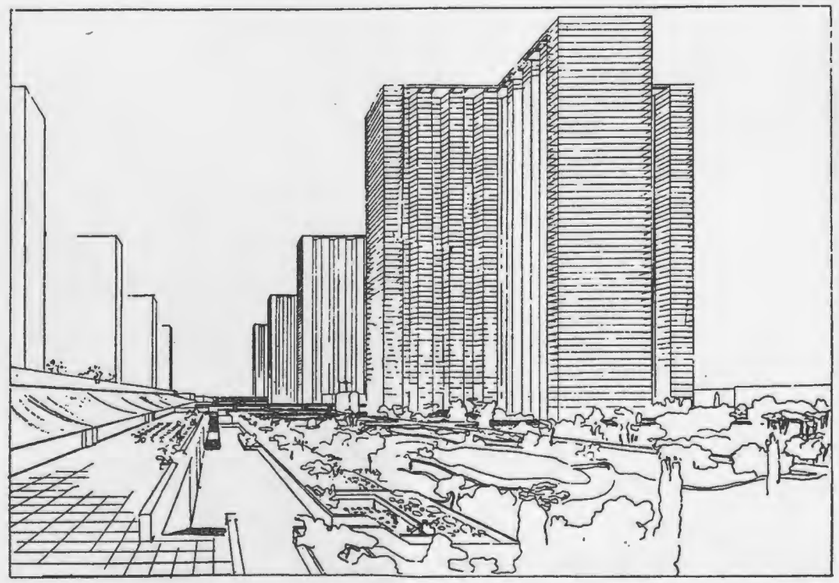


Fig8.62

Figure 8.60 :
Le Corbusier : La Ville Radieuse (1930)
*( source Le Corbusier (1960) )*

Figure 8.61 :
Le Corbusier : Plan Voisin for Paris (1925)
*( source : Dennis (1988) )*

Figure 8.62 :
Le Corbusier : Radiant City (1925)
*( source : Smithson (1968.32) )*

### 8.4.2 Team X and the work of the Smithsons

It is within the context of the post war 50's where British New Towns were characterised by banal contemporary buildings, and within a questioning of the basis of urban structure, that the work of the Smithsons took place.

The Smithsons presented a series of ideas about architecture and town planning grouped around the idea of 'urban structuring', initially published in various magazines and under the title of 'Uppercase 3' in 1960. The projects and concepts were consolidated as a book entitled 'Urban Structuring' published in 1967.

The main project on which presented these ideas was the Golden Lane Project, a competition for high density housing in London in 1952 *(Fig. 8.63/68-70)*. This project was closely linked to a sociological study undertaken together with Nigel Henderson in Bethnal Green in London from 1950 onwards, which looked at the structure of the relationship between the house, street and district, as elements of the city. Essentially the Smithsons were looking at a specific typology and its resultant social pattern. Nigel Henderson's photographs of London street life were exhibited by the Smithsons at Aix-en-Provence in the presentation form of the CIAM Grille *(Fig. 8.55)*. Henderson's record of the social and physical reality of London's East End played a critical role in shaping the Smithsons' sensibilities and perceptions. This sensibility was ultimately at odds with the tabula rasa implications of Le Corbusier's CIAM Grid[12] *(Fig. 8.54)*

The essence of the Bethnal Green Study which was carried over into the Golden Lane Project was the 'street' and the relationship between the house and the street *(Fig.8.59)*. The street was seen as a common open space, an area for social expression. However in terms of the 'life of the streets', the Smithsons stated that the street had become invalidated by the motorcar and by increased mobility. The typical bye-law street distorted by their own rationalisation became the 'armature' for the Smithsons' Golden Lane housing proposal. Although the elements of house, street, district were clearly identified by the Smithsons, they theorised that 're-identifying' man with his environment could not be achieved by using historical forms of house groupings; streets, squares, greens etc., as the social reality they represented no longer existed. The Smithsons saw the task as finding new equivalents for these forms of association for '(our) non demonstrative society'. Terms like 'association' and 'identity' became important keywords of the new concepts put forward by the Smithsons. The principles of identity they proposed were the basis of the Golden Lane Project - a multi level city with residential streets in the air which would be linked together in a multi - level continuous complex *(Fig. 8.66/67)*. Here it is the idea of the street and not the reality of the street that was of primary importance.

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[12] The CIAM Grid was created by ASCORAL, a group in Paris headed by Le Corbusier, and was described as a modern implement by means of which the analysis, synthesis, presentation and understanding of a town planning problems could be effected.

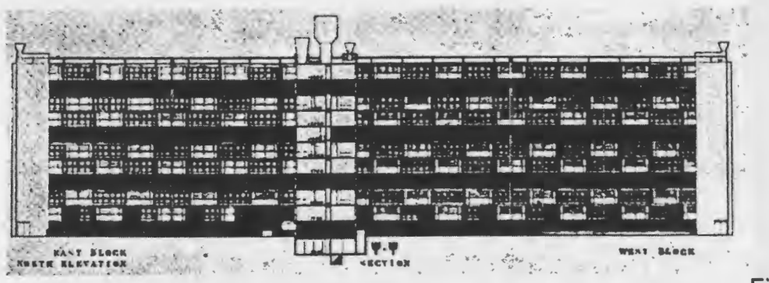



Fig 8.63

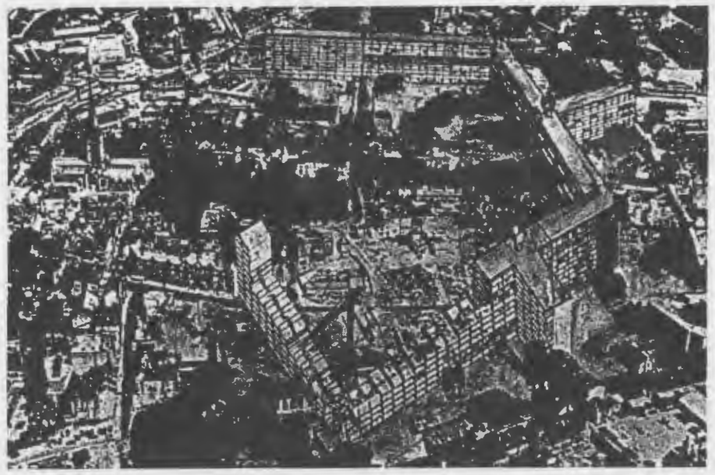


Fig 8.64

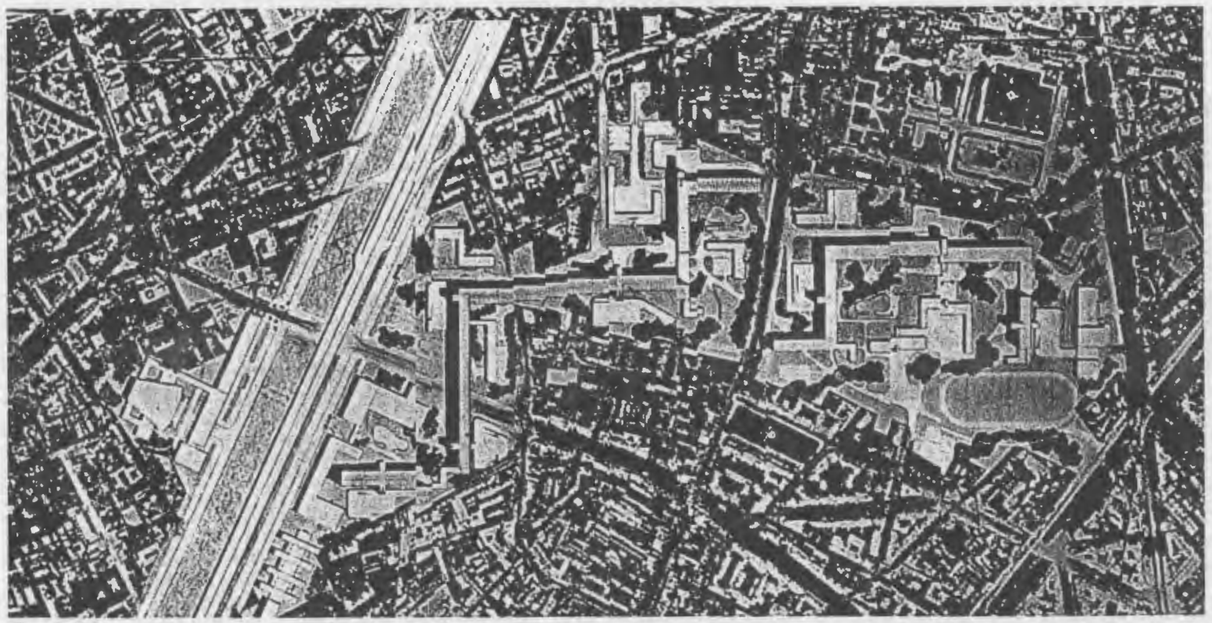


Fig 8.65



Fig 8.66

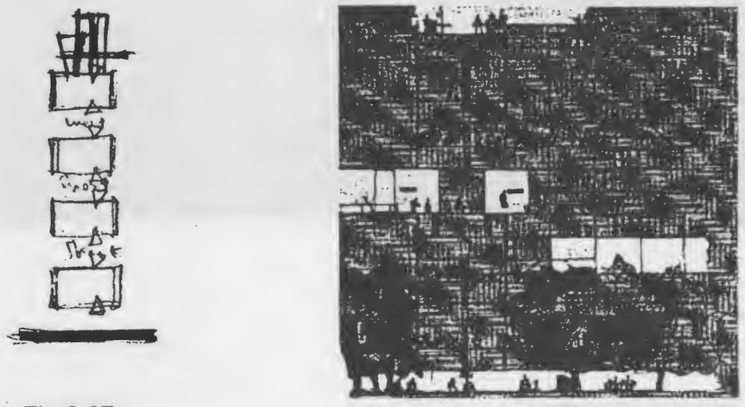


Fig 8.67

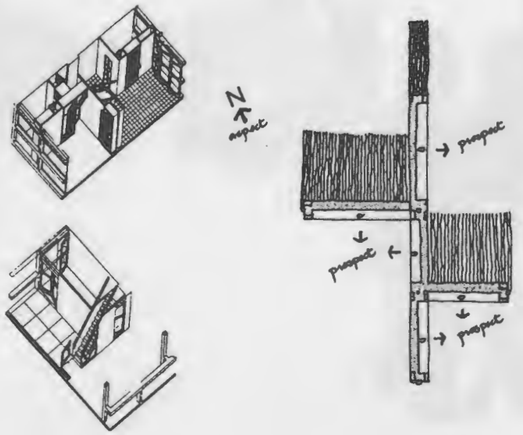



Fig 8.68

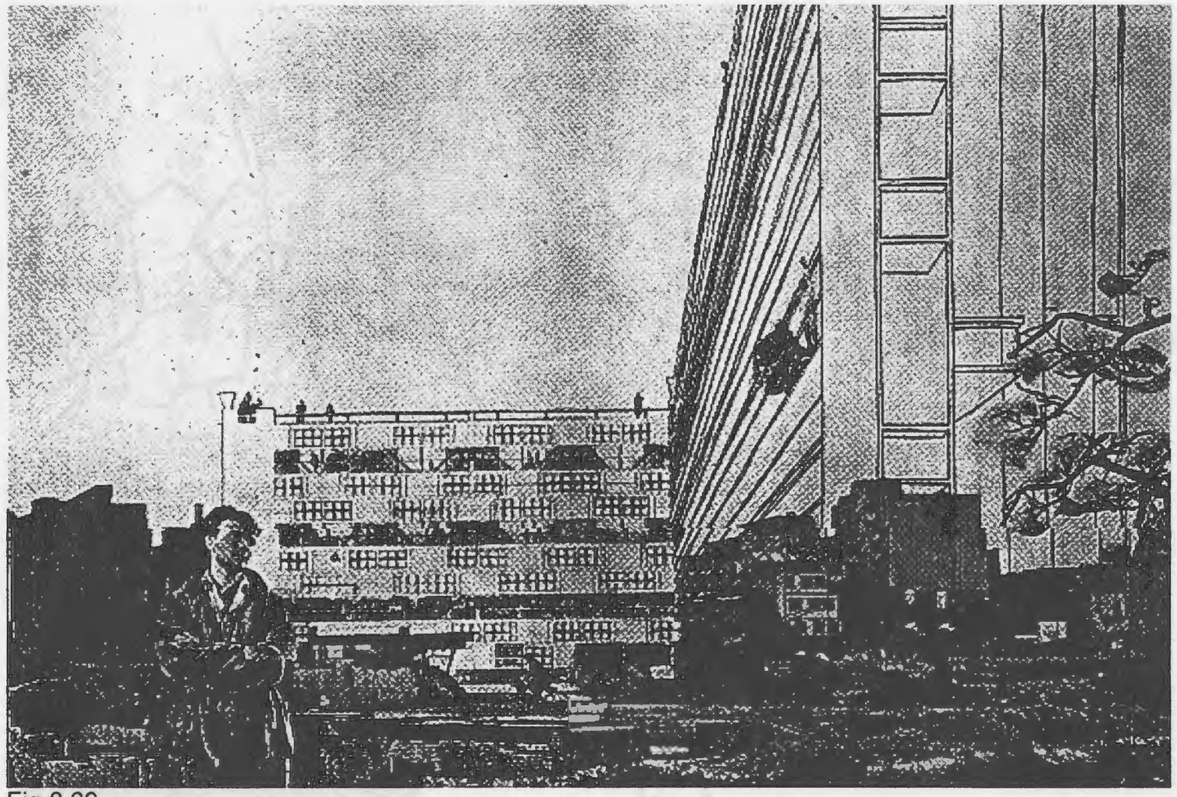


Fig 8.69

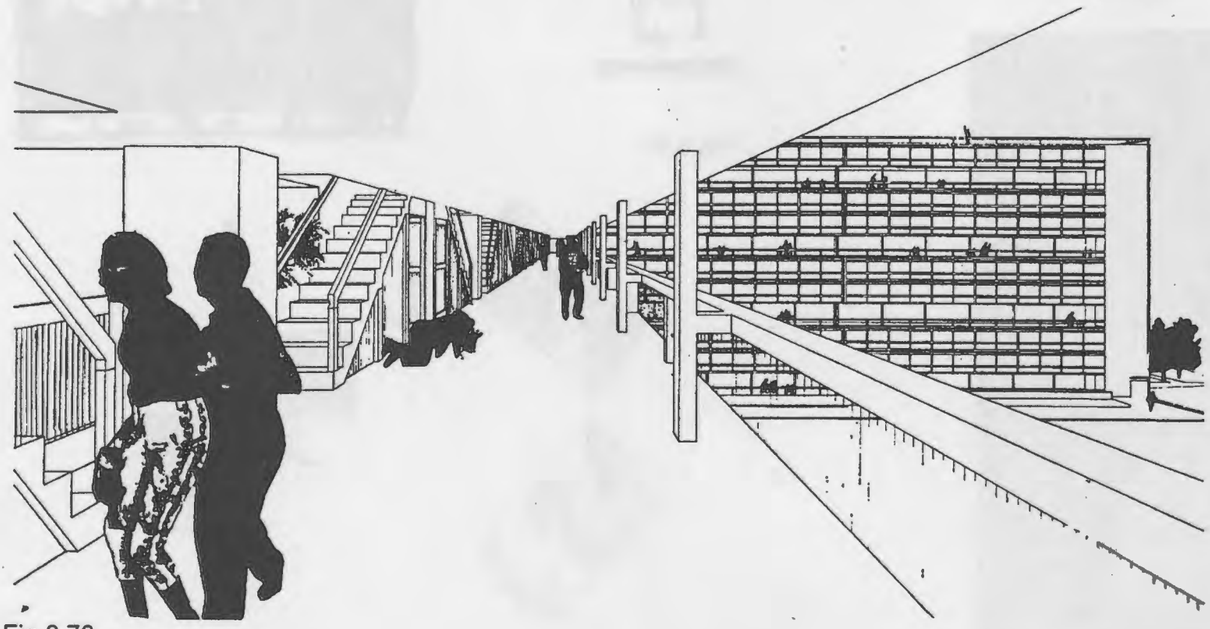


Fig 8.70

Previous Pages :

Figure 8.63 :
Smithsons :Golden Lane Elevation (1952)
*( Smithsons (1967.23) )*

Figure 8.64 :
Smithsons : Collage of Golden Lane Prototype as a phantom axonometric superimposed over the ruins of Coventry.
*( Smithsons (1967.24) )*

Figure 8.65 :
Le Corbusier : Aerial View of Ilot No.6 ( 1937)
March 1948.
*( source Le Corbusier (1960) )*

Figure 8. 66
Smithsons : Proposal of a Multi-level city with residential streets-in-the-air. "These are linked together in a multi level continuous complex connected to work and those ground elements that are necessary at each level of association"
Smithson (1967.26)

Figure 8.67 :
Smithsons : Deck Housing Street Mesh in the air. (1952)
"The street-deck with its movement threading through the more static living cells."
Smithsons (1967.26)

Figure 8.68 :
Smithsons : Golden Lane (1952)
*( Smithsons (1967.23) )*

Facing Page :

Figure 8.69 :
Smithsons : Golden Lane Competition (1952)
"Nehru humping a load of hay over a balcony" Photocollage of bombed out site with movie hero Gerard Philipe superimposed.
*( Smithsons (1968.77) )*

Figure 8.70
Smithsons : Street equivalents deck housing (1953)
*( Smithsons (1968.77) )*

The theme of the street was certainly not a new one, as can be seen from the quotes below :

*"The street wears us out. And when all is said and done we have to admit it disgusts us." Le Corbusier (1929)*

*"The first thing to do is abolish the **rue corridor** with its rigid lines of buildings and its intermingling of traffic, pedestrians, and houses." Siegfried Gideon (1941)*

*"Against all sense the habit of aligning buildings on the street is to persist, creating the present practices; alignment on the streets and enclosed courts and light wells, two forms entirely contrary to human well being." Le Corbusier (1946)*

*"Re-identifying man with his environment cannot be achieved by using historic forms of house-groupings, streets, squares, greens, etc., as the social reality they represent no longer exists." Alison and Peter Smithson (1953)*

Golden Lane was intended as a critique of the Ville Radieuse (1931) of Le Corbusier *(Fig. 8.60)* and the zoning of the four functions of the city into Dwelling, Work, Recreation and Transportation. The Smithsons opposed these functions with the categories of House, Street, District and City, although the meaning of these terms became vaguer as the scale increased. In the Golden Lane Project, the house was the family unit, the street a system of one sided gallery or corridor access elevated into the air. The district and the city were regarded as variable domains that lay outside the bounds of physical definition. Thus whilst opposing the pre-war determinism of the functional city, the Smithsons became caught in a rationalisation process comparable to that of CIAM.

Although the yards of the Golden Lane Project were indicated as adjunct areas to the streets, it was clear that the 'house in the air' did not have a yard that was comparable to the backyard of the bye-law street, and the 'street' divorced from the ground could no longer accommodate community life - the 'life of the streets'. Its one sided nature stressed the linearity of the route rather than fostering a sense of place. It was the presence of life on both sides of the bye-law street that was responsible for its social vitality, as was shown in analytical sketches of the Smithsons. But the nature of Golden Lane and the Smithsons' preoccupation with functionalist norms, precluded a solution that could sustain this kind of life.

It seems that the Smithsons were unaware of these contradictions when they presented Golden Lane as a prototypical housing solution in a repetitive form superimposed over the metropolitan area, almost, it could be argued as a critical alternative to Le Corbusier's Ville Radieuse. The Smithsons' collage of the Golden Lane prototype as a phantom axonometric superimposed over the ruins of Coventry *(Fig. 8.64)* returned its authors to the central dilemma of CIAM. Golden Lane appeared to be as much against the continuity of the

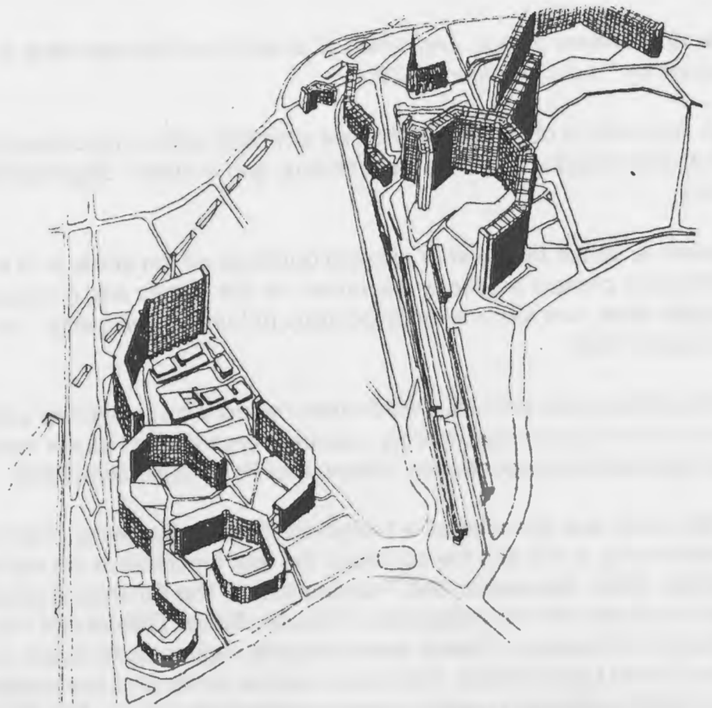


Fig 8.71



Fig 8.72

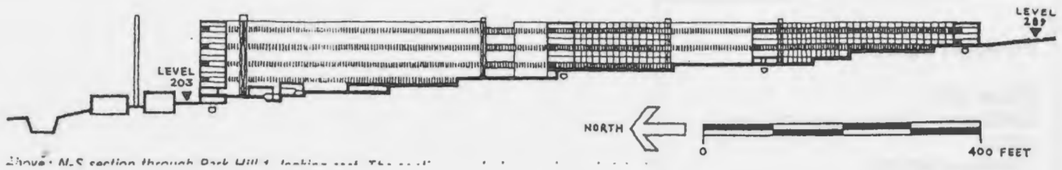



Fig 8.73

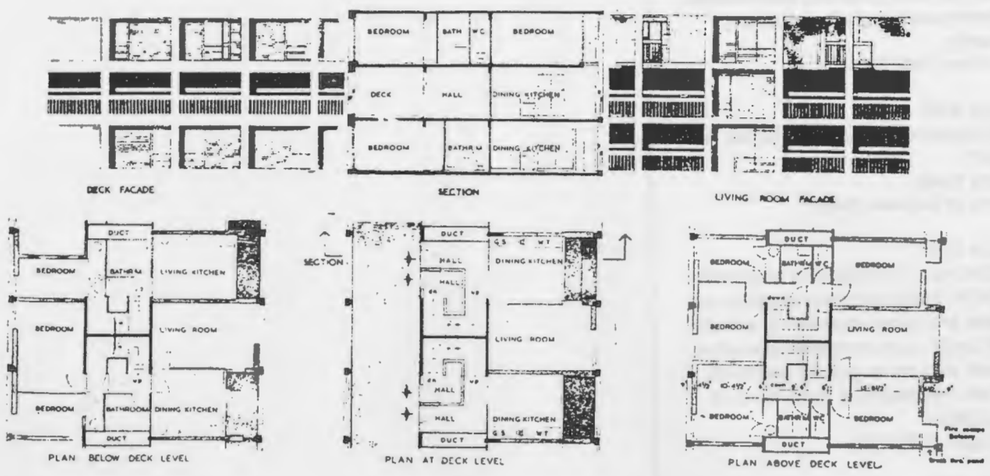



Fig8.74

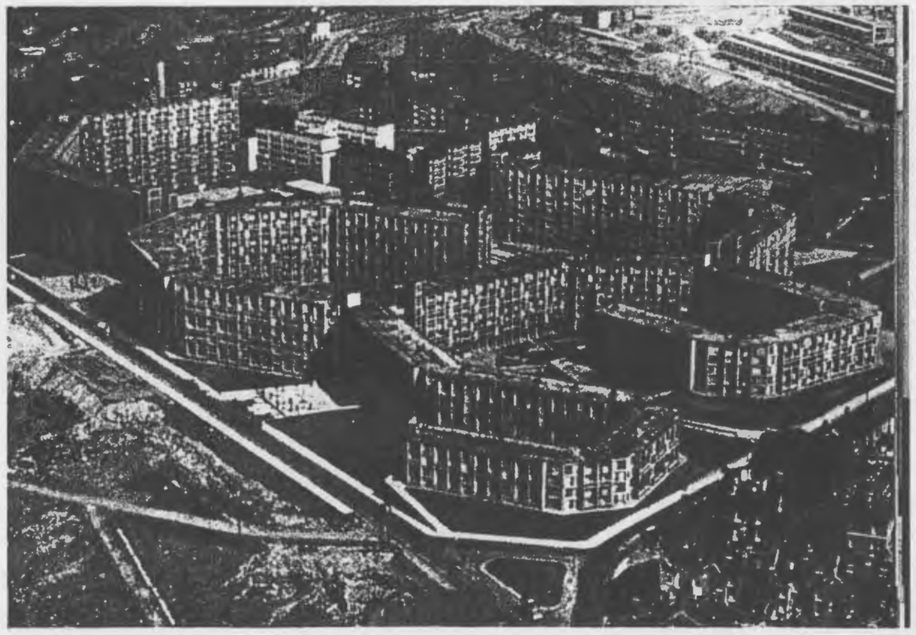


Fig 8.75

Smith and Lynn : Park Hill Sheffield
*( source : Crooke (1961) )*

Figure 8.71 :
Aerial View of Park Hill 1 and 2

Figure 8.72 :
One of the courts of Park Hill 1

Figure 8.73 :
North-south section through Park Hill 1 with the continuous decks shown hatched.

Figure 8.74 :
Details of a typical group of dwellings served by deck and stairs.

Figure 8.75 :
Aerial view of Park Hill
*( source : Banham (1962.133) )*

existing city as Le Corbusier's Plan Voisin of 1925 had been *(Fig. 8.61)*. The axonometric depicted the edge conditions between the old street pattern and the new work as a series of inevitable collisions.

The concepts put forward in the Golden Lane Project were presented very eloquently through a series of evocative images and drawings that were influential on a series of projects of the same era. *(Fig. 8.69/70)*
Whilst examples like Golden Lane were understood within the context of the existing urban fabric of the city, Ormonde was not seen as an extension of the fabric of the city, but as an appendix to the city with an almost 'island' like quality. This was due to the context of the derelict mining land seen as a 'tabula rasa' site, with little relationship to the context of the city - Johannesburg (or at the time Soweto). Both the approaches of Golden Lane and Ormonde ignored the fundamental issues of solving the design in terms its 'edges'.[13] In Ormonde this was in terms of its linkages into the city and surrounding areas and in the case of Golden Lane, into the existing city fabric.

### 8.4.3 Park Hill and Alton West Estate : The Study Tour

Two projects that were influential in terms of Ormonde and were documented in terms of the Study Tour were the Park Hill Housing in Sheffield (1957) *(Fig. 8.71-75)* and Alton West Estate, Roehampton (1955-59) *(Fig. 8.76)*.

Park Hill Housing by Smith and Lynn in Sheffield replaced the terraces of red brick slums of the old Duke Street area of Sheffield. Park Hill was seen as a high density environment. The Study Tour Document describes it as a single complex building occupying and enclosing a recognisable district of the city. The informal "topological" Jencks(1985.258) grouping which followed the system of movement was expressed as a continuous building snaking around the site in order to take advantage of orientation. Four pedestrian promenades thread through the complex linking its parts. At the end of each limb the deck opens out onto a square served by lifts and stairs for vertical circulation. The so-called decks were intended to function socially and psychologically in the manner of a street. Again the association is assumed between the 'street' and what is in essence an access corridor. This description is remarkably similar to that of the Smithsons Golden Lane Project. Park Hill illustrates the principles of the Smithsons without having been designed or built by the Smithsons. However, it was obvious after this project that there was little possibility of achieving any continuity between decks in the air and streets on the ground. However Team X remained committed to the multi-level city or what was to become termed the 'megastructural' approach.

[13] However the challenge of RMP's development in terms of a 'tabula rasa' site lay in addressing the edges of the site, specifically in terms of 'knitting' the edges of two cities - Johannesburg and Soweto, together. However, at the time, due to Apartheid legislation, this was not seen as a possibility. This challenge remains to this day for RMP to solve with the remaining pieces of their land holding.

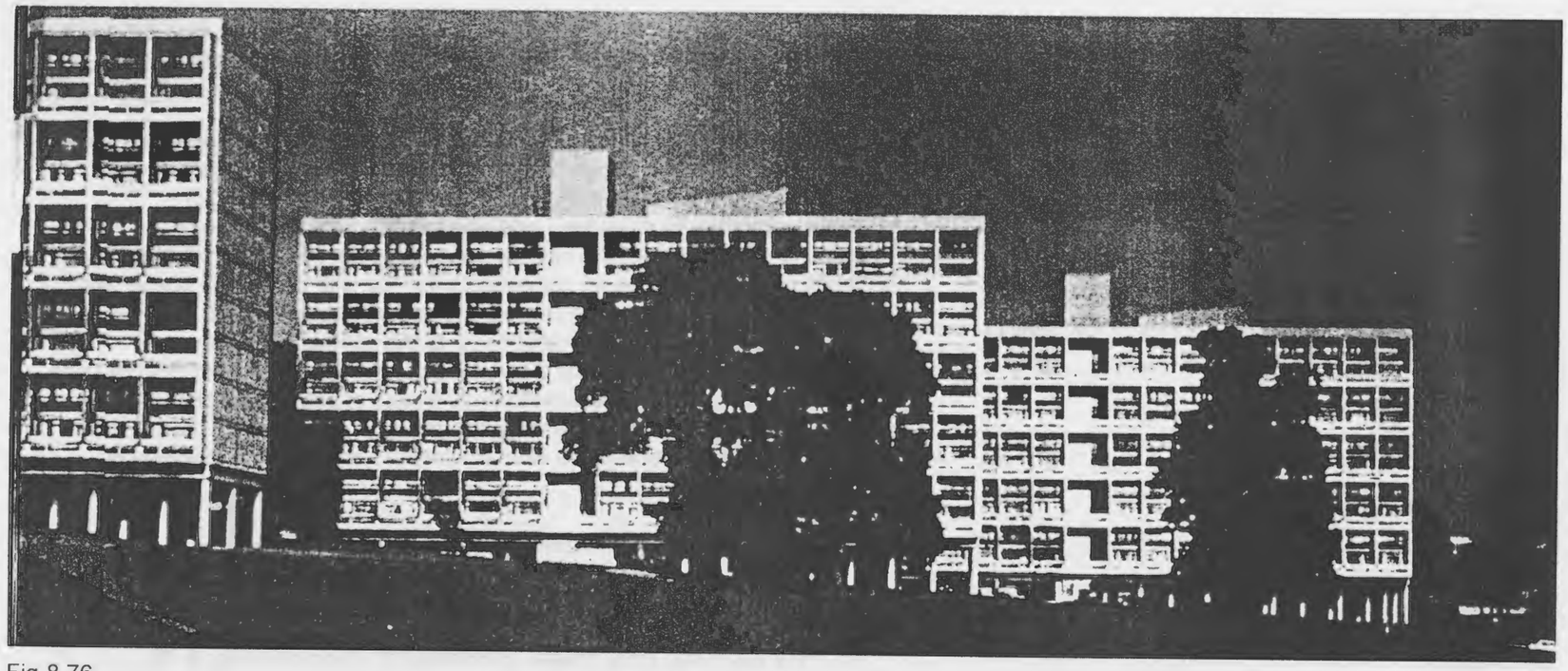


Fig 8.76

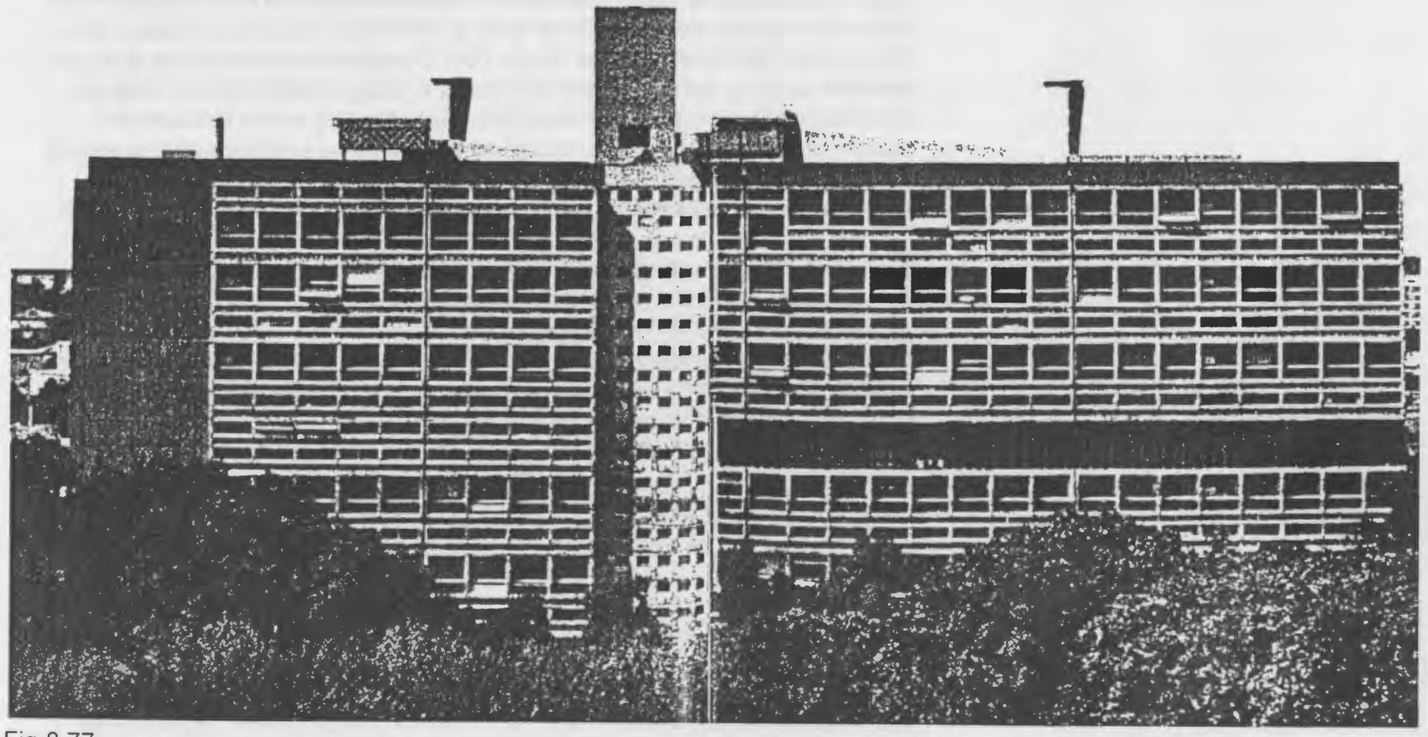


Fig 8.77

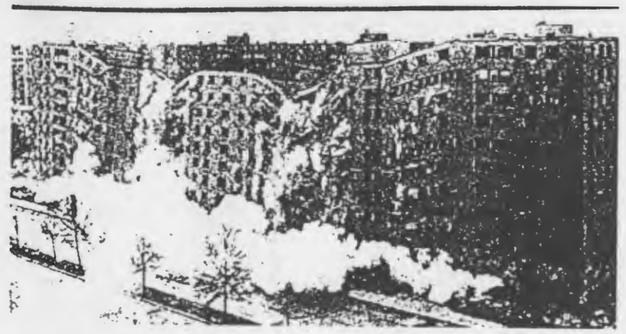


Fig 8.78

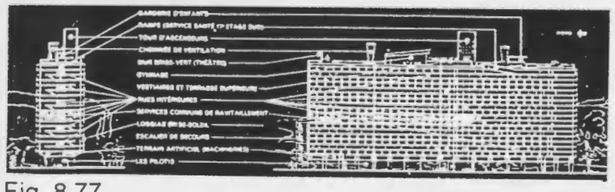


Fig. 8.77

Figure 8.76 :
Alton West Estate, Roehampton (1959)
*( RMP (1968) )*

Figure 8.77 :
Le Corbusier : Unite d'habitation, Marseilles. (1947-52)
*( source : Jencks (1985.15/16) ))*

Figure 8.78 :
Pruitt-Igoe Projects St Louis demolished July 15 1972
*( source : Wolf (1981.81)*



The resemblance of both Golden Lane and Park Hill to projects such as Le Corbusier's Ilot Insalubre Project of 1937 *(Fig. 8.65)* show an evolutionary rather than revolutionary thread during this period.

In retrospect we recognise the incredibly negative impact schemes such as Park Hill had on the urban environment. The sterile conditions of these developments which were isolated from their urban environment and context as much as the towers of the functionalist city, suggested the architects and planners had yet to come to terms with the urban and social consequences of their approach. Antonio de Souza Santos commented on the fact that many anonymous environments of that time emanated from tantalising drawings.(Interview 21/6/1996). The horror of the modernist monolith exemplified by such projects as Pruitt Igoe *(Fig. 8.78)*, mitigated against the possibility of modular repetition in the design of Ormonde. Examples of the standard modernist slab block with massive screens and repetitive facades were seen to be an anathema and led to the fragmenting of the language of the individual unit designs.

The Alton West Estate, Roehampton 1955-59 *(Fig. 8.76)*, in contrast to Park Hill, was an example of tall slab buildings and 'point blocks' used to free up large areas of grassed land. The urban prototype for Alton West was Le Corbusier's Ville Radieuse, where, by elevating all structures including garages and access roads off the ground, the surface would become a continuous park, allowing pedestrians the freedom to wander at will. Thus the ground plane and all space would belong to 'society' and serve the common good and the street would be banished to the history books. The Unité d'Habitation (1947-52) *(Fig. 8.77)*, as a free standing slab, was to be the typical Corbusian solution to high density housing and was in fact a fragment of the Ville Radieuse. The Unité[14] was admired as an example of a building as a self contained community, much like a monastery or ship. It was copied with disastrous consequences in many subsequent urban developments and the alienating environments created in many post war developments owe much to the influence of this model. Alton West was a descendent of projects such as the Unité d'Habitation in Marseilles. It speaks a restrained language of Corbusian form and was described as an act of homage to Le Corbusier.

These buildings all speak a restrained language of Corbusian form but there is an awareness of architecture as a social and intellectual discourse. Alison Smithson acknowledged the pervasive influence of Le Corbusier and in effect spoke for a generation in saying *" ....when you open a new volume of the Ouvre Complète you find that he has had all your best ideas already, has done what you were about to do next." Banham (1966.8)*

Banham (1966.8) goes on to say, *"He (Le Corbusier) was the last outstanding formgiver of what may prove to be the last form dominated epoch of architecture....to walk across the grass at Alton West is to inhabit a total environment created largely and consciously in his image, but to drive down*

[14] It is interesting to note that both Candilis and Woods worked in the office of Le Corbusier on the Unité d'Habitation.

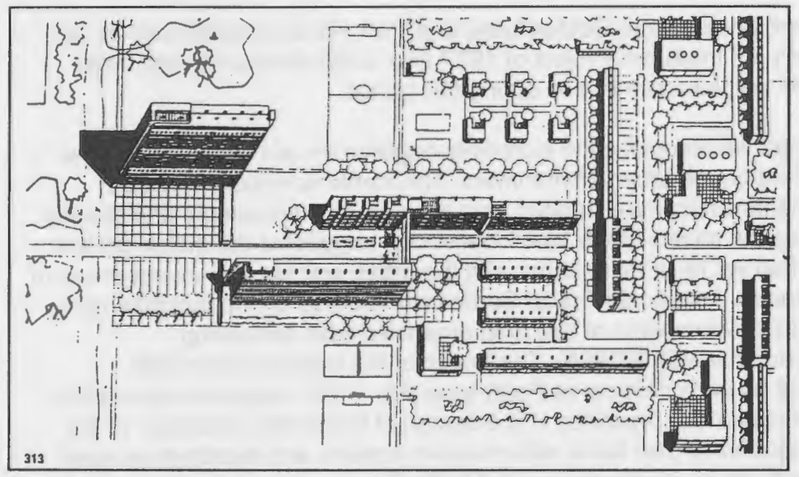
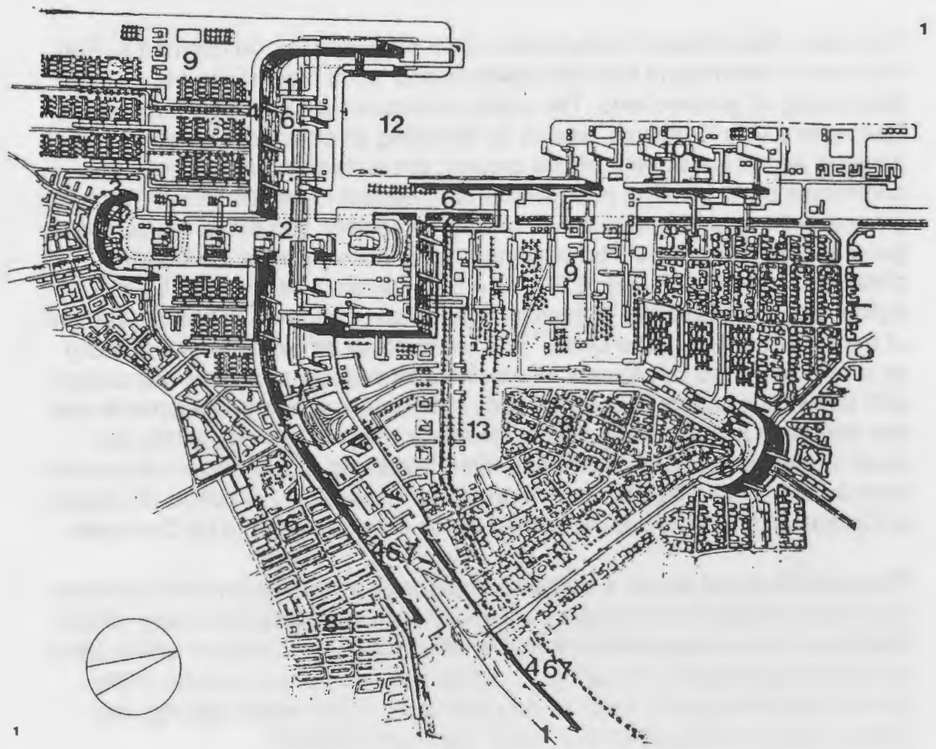



Fig. 8.79



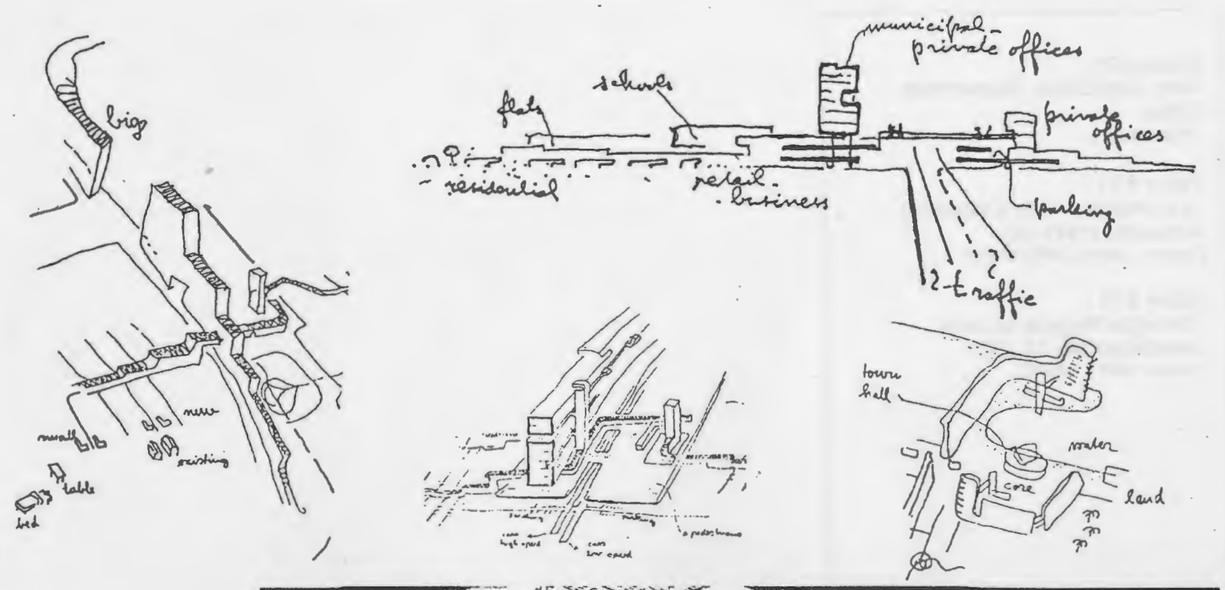

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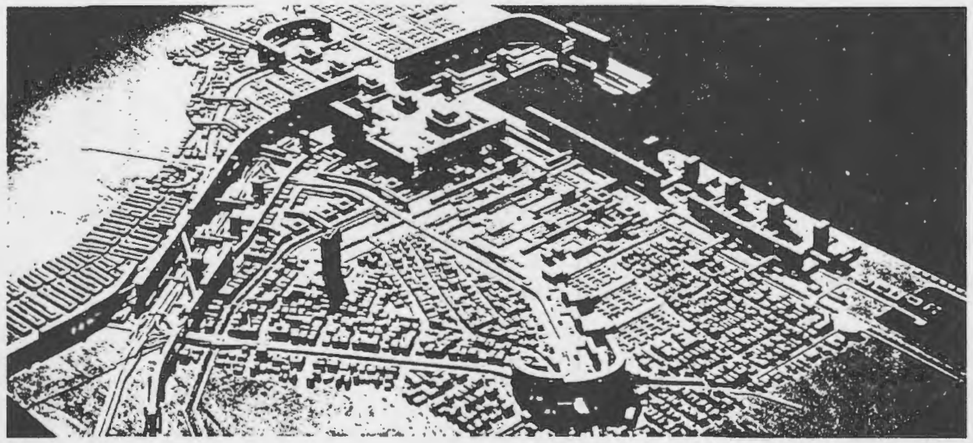
1 Einfahrt der Autobahn zum Zentrum
2 Stadtkern
3 Büros
4 Läden
5 Kulturelle Einrichtungen
6 Parken
7 Wohnen
8 Vorhandene Bebauung
9 Bildung und Gesundheitsfürsorge
10 Hotels, Erholungszentrum, Sport
11 Regierungsgebäude
12 Yachthafen
13 Vorhandenes Verwaltungshochhaus

1 Entry of the highway to the center
2 City core
3 Offices
4 Shops
5 Cultural institutions
6 Parking
7 Residential quarters
8 Existing buildings
9 Education and health institutions
10 Hotels, recreational center, sports
11 Governmental buildings
12 Yachting harbour
13 Existing administration tower

1 Accès de l'autoroute au centre
2 Centre urbain
3 Bureaux
4 Magasins
5 Equipements culturels
6 Parkings
7 Logements
8 Constructions existantes
9 Culture et santé publique
10 Hôtels, centre de loisirs, sport
11 Bâtiment gouvernemental
12 Port de plaisance
13 Tour administrative existante

Fig 8.80



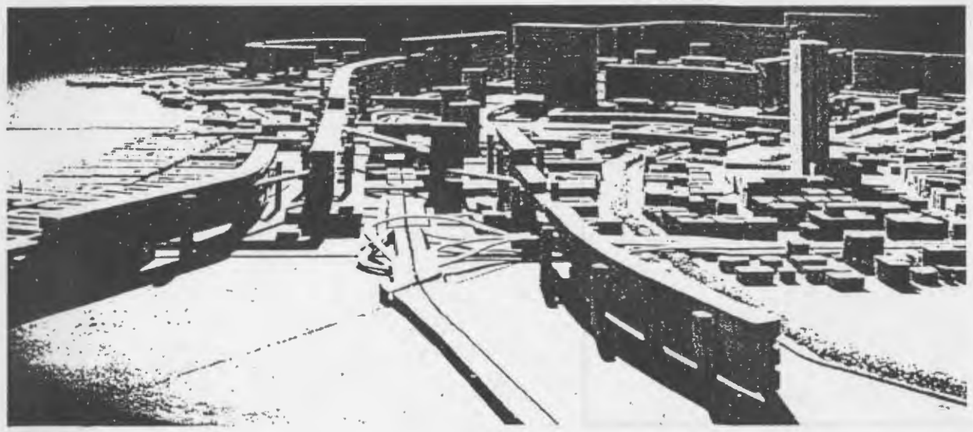


Fig 8.80

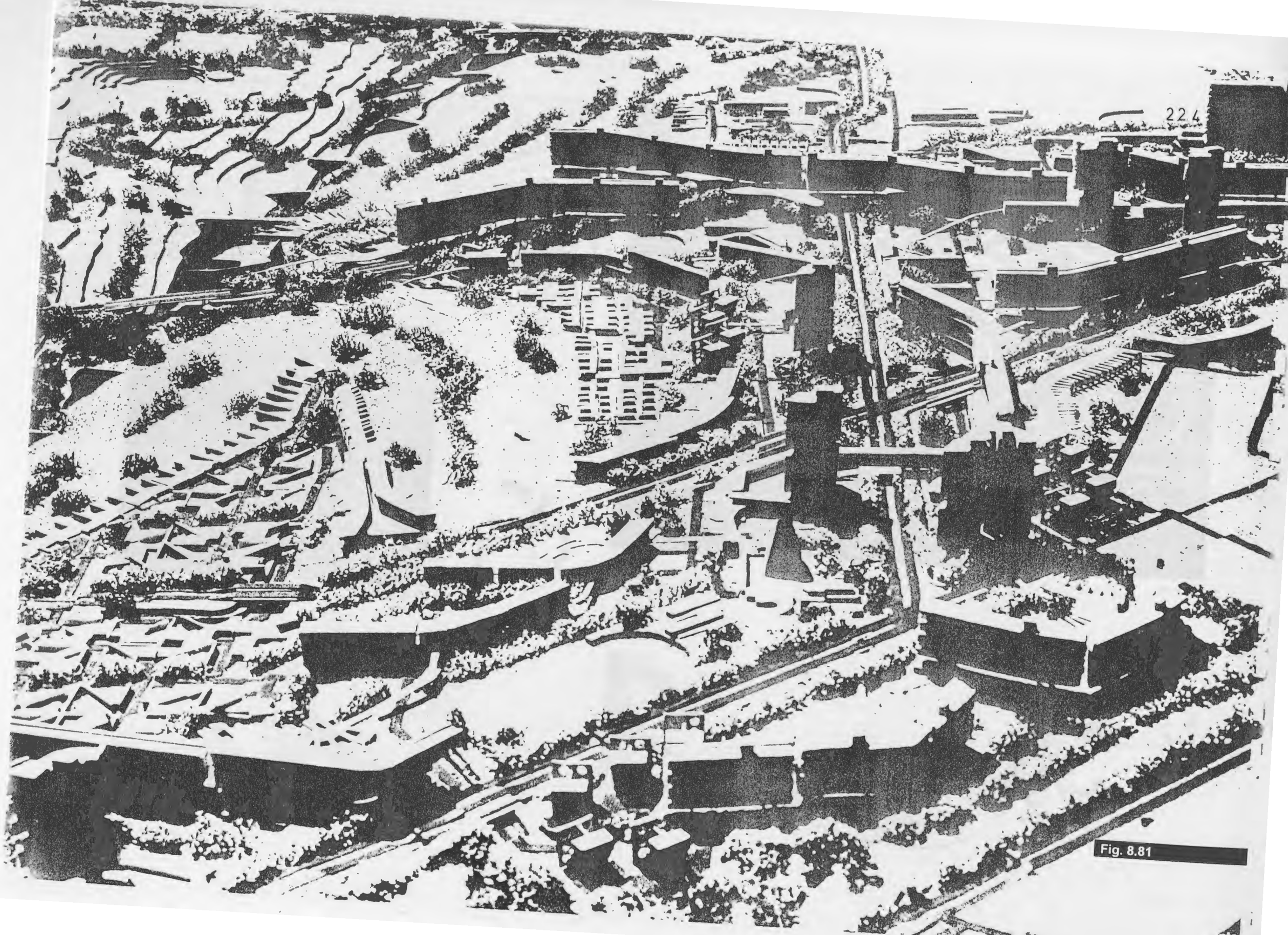


Fig. 8.81



Fig 8.82

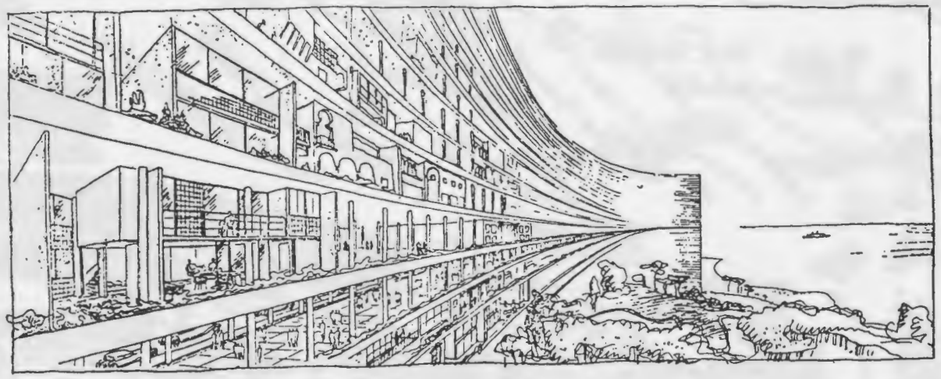


Fig. 8.83



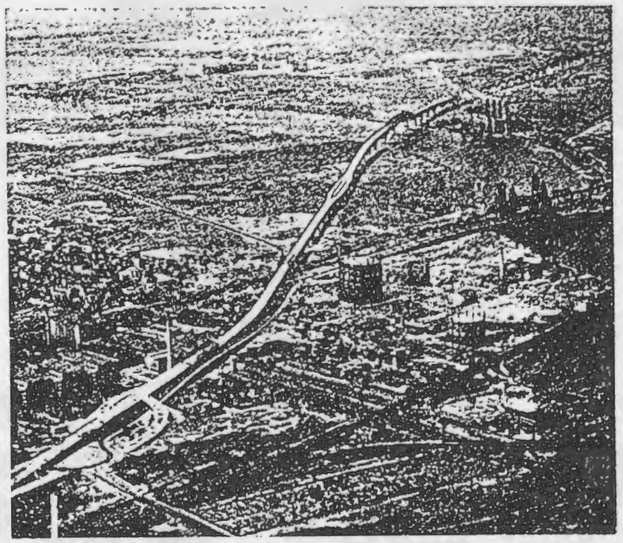


Fig 8.84



Fig 8.82

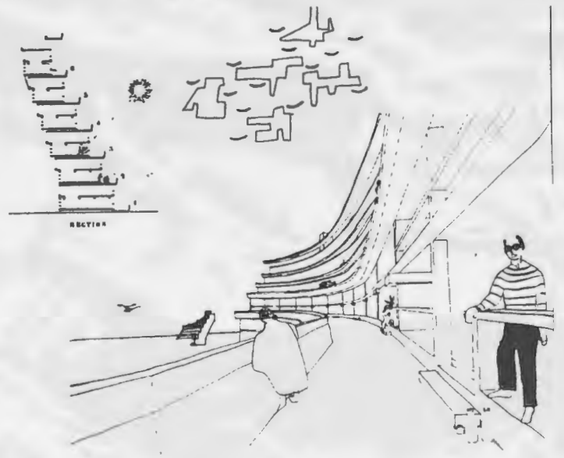


Fig 8.85

Previous Pages :

Figure 8.79 :Van den Broek Bakema : Project for Kennemerland (1959)
*( source : Newman (1961) )*

Figure 8.80 :
Project for a Town Centre Tel Aviv Israel (1962)
Plan
Diagrams of Megastructural blocks
Model
*( source : Van den Broek Bakema (1976) )*

Figure 8.81 :
Ormonde Model (1972)
*( source : UDC (1971) )*

Facing Page :

Figure 8.82 :
Le Corbusier : City Planning for Algiers. Plan Obus (1930-34)
*( source : Le Corbusier (1987.32) )*

Figure 8.83 :
Le Corbusier : Plan Obus (1930-34)
*( source : Le Corbusier (1960) )*

Figure 8.84 :
Le Corbusier : Photograph of the 'elevated street'
*( source : Le Corbusier (1933) )*

Figure 8.85 :
Smithsons : Terraced Dwelling Units (1952)
*( source : Newman (1961.11) )*

*Sunset Boulevard is to be constantly reminded that men who had never heard his name have been able to work on clichés borrowed at second or third hand from his notebooks."*

### 8.4.4 Team X in the Fifties : The search for Urban Identity

The history of CIAM and Team X from 1953 onwards[15] was essentially the history of an attempt to re-establish the basis for urban identity. The Smithsons put forward two strategies : the first called 'Urban Re-identification' in 1952 was meant to re-establish identity through a clarifying order based on a 'significant road hierarchy'. The second means of clarifying identity was through 'inducing' the emerging order of 'human associations'. These ideas were strongly influenced by the thinking behind urbanism prevalent at the time. It is important to understand the lineage of these ideas and the links between other members of team X in tandem with the influences they had Ormonde. One must, however also recognise the pluralism of the different approaches taken by different members of Team X[16].

A characteristic project of Team X during the 50's was Van den Broek and Bakema's Project for Kennemerland of 1959 *(Fig. 8.79)*, where they tried to give identity to an urban area by mixing low, medium and high buildings on a transitional scale and provide for 'open ended' growth in size without disturbing the overall structure. Bakema's approach of a more modulated layout had its roots in the neighbourhood planning concepts first developed by planners such as Ernst May in the early days of CIAM in the thirties. The idea of giving comprehensible form to urban variety and the idea of a 'cluster city' made up of many centres of intensity became prevalent ideas in giving identity to amorphous city growth.

The word 'cluster' was first introduced at CIAM X in 1956 to mean a specific pattern of association and was introduced to replace such group concepts as 'house, street, town, city' - community sub-divisions or isolate village, town, city - group entities which were seen to be too loaded with historical overtones. 'Cluster', in the Smithsons' terms *"is a sort of clearing house term during the creation of new types." Smithson, A & P (1967.33)*

### 8.4.5 The Idea of 'Megastructure'

Bakema[17] did not come under the influence of Le Corbusier until his Tel Aviv Proposal of 1963 *(Fig. 8.80)*, where he used the idea of the megastructure as a means of giving order to the dispersed form of the city. The parallels between this structure and Le Corbusier's Obus Block designed for Algiers in

[15] The last meeting of Team X was held in 1981. It was decided after the death of Jaap Bakema in February 1981 that there would be no more meetings of Team X
[16] The founder 'members' of Team X included Bakema, Aldo Van Eyck, Candilis, Alison and Peter Smithson, Shad Woods, Giancarlo de Carlo, Coderch, Pologni, Soltan and Wewerka. (Team 10 Primer) Team X was described as a 'family of equals : a family of different individuals',
Other people like Guedes and Erskine also formed part of Team X meetings.
[17] It is interesting to note that Bakema was one of de Souza Santos' studiomasters at Penn.

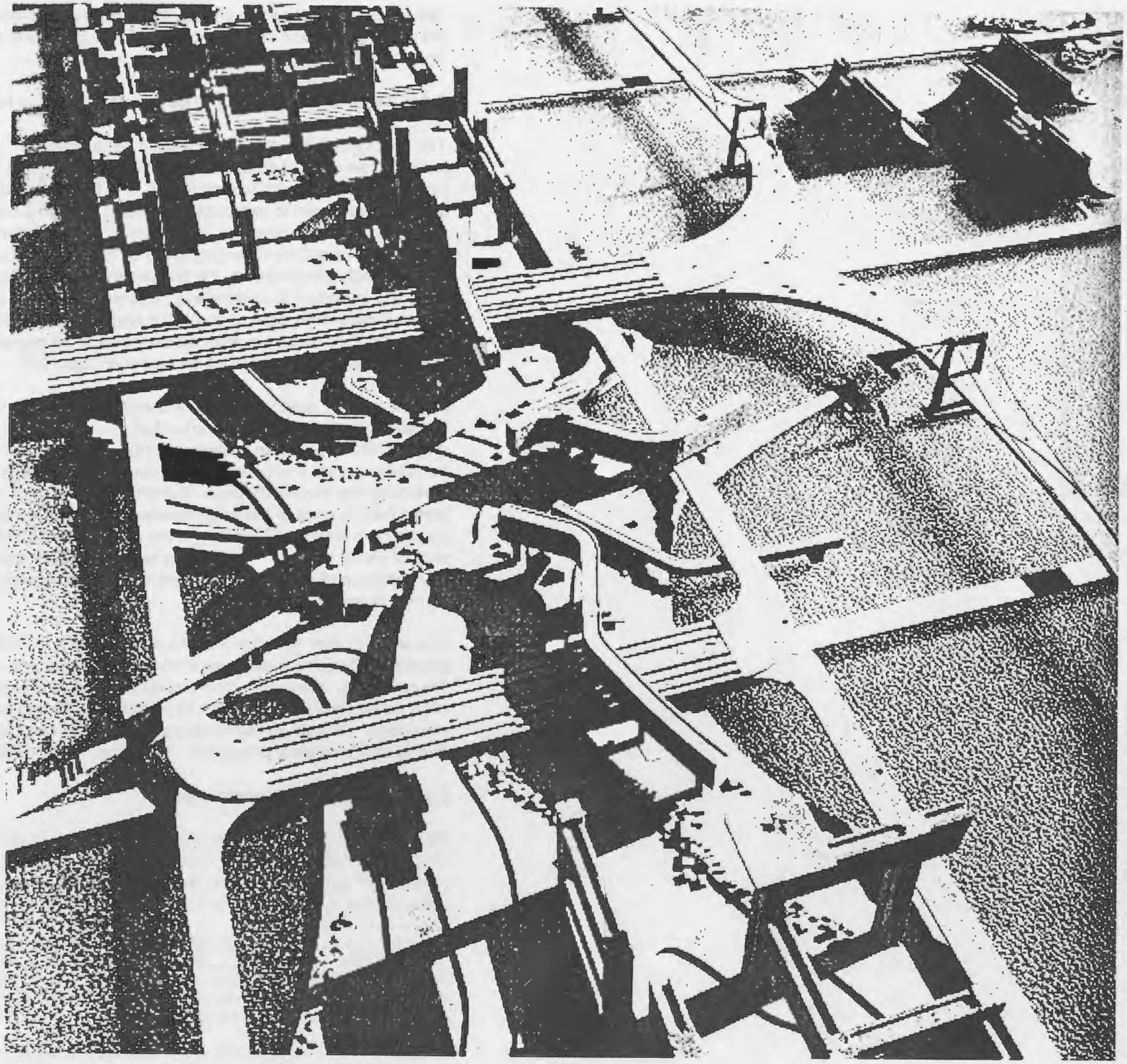


Fig 8.86

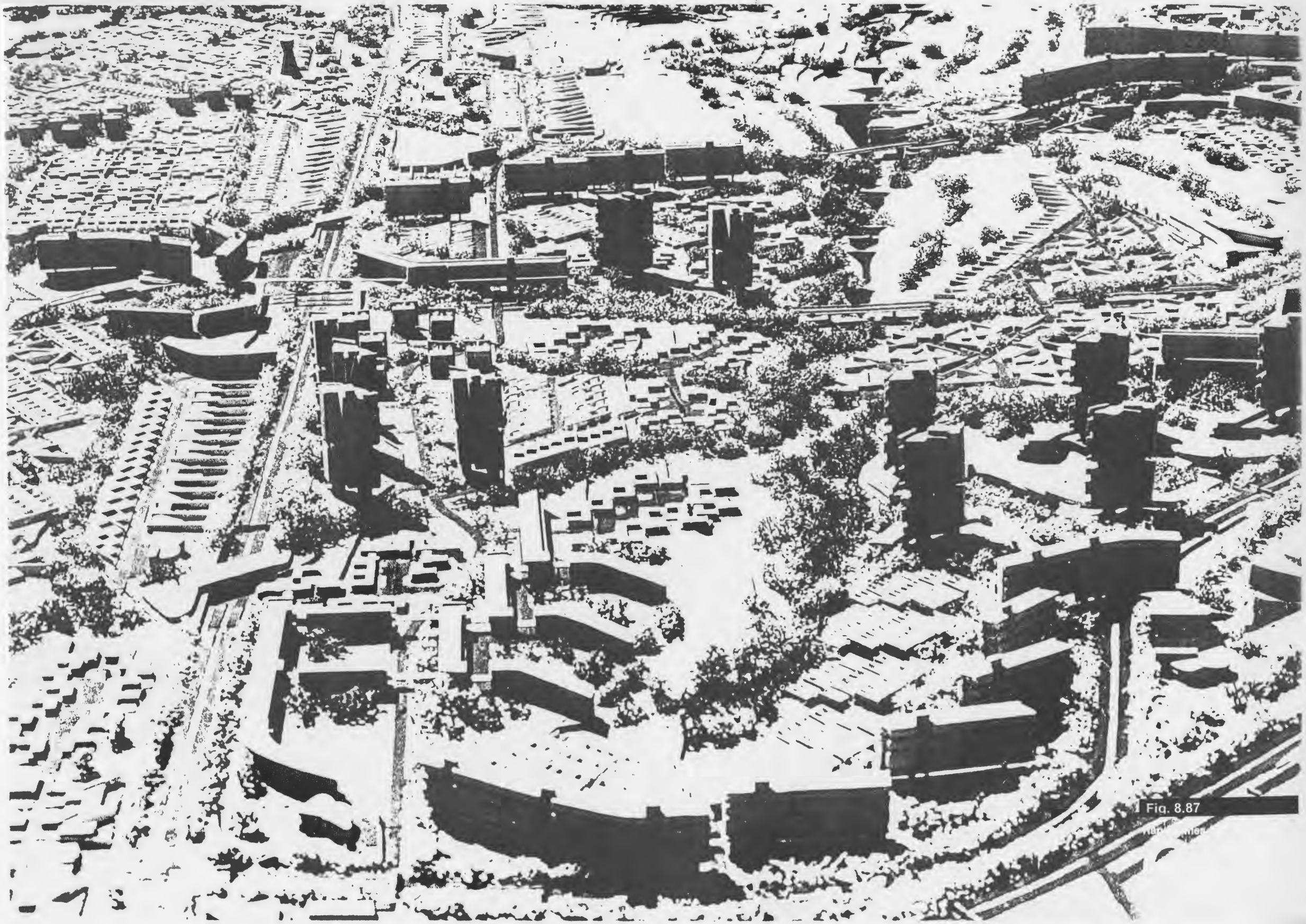


Fig. 8.87

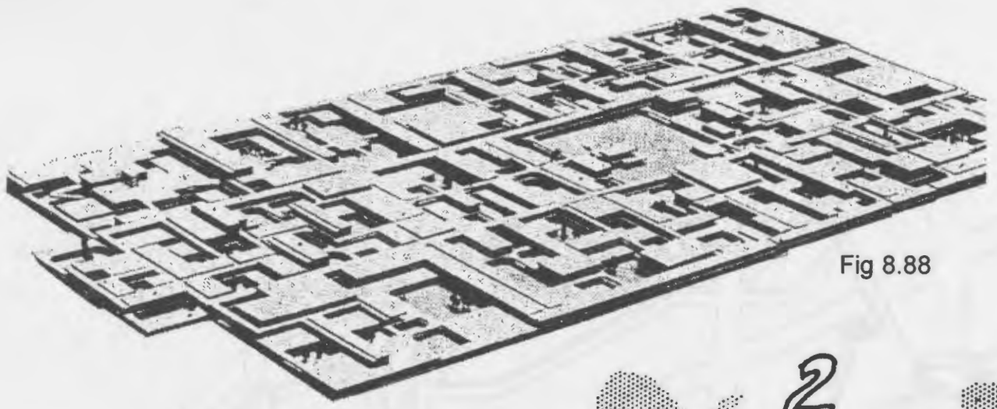


Fig 8.88

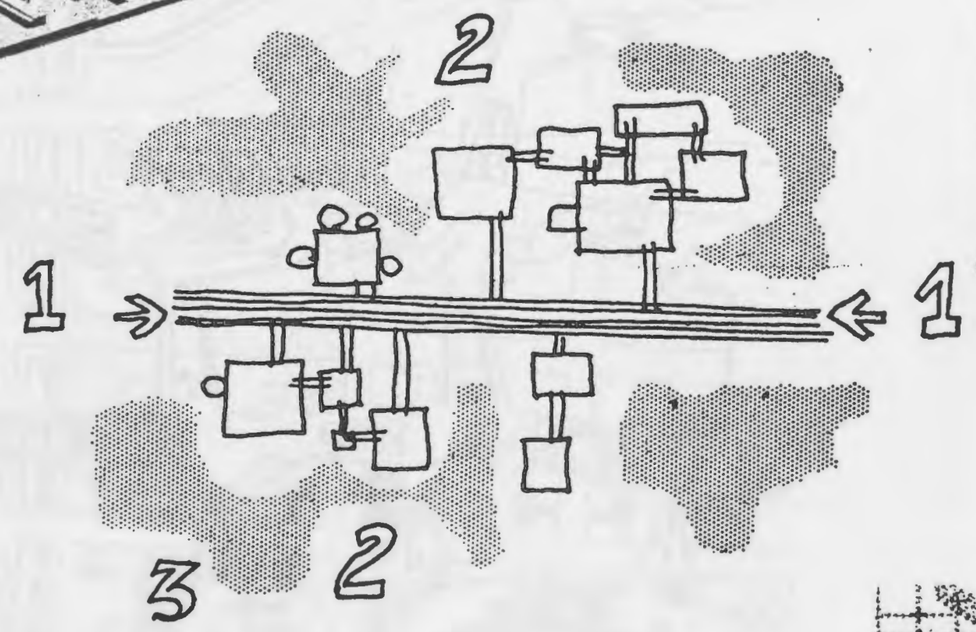
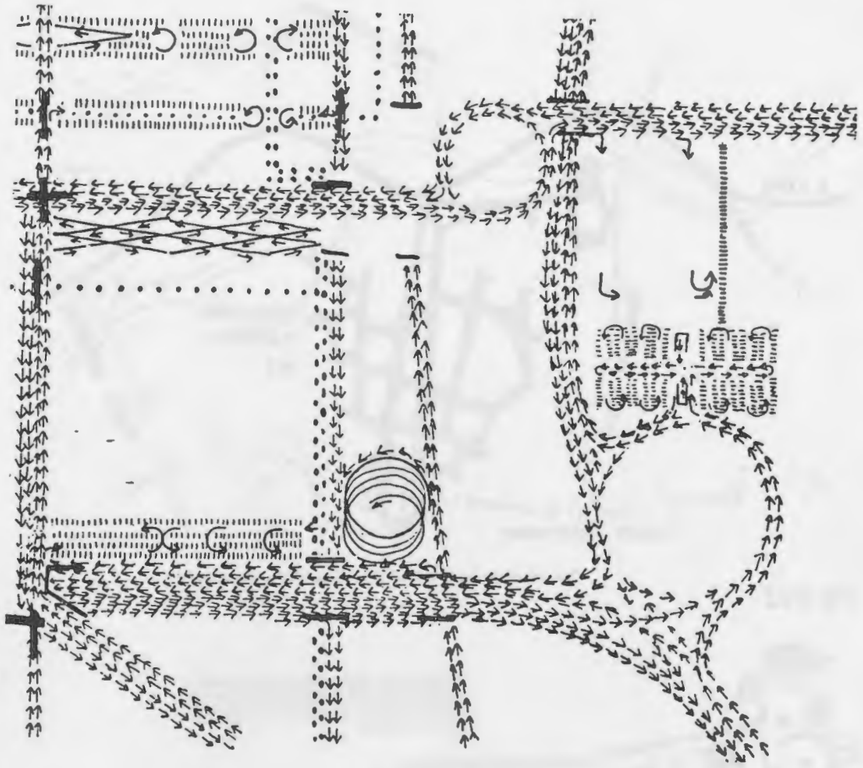



Fig 8.89



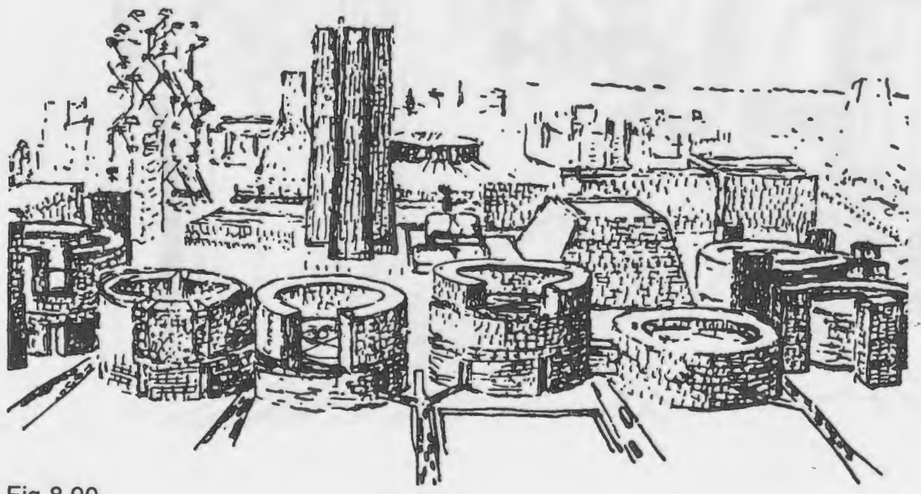


Fig 8.90

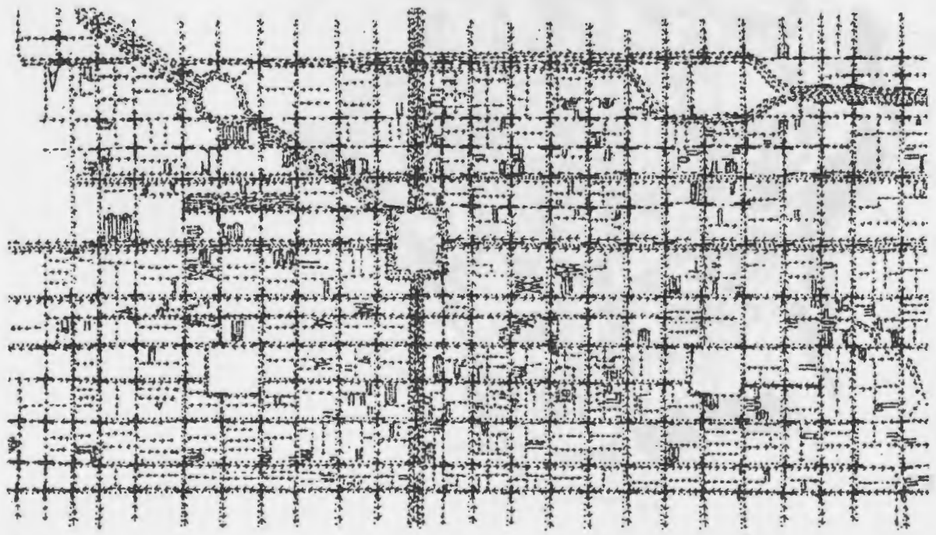


Fig 8.91

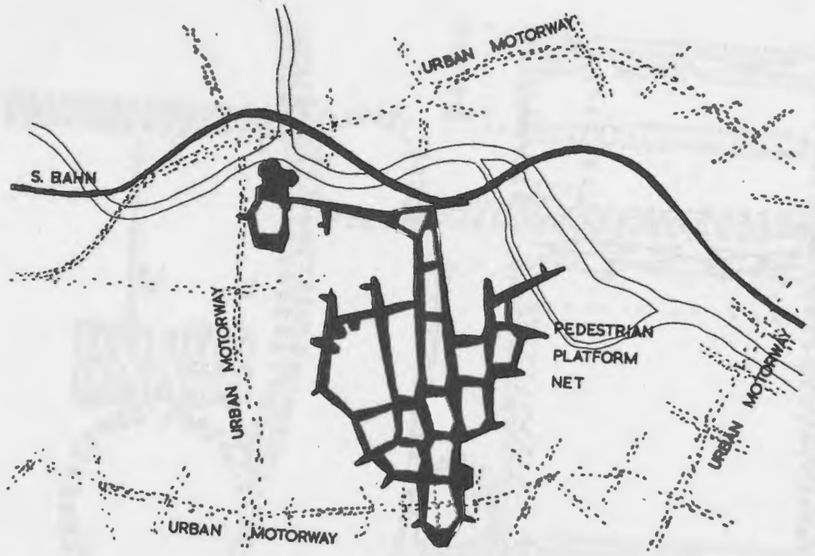
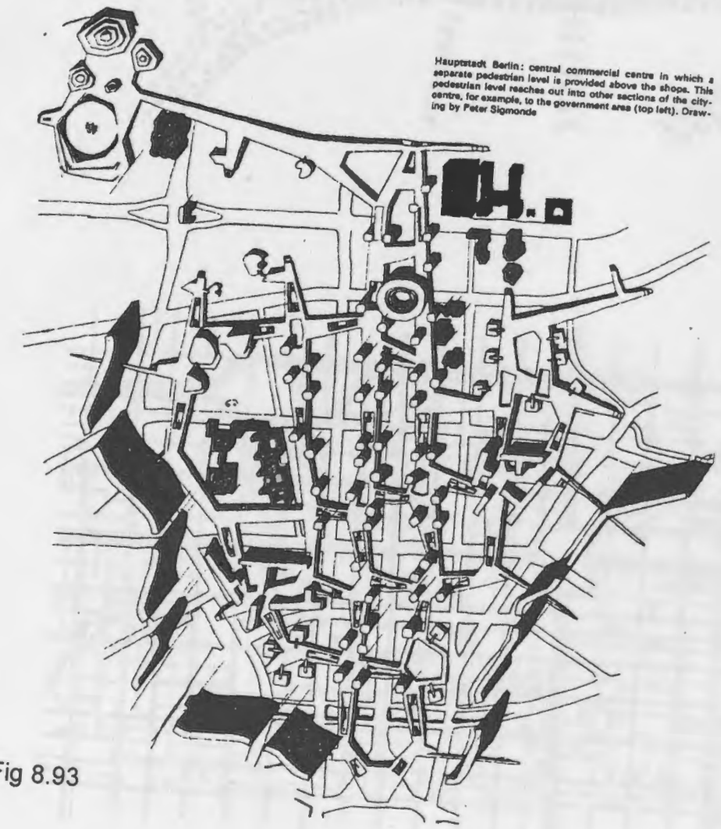



Fig 8.92 The pedestrian circulation net in its setting of urban motorways



Haupstadt Berlin: central commercial centre in which a separate pedestrian level is provided above the shops. This pedestrian level reaches out into other sections of the city-centre, for example, to the government area (top left). Drawing by Peter Sigmonds

Fig 8.93

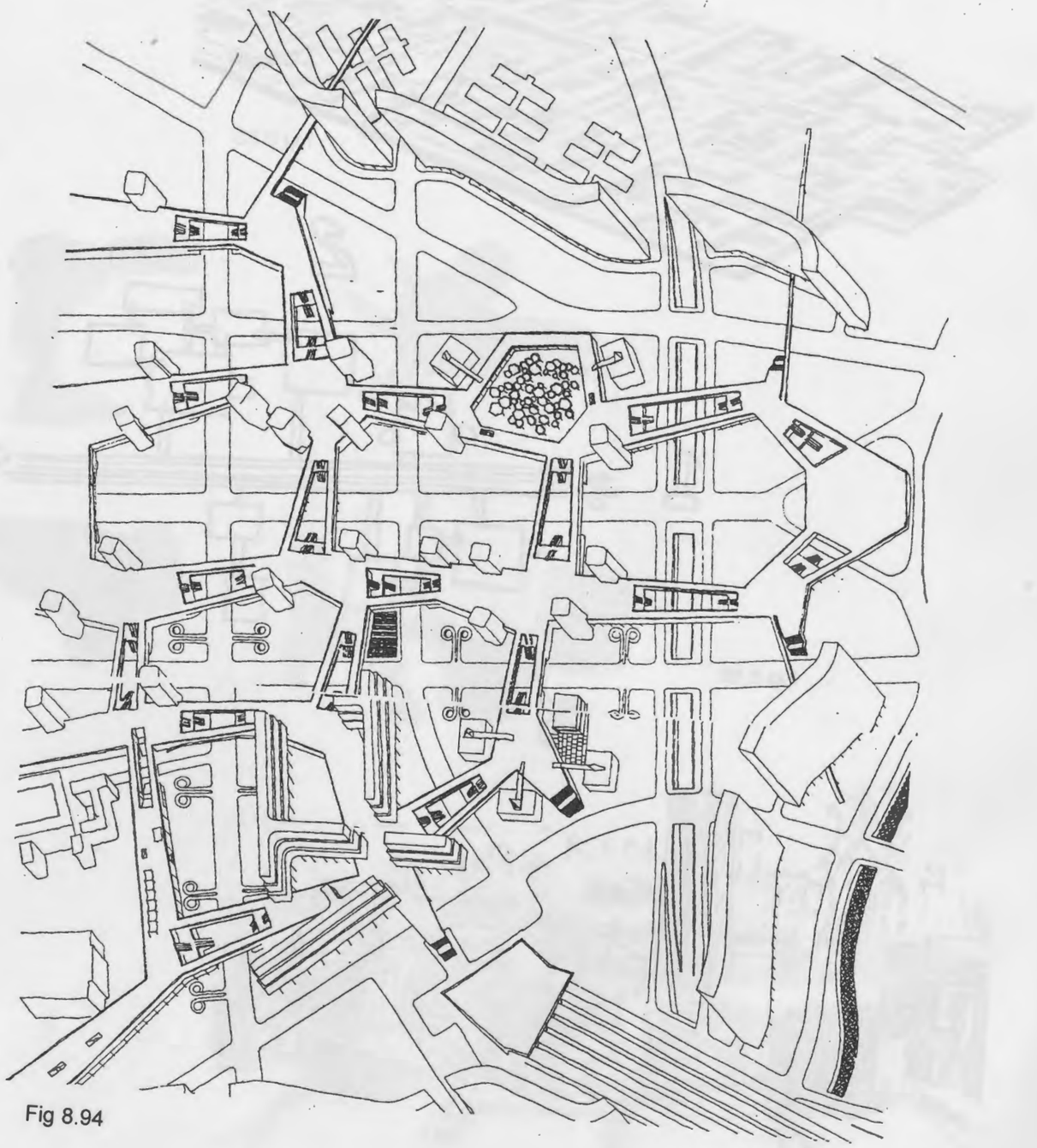


Fig 8.94

Previous Pages :

Figure 8.86 :
Kenzo Tange : Tokyo Bay Plan (1960)
"Different rates of change divide the city up into different levels of circulation and function."
Jencks (1985.340)

Figure 8.87 :
Ormonde Model
*( source : UDC (1971) )*

Figure 8.88 :
Woods : Free University of Berlin (1964)
*( Smithsons (1968.65) )*

Figure 8.89 :
Smithsons : Route Building serving Office Towers (1959)
*( Smithsons (1968.65) )*

Figure 8.90 :
Kahn : "At some point must be a place of maximum intensity"
Smithsons (1968)
*( Smithsons (1968.65) )*

Figure 8.91 :
Kahn : Existing and Proposed Philadelphia Movement Patterns (1952)
Movement systems reduced to an abstract language.
*( Smithsons (1968.53/72) )*

Facing Page :

Smithsons : Berlin Haupstadt (1958)
*( source : Smithsons (1967.50/58) )*

Figure 8.92 :
The pedestrian circulation net in its setting of urban motorways.

Figure 8.93 :
Central Commercial centre in which a separate pedestrian level is provided above the shops

Figure 8.94
Southern portion Haupstadt Berlin of pedestrian net showing the growth of causeways above the old street grid.

1931[18] *(Fig. 8.82/83)*, a motorway megastructure with six floors beneath its road surface and twelve above set 5m apart, constituting an 'artificial site' are clear. It was to provide for a public but pluralistic infrastructure designed for individual appropriation. This project contained the essential elements of a megastructure concept as was to emerge thirty years later. In Bakema's project for Tel Aviv the megastructure followed the trajectory of a freeway spine running through the city. Of course this in itself was a direct contradiction of the Athens Charter #27 which stated, *"the alignment of dwellings along transportation routes must be prohibited." Le Corbusier (1973.64)*

For high density areas the idea of the 'megastructure'[19] became very popular in the sixties, where projects such as Kenzo Tange's Tokyo Bay Plan of 1960 *(Fig. 8.86)*, put forward the idea of an open form for the open and changing society, where different rates of change divided up the city into different levels of circulation and function and one could replace elements without disrupting others. The difficulty of a megastructure within a megalopolis was that the political, economic and social integration it implied were not taken into account.

Both Bakema and the Smithsons were preoccupied with the notion of the 'urban fix' - the sense of place to be established by architecture within the endlessness of 'Motopia'. Bakema proposed the megastructure as the psychological 'fix', whilst the Smithsons opted for localised traffic-free enclaves like the elevated podiums of the Berlin Haupstadt Scheme of 1958. Both Bakema and the Smithsons were at the time obsessed with the liberating promise of mass mobility.

The idea of cluster planning was first put forward by Kevin Lynch in 1954 and was generalised to the level of the whole city by the Smithsons in the Berlin - Hauptstadt Scheme *(Fig. 8.93)*. The project presents three new means of giving urban identity: the wall of buildings, the pedestrian net and cluster blocks, ideas which were later developed by Shadrach Woods in Toulouse le-Mirail. There was still an emphasis on functional separation and green fingers but there was the introduction of new concepts and keywords, such as growth and change, mobility and the inverted profile. The inverted profile led to a 'Chinese Wall' of 30 storey office buildings surrounding the centre which gave a strong identifying image. The project carried out the Team X manifesto of 1954 because it gave a significant image of the emerging patterns of human association which would give 'identity' to a 'changing' idea.

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[18] This project remains one of the most significant projects of the C20th, in de Souza Santos opinion, and remains one of the big intellectual challenges. It is included in his prospectus for Masters of Infrastructure Planning at NJIT, with following quote, "This radical vision of a new urbanism, based on the integration of infrastructure, architecture and landscape through modern technology continues to challenge contemporary infrastructure planning theory" Van Moos. "Le Corbusier Elements of a Synthesis".

[19] Megastructure was defined by Banham as, " Megastructure, the concept of a giant, adaptable, multi-purpose building containing most of the functions of a city was one of the dominant design themes of the late 1950's and most of the sixties, occupying the difficult middle ground between architecture and town planning." Banham (1976)



Fig 8.95



Fig 8.96

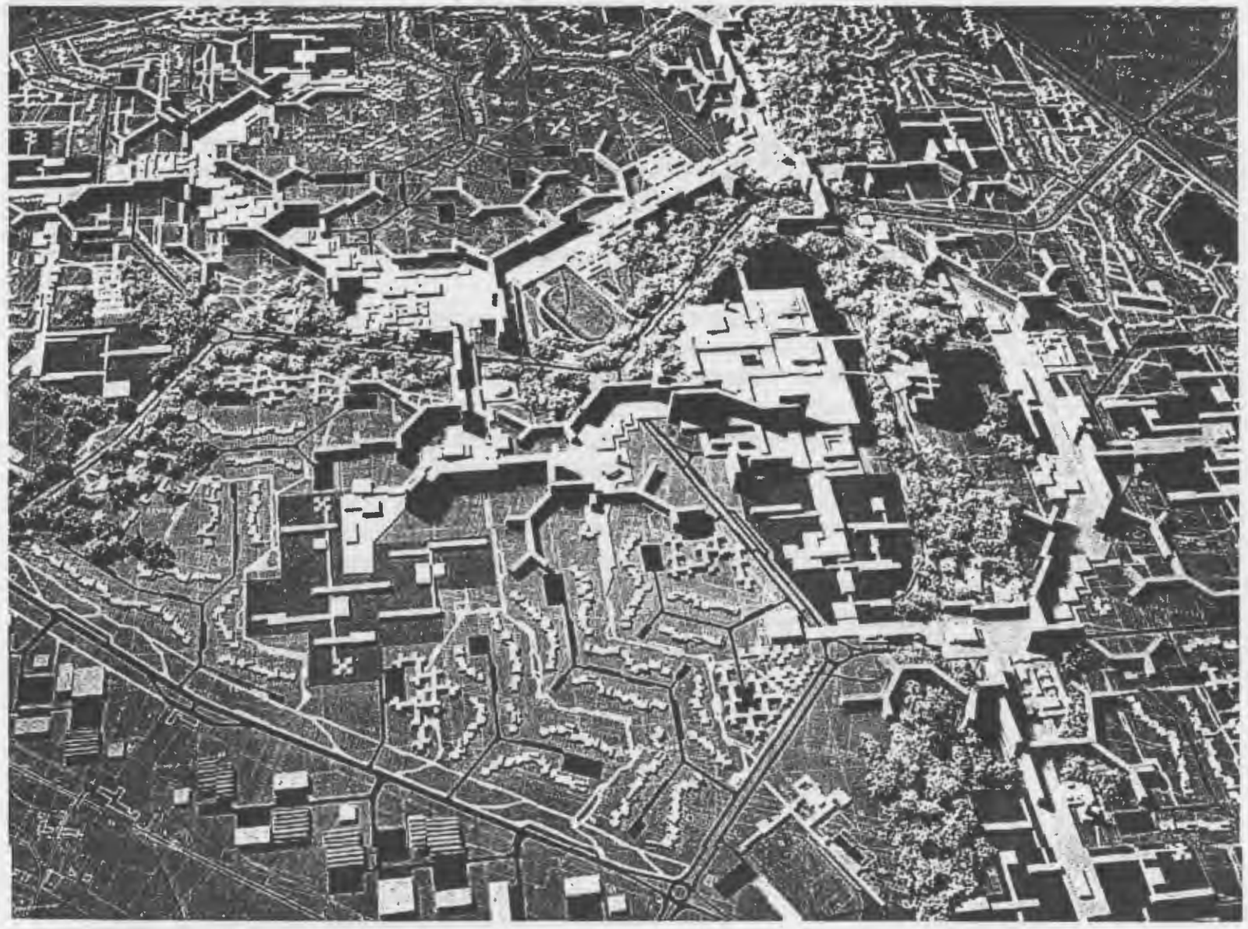


Fig 8.97

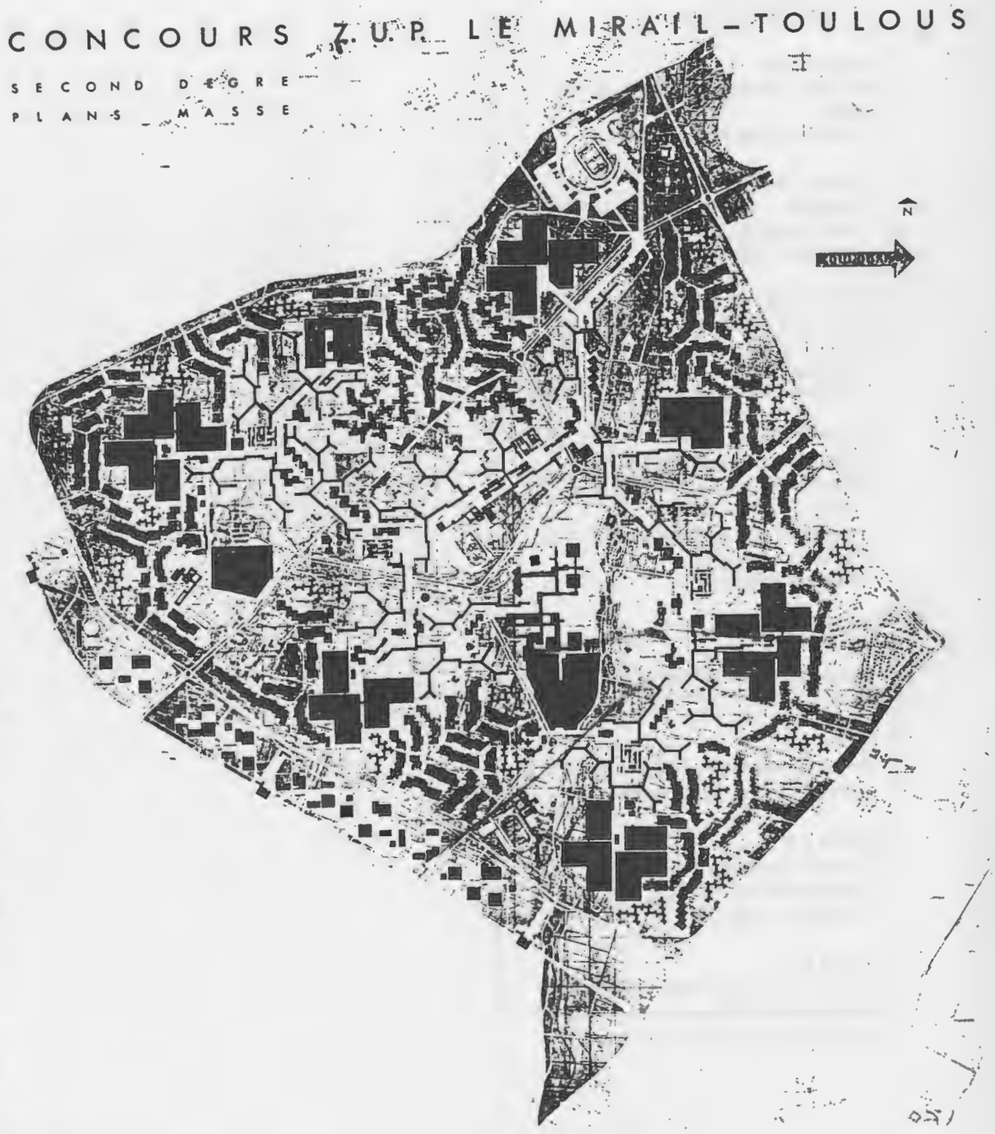



Fig 8.98

Candilis, Josic and Woods :
Toulouse-le-Mirail (1961)
Open ended pedestrian streets composed of all activities and services and separate from high speed traffic below.
*( source : Joedicke (1968.184-186) )*

Figure 8.95 :
Aerial View

Figure 8.96 :
Relationship to existing city of Toulouse

Figure 8.97 :
Model

Figure 8.98 :
Zoning Plan

The question architects tried to address in the late 50's was how to give identity to a polycentred sprawl. The cluster city and the inverted profile were two means which the Smithsons evolved in Hauptstadt Berlin. The others were ideas connected with road forms : the route building *(Fig. 8.89)* and the net, as explored in their Soho Study and London Roads Study of 1959 *(Fig. 6.54)*, which looked at patterns of movement, association, cluster, identity and patterns of growth. The idea of the triangulated net and the route building was to provide the structure for a scattered city on a large enough scale to give urban identity. The idea arises out of a concept of movement patterns devised by Louis Kahn in the early 50's in his project Existing and Proposed Philadelphia Movement Patterns of 1952 *(Fig. 8.90/91)*, where movement was reduced to an abstract language. These studies showed a shift away from an Utopian approach of a masterplan dependent on a few fixed variables, architects now sought to propose flexible strategies. The dual aspects of urbanism in terms of its physical and social sides were recognised.

The shift away from the masterplan together with the idea of giving form to urban variety while providing for open ended growth were key ideas that were translated into the Ormonde plan. However when the Smithsons visited the School of Architecture of the University of the Witwatersrand (Wits) to present a series of Seminars, in July and August of 1970, they criticised the Project for doing as much 'masterplanning' and demonstration of 'reality' as they had done.

The necessity for a smaller device than a megastructure in the city was recognised by Shadrach Woods with what he called a 'minimum structuring device'. Woods proposed a series of these devices which grew out of the previous Team X thinking. Instead of the Smithsons' idea of deck housing on a linear route, he substituted the idea of 'stem' as in Candilis, Josic and Woods project for Toulouse-le-Mirail in 1961 *(Fig. 8.95-98)*. For the idea of two dimensional net, he substituted the idea of 'web', the web was basically the 'stem' idea in two directions, as used in the project for the Free University of Berlin of 1963 *(Fig. 8.88)*.

Visually Toulouse-le-Mirail is a descendent of the Golden Lane and Park Hill projects. Toulouse-le-Mirail also exemplifies a phase in the office of Candilis Josic and Woods that moved away from an approach to town planning as an exercise in visual aesthetics towards new systems and forms invalidated by the bonds of architectural composition.

## 8.5 An approach to the use of Typology

One can discern a difference in approach between Roloef Uytenbogaardt and the Antonio and Adele de Souza Santos (Santos's). The Santos's were concerned with an incontravenable basis for design in terms of systematic criteria for design, while Roloef Uytenbogaardt had a more intuitive approach and was concerned with an early formal definition.

The key to the idea of choice and variety in determining 'habitat' was the use of typology to define sets of requirements. Although reference is made to the word typology, it is used in the sense of an architectural method of referring to precedent. As the essential element of habitat was the housing component, the idea of typology or a set of prototypes related particularly to the housing component of Ormonde. The housing component was seen as the generating element in the design of Ormonde. It could be argued that the theoretical position of the Santos's in terms of their overall approach to architecture had its basis in the problem of housing, *"where buildings are seen less as abstractly conceived objects and more as micro-environments" Papademetriou (1978.63)*

An essential feature of the Santos's approach was the extent to which user needs operated within the design process, together with the belief that, *"the design process must be circumstantially responsive to patterns of use. While user needs and values, systematically interpreted, become important determinants of programs, they also become important determinants of form, providing not only multiple conditions for use, but also multiple opportunities for interpretative adaptation by the user." Papademetriou (1978.63)*

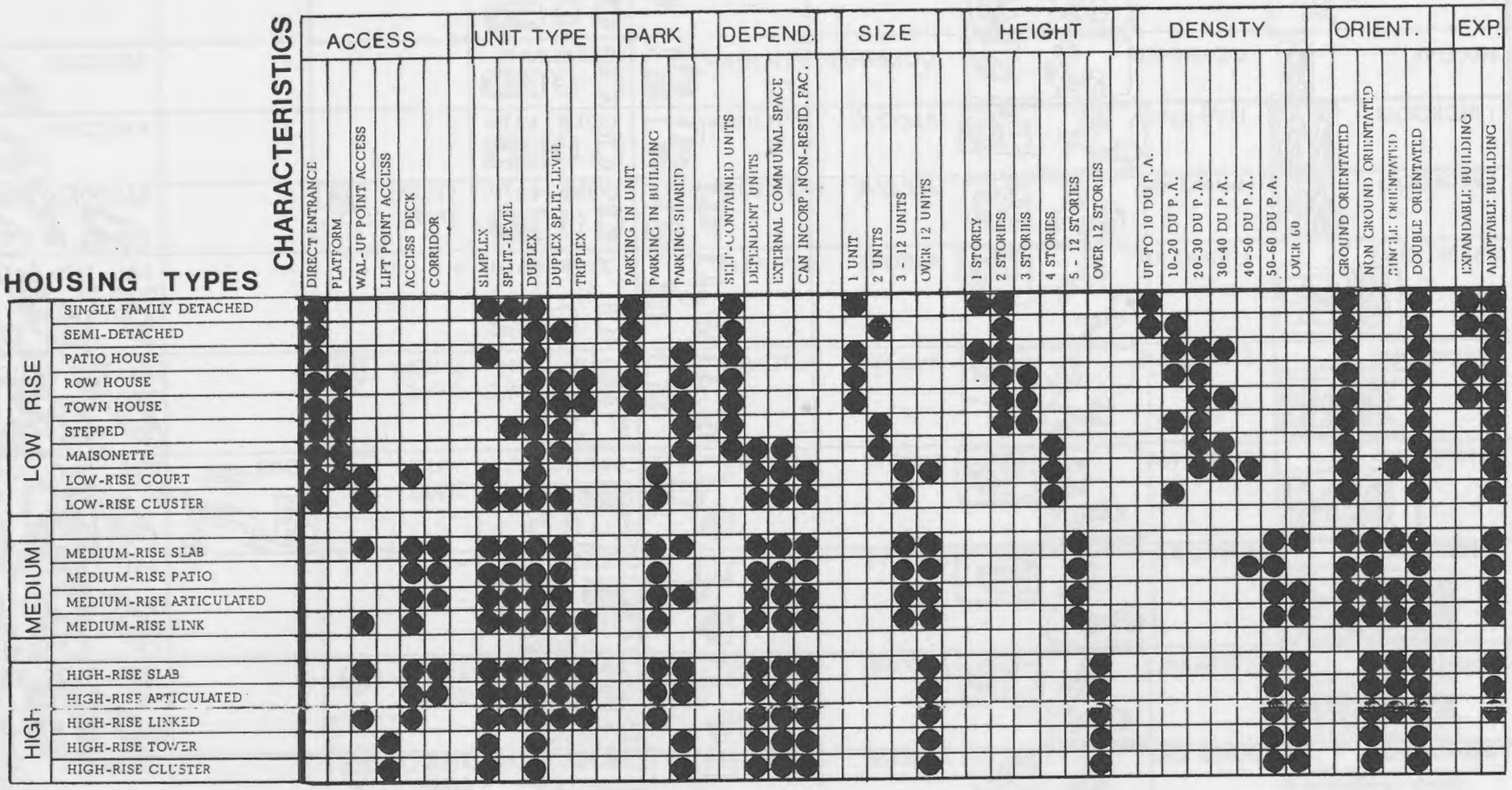
The need to systematically define a comprehensive basis for the proposal in terms of building types, densities and distribution was linked to a 'three pronged' approach. While the Santos's were concerned with a systemic approach which led to a series of matrices, charts and graphs detailing sets of design criteria[20] *(Fig. 8.99-102)*, Anthony Barac together with David Mort, who was involved in the marketing side of RMP, were concerned with a series of marketing demand studies. These were based on a series of metropolitan studies which looked at population trends, transportation models and projected target market trends.

### 8.5.1 Systematic Housing Analysis

In terms of the residential components study, each component of habitat was studied in order to define the essential conditions for an effective realisation of each aspect of the environment. Specific objects and methods to achieve these were set out.

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[20] This approach of the Santos's had been formed while working on other projects after graduating from Penn. The idea of 'sieve mapping' various characteristics was used on the Bedford Stuyvesant Project.




## HOUSING TYPES

Fig. 8.99

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| DWELLING TYPES | SLEEPING | LIVING | DINING | COOKING | HYGIENE | STUDY | PLAY | EXTERIOR SPACE |
|---|---|---|---|---|---|---|---|---|
| BED-SITTER | BED-SITTER | COMBINED | COMBINED | COUNTER | COMB. SH. | - | - | - |
| BACHELOR | ALCOVE | COMBINED | COMBINED | KITCHEN-ETTE | COMB.BATH | - | - | BALCONY |
| 1 BEDROOM | 1 BEDROOM | LIVING RM. | ALCOVE | KITCHEN-ETTE | COMB. BATH | - | - | BALCONY |
| 1 BEDROOM + | 1 BEDROOM | LIVING RM. | ALCOVE | KITCHEN | COMB. BATH | STUDY/ SPARE | - | BALCONY/TERRACE |
| 2 BEDROOM | 2 BEDROOMS | LIVING RM. | ALCOVE | KITCHEN | COMB. BATH | - | - | BAL. TERR. PATIO GAR |
| 2 BEDROOM + | 2 BEDROOMS | LIVING RM. | ALCOVE | KITCHEN | COMB. BATH/ W.C. | STUDY/ SPARE | - | BAL. TERR. PATIO GAR |
| LARGE 2 BEDROOM | 2 BEDROOMS | LIVING RM | ALCOVE | KITCHEN | CMB.BTH. W.C. | STUDY/ SPARE | COMB. | TERR. PATIO GARDEN |
| 3 BEDROOM | 3 BEDROOMS | LIVING RM | ALCOVE | KITCHEN | CMB.BTH. WC+SH | - | - | BAL. TERR. GARDEN |
| 3 BEDROOM+ | 3 BEDROOMS | LIVING RM. | ALCOVE | KITCHEN | CMB.BTH. WC+SH | STUDY/ SPARE | - | TERR. PATIO GARDEN |
| 3 BEDROOM + W/ GARDEN | 3 BEDROOMS | LIVING RM. | ALCOVE | KITCHEN | CMB.BTH. WC+SH | STUDY/ SPARE | - | GARDEN |
| LARGE 3 BEDROOM+ W/PATIO/GARDEN | 3 BEDROOMS | LIVING RM. | DINING RM. | KITCHEN | BTH. WC. WC.+SH | STUDY/ SPARE | PLAY-ROOM | PATIO GARDEN |
| 4 BEDROOM | 4 BEDROOMS | LIVING RM | ALCOVE | KITCHEN | BTH. WC. WC.+SH | - | - | PATIO GARDEN |
| 4 BEDROOM+ | 4 BEDROOMS | LIVING RM. | DINING RM. | KITCHEN | CMB.BTH. BTH/WC WC.+SH | STUDY/ SPARE | - | PATIO GARDEN |
| LARGE 4 BEDROOM | 4 BEDROOMS | LIVING RM. | DINING RM. | KITCHEN | CMB.BTH. BTH/WC WC.+SH. | STUDY- SPARE | PLAY-ROOM | GARDEN |

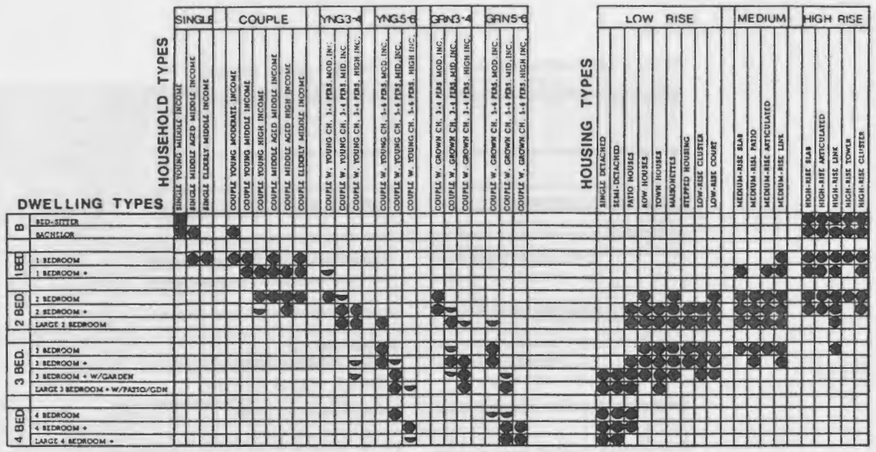
Fig. 8.100

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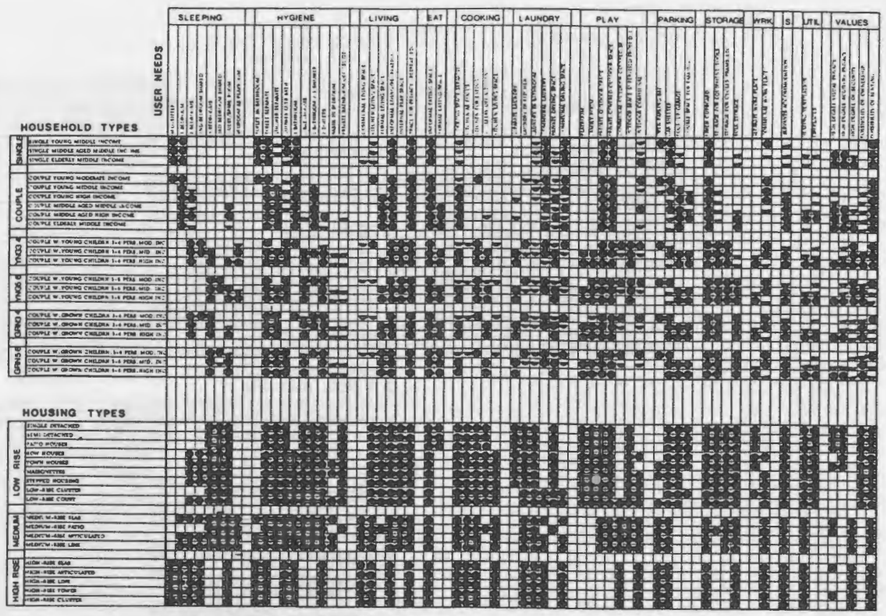
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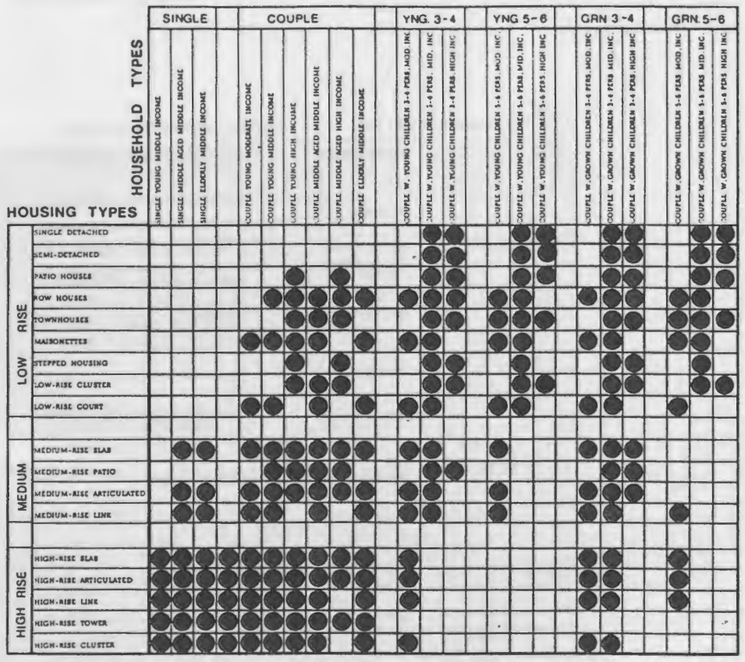
## DWELLING TYPES



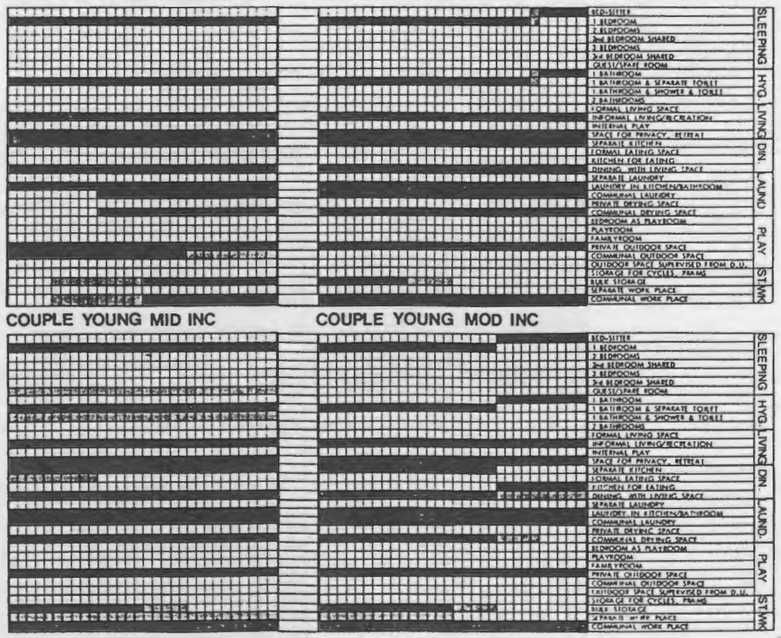

DWELLING TYPES X HOUSEHOLDS AND HOUSING TYPES




USER NEEDS X HOUSEHOLDS AND HOUSING TYPES




HOUSING TYPES X HOUSEHOLD TYPES

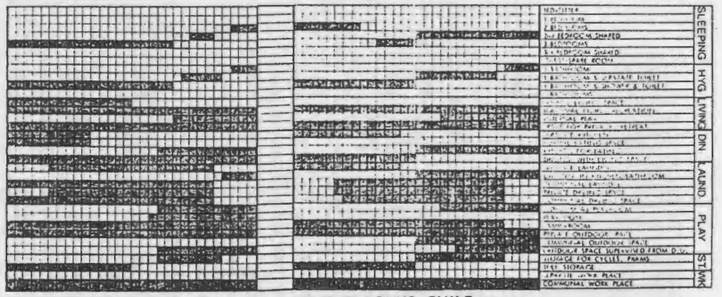



CHANGING USER NEEDS IN HOUSING OVER TIME BY HOUSEHOLD

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Fig. 8.101

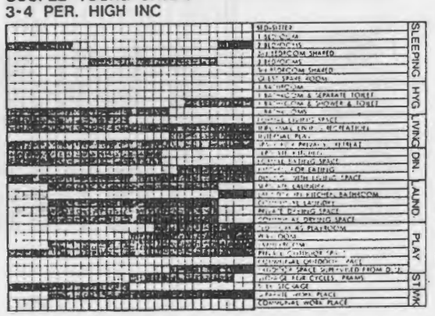
COUPLE YOUNG CHILD.
3-4 PER. MID INC.




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3-4 PER. MOD INC




COUPLE YOUNG CHILD.
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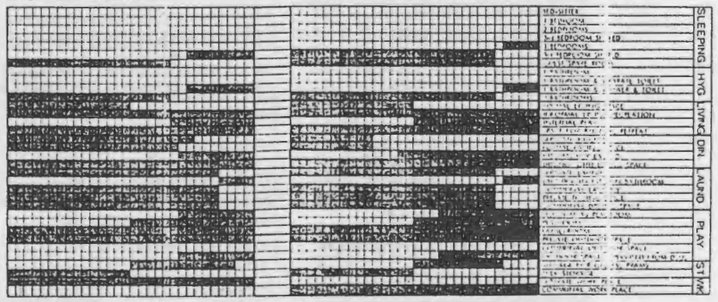



necessary

possibly necessary

CHANGING USER NEEDS IN HOUSING OVER TIME BY HOUSEHOLD

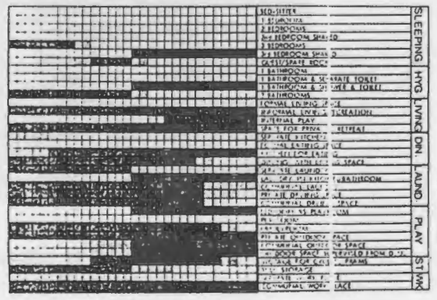
COUPLE YOUNG CHILD.
5-6 PER. HIGH INC




COUPLE YOUNG CHILD.
5-6 PER. MID INC




COUPLE YOUNG CHILD.
5-6 PER. MOD INC

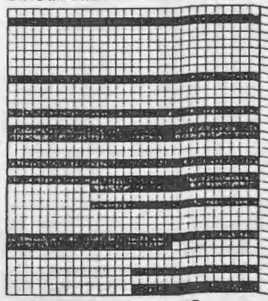



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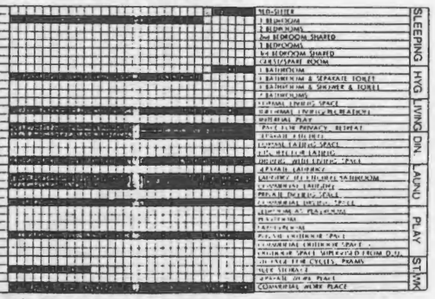
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CHANGING USER NEEDS IN HOUSING OVER TIME BY HOUSEHOLD

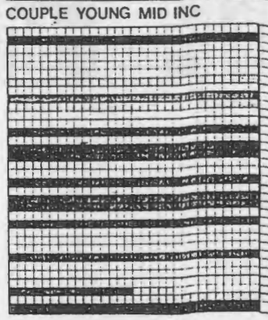
SINGLE MID AGED&ELD. MID INC



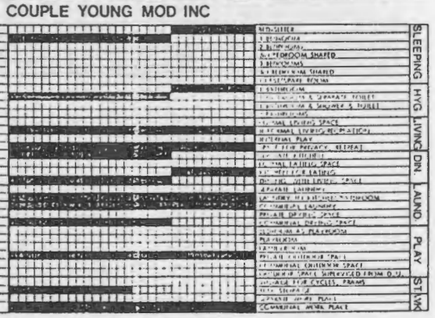

SINGLE YOUNG MID INC




COUPLE YOUNG MID INC




COUPLE YOUNG MOD INC

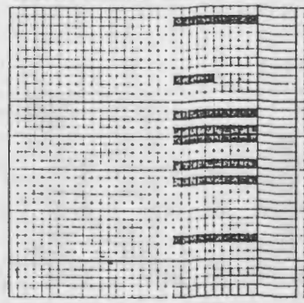



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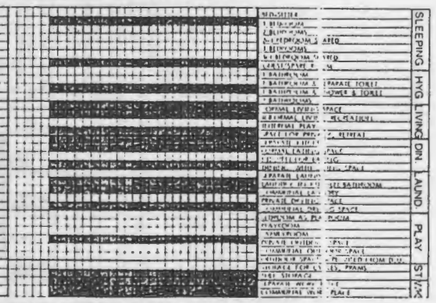
possibly necessary

CHANGING USER NEEDS IN HOUSING OVER TIME BY HOUSEHOLD

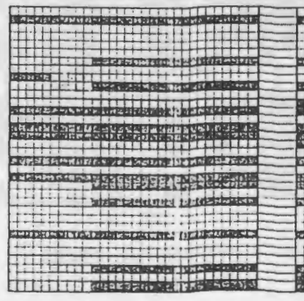
COUPLE ELDERLY MID INC



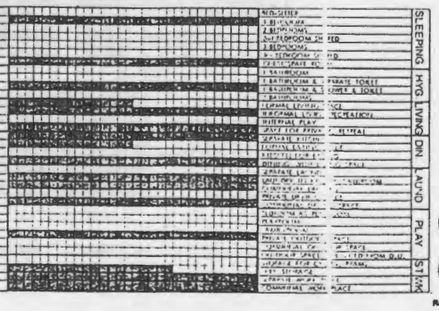

COUPLE MID AGED HIGH INC




COUPLE MID AGED MID INC




COUPLE YOUNG HIGH INC




necessary

possibly necessary

CHANGING USER NEEDS IN HOUSING OVER TIME BY HOUSEHOLD

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CMP
Urban Design Consultants

Fig. 8.102

Previous Pages :

Figure 8.99 ;
Table : Housing Types
*( source : UDC (1969) )*

Figure 8.100 :
Table : Dwelling Types
*( source : UDC (1969) )*

Figure 8.101 :
Tables :
Dwelling Types X Households and Housing Types
Housing Types X Household Types
Locational Tendencies - Housing
Changing user needs in housing over time by household
*( source : UDC (1969) )*

Facing Page :

Figure 8.102 :
Table : Changing user needs in housing over time by household
*( source : UDC (1969) )*

The objects were :

- that accommodation provided should accurately reflect a range of distinct housing needs of different households.
- the greatest possible choice of accommodation should be afforded to each household group in terms of the dwelling unit itself.
- that changes over time in housing needs should be able to be accommodated. This was understood in terms of the changing spatial needs of a family through time.

The first objective resulted in a detailed analysis of housing requirements in relation to different households.
The second objective led to a definition of a selective list of viable dwelling types and building types. This was achieved through comparative studies of precedent in terms of accommodation studies and the internal design of the dwelling, in terms of the building type in which the individual dwelling unit would be located, and in terms of the general residential environment.
The third objective resulted in an examination of the pattern of changing needs of households and isolated those aspects of change that would significantly affect design or strategy of provision of housing.

Comparative standards were established by analysing accommodation size in relation to size of household in different income groups. Material was collected in the form of charts and graphs, as well as being graphically recorded in table form.

Once essential characteristics of housing types had been defined and inherent design opportunities and constraints determined, it was possible to establish the combination of initially formulated needs each housing type was capable of satisfying. By matching the needs of each household with the requirements each housing type was capable of meeting, housing types were allocated to different households. Comprehensive lists of design criteria were related to user needs, in terms of what could be measured quantitatively and what could not.[21]

### 8.5.2 Typology as generic code.

In terms of a dwelling unit typology, eighteen diagrammatic designs or prototypes for residential building types were made. Each was classified under low, medium or high rise defined according to characteristics like access conditions, height, density, orientation, relation to parking etc. In order to explore and describe essential characteristics of type, 'cartoons' or diagrams were drawn, they were not meant to represent final fully considered architectural designs but to present a set of 'graphic briefs' for architects trying to escape from the preconception of form and style. This set of 'generic' building types were used to establish principles and to understand the nature of the 'pieces', as the architectural and urban synthesis of the urban fabric

[21] Antonio de Souza Santos commented in retrospect that this method led to a lot of 'mechanical number crunching' Interview Cape Town 21/6/1996

houses | VS VG CtH TnH TnHG GH RH

complexes of houses | PH TrH StH

low-rise apartments | M CtA CIA

medium-rise apartments | MR

high-rise apartments | HR HR

N

Fig. 8.103

Rand Mines Properties Limited

# HOUSING TYPES

CMP

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6 Sea Street · Cape Town · South Africa

DIRECT ENTRANCE •
PLATFORM •
WALK-UP POINT ACCESS
LIFT POINT ACCESS
ACCESS DECK
CORRIDOR

SIMPLEX
SPLIT-LEVEL
DUPLEX •
DUPLEX SPLIT-LEVEL •
TRIPLEX •

PARKING IN UNIT •
PARKING IN BUILDING
PARKING SHARED •

SELF-CONTAINED UNITS •
DEPENDANT UNITS
EXTERNAL COMMUNAL SPACE
CAN INCORP. NON-RES. FAC.

1 UNIT •
2 UNITS
3 - 12 UNITS
OVER 12 UNITS

1 STOREY
2 STOREYS •
3 STOREYS •
4 STOREYS
5 - 12 STOREYS
OVER 12

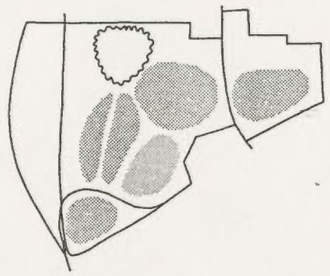
UP TO 10 DU P.A.
10 - 20 DU P.A.
20 - 30 DU P.A. •
30 - 40 DU P.A. •
40 - 60 DU P.A.
OVER 60 DU P.A.

GROUND ORIENTATED •
NON GROUND ORIENTATED
SINGLE ORIENTATED
DOUBLE ORIENTATED •

EXPANDABLE BUILDING •
ADAPTABLE BUILDING •







DWELLING TYPES:

2 BEDROOM +
LARGE 2 BEDROOM +
3 BEDROOM
3 BEDROOM +
3 BEDROOM + W/GARDEN
LARGE 3 BEDROOM + W/PATIO/GARDEN

HOUSEHOLD TYPES:

COUPLE YOUNG HIGH INCOME
COUPLE MIDDLE AGED MIDDLE INCOME
COUPLE MIDDLE AGED HIGH INCOME
COUPLE W. YOUNG CHILDREN 3-4 PERS. MID. INC.
COUPLE W. YOUNG CHILDREN 3-4 PERS. HIGH INC.
COUPLE W. YOUNG CHILDREN 5-6 PERS. MOD. INC.
COUPLE W. YOUNG CHILDREN 5-6 PERS. MID. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. MID. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. HIGH INC.
COUPLE W. GROWN CHILDREN 5-6 PERS. MOD. INC.
COUPLE W. GROWN CHILDREN 5-6 PERS. MID. INC.
COUPLE W. GROWN CHILDREN 5-6 PERS. HIGH INC.

## TOWN HOUSE

DIRECT ENTRANCE •
PLATFORM •
WALK-UP POINT ACCESS
LIFT POINT ACCESS
ACCESS DECK
CORRIDOR

SIMPLEX •
SPLIT-LEVEL •
DUPLEX •
DUPLEX SPLIT-LEVEL
TRIPLEX

PARKING IN UNIT
PARKING IN BUILDING
PARKING SHARED •

SELF-CONTAINED UNITS •
DEPENDANT UNITS
EXTERNAL COMMUNAL SPACE
CAN INCORP. NON-RES. FAC.

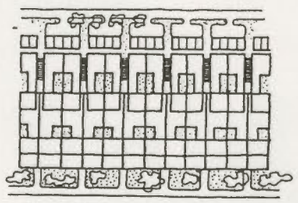
1 UNIT
2 UNITS •
3 - 12 UNITS
OVER 12 UNITS

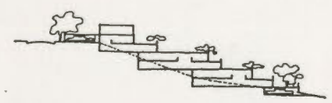
1 STOREY
2 STOREYS •
3 STOREYS •
4 STOREYS
5 - 12 STOREYS
OVER 12

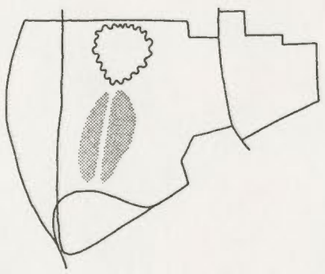
UP TO 10 DU P.A.
10 - 20 DU P.A. •
20 - 30 DU P.A.
30 - 40 DU P.A.
40 - 60 DU P.A.
OVER 60 DU P.A.

GROUND ORIENTATED •
NON GROUND ORIENTATED
SINGLE ORIENTATED
DOUBLE ORIENTATED •

EXPANDABLE BUILDING •
ADAPTABLE BUILDING •







DWELLING TYPES:

2 BEDROOM +
LARGE 2 BEDROOM +
3 BEDROOM
3 BEDROOM +

HOUSEHOLD TYPES:

COUPLE YOUNG HIGH INCOME
COUPLE MIDDLE AGED HIGH INCOME
COUPLE W. YOUNG CHILDREN 3-4 PERS. MID. INC.
COUPLE W. YOUNG CHILDREN 3-4 PERS. HIGH INC.
COUPLE W. YOUNG CHILDREN 5-6 PERS. MID. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. MID. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. HIGH INC.
COUPLE W. GROWN CHILDREN 5-6 PERS. MID. INC.

## STEPPED HOUSING

DIRECT ENTRANCE •
PLATFORM •
WALK-UP POINT ACCESS
LIFT POINT ACCESS
ACCESS DECK •
CORRIDOR •

SIMPLEX •
SPLIT-LEVEL •
DUPLEX •
DUPLEX SPLIT-LEVEL
TRIPLEX

PARKING IN UNIT
PARKING IN BUILDING
PARKING SHARED •

SELF-CONTAINED UNITS
DEPENDANT UNITS •
EXTERNAL COMMUNAL SPACE •
CAN INCORP. NON-RES. FAC. •

1 UNIT
2 UNITS
3 -12 UNITS
OVER 12 UNITS •

1 STOREY
2 STOREYS
3 STOREYS
4 STOREYS •
5 - 12 STOREYS
OVER 12

UP TO 10 DU P.A.
10 - 20 DU P.A.
20 - 30 DU P.A. •
30 - 40 DU P.A. •
40 - 60 DU P.A.
OVER 60 DU P.A.

GROUND ORIENTATED •
NON GROUND ORIENTATED •
SINGLE ORIENTATED •
DOUBLE ORIENTATED •

EXPANDABLE BUILDING
ADAPTABLE BUILDING •







DWELLING TYPE:

2 BEDROOM
2 BEDROOM +
LARGE 2 BEDROOM +
3 BEDROOM
3 BEDROOM +
3 BEDROOM + W/GARDEN

HOUSEHOLD TYPE:

COUPLE YOUNG MOD. INCOME
COUPLE YOUNG MID. INCOME
COUPLE MIDDLE AGED MIDDLE INCOME
COUPLE ELDERLY MIDDLE INCOME
COUPLE W. YOUNG CHILDREN 3-4 PERS. MOD. INC.
COUPLE W. YOUNG CHILDREN 3-4 PERS. MID. INC.
COUPLE W. YOUNG CHILDREN 5-6 PERS. MOD. INC.
COUPLE W. YOUNG CHILDREN 5-6 PERS. MID. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. MOD. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. MID. INC.
COUPLE W. GROWN CHILDREN 5-6 PERS. MOD. INC.
COUPLE W. GROWN CHILDREN 5-6 PERS. MID. INC.

## LOW RISE COURT

Rand Mines Properties Limited
CMP
Urban Design Consultants
48 Long Street Cape Town South Africa

Fig. 8.104

DIRECT ENTRANCE •
PLATFORM
WALK-UP POINT ACCESS
ACCESS DECK
CORRIDOR

SIMPLEX •
SPLIT-LEVEL •
DUPLEX •
DUPLEX SPLIT LEVEL
TRIPLEX

PARKING IN UNIT •
PARKING IN BUILDING
PARKING SHARED

SELF-CONTAINED UNITS •
DEPENDANT UNITS
EXTERNAL COMMUNAL SPACE
CAN INCROP.NON-RES.FAC.

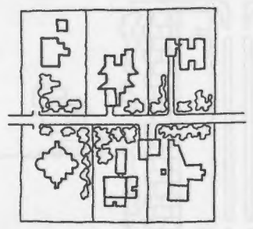
1 UNIT •
2 UNITS
3 - 12 UNITS
OVER 12 UNITS

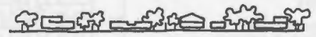
1 STOREY •
2 STOREYS •
3 STOREYS
4 STOREYS
5 - 12 STOREYS
OVER 12

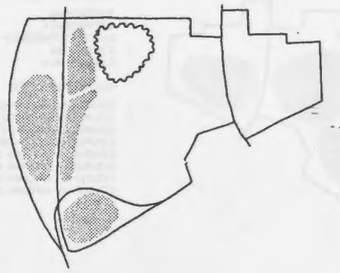
UP TO 10 DU P.A. •
10 - 20 DU P.A.
20 - 30 DU P.A.
30 - 40 DU P.A.
40 - 60 DU P.A.
OVER 60 DU P.A.

GROUND ORIENTATED •
NON GROUND ORIENTATED
SINGLE ORIENTATED
DOUBLE ORIENTATED •

EXPANDABLE BUILDING •
ADAPTABLE BUILDING •







DWELLING TYPES:

3 BEDROOMS + W/GARDEN
LARGE 3 BEDROOM + W/PATIO/GARDEN
4 BEDROOM
4 BEDROOM +
LARGE 4 BEDROOM +

HOUSEHOLD TYPES:

COUPLE W. YOUNG CHILDREN 3-4 PERS. HIGH INCOME
COUPLE W. YOUNG CHILDREN 5-6 PERS. MID. INCOME
COUPLE W. YOUNG CHILDREN 5-6 PERS. HIGH INCOME
COUPLE W. GROWN CHILDREN 3-4 PERS. MID. INCOME
COUPLE W. GROWN CHILDREN 3-4 PERS. HIGH INCOME
COUPLE W. GROWN CHILDREN 5-6 PERS. MID. INCOME

## SINGLE DETACHED

DIRECT ENTRANCE •
PLATFORM
WALK-UP POINT ACCESS
LIFT POINT ACCESS
ACCESS DECK
CORRIDOR

SIMPLEX
SPLI-LEVEL •
DUPLEX •
DUPLEX SPLIT-LEVEL •
TRIPLEX •

PARKING IN UNIT •
PARKING IN BUILDING
PARKING SHARED

SELF-CONTAINED UNITS •
DEPENDANT UNITS
EXTERNAL COMMUNAL SPACE
CAN INCORP. NON-RES.FAC.

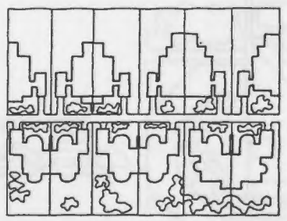
1 UNIT
2 UNITS •
3 - 12 UNITS
OVER 12 UNITS

1 STOREY
2 STOREYS •
3 STOREYS •
4 STOREYS
5 - 12 STOREYS
OVER 12

UP TO 10 DU P.A. •
10 - 20 DU P.A. •
20 - 30 DU P.A.
30 - 40 DU P.A.
40 - 60 DU P.A.
OVER 60 DU P.A.

GROUND ORIENTATED •
NON GROUND ORIENTATED
SINGLE ORIENTATED
DOUBLE ORIENTATED •

EXPANDABLE BUILDING •
ADAPTABLE BUILDING •







DWELLING TYPES:

3 BEDROOM + W/GARDEN
LARGE 3 BEDROOM + W/PATIO
4 BEDROOM
4 BEDROOM +
LARGE 4 BEDROOM +

HOUSEHOLD TYPES:

COUPLE W. YOUNG CHILDREN 3-4 PERS. HIGH INC.
COUPLE W. YOUNG CHILDREN 5-6 PERS. MID. INC.
COUPLE W. YOUNG CHILDREN 5-6 PERS. HIGH INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. MID. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. HIGH INC.
COUPLE W. GROWN CHILDREN 5-6 PERS. MID. INC.
COUPLE W. GROWN CHILDREN 5-6 PERS. HIGH INC.

## SEMI - DETACHED

DIRECT ENTRANCE •
PLATFORM
WAL-UP POINT ACCESS
LIFT POINT ACCESS
ACCESS DECK
CORRIDOR

SIMPLEX •
SPLIT-LEVEL •
DUPLEX •
DUPLEX SPLIT-LEVEL
TRIPLEX

PARKING IN UNIT •
PARKING IN BUILDING •
PARKING SHARED •

SELF-CONTAINED UNITS •
DEPENDANT UNITS
EXTERNAL COMMUNAL SPACE
CAN INCORP. NON-RES.FAC.

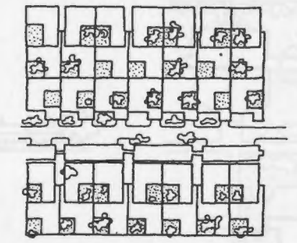
1 UNIT •
2 UNITS
3 - 12 UNITS
OVER 12 UNITS

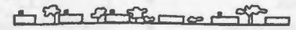
1 STOREY •
2 STOREYS •
3 STOREYS
4 STOREYS
5 - 12 STOREYS
OVER 12

UP TO 10 DU P.A.
10 - 20 DU P.A.
20 - 30 DU P.A. •
30 - 40 DU P.A. •
40 - 60 DU P.A.
OVER 60 DU P.A.

GROUND ORIENTATED •
NON GROUND ORIENTATED
SINGLE ORIENTATED
DOUBLE ORIENTATED •

EXPANDABLE BUILDING
ADAPTABLE BUILDING •







DWELLING TYPES:

2 BEDROOM +
LARGE 2 BEDROOM +
3 BEDROOM +
3 BEDROOM + W/GARDEN
LARGE 3 BEDROOM + W/PATIO/ GARDEN
4 BEDROOM
4 BEDROOM +

HOUSEHOLD TYPES:

COUPLE YOUNG HIGH INC.
COUPLE MIDDLE AGED HIGH INCOME
COUPLE W. YOUNG CHILDREN 3-4 PERS. MID. INC.
COUPLE W. YOUNG CHILDREN 3-4 PERS. HIGH INC.
COUPLE W. YOUNG CHILDREN 5-6 PERS. MID. INC.
COUPLE W. YOUNG CHILDREN 5-6 PERS. HIGH INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. MID. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. HIGH INC.
COUPLE W. GROWN CHILDREN 5-6 PERS. MID. INC.
COUPLE W. GROWN CHILDREN 5-6 PERS. HIGH INC.

## PATIO HOUSES

DIRECT ENTRANCE •
PLATFORM
WALK-UP POINT ACCESS
LIFT POINT ACCESS
ACCESS DECK
CORRIDOR

SIMPLEX
SPLIT-LEVEL
DUPLEX •
DUPLEX SPLIT-LEVEL •
TRIPLEX •

PARKING IN UNIT •
PARKING IN BUILDING •
PARKING SHARED

SELF-CONTAINED UNITS •
DEPENDANT UNITS
EXTERNAL COMMUNAL SPACE •
CAN INCORP.NON-RES.FAC.

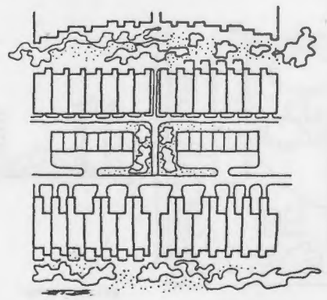
1 UNIT •
2 UNITS
3 - 12 UNITS
OVER 12 UNITS

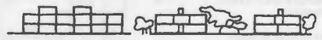
1 STOREY
2 STOREYS •
3 STOREYS •
4 STOREYS
5 - 12 STOREYS
OVER 12

UP TO 10 DU P.A.
10 - 20 DU P.A. •
20 - 30 DU P.A. •
30 - 40 DU P.A.
40 - 60 DU P.A.
OVER 60 DU P.A.

GROUND ORIENTATED •
NON GROUND ORIENTATED
SINGLE ORIENTATED
DOUBLE ORIENTATED •

EXPANDABLE BUILDING •
ADAPTABLE BUILDING •







DWELLING TYPES:

2 BEDROOM
2 BEDROOM +
LARGE 2 BEDROOM +
3 BEDROOM
3 BEDROOM +
3 BEDROOM + W/GARDEN

HOUSEHOLD TYPES:

COUPLE YOUNG MIDDLE INCOME
COUPLE YOUNG HIGH INCOME
COUPLE MIDDLE AGED MIDDLE INCOME
COUPLE MIDDLE AGED HIGH INCOME
COUPLE ELDERLY MIDDLE INCOME
COUPLE W. YOUNG CHILDREN 3-4 PERS. MOD. INC.
COUPLE W. YOUNG CHILDREN 3-4 PERS. MID. INC.
COUPLE W. YOUNG CHILDREN 3-4 PERS. HIGH INC.
COUPLE W. YOUNG CHILDREN 5-6 PERS. MOD. INC.
COUPLE W. YOUNG CHILDREN 5-6 PERS. MID. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. MOD. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. MID. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. HIGH INC.
COUPLE W. GROWN CHILDREN 5-6 PERS. MOD. INC.
COUPLE W. GROWN CHILDREN 5-6 PERS. MID. INC.

## ROW HOUSES

Rand Mines Properties Limited
CMP
Urban Design Consultants
49 Loop Street · Cape Town · South Africa

Fig. 8.104

DIRECT ENTRANCE •
PLATFORM •
WALK-UP POINT ACCESS •
LIFT POINT ACCESS
ACCESS DECK
CORRIDOR

SIMPLEX
SPLIT-LEVEL
DUPLEX •
DUPLEX SPLIT-LEVEL •
TRIPLEX •

PARKING IN UNIT •
PARKING IN BUILDING
PARKING SHARED •

SELF CONTAINED UNITS •
DEPENDANT UNITS
EXTERNAL COMMUNAL SPACE
CAN INCROP.NON-RES.FAC.

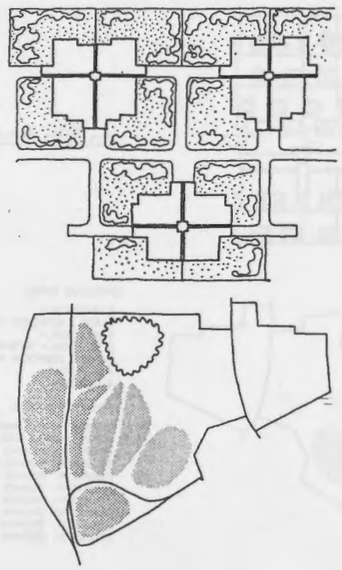
1 UNIT
2 UNITS
3 - 12 UNITS •
OVER 12 UNITS

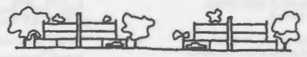
1 STOREY
2 STOREYS
3 STOREYS •
4 STOREYS •
5 - 12 STOREYS
OVER 12

UP TO 10 DU P.A.
10 - 20 DU P.A. •
20 - 30 DU P.A.
30 - 40 DU P.A.
40 - 60 DU P.A.
OVER 60 DU P.A.

GROUND ORIENTATED •
NON GROUND ORIENTATED •
SINGLE ORIENTATED
DOUBLE ORIENTATED •

EXPANDABLE BUILDING •
ADAPTABLE BUILDING •





DWELLING TYPES:

2 BEDROOM +
LARGE 2 BEDROOM +
3 BEDROOM
3 BEDROOM +
3 BEDROOM + W/GARDEN

HOUSEHOLD TYPES:

COUPLE YOUNG HIGH INCOME
COUPLE MIDDLE AGED MIDDLE INCOME
COUPLE MIDDLE AGED HIGH INCOME
COUPLE W. YOUNG CHILDREN 3-4 PERS. MID. INC.
COUPLE W. YOUNG CHILDREN 3-4 PERS. HIGH INC.
COUPLE W. YOUNG CHILDREN 5-6 PERS. MID. INC.
COUPLE W. YOUNG CHILDREN 5-6 PERS. HIGH INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. MID. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. HIGH INC.
COUPLE W. GROWN CHILDREN 5-6 PERS. MID. INC.
COUPLE W. GROWN CHILDREN 5-6 PERS. HIGH INC.

## LOW RISE CLUSTER

DIRECT ENTRANCE
PLATFORM
WALK-UP POINT ACCESS •
LIFT POINT ACCESS
ACCESS DECK •
CORRIDOR •

SIMPLEX •
SPLIT-LEVEL •
DUPLEX •
DUPLEX SPLIT-LEVEL •
TRIPLEX

PARKING IN UNIT
PARKING IN BUILDING •
PARKING SHARED •

SELF-CONTAINED UNITS
DEPENDANT UNITS •
EXTERNAL COMMUNAL SPACE •
CAN INCORP.NON-RES.FAC. •

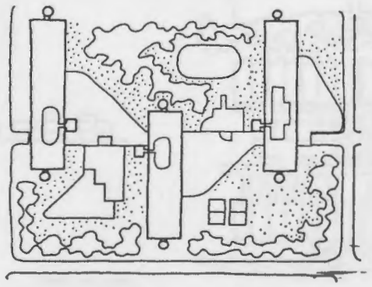
1 UNIT
2 UNITS
3 - 12 UNITS •
OVER 12 UNITS •

1 STOREY
2 STOREYS
3 STOREYS
4 STOREYS
5 - 12 STOREYS •
OVER 12

UP TO 10 DU P.A.
10 - 20 DU P.A.
20 - 30 DU P.A.
30 - 40 DU P.A.
40 - 60 DU P.A. •
OVER 60 DU P.A. •

GROUND ORIENTATED •
NON GROUND ORIENTATED •
SINGLE ORIENTATED •
DOUBLE ORIENTATED •

EXPANDABLE BUILDING
ADAPTABLE BUILDING •





DWELLING TYPES:

1 BEDROOM +
2 BEDROOM
2 BEDROOM +
LARGE 2 BEDROOM +
3 BEDROOM

HOUSEHOLD TYPES:

SINGLE MIDDLE AGED MIDDLE INCOME
SINGLE ELDERLY MIDDLE INCOME
COUPLE YOUNG MOD. INCOME
COUPLE YOUNG MIDDLE INCOME
COUPLE YOUNG HIGH INCOME
COUPLE MIDDLE AGED MIDDLE INCOME
COUPLE MIDDLE AGED HIGH INCOME
COUPLE ELDERLY MIDDLE INCOME
COUPLE W. YOUNG CHILDREN 3-4 PERS. MOD. INC.
COUPLE W. YOUNG CHILDREN 3-4 PERS. MID. INC.
COUPLE W. YOUNG CHILDREN 5-6 PERS. MOD. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. MOD. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. MID. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. HIGH INC.

## MEDIUM RISE SLAB

DIRECT ENTRANCE
PLATFORM
WALK-UP POINT ACCESS •
LIFT POINT ACCESS
ACCESS DECK •
CORRIDOR •

SIMPLEX •
SPLIT-LEVEL •
DUPLEX •
DUPLEX SPLIT-LEVEL •
TRIPLEX

PARKING IN UNIT
PARKING IN BUILDING •
PARKING SHARED •

SELF-CONTAINED UNITS
DEPENDANT UNITS •
EXTERNAL COMMUNAL SPACE •
CAN INCORP.NON-RES.FAC. •

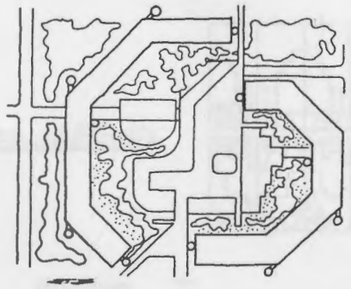
1 UNIT
2 UNITS
3-12 UNITS •
OVER 12 UNITS •

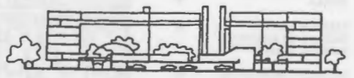
1 STOREY
2 STOREYS
3 STOREYS
4 STOREYS
5 - 12 STOREYS •
OVER 12

UP TO 10 DU P.A.
10 - 20 DU P.A.
20 - 30 DU P.A.
30 - 40 DU P.A.
40 - 60 DU P.A. •
OVER 60 DU P.A. •

GROUND ORIENTATED •
NON GROUND ORIENTATED •
SINGLE ORIENTATED •
DOUBLE ORIENTATED •

EXPANDABLE BUILDING
ADAPTABLE BUILDING •





DWELLING TYPES:

ONE BEDROOM +
2 BEDROOM
2 BEDROOM +
LARGE 2 BEDROOM +
3 BEDROOM

HOUSEHOLD TYPES:

SINGLE MIDDLE AGED MIDDLE INCOME
SINGLE ELDERLY MIDDLE INCOME
COUPLE YOUNG MODERATE INCOME
COUPLE YOUNG MIDDLE INCOME
COUPLE YOUNG HIGH INCOME
COUPLE MIDDLE AGED MIDDLE INCOME
COUPLE MIDDLE AGED HIGH INCOME
COUPLE ELDERLY MIDDLE INCOME
COUPLE W. YOUNG CHILDREN 3-4 PERS.MOD. INC.
COUPLE W. YOUNG CHILDREN 3-4 PERS.MID. INC.
COUPLE W. YOUNG CHILDREN 5-6 PERS. MOD. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. MOD. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. MID. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. HIGH INC.

## MEDIUM RISE ARTICULATED

DIRECT ENTRANCE •
PLATFORM •
WALK-UP POINT ACCESS •
LIFT POINT ACCESS
ACCESS DECK •
CORRIDOR •

SIMPLEX •
SPLIT-LEVEL •
DUPLEX •
DUPLEX SPLIT-LEVEL •
TRIPLEX

PARKING IN UNIT
PARKING IN BUILDING •
PARKING SHARED

SELF-CONTAINED UNITS •
DEPENDANT UNITS •
EXTERNAL COMMUNAL SPACE •
CAN INCORP.NON-RES.FAC. •

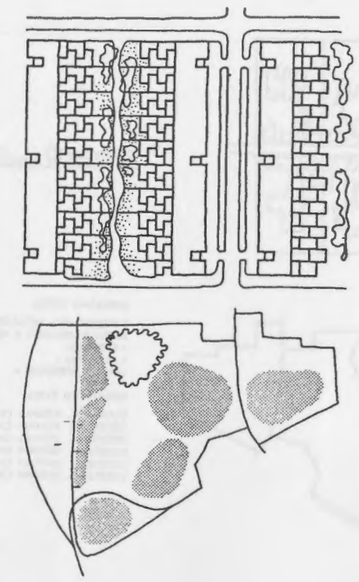
1 UNIT
2 UNITS
3 - 12 UNITS •
OVER 12 UNITS •

1 STOREY
2 STOREYS
3 STOREYS
4 STOREYS
5 - 12 STOREYS •
OVER 12

UP TO 10 DU P.A.
10 - 20 DU P.A.
20 - 30 DU P.A.
30 - 40 DU P.A.
40 - 60 DU P.A.
OVER 60 DU P.A. •

GROUND ORIENTATED •
NON GROUND ORIENTATED •
SINGLE ORIENTATED •
DOUBLE ORIENTATED •

EXPANDABLE BUILDING
ADAPTABLE BUILDING •





DWELLING TYPES:

2 BEDROOM
2 BEDROOM +
LARGE 2 BEDROOM +
3 BEDROOM
3 BEDROOM +

HOUSEHOLD TYPES:

COUPLE YOUNG MIDDLE INCOME
COUPLE YOUNG HIGH INCOME
COUPLE MIDDLE-AGED MIDDLE INCOME
COUPLE MIDDLE-AGED HIGH INCOME
COUPLE W. YOUNG CHILDREN 3-4 PERS. MID. INC.
COUPLE W. YOUNG CHILDREN 3-4 PERS. HIGH INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. MID. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. HIGH INC.

## MEDIUM RISE PATIO

Rand Mines Properties Limited
CMP
Urban Design Consultants
40 Long Street - Cape Town - South Africa

Fig. 8.104

DIRECT ENTRANCE
PLATFORM
WALK-UP POINT ACCESS
LIFT POINT ACCESS
ACCESS DECK •
CORRIDOR •

SIMPLEX •
SPLIT-LEVEL •
DUPLEX •
DUPLEX SPLIT-LEVEL •
TRIPLEX •

PARKING IN UNIT
PARKING IN BUILDING •
PARKING SHARED •

SELF-CONTAINED UNITS
DEPENDANT UNITS •
EXTERNAL COMMUNAL SPACE •
CAN INCORP. NON-RES, FAC. •

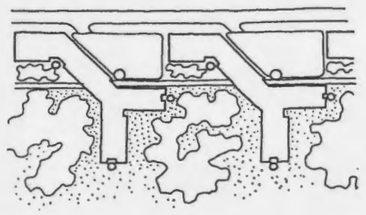
1 UNIT
2 UNITS
3 - 12 UNITS
OVER 12 UNITS •

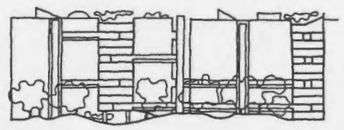
1 STOREY
2 STOREYS
3 STOREYS
4 STOREYS
5 - 12 STOREYS
OVER 12 •

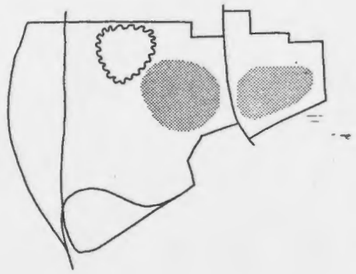
UP TO 10 DU P.A.
10 - 20 DU P.A.
20 - 30 DU P.A.
30 - 40 DU P.A.
40 - 60 DU P.A. •
OVER 60 DU P.A. •

GROUND ORIENTATED
NON GROUND ORIENTATED •
SINGLE ORIENTATED •
DOUBLE ORIENTATED •

EXPANDABLE BUILDING
ADAPTABLE BUILDING •







DWELLING TYPES:

BED-SITTER
BACHELOR
1 BEDROOM
1 BEDROOM +
2 BEDROOM
2 BEDROOM +

HOUSEHOLD TYPES:

SINGLE YOUNG MIDDLE INCOME
SINGLE MIDDLE AGED MIDDLE INCOME
SINGLE ELDERLY MIDDLE INCOME
COUPLE YOUNG MODERATE INCOME
COUPLE YOUNG MIDDLE INCOME
COUPLE YOUNG HIGH INCOME
COUPLE MIDDLE AGED MIDDLE INCOME
COUPLE MIDDLE AGED HIGH INCOME
COUPLE ELDERLY MIDDLE INCOME
COUPLE W. YOUNG CHILDREN 3-4 PERS. MOD. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. MID. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. MOD. INC.
COUPLE W. GROWN CHILDREN 5-6 PERS. MOD. INC.

## HIGH RISE ARTICULATED

DIRECT ENTRANCE
PLATFROM
WALK-UP POINT ACCESS •
LIFT POINT ACCESS
ACCESS DECK •
CORRIDOR

SIMPLEX •
SPLIT-LEVEL •
DUPLEX •
DUPLEX SPLIT-LEVEL •
TRIPLEX •

PARKING IN UNIT
PARKING IN BUILDING •
PARKING SHARED

SELF-CONTAINED UNITS
DEPENDANT UNITS •
EXTERNAL COMMUNAL SPACE •
CAN INCORP. NON-RES, FAC. •

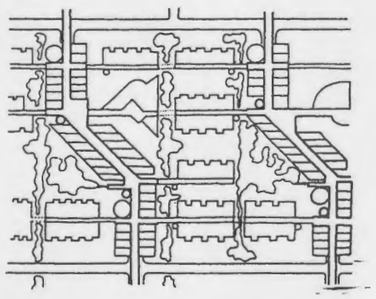
1 UNIT
2 UNITS
3 - 12 UNITS •
OVER 12 UNITS •

1 STOREY
2 STOREYS
3 STOREYS
4 STOREYS
5 - 12 STOREYS •
OVER 12

UP TO 10 DU P.A.
10 - 20 DU P.A.
20 - 30 DU P.A.
30 - 40 DU P.A.
40 - 60 DU P.A. •
OVER 60 DU P.A. •

GROUND ORIENTATED •
NON GROUND ORIENTATED •
SINGLE ORIENTATED •
DOUBLE ORIENTATED •

EXPANDABLE BUILDING
ADAPTABLE BUILDING •







DWELLING TYPES:

ONE BEDROOM
ONE BEDROOM +
2 BEDROOM
2 BEDROOM +
LARGE 2 BEDROOM +
3 BEDROOM
3 BEDROOM +

HOUSEHOLD TYPES:

SINGLE MIDDLE AGED MIDDLE INCOME
SINGLE ELDERLY MIDDLE INCOME
COUPLE YOUNG MODERATE INCOME
COUPLE YOUNG MIDDLE INCOME
COUPLE MIDDLE AGED MIDDLE INCOME
COUPLE ELDERLY MIDDLE INCOME
COUPLE W. YOUNG CHILDREN 3-4 PERS. MOD. INC.
COUPLE W. YOUNG CHILDREN 3-4 PERS. MID. INC.
COUPLE W. YOUNG CHILDREN 5-6 PERS. MOD. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. MID. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. MOD. INC.
COUPLE W. GROWN CHILDREN 5-6 PERS. MOD. INC.

## MEDIUM RISE LINK

DIRECT ENTRANCE
PLATFORM
WALK-UP POINT ACCESS •
LIFT POINT ACCESS
ACCESS DECK •
CORRIDOR

SIMPLEX •
SPLIT-LEVEL •
DUPLEX •
DUPLEX SPLIT-LEVEL •
TRIPLEX •

PARKING IN UNIT
PARKING IN BUILDING •
PARKING SHARED •

SELF-CONTAINED UNITS
DEPENDANT UNITS •
EXTERNAL COMMUNAL SPACE •
CAN INCORP. NON-RES, FAC. •

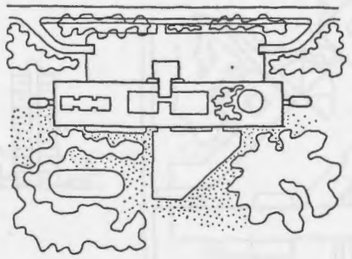
1 UNIT
2 UNITS
3 - 12 UNITS •
OVER 12 UNITS •

1 STOREY
2 STOREYS
3 STOREYS
4 STOREYS
5 - 12 STOREYS •
OVER 12

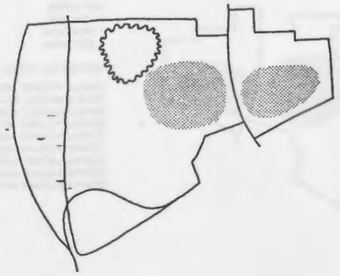
UP TO 10 DU P.A.
10 - 20 DU P.A.
20 - 30 DU P.A.
30 - 40 DU P.A.
40 - 60 DU P.A. •
OVER 60 DU P.A. •

GROUND ORIENTATED
NON GROUND ORIENTATED •
SINGLE ORIENTATED •
DOUBLE ORIENTATED •

EXPANDABLE BUILDING
ADAPTABLE BUILDING •







DWELLING TYPES:

BED-SITTER
BACHELOR
1 BEDROOM
1 BEDROOM +
2 BEDROOM
2 BEDROOM +

HOUSEHOLD TYPES:

SINGLE YOUNG MIDDLE INCOME
SINGLE MIDDLE AGED MIDDLE INC.
SINGLE ELDERLY MIDDLE INCOME
COUPLE YOUNG MODERATE INCOME
COUPLE YOUNG MIDDLE INCOME
COUPLE YOUNG HIGH INCOME
COUPLE MIDDLE AGED MIDDLE INCOME
COUPLE MIDDLE AGED HIGH INCOME
COUPLE ELDERLY MIDDLE INCOME
COUPLE W. YOUNG CHILDREN 3-4 PERS. MOD. INC.
COUPLE WITH GROWN CHILDREN 3-4 PERS. MOD. INC.
COUPLE WITH GROWN CHILDREN 3-4 PERS. MID. INC.
COUPLE WITH GROWN CHILDREN 5-6 PERS. MOD. INC.

## HIGH RISE SLAB

DIRECT ENTRANCE
PLATFORM
WALK-UP POINT ACCESS •
LIFT POINT ACCESS
ACCESS DECK •
CORRIDOR

SIMPLEX •
SPLIT-LEVEL •
DUPLEX •
DUPLEX SPLIT-LEVEL •
TRIPLEX •

PARKING IN UNIT
PARKING IN BUILDING •
PARKING SHARED •

SELF-CONTAINED UNITS
DEPENDANT UNITS •
EXTERNAL COMMUNAL SPACE •
CAN INCORP. NON-RES, FAC. •

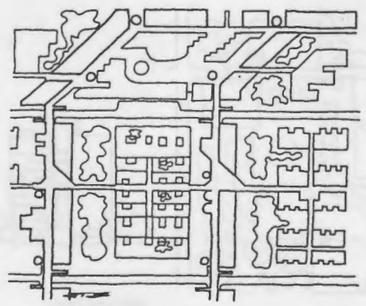
1 UNIT
2 UNITS
3 - 12 UNITS
OVER 12 UNITS •

1 STOREY
2 STOREYS
3 STOREYS
4 STOREYS
5 - 12 STOREYS
OVER 12 •

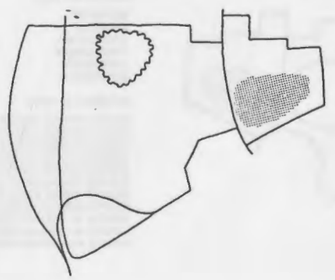
UP TO 10 DU P.A.
10 - 20 DU P.A.
20 - 30 DU P.A.
30 - 40 DU P.A.
40 - 60 DU P.A. •
OVER 60 DU P.A. •

GROUND ORIENTATED
NON GROUND ORIENTATED •
SINGLE ORIENTATED •
DOUBLE ORIENTATED •

EXPANDABLE BUILDING
ADAPTABLE BUILDING •







DWELLING TYPES:

BED-SITTER
BACHELOR
1 BEDROOM
1 BEDROOM +
2 BEDROOM
2 BEDROOM +
LARGE 2 BEDROOM +
3 BEDROOM

HOUSEHOLD TYPES:

SINGLE YOUNG MIDDLE INCOME
SINGLE MIDDLE AGED MIDDLE INCOME
SINGLE ELDERLY MIDDLE INCOME
COUPLE YOUNG MODERATE INCOME
COUPLE YOUNG MIDDLE INCOME
COUPLE YOUNG HIGH INCOME
COUPLE MIDDLE AGED MIDDLE INCOME
COUPLE ELDERLY MIDDLE INCOME
COUPLE W. YOUNG CHILDREN 3-4 PERS. MOD. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. MOD. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. MID. INC.
COUPLE W. GROWN CHILDREN 5-6 PERS. MOD. INC.

## HIGH RISE LINK

Rand Mines Properties Limited
CMP
Urban Design Consultants
49 Loop Street · Cape Town · South Africa

Fig. 8.104

DIRECT ENTRANCE
PLATFORM
WALK-UP POINT ACCESS
LIFT POINT ACCESS •
ACCESS DECK
CORRIDOR

SIMPLEX •
SPLIT-LEVEL
DUPLEX •
DUPLEX SPLIT-LEVEL
TRIPLEX

PARKING IN UNIT
PARKING IN BUILDING
PARKING SHARED •

SELF-CONTAINED UNITS
DEPENDANT UNITS •
EXTERNAL COMMUNAL SPACE •
CAN INCORP. NON-RES. FAC. •

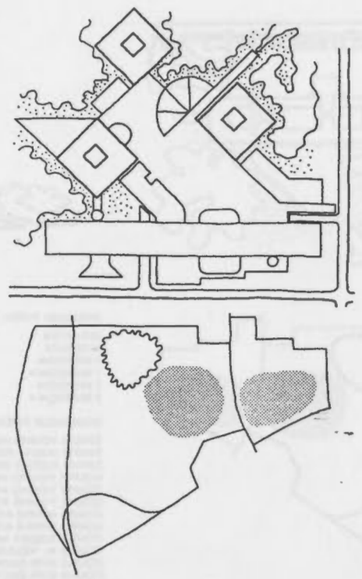
1 UNIT
2 UNITS
3 - 12 UNITS
OVER 12 UNITS •

1 STOREY
2 STOREYS
3 STOREYS
4 STOREYS
5 - 12 STOREYS
OVER 12 •

UP TO 10 DU P.A.
10 - 20 DU P.A.
20 - 30 DU P.A.
30 - 40 DU P.A.
40 - 60 DU P.A. •
OVER 60 DU P.A. •

GROUND ORIENTATED
NON GROUND ORIENTATED •
SINGLE ORIENTATED
DOUBLE ORIENTATED •

EXPANDABLE BUILDING
ADAPTABLE BUILDING





DWELLING TYPES:

BED-SITTER
BACHELOR
1 BEDROOM
2 BEDROOM

HOUSEHOLD TYPES:

SINGLE YOUNG MIDDLE INCOME
SINGLE MIDDLE AGED MIDDLE INCOME
SINGLE ELDERLY MIDDLE INCOME
COUPLE YOUNG MODERATE INCOME
COUPLE YOUNG MIDDLE INCOME
COUPLE YOUNG HIGH INCOME
COUPLE MIDDLE AGED MIDDLE INCOME
COUPLE MIDDLE AGED HIGH INCOME
COUPLE ELDERLY MIDDLE INCOME

**HIGH RISE TOWER**

DIRECT ENTRANCE
PLATFORM
WALK-UP POINT ACCESS
LIFT POINT ACCESS •
ACCESS DECK
CORRIDOR

SIMPLEX •
SPLIT-LEVEL
DUPLEX •
DUPLEX SPLIT-LEVEL
TRIPLEX

PARKING IN UNIT
PARKING IN BUILDING
PARKING SHARED •

SELF-CONTAINED UNITS
DEPENDANT UNITS •
EXTERNAL COMMUNAL SPACE •
CAN INCROP. NON-RES. FAC. •

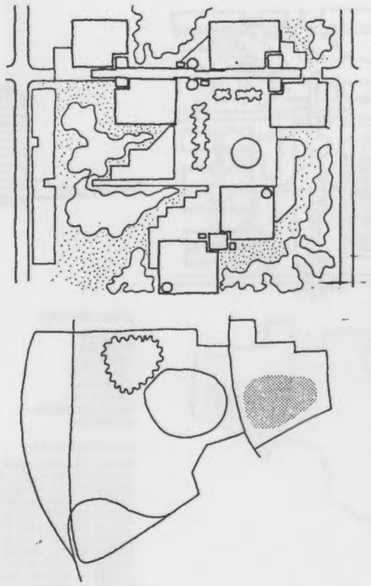
1 UNIT
2 UNITS
3 - 12 UNITS
OVER 12 UNITS •

1 STOREY
2 STOREYS
3 STOREYS
4 STOREYS
5 - 12 STOREYS
OVER 12 •

UP TO 10 DU P.A.
10 - 20 DU P.A.
20 - 30 DU P.A.
30 - 40 DU P.A.
40 - 60 DU P.A. •
OVER 60 DU P.A. •

GROUND ORIENTATED
NON GROUND ORIENTATED •
SINGLE ORIENTATED
DOUBLE ORIENTATED •

EXPANDABLE BUILDING
ADAPTABLE BUILDING





DWELLING TYPES:

BED-SITTER
BACHELOR
1 BEDROOM
1 BEDROOM +
2 BEDROOM
2 BEDROOM +

HOUSEHOLD TYPES:

SINGLE YOUNG MIDDLE INCOME
SINGLE MIDDLE AGED MIDDLE INCOME
SINGLE ELDERLY MIDDLE INCOME
COUPLE YOUNG MODERATE INCOME
COUPLE YOUNG MIDDLE INCOME
COUPLE YOUNG HIGH INCOME
COUPLE MIDDLE AGED MIDDLE INCOME
COUPLE ELDERLY MIDDLE INCOME
COUPLE W. YOUNG CHILDREN 3-4 PERS. MOD. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. MOD. INC.
COUPLE W. GROWN CHILDREN 3-4 PERS. MID. INC.

**HIGH RISE CLUSTER**

Rand Mines Properties Limited
CMP
Urban Design Consultants

Fig. 8.104

Previous Pages :

Figure 8.103 :
Housing Types
*( source : UDC (1969) )*

Figure 8.104 :
Housing Typology Diagrams 1969
*( source : UDC (1969) )*

would be achieved through the understanding of the nature of the pieces that made up this fabric.*(Fig. 8.103/104)*

The key to the use of typology was to present a detailed graphic code or statement in terms of a formal design vocabulary. By presenting a detailed graphic code it was hoped that a non-form related set of conditions would be put forward. Essentially the use of 'iconic'[22] design was meant to establish principles to be followed and set constraints but in fact the principles were not recognised but the forms copied.

Several important points emerge; firstly the contradiction between the diagrammatic prototypes establishing the essential principles and characteristics of type, that would allow a variety of alternative solutions within a set framework, presented in the Major Report *(Fig. 8.104)* and the shift to a series of specific solutions in the Terminal Report *(Fig. 8.105-107)*. Secondly, the inherent contradiction between a typology addressing a set of generic conditions and a set of form conditions implies a set of influences on the nature of the prototypes.

### 8.5.3 The Role of the Image - Typology and Precedent

It is important to realise that although the set of prototypes set out to form a typology which would not dictate form, the influence of specific images contradicted the role of typology, and image and style began to dictate and influence subsequent models.

In terms of the 'invention' of the typology, certain preconceptions came into play and some of the prototypes were based on buildings known to and admired by the architects. For instance Aalto's Bremen Apartment Building *(Fig. 8.107)* became an sign or icon for 'apartment' and although supposedly merely symbolic, in the absence of anything else became absolute. One can also discern the similarities between the Cluster Apartment prototype and the Santos's Scott Road Apartments of 1971[23] *(Fig.8.106)*.

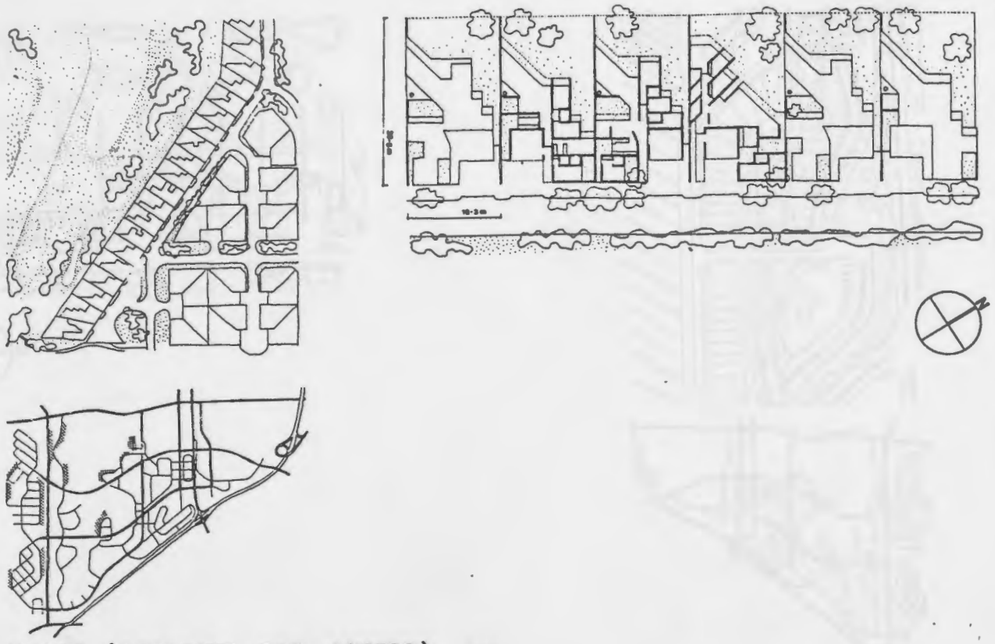
Images are very powerful in determining design responses. Just as prototypical building types were used to understand the nature of the individual pieces that would make up the composition of the design, the nature of the relationships between these individual pieces was also understood through specific examples and reference to certain precedents.

The overall composition of Ormonde was seen as a spatial matrix where the nature of spatial intersections and linkages, and the relationship between

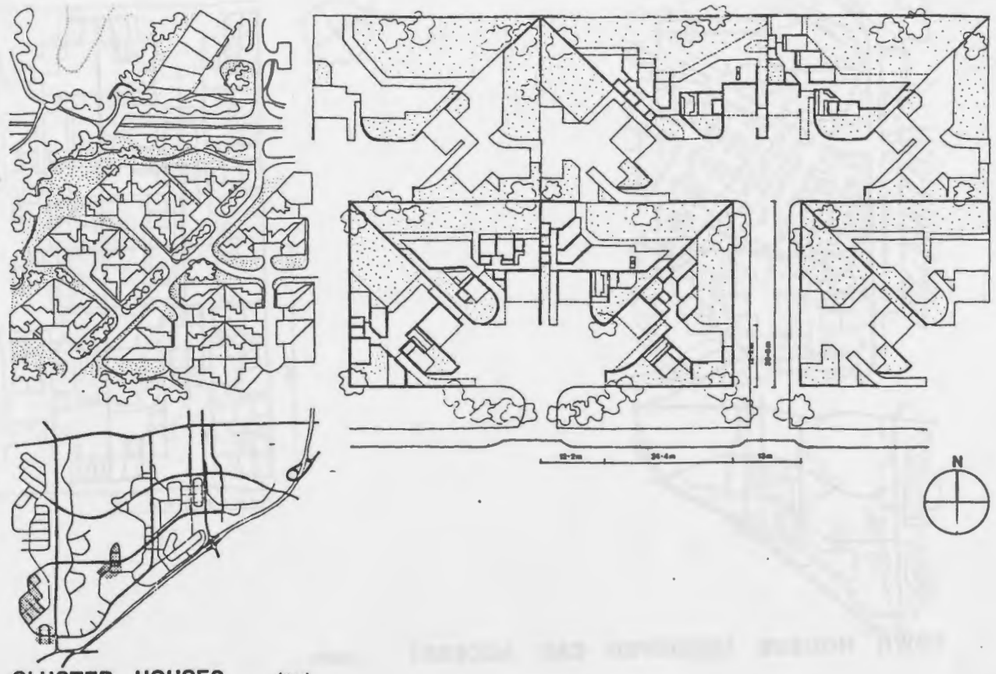
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[22] The word 'iconic' can be defined as
1. of or having the nature of an image or portrait or
2. following a conventional type

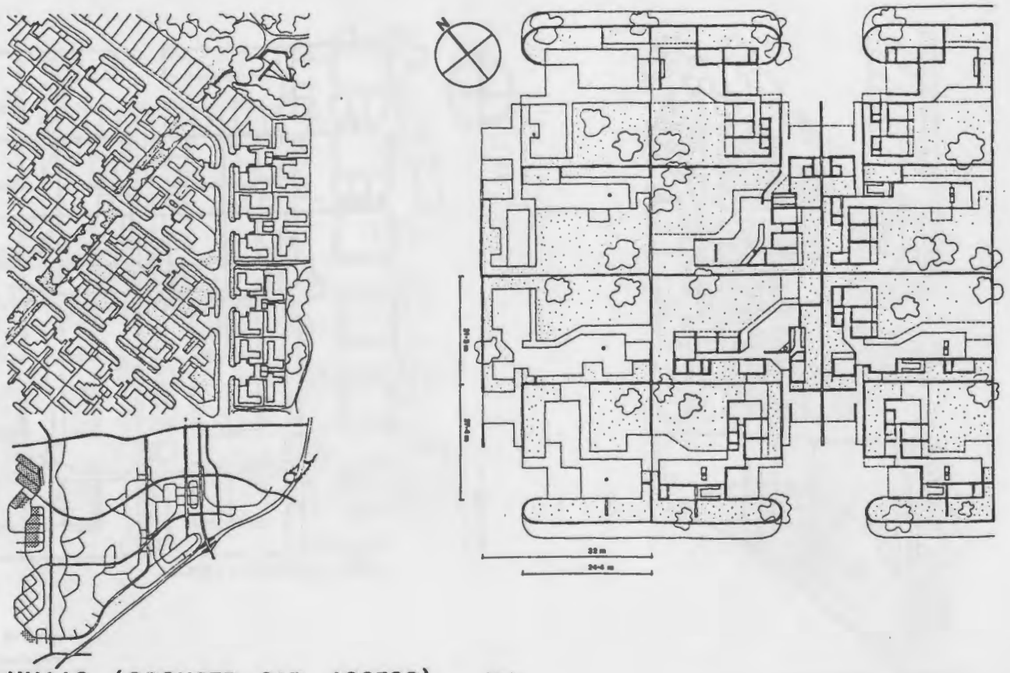
[23] It is interesting to note that the Santos's Iona Apartments (1971) were designed by Antonio de Souza Santos, while working in Shad Woods' office at Rue Dauphine, Paris, while waiting for his South African visa. (Interview A. de Souza Santos 21/6/1996)



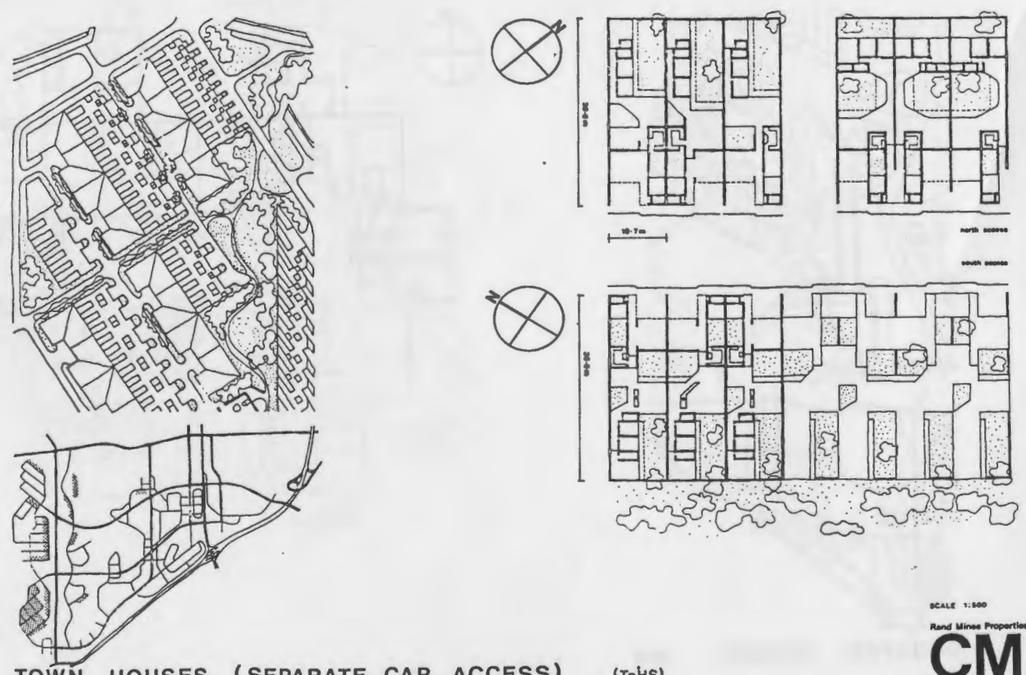
VILLAS (SEPARATE CAR ACCESS) (VS)



CLUSTER HOUSES (CH)



VILLAS (GROUPED CAR ACCESS) (VG)



TOWN HOUSES (SEPARATE CAR ACCESS) (TnHS)

SCALE 1:500

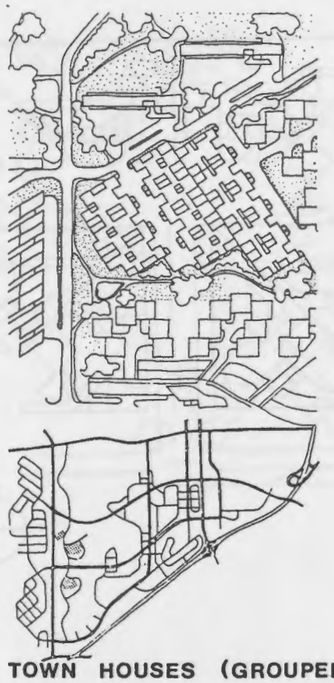
Rand Mines Properties Limited

CMP

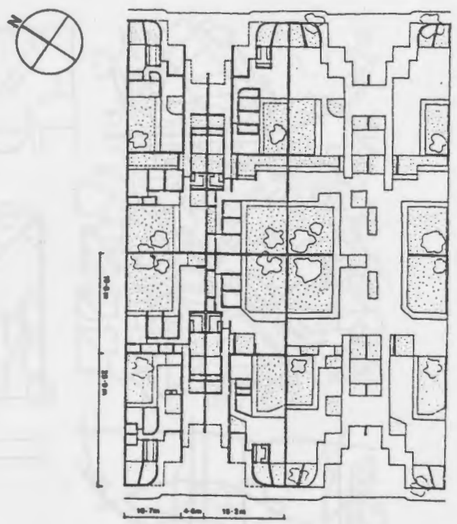
Urban Design Consultants

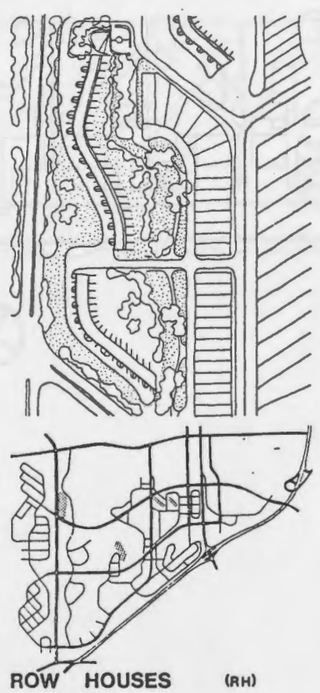
8 Bree Street Cape Town South Africa

Fig. 8.105

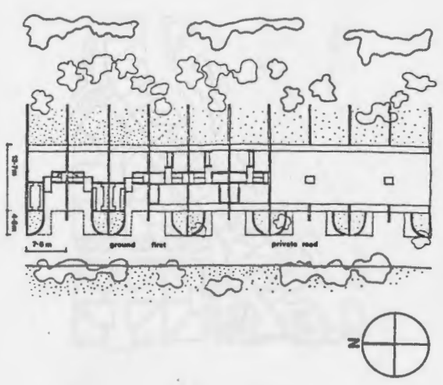


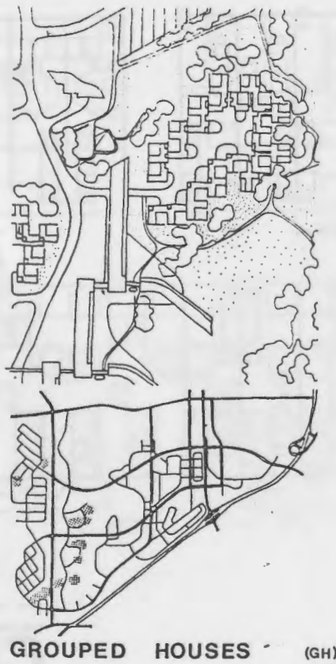
TOWN HOUSES (GROUPED CAR ACCESS) (TnHG)



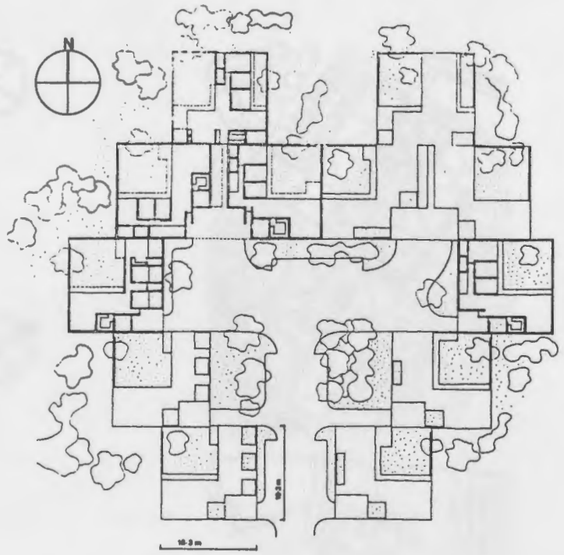


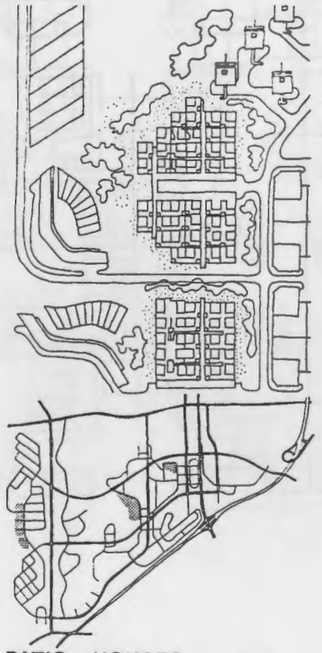
ROW HOUSES (RH)



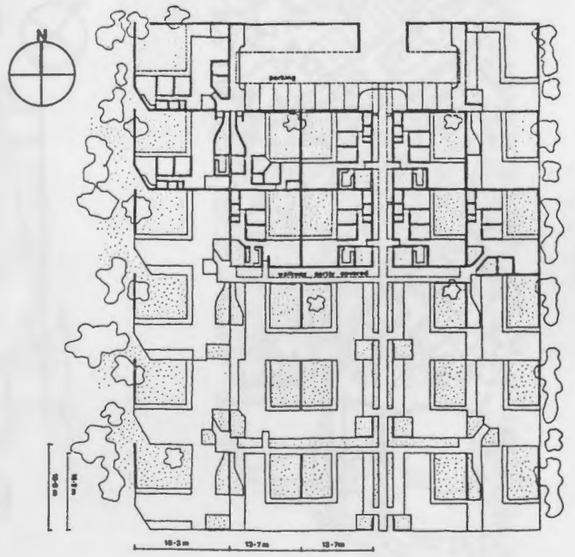



GROUPED HOUSES (GH)





PATIO HOUSES (PH)

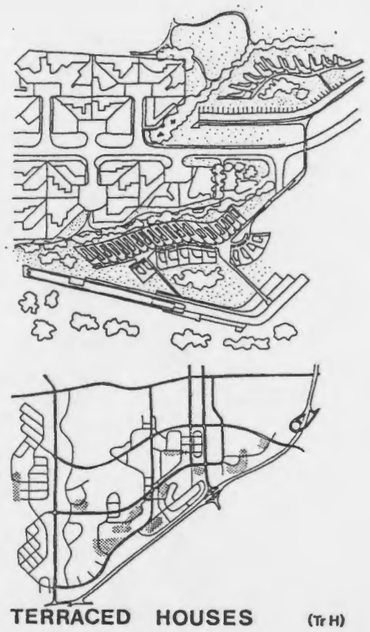



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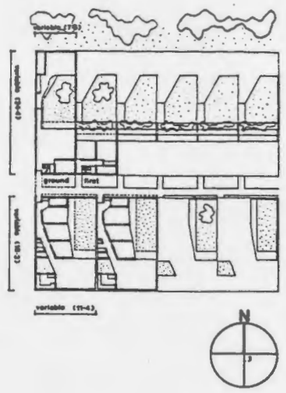
Rand Mines Properties Limited

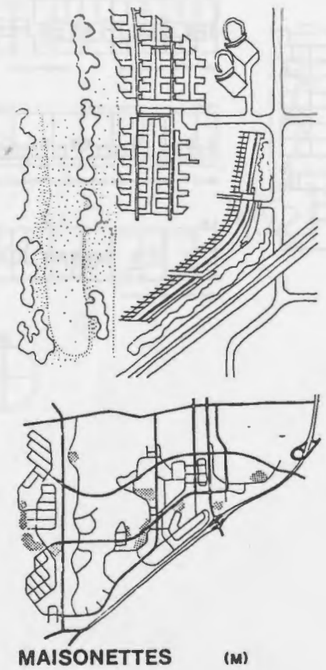
CMP
Urban Design Consultants
5 Bree Street · Cape Town · South Africa

Fig. 8.105

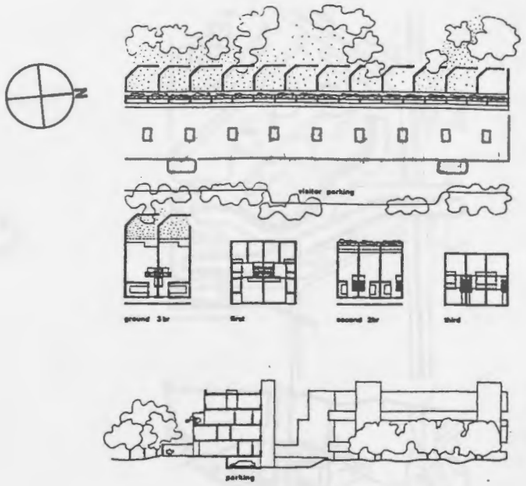


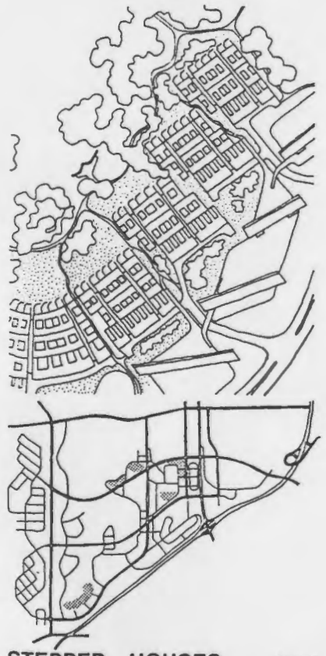
TERRACED HOUSES (TrH)



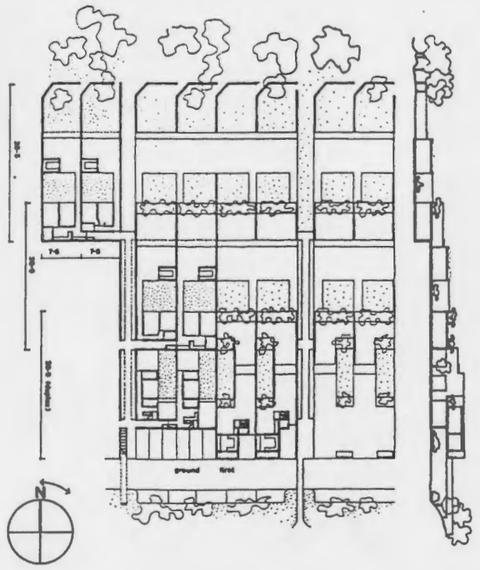


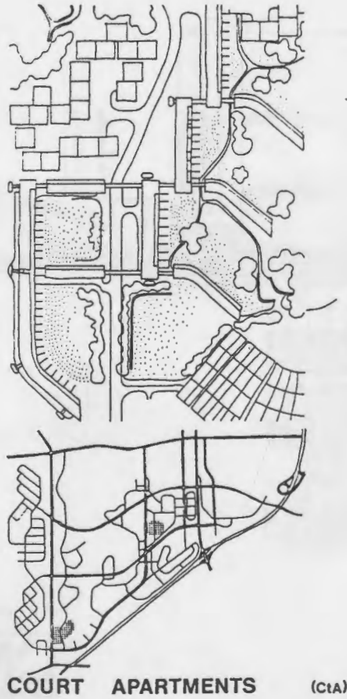
MAISONETTES (M)



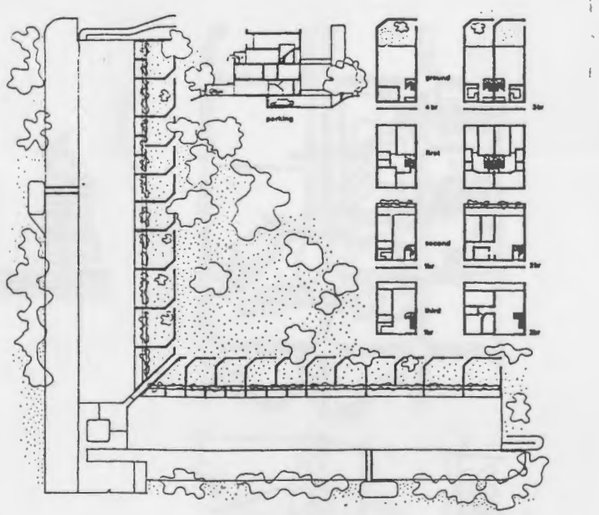


STEPPED HOUSES (StH)





COURT APARTMENTS (CtA)



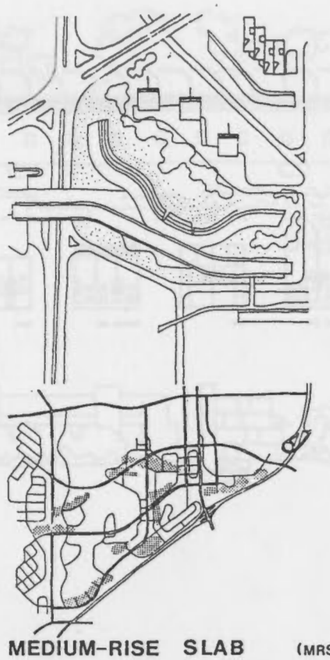
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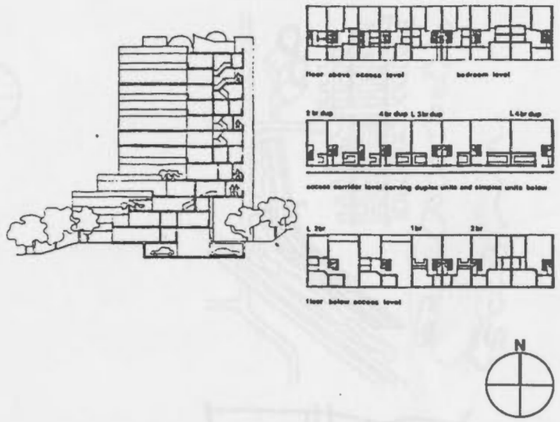
CMP

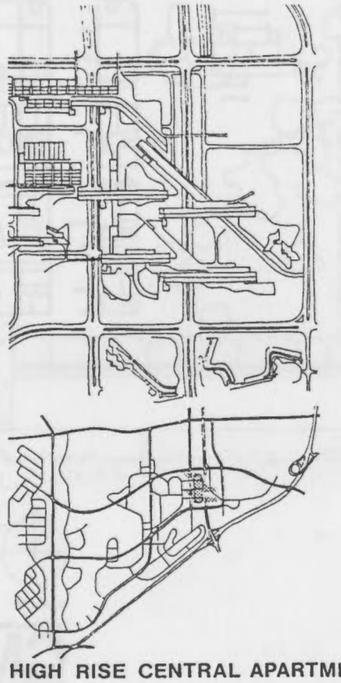
Urban Design Consultants

Fig. 8.105

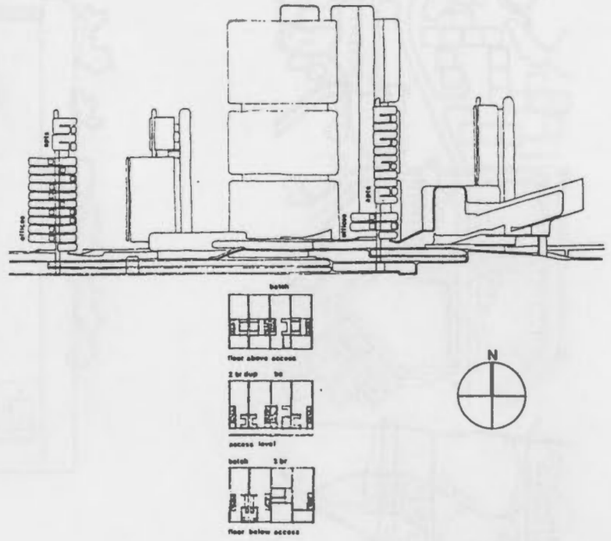


MEDIUM-RISE SLAB (MRS)



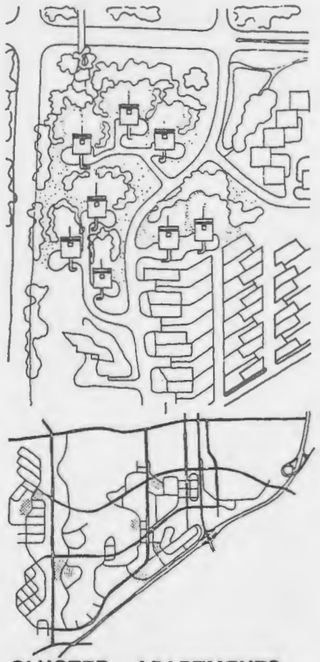
HIGH RISE CENTRAL APARTMENTS (HRC)

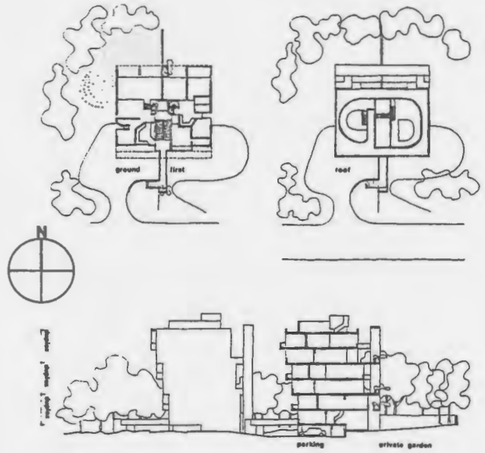



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Rand Mines Properties Limited
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Fig. 8.105






SCALE 1:500

Rand Mines Properties Limited

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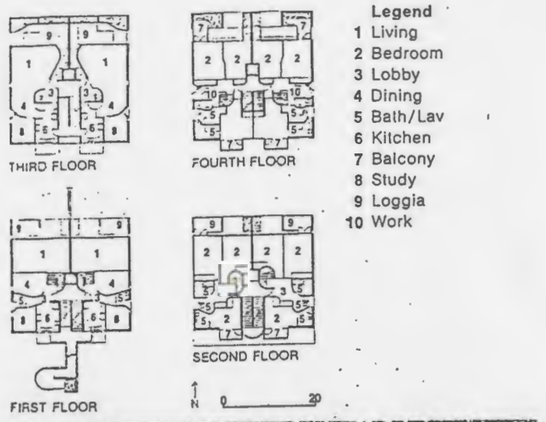
**CLUSTER APARTMENTS** (CLA)



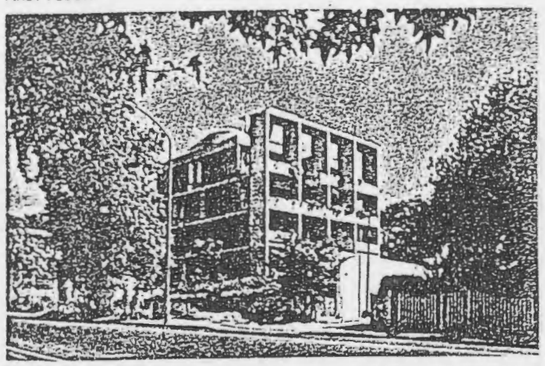
Fig. 8.106



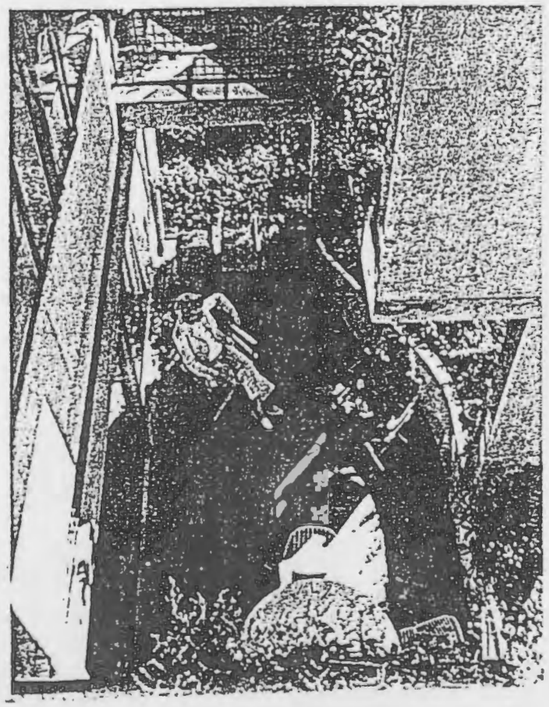
## Scott Road apartments

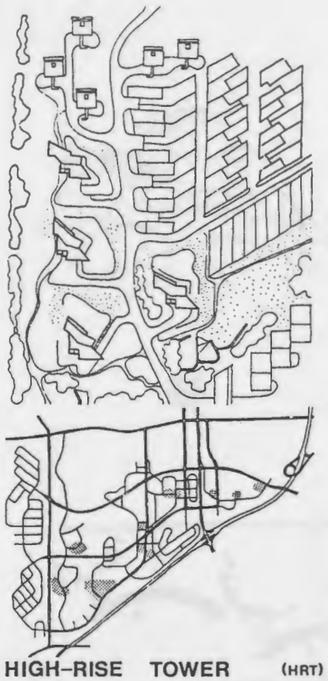



**Legend**
1 Living
2 Bedroom
3 Lobby
4 Dining
5 Bath/Lav
6 Kitchen
7 Balcony
8 Study
9 Loggia
10 Work

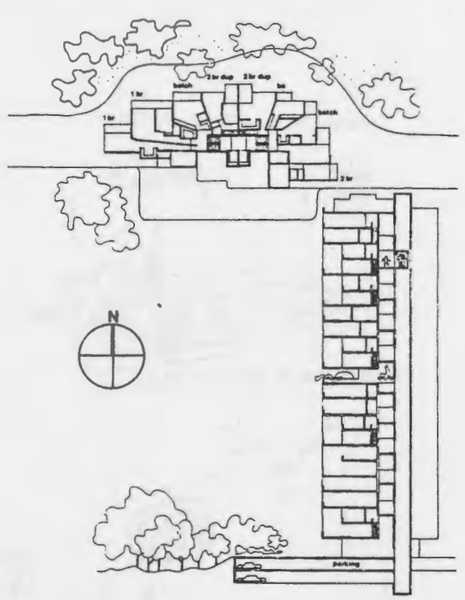


Scott Road apartments (1971) in Claremont, Cape Town. North loggia screen (above) is system of gardens, terraces, and balconies (below).





HIGH-RISE TOWER (HRT)



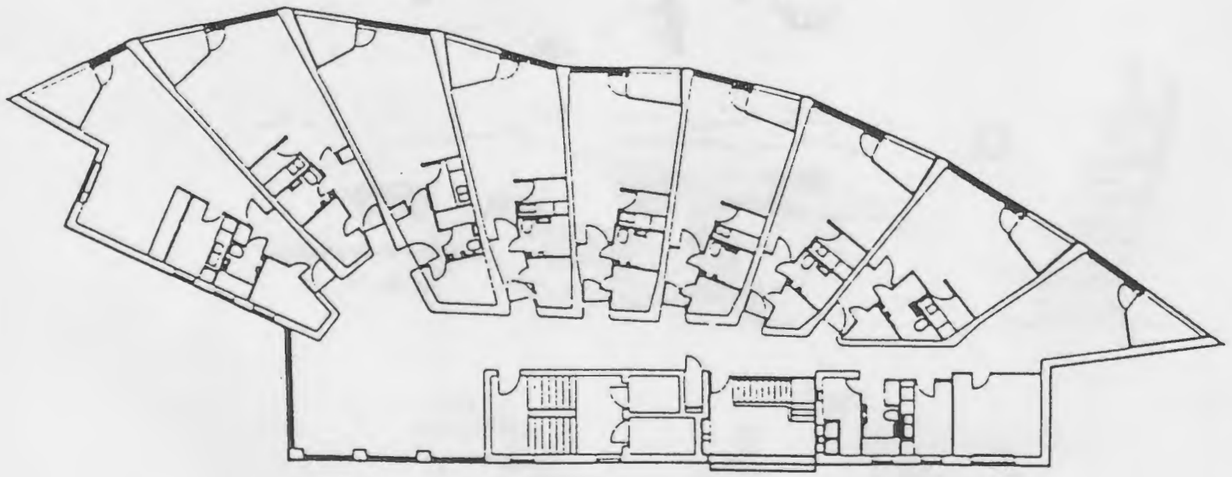





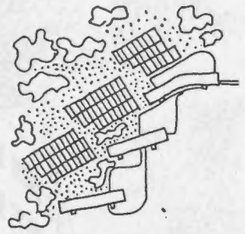
Fig. 8.107



Towers with Stepped Houses.



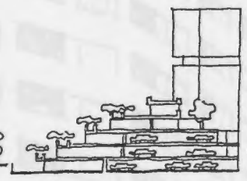
Medium-rise apartments with terraced houses.



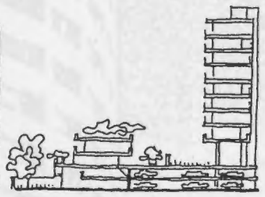
Medium-rise apartments with stepped housing.



Maisonette



Stepped Housing



Terraced Housing





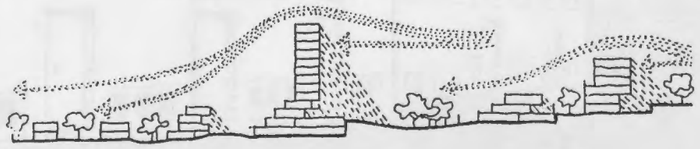
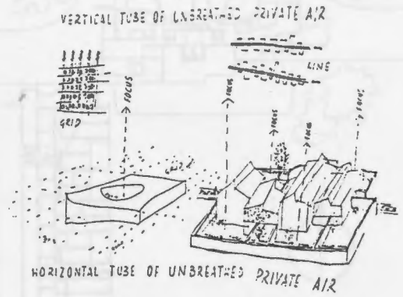
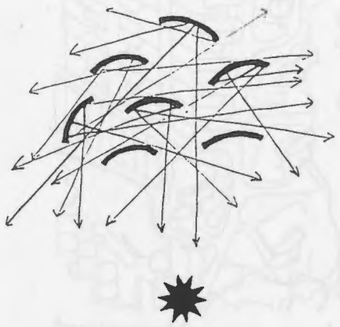
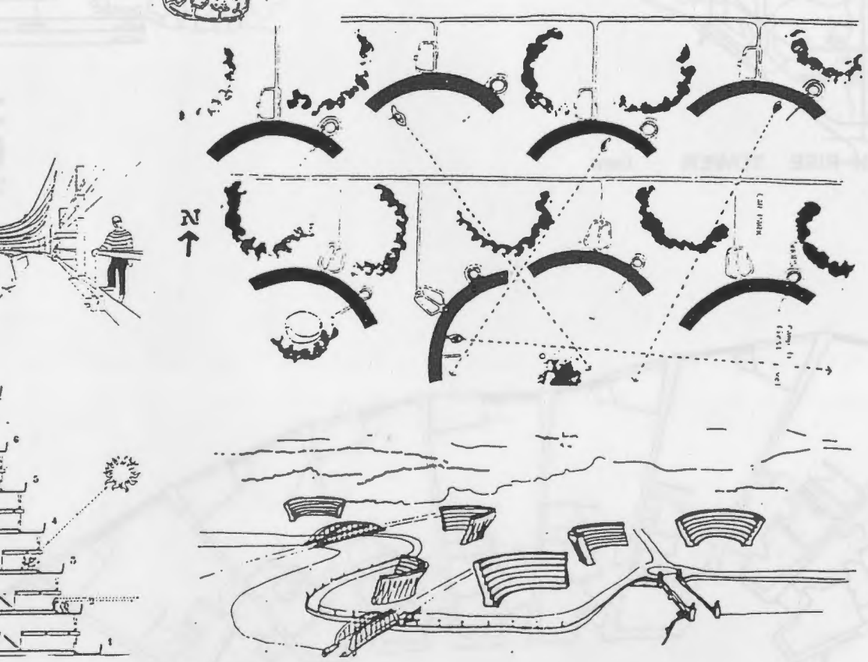


Fig. 8.108






Privacy through use of flower-boxes.

Family Duplex at ground level.

Previous Pages :

Figure 8.105 :
Housing Typology Diagrams 1971
*( source : UDC (1971) )*

Figure 8.106 :
Cluster Apartments compared with de Souza Santos Scott Road Apartments (1971)
*( source : Papademitriou (1978) )*

Figure 8.107 :
High Rise Tower compared with Aalto Bremen Apartment Building (1962)
*( source : Fleig (1963) )*

Facing Page :

Figure 8. 108
Ormonde Housing Conceptual Diagrams :
A mix of dwellings with different qualities within a development complex is achieved through grouping complementary low rise, medium and high rise building types. Low and high rise components share parking and communal facilities. Low rise components define and articulate private and semi private garden areas and mark the edge of the public open space to which they are related.
Tall buildings are sited so as not to over shadow lower buildings but to provide protection from cold southerly winds. Each dwelling is to enjoy visual privacy and to provide private outdoor space. the roofs of apartment buildings are treated as extensions of the communal open space.
*( source : UDC (1969) )*

These are compared with Smithsons : Private Air Diagrams (1955-56) and Terraced Dwelling units (1952) which concerned urban dwelling units which could be added together without creating negative spaces , such as those between parallel slab blocks. The isolated curved blocks were to define positive space. All main living accommodation was to face towards the sun.
*( source : Newman (1961) )*

background and foreground were important in terms of the relationships between individual and urban environments.
The way in which precedent informed specific design solutions is best seen when comparing images in terms of direct visual links.
In Ormonde the values of traditional suburbs were to be condensed into a dense urban fabric, where highly utilised space would allow a great yield from space. The idea behind the grouping and layering of housing units with grouped car access and common courts was to allow a greater intensification of the use of space. This was also to allow the street frontages to be more like public spaces. However this led to great areas of open space, seen as 'borrowed' landscape but which was not necessary positive usable space.

The flow of space between buildings and the permeability of spatial flow and overlap were also important concerns. The Smithsons' Terraced Dwelling Unit diagrams *(Fig. 8.108)* illustrate this theme where urban dwelling units were to be added together without creating negative spaces, such as those created between parallel slab blocks. The living accommodation was to be orientated to the sun, while the terraced face would reduce the bulk of the unit and open up the space.

However the Smithsons Robin Hood Gardens of 1966 *(Fig. 8.109)*, provided a negative model in terms of the above spatial concepts, where it was seen to be too rigid and enclosed by Antonio de Sousa Santos.

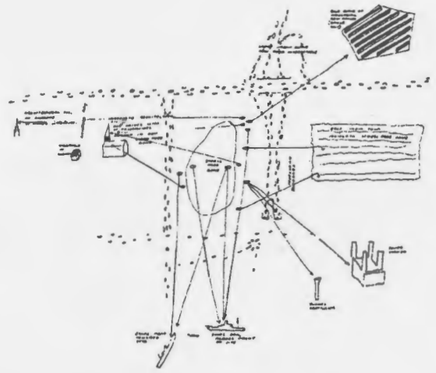
In terms of illustrations of prototypical examples that typified the spatial concepts of the Ormonde Plan, the best examples of the kind of environment that was sought, are examples of the Santos's built work, in particular the Kenilworth Houses (1973)[24] *(Fig. 4-6,8/9)* where direct comparison can be made between built examples as precedents and typological examples.

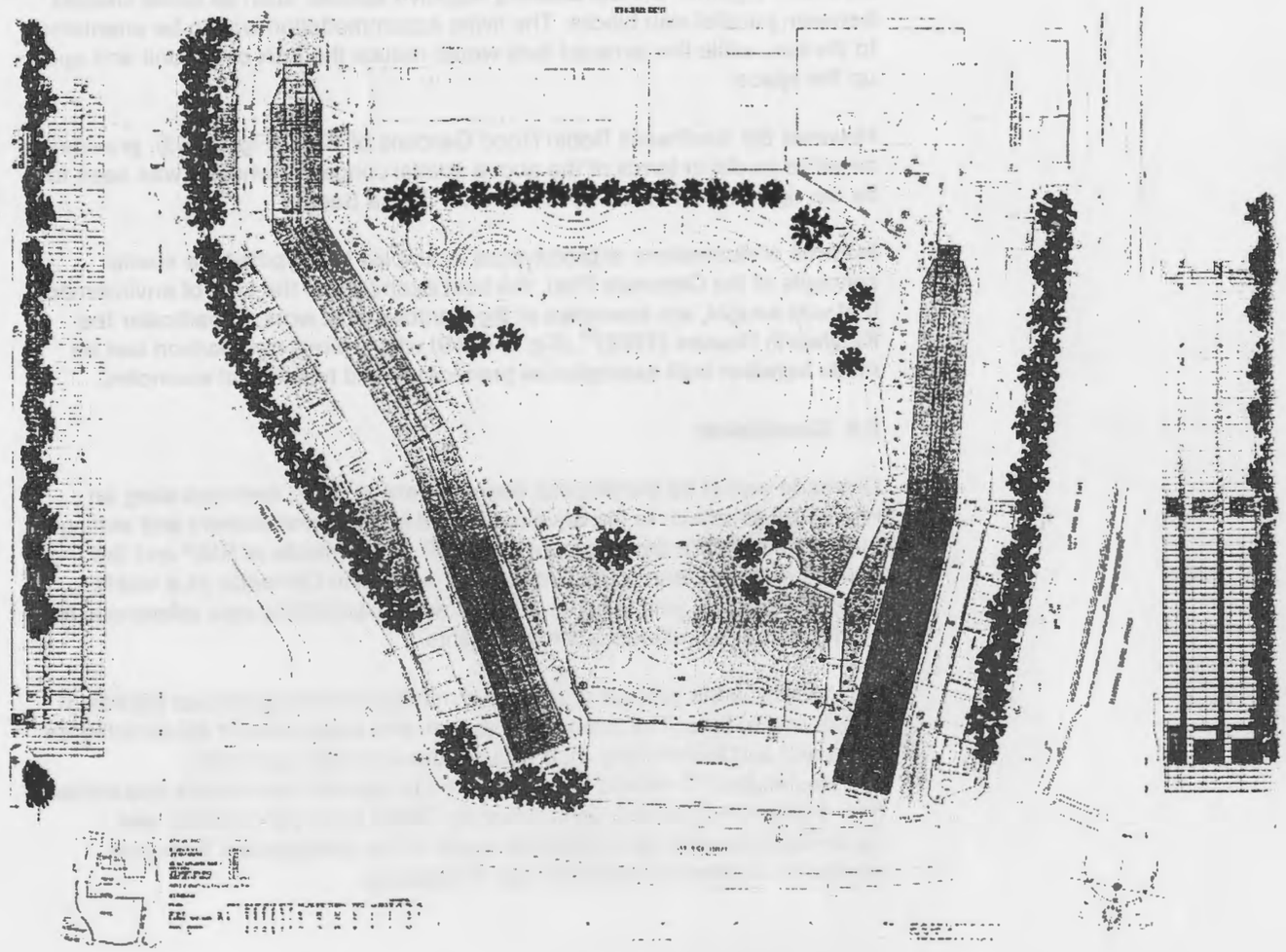
## 8.6 Conclusion

Ormonde was to be the flagship development of RMP, demonstrating an integrated approach to the development of a 'total' environment and setting the 'tone' for future developments by RMP. In the minds of RMP and the Ormonde design team - UDC, there was a belief in Ormonde as a viable project. Ormonde was seen as a 'new town', establishing new references for architectural and residential environments.

Ormonde was the product of a utopian mindset within a particular paradigm and period of time. The strength of images and experience in determining an approach and transmitting architectural ideas visually cannot be underestimated. Ormonde was influenced by specific precedents and models from Europe, Britain and North America. These were conceptually and contextually specific, and therefore could not be transplanted from one context to another without a change in meaning.

[24] Although built in 1973, these ideas were obvious in the Ormonde work.





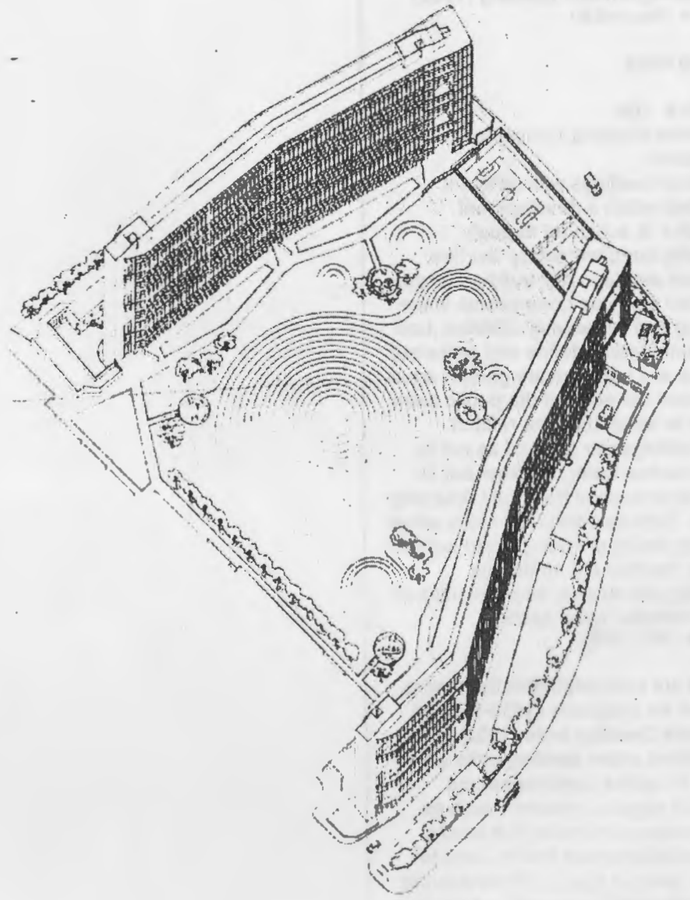


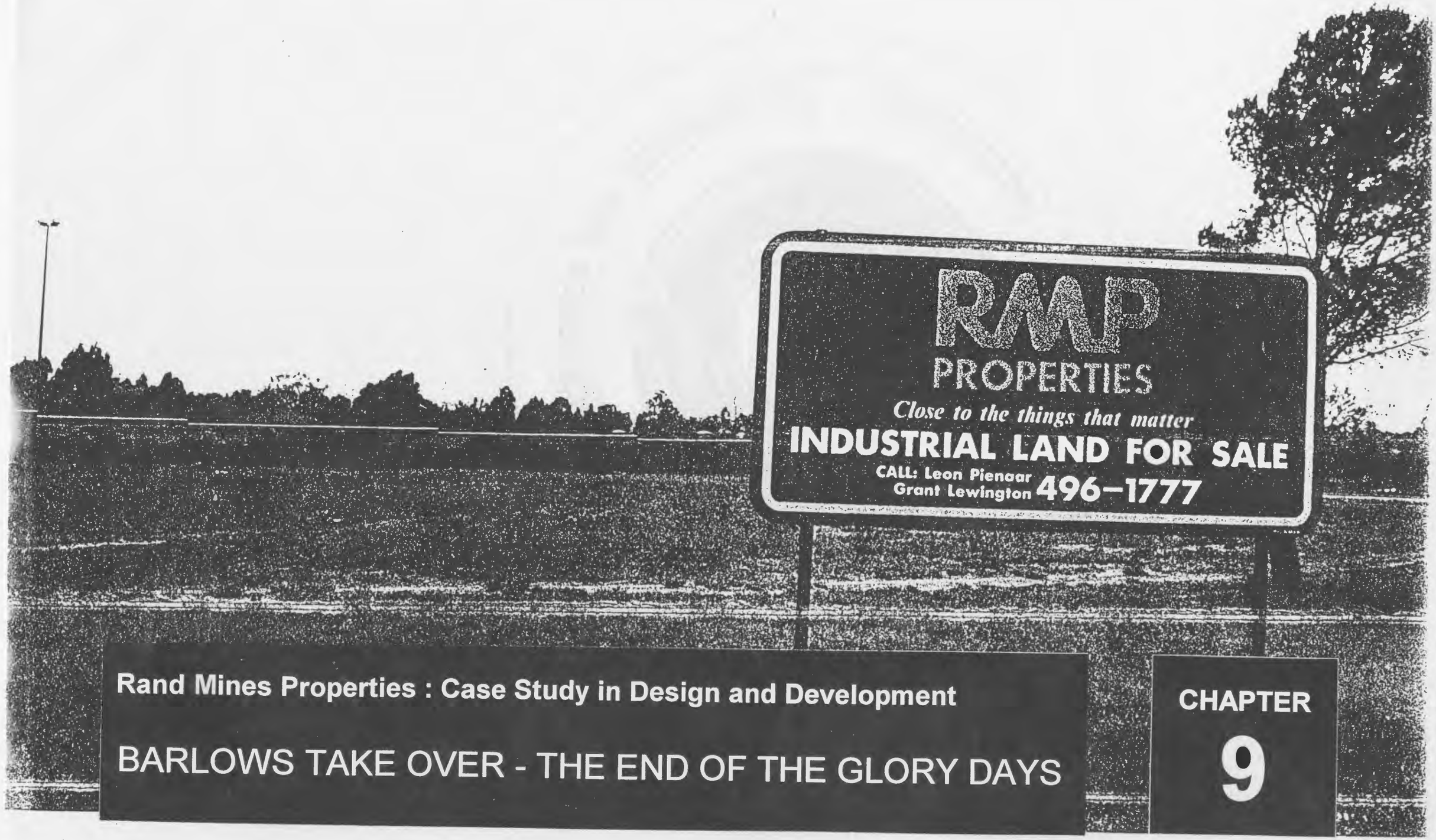
Fig 8.109

Figure 8.109 :
Smithsons : Robin Hood Lane (1966)
Visual connections of people to their districts
Axonometric drawing of general layout. Large central green space protected by the buildings, the buildings protected by an 'acoustic wall' at the pavement's edge with trees behind. Servicing and parking take place in a 'moat' between the buildings and the roads.
*( source : Smithsons (1970.191) )*

In defining an approach to the design where the use of typology was to allow a 'kit of parts' approach, a variety of alternative solutions was to allow choice within a design framework. This approach led to the urban framework being understood through the nature of the pieces that would make up the overall environment.

Essentially the assemblage of pieces in terms of an overall 'plan' failed to reach a synthesis in terms of the stated concept of habitat and total environment. The contradiction between the production of a picture expressing a vision on the one hand and the ideas of flexibility and change in producing an environment over time on the other, could not be reconciled. Thus it remained at the level of an exercise in composition, visual aesthetics and pattern making.

The initial concept of Ormonde implied an open ended process orientated approach, yet ultimately a fixed masterplan was produced. Thus the implications of 'planning as design", (which was not the stated intention), was that the resultant masterplan failed to understand the complexity of the urban environment, with specific implications for its proposed implementation. Ormonde's implementation was inherently flawed in that it had large up front infrastructural costs, no clear means of implementation, and was not market related.

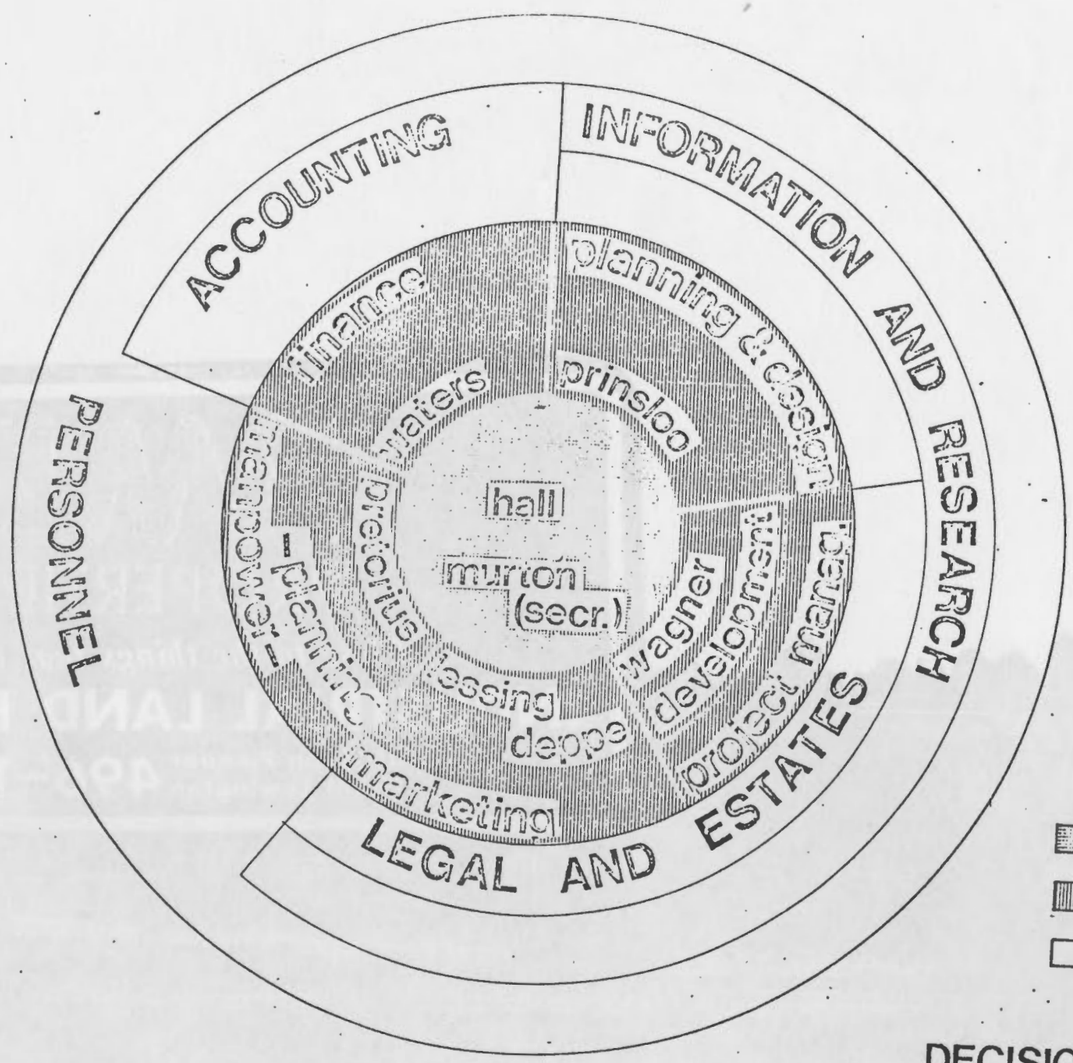



Rand Mines Properties : Case Study in Design and Development

# BARLOWS TAKE OVER - THE END OF THE GLORY DAYS

CHAPTER

9




MANAGEMENT COMMITTEE & CENTRAL DECISION MAKING

STRATEGIC: TECHNICAL DIVISIONS

TACTICAL: SERVICE DIVISIONS

**DECISION MAKING STRUCTURE**

Fig. 9.1

Figure 9.1 :
RMP Decision Making Structure
*( source : Drake (1973) )*

## 9.1 Introduction.

Towards the end of 1970, RMP was acquired by the Barlow Rand Group. The Directors' Report in the Annual Report of 1970 stated that the group's activities were in a state of transition from a land use planning to an integrated planning and development phase. After two years, the Strategic Plan for the utilisation of the group's land had been completed. Efforts were to be directed in the medium term towards the initial stages of the Ormonde development, an office complex to be constructed at Theta Extension No 1 Township, the construction at Selby Extension of a new corporate headquarters and warehousing facilities for Edgars Stores Limited and a major warehouse at City Deep for Greatermans Stores Ltd.[1] It was stated that the group would endeavour to improve the usage value of its properties through integrated developments and that land would be *"progressively brought into two pipelines, one for development and one for sales : and emphasis would be placed on generating a level of cash flow which will underwrite the long term success of the company." Directors' Report 28 April 1971*

At the time P.H.Anderson was the Chairman of RMP whilst A.C.Peterson was the Managing Director. However A.C.Peterson resigned as Managing Director effectively from 31st December 1971, while remaining a director of RMP. J.B.Maree took over as Executive Chairman of RMP on the 1st January 1972 and A.B.Hall as General Manager.

Shifts in policy become evident in the Directors Report in the Annual Report of 1971. It was stated that future emphasis would be directed towards implementation as opposed to planning.[2] It was noted that with the improved motorway access demand for RMP's property was likely to increase. To ensure that sufficient land was available in a marketable form at any one time, greater attention was to be paid to the requirements of the market. Demand for land was to be further stimulated by increasing activity on it, thereby increasing its value and marketability. It was also stated that in order to accelerate residential development, particularly in the Ormonde area, discussions were being held with various housing development companies in order to interest them in acquiring portions of RMP land for development by themselves within the framework of RMP's overall plans.
This was a major change in thinking for RMP, from thinking of themselves as property developers, who would buy in relevant expertise, to that of a property

[1] The annual Report of 1970 also reported on the status of various developments. During 1969, 106 hectares of land were sold, compensation was received for the Westgate interchange and the dispute in regard of land at City Deep for the Abattoir was resolved. In respect of developments, a factory at Stormill, the Westgate Shopping Centre and a small factory building at Jacobs, Durban had been completed. A factory building at Stormill leased to Cadac Engineering Works, a factory/warehouse/office building at Stormill leased to Tension Envelope Corp. and two adjacent blocks of 65 flats at Malvern East were under construction. A block of offices/shops in Northcliff, a complex of low rise decentralised office blocks at Theta No.1 Township, the Ferreira Office Complex and the KOPS Project were all at a design stage.
[2] A comment here is that without planning, implementation cannot take place.

# ORMONDE
# Extension No. 1
# Uitbreiding Nr. 1

situated on portion of the farm Vierfontein Nº 321 I.Q.-District of Johannesburg /
geleë op 'n gedeelte van die plaas Vierfontein Nº 321 I.Q. Distrik Johannesburg

| USE / GEBRUIK | NO OF ERVEN / GETAL ERWE | ERF NOs | AREA m² | AREA Ha |
|---|---|---|---|---|
| Special Residential | | | min. 660 max. 1089 | |
| Spesiale Woon | 110 | 1-110 | ruimg. 704 | 7.75 |
| General Residential / Algemene Woon | | 111 | 8289 | |
| | | 112 | 12422 | |
| | | 113 | 14442 | |
| | | 114 | 14360 | |
| | | 115 | 24066 | |
| | | 116 | 7814 | |
| | | 117 | 7832 | |
| | 8 | 118 | 14434 | 10.37 |
| Business / Sake | 1 | 119 | 14728 | 1.46 |
| Special Purpose: Church / Spesiaal: Kerk | 1 | 120 | 6446 | 0.64 |
| Special School / Spesiaal Skool | 1 | 121 | 35831 | 3.58 |
| Public Open Space / Openbare Terrein | 21 | 122-142 | 83772 | 8.38 |
| Roads / Paaie | | | | |
| TOTAL NUMBER OF ERVEN / TOTALE GETAL ERWE | 142 | TOTAL(S) AREA Ha | | 44.71 |

| | |
|---|---|
| Minimum road gradient / Minimum pad gradient | |
| Maximum road gradient / Maksimum pad gradient | |
| Total length of roads / Totale lengte van paaie | 3780 m |
| % of roads as % of Township area / % van paaie as % van Dorpsarea | 28.0 |
| % of Public Open Space as % of Township area / % van Openbare Terrein as % van Dorpsarea | 18.7 |

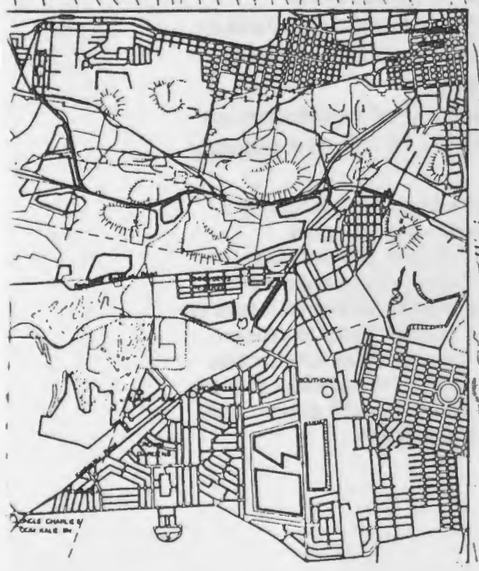
CONTOURS ARE IN ACCORDANCE WITH REGULATION 2(12)

| | |
|---|---|
| Source | Aircraft Operating Company |
| Aerial survey date | 27th June 1968 |
| Datum | Mean Sea Level |
| Vertical interval | 2 Eng. ft. |

KONTOERE INGEVOLGE REGULASIE 2(12)

| | |
|---|---|
| Bron | Aircraft Operating Company |
| Luglandmeting datum | 27de Junie 1968 |
| Gegewer vlak | Middelmaalse seevlak |
| Vertikale spasiëring | 2 Eng. vt |

ALL DIMENSIONS ARE METRIC AND APPROXIMATE
ALLE AFMETINGS IS BENADERDE METRIEKE MATE



Restant van gedeelte van gedeelte / Remainder of portion of portion VIERFONTEIN Nº 321 I.Q.

Restant van gedeelte / Remainder of portion VIERFONTEIN Nº 321 I.Q.

GOLF COURSE

GHOLFBAAN

260

N

ALWEN ROAD/WEG

CORWEN ROAD/WEG

EVANS PARK

HUBWARDEN ROAD/WEG

ORMONDE 1099 JR

Existing Bus transportation / First stage access road

0 50 100 200 300 400 500 600 700 800 900 1Km

Fig. 9.2

Rand Mines Properties Limited

CMP

Urban Design Consultants

40 Loop Street · Cape Town · South Africa

Figure 9.2 :
Ormonde Extension No. 1
Layout of Proposed Township
*( source : Urban Design Consultants (1971) )*

trading or broking company. The other fundamental change was that of financial management and strategies. Rand Mines had their basis in a mining mentality where a long term view was taken as to the potential profitability of their land holdings. As owners of mines and mining land, they had been used to long term capital investments that would only be realised over a long period of time. Hence the Land Use and Transportation Proposal was phased over a twenty year period, where a negative cash flow initially would allow for infrastructural development, and would ultimately allow higher dividends in the end.[3] Barlows on the other hand were used to exercising strong financial control on an annual basis, where a one year budget would be set, projections made and profits shown annually.

The Annual Report of 1971 also stated that because of the prevailing adverse property climate, characterised by high interest rates and increasing costs, it was necessary to abandon or defer certain projects that had previously appeared viable. The planning and preliminary design costs relating to abandoned or deferred projects and the costs of 'major town planning studies' were written off.

The distinct shift away from its previously defined development strategy and vision had a profound effect on RMP. The reorganisation of company resources *(Fig. 9.1)* left a strong mark on the Planning Office where many specialist staff were retrenched or chose to leave. Effectively it was the end of what has been termed by those involved in the RMP Office as the 'Salad Days'.

**9.2 Ormonde - Realisation and Implementation.**

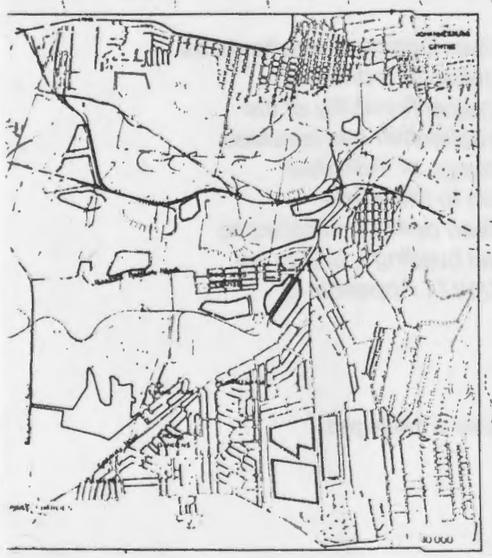
The most profound effect of this change in emphasis and direction was felt in the implementation of the Ormonde Project. Urban Design Consultants Terminal Report of May 1971 culminated in the Township layouts for the first sector of the Ormonde Township *(Fig. 9.2/3)*. The first sector of the Ormonde Township comprising 110 special residential, 11 general residential, church, school and community stands was expected to be proclaimed in 1971.

Ormonde Extension No. 1 had been planned by Urban Design Consultants as an integrated physical environment where *"Investigation of individual buildings has been limited to the establishing of physical feasibility of the forms dictated by urban design principles. Such investigation has revealed the principles which must inform the architectural design of individual buildings if they are to make their proper contribution to the whole environment. These briefs seek to communicate urban design intentions to the architects responsible for the design of individual buildings, and to lay down the principles that must be adhered to." UDC(1971.Appendix 2)*

[3] Projects such as Reston and Sea View in the USA were studied in this regard.

LEGEND

- Sidewalk Development
- Interior Pedestrian Circulation
- Pedestrian Malls
- Golf Roughs Circulation
- Special Areas
- Multi-Purpose Playground
- Civic Plaza
- Public Parks
- Viewing Area
- Parking Courts
- Other Open Space



0 50 100 200 300 400 500 600 700 800 900 1Km

Fig. 9.3

ORMONDE EXT. NO. 1
Landscape Development

Rand Mines Properties Limit

CMP
Urban Design Consultants
5 Sea Street · Cape Town · South Africa

Figure 9.3 :
Ormonde Extension No. 1
Landscape Development
*( source : Urban Design Consultants (1971) )*

In the new scheme of things, Urban Design Consultants' role in the Ormonde project was wound up after the submission of their Terminal Report in May 1971. The stands in Ormonde were to be made available to home building companies for development by them, and negotiations were entered into with Schachat Cullum.

Urban Design Consultants objective in defining a typology was to define essential principles of type that would inform specific design solutions, as it was thought that the subdivision on land and provision of infrastructure in itself would not be a sufficient basis for architects to design within. Examples of current European and American buildings and developments provided precedents. Schachat Cullum, however had their own marketing vision and image of what people wanted, the image in their marketing brochure *(Fig. 9.10)* could best be described as 'Spanish Style' spec. This revealed a vast gulf between architects thinking and developers' commercial marketing strategies in a speculative market.

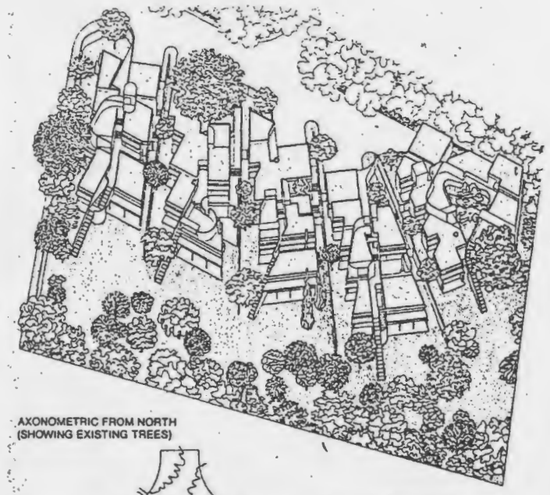
The Township Proclamation process was a lengthy and complex one, taking a minimum of 32 months *(Fig. 9.17)*. The township had to be approved by the Local Authority, as well as the Townships Board of the Province. The key figures at Provincial level were in the Provincial Planning Department.

Whilst the general plan and conditions of establishment of Ormonde had been accepted and taken over by the RMP township section, changes occurred when a document with fairly sophisticated ideas was passed from a consultant - UDC, to a group with little understanding of these ideas.

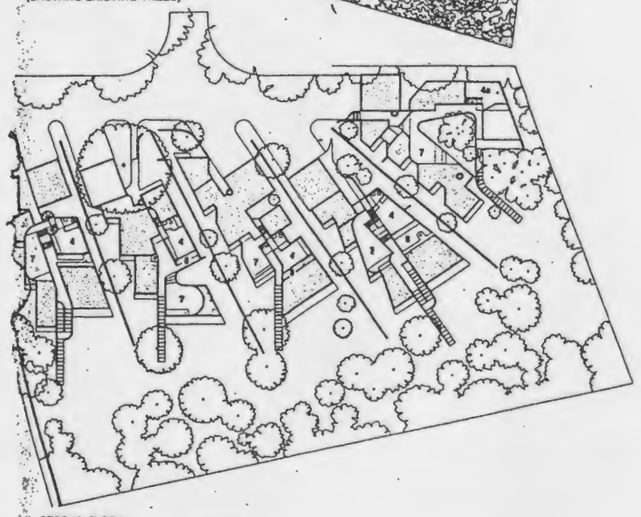
A series of changes to the Ormonde Plans occurred, made by the Provincial Authorities which eroded and compromised the original concept.

Firstly, the density was deemed to be too high. The density was therefore lowered and the bulk allowed on all general residential stands was reduced. The effect of this was that it destroyed the basis of a population which was mixed in terms of available housing options and age groupings, therefore the need for community facilities and services, such as schools, became distorted. The extensive open space system also depended on density, in order to give it sufficient activity to ensure its success. The relaxation of density also began to undermine key economic principles of the project. Higher densities were seen to increase the land value of the erven, allowing land to be 'given away' in the form of parks and the provision of pedestrian underpasses etc. The choice of housing types was an essential idea within the project. This was also destroyed by the lowered density.

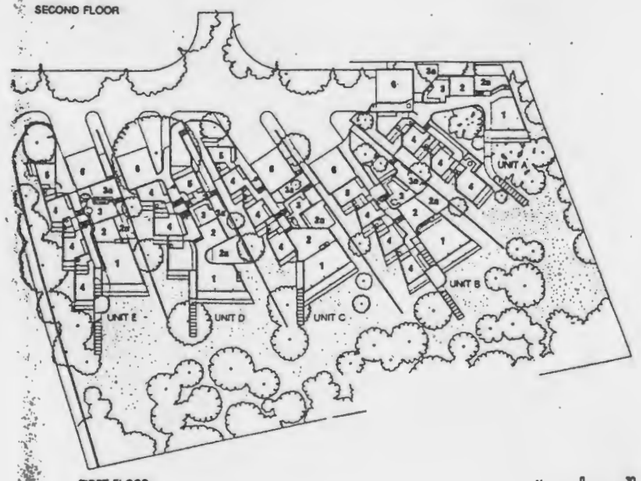
The proposed raised pedestrian decks which fed through the buildings and over the roads, which were seen as the 'streets in the air', linking various community facilities, like crèches, laundries etc., that had been influenced by schemes such as Park Hill (1957), were also abandoned.



AXONOMETRIC FROM NORTH
(SHOWING EXISTING TREES)

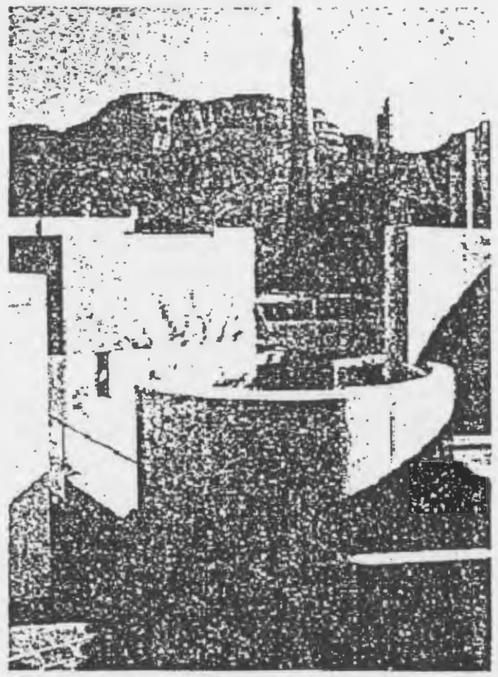


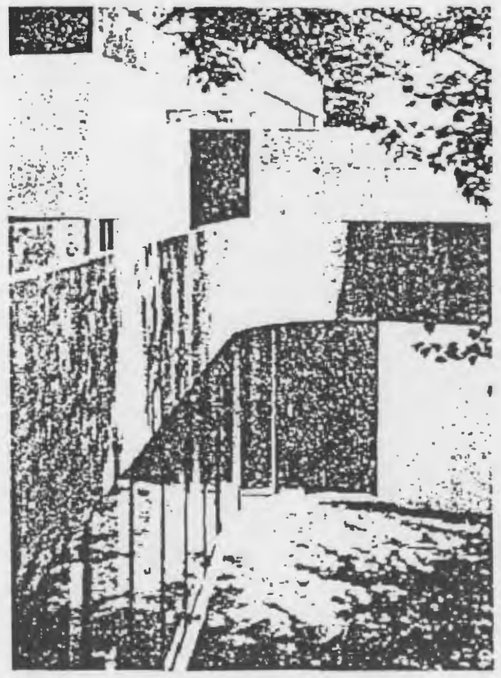
SECOND FLOOR




FIRST FLOOR

Fig 9.4





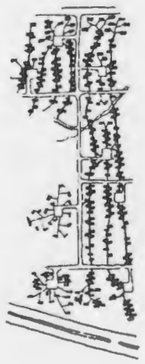


Fig 9.6

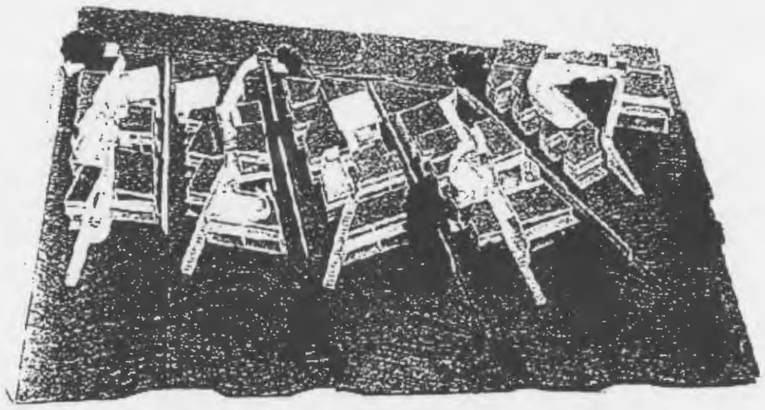
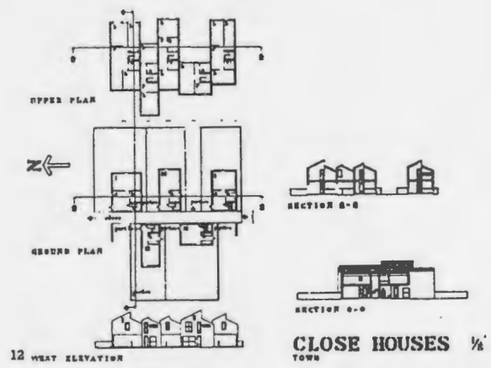
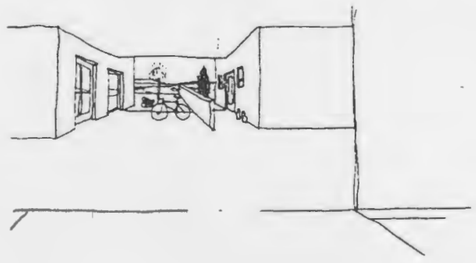


Fig 9.5



Houses riding the landscape



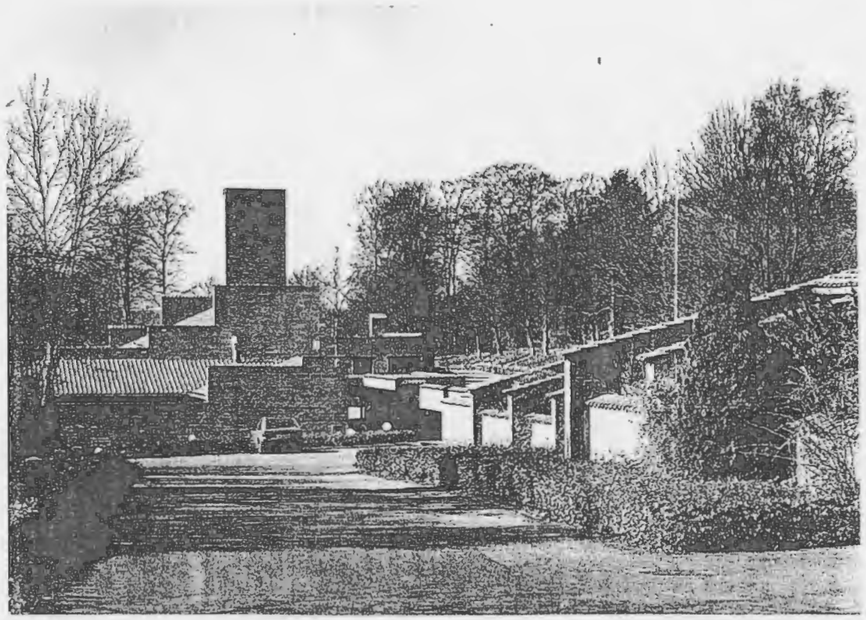
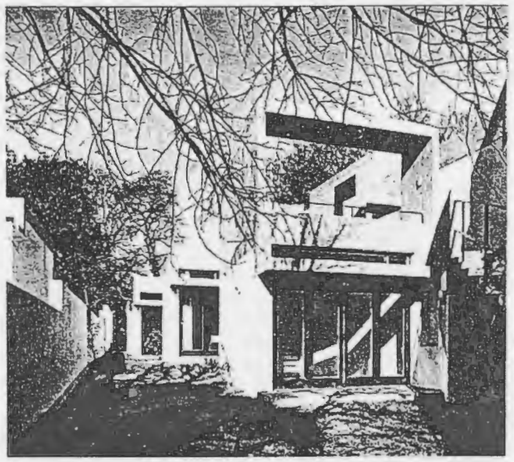
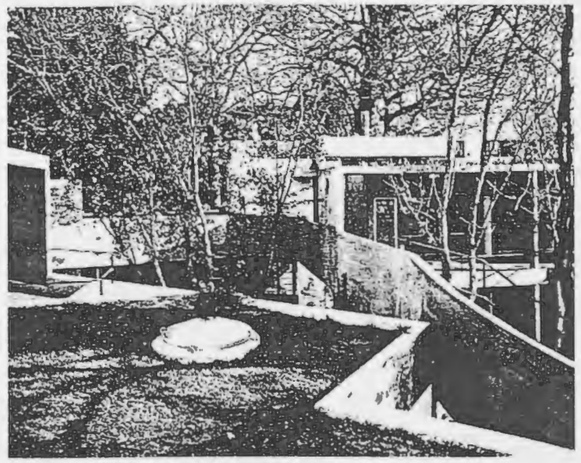
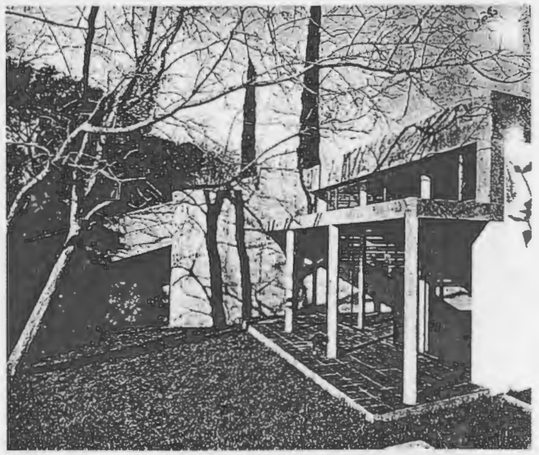


Fig 9.7







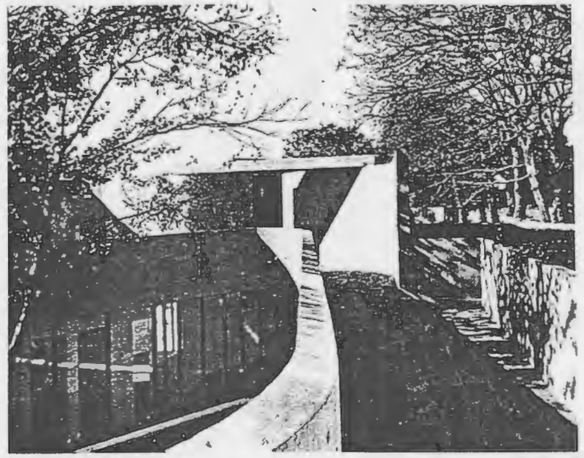


Fig 9.8

Fig 9.9



Previous Page :

Figure 9.4 :
Adele and Antonio de Souza Santos :
Rowan Lane Houses, Kenilworth,
Cape Town (1973)
Plans and View of the roof terrace
solarium and private courtyard.
*( source : Papademetriou (1978) )*

Figure 9.5
Adele and Antonio de Souza Santos :
Rowan Lane Houses, Kenilworth,
Cape Town (1973)
Model showing the relationships
between the houses.
*( source : Architect and Builder (1973) )*

Figure 9.6
Smithsons : Close Houses (-)
*( source : Smithsons (1967.37) )*

Facing Page :

Figure 9.7 :
Jorn Utzon : Kingo Houses at
Helsingør (1956-60)
*( source : Menges (1991) )*

Figure 9.8 :
Adele and Antonio de Souza Santos :
Rowan Lane Houses, Kenilworth,
Cape Town (1973)

Views of private courtyards
*( source : Architect and Builder (1973) )*

Figure 9.9 :
View of entrance courtyard in 1996
*( source : Photo Heather Dodd 1996 )*

The reduction of the four storey apartment blocks to three storeys had several effects. They had been designed as double duplexes, with access to the upper units at third floor level, which allowed an efficient distribution to the upper units. The height of the apartment block was to offer protection from cold south winds to the houses in front as well as provide a symbolic sense of protection and place.

The stand sizes and layout in Ormonde were geared to the image of the 'patio house' around a panhandle or cul-de-sac that would provide grouped car access, as typified by projects such as the Santos' Vernon Road Houses of 1970 and Utzon's Kingo Houses in Helsingør (1956-60) *(Fig. 9.7)*, and not to the typical free-standing 'spec' house.

The concept of the tight stand size with building from boundary to boundary around a panhandle access also presented a series of problems in terms of approvals from the Provincial authorities, firstly, in terms of building lines and secondly in terms of panhandle dimensions.

The housing had been planned around 'ways' of 13m wide They served very few dwellings and allowed the creation of small scale urban places. The concept was that they should be places, not streets. The Provincial Authorities insisted on vehicular access ways and streets of a minimum width of 16m wide, resulting in a 16m wide by 10m long panhandle. This would have compromised the original intention of the layout, and was resolved by making the road reserve 16m wide but the road itself narrower, thus technically falling within the by-laws.

The consultants had planned the wedge shaped special residential sites with the idea that if the house was tightly squashed into a narrow 'motorcourt' or panhandle side, a widening garden would give a sense of spaciousness not easily achieved in a standard rectangular plot of similar size. This was similar in concept to the Santos's Kenilworth Houses of 1973 *(Fig. 9.4/5/9.8/9)*. The motorcourt would also become a continuously built up place. Thus the proposal was to have no building line on the road side except a 5m line in front of the garage. This would allow each house to have two cars parked off the road on the stand. Province demanded a 3m building line all around. Thus the 'tight' court expanded to twice its area with the houses pushed back into the garden and cars parked on the pavement or in the road.

A further series of changes and decisions were made by RMP themselves. The paradigm of all encompassing design as initially envisaged was to be completely compromised on every level. Little by little, the original vision of Ormonde was whittled down to what amounted to little more than a standard suburb.

267

# ORMONDE

## the village on the green

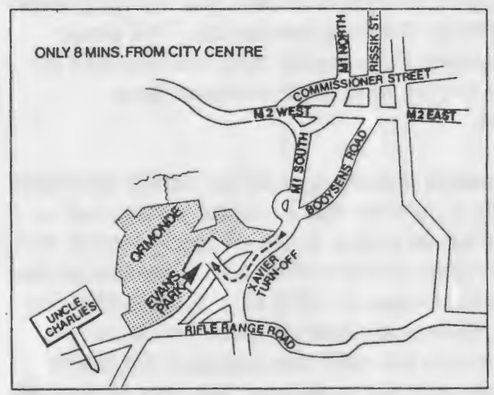
These photographs show a few views of the new village which we are building beside the golf course in the Ormonde valley.

The central feature is a continuous 2 kilometre string of small dams flanked by the restful open greenness and large trees of the golf course.

The green spaces continue in among the houses. Large parks have been grassed and planted with many trees. All the gardens are landscaped and grass, shrubs and trees planted.

You don't have to live in the country to have the feeling of open space and quiet. Ormonde is only 8 minutes from the city centre on the new M1 and there are existing schools, shops and other facilities within easy reach. The township has been designed to cater for children's safety. All the houses are set around safe and quiet culs-de-sac for a relaxed village atmosphere.

These architect-designed homes are priced from R26 000 to R35 000. Come and see Ormonde and you will probably never leave.




RMP
RAND MINES PROPERTIES LTD.

Schachat Cullum
Home builders

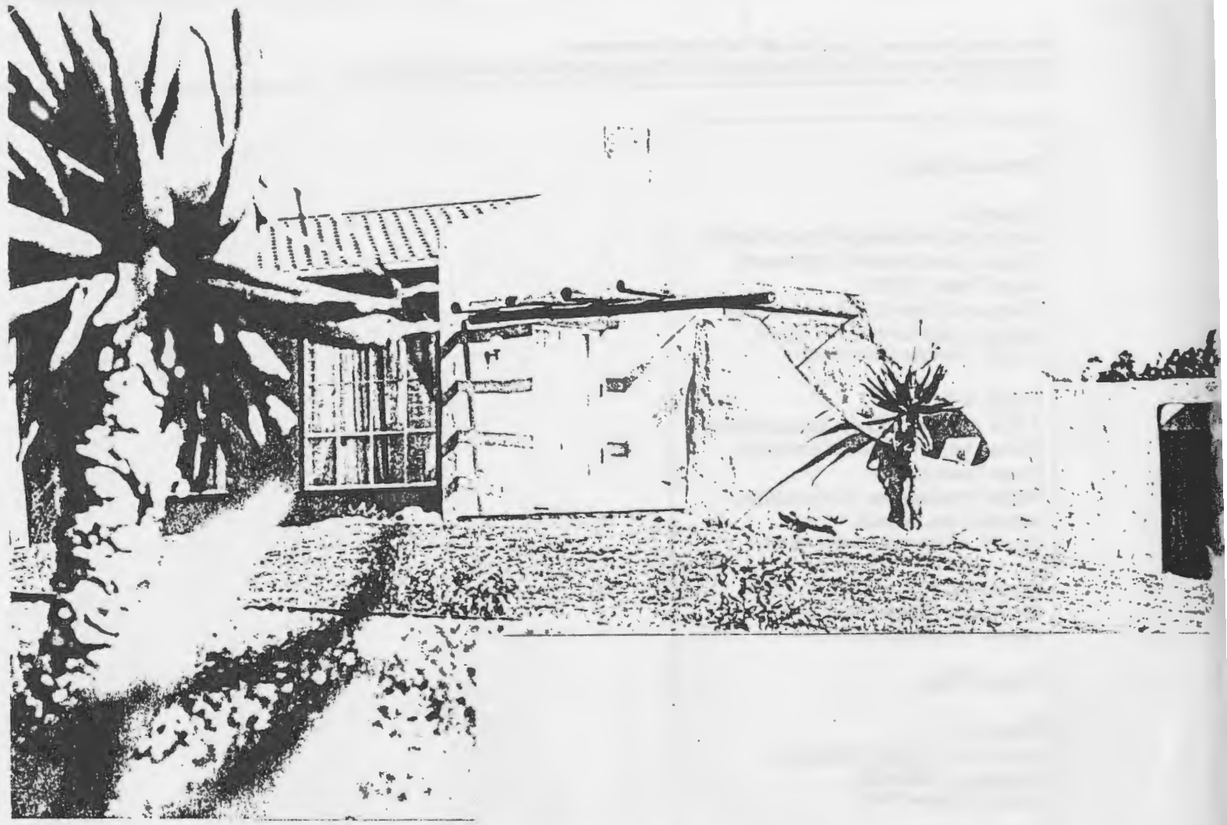
**TELEPHONE 35-7744**
**TELEFOON 836-1531**

Hierdie foto's toon aan u 'n paar uitsigte oor die nuwe dorp wat ons langs die gholfbaan in die Ormonde vallei bou.

Die uitstaande kenmerke van die ontwikkeling is 'n twee kilometer ketting van klein waterhoudende damme wat aan die rustige lowergroen grasperke en groot bome van die gholfbaan grens. Die grasperke word natuurlik ook tussen die huise gevind waar groot parke met gras, struike en bome uitgelê is.

U hoef nie op die platteland te woon om die gevoel van rustigheid, ruimte en stilte te ervaar nie. Ormonde is slegs 8 minute vanaf die middestad geleë, grensend aan die nuwe M1 snelweg, binne maklike bereik van bestaande skole, winkels en ander fasiliteite. Die dorp is vir die veiligheid van kinders ontwerp. Al die huise is rondom veilige en stil doodloopstrate gebou vir 'n ontspanne en gemaklike plattelandse dorpsatmosfeer.

Die prys van hierdie argitek-ontwerpte huise wissel tussen R26 000 en R35 000. Kom besoek Ormonde en u sal dit moontlik nie weer wil verlaat nie.



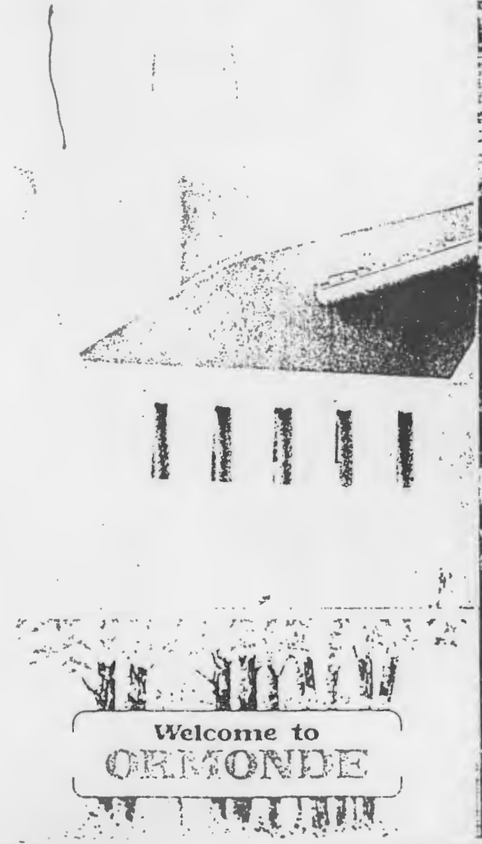





Fig. 9.10

Hortors

Figure 9.10 :
Ormonde : the village on the green
Schachat Cullum Marketing Brochure

### 9.2.1 RMP in the 1970's - A New Direction.

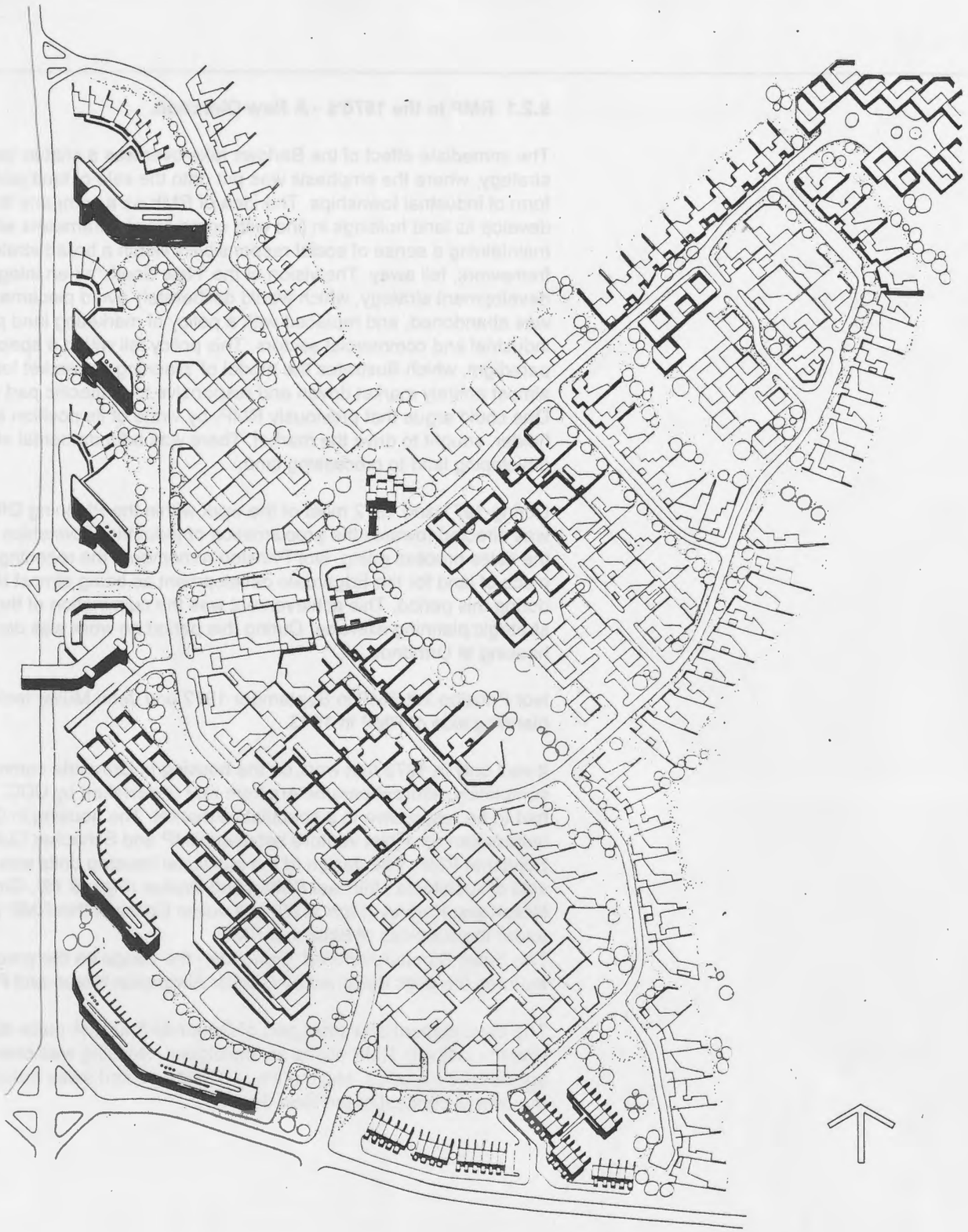
The immediate effect of the Barlows take-over was a shift in 'development' strategy, where the emphasis was put onto the sale of land primarily in the form of industrial townships. The idea of RMP as a company that would develop its land holdings in line with commercial parameters while maintaining a sense of social responsibility within a broad strategic framework, fell away. The vision of the 'New South' as an integrated development strategy, which would deliberately avoid piecemeal development was abandoned, and replaced with a policy of marketing land primarily in the industrial and commercial sectors. This policy fell within a speculative paradigm, which illustrates the model of 'planning as market led speculation' - almost entirely market driven and responsive to a specific part of the market. One could argue that previously RMP, by virtue of its position as a major land holder, sought to drive the market. There was a fundamental shift from developing land to processing land.

During 1971 and 1972 most of the work within the Planning Office of RMP was directed towards the proclamation of Industrial Townships that would get the sales process going. Ivor Prinsloo remembers the rezoning of the Ferreira piece of land for the Edgardale development as being almost the sole task during this period. This achievement was the culmination of the entire strategic planning exercise. During this period no work was done on the housing at Ormonde.

Ivor Prinsloo left RMP in September 1972 and John Muller took over the planning side of RMP in 1973.

It was only in 1973 that work on the housing in Ormonde commenced within completely different parameters from that undertaken by UDC. The houses had to be responsive to a speculative market. The housing in Ormonde was undertaken as a joint venture between RMP and Schachat Cullum, called Schachat RMP. The design of the individual housing units was done by three sets of Architects ; Michael Sutton and Walker *(Figs. 9.19)*, Grinker Abramson Nitsun and Portnoy *(Figs. 9.20)* and Julian Cooke within RMP *(Figs. 9.21)*, under the auspices of Schachat RMP.
The Sales Brochure entitled 'Ormonde - the village on the green' *(Fig. 9.10)*, features the units designed by Grinker Abramson Nitsun and Portnoy.

The development of a small part of Ormonde that took place during 1973/74 was the last with RMP acting as 'developer'. Housing was seen as too specialised a market, and the focus of RMP shifted away from housing and the overall concept of the New South.



ORMONDE EXTENSION 4
Fig. 9.11

Figure 9.11 :
Ormonde Extension 4 : A modified version of the Urban Design Consultants Proposal done in the RMP Planning Office post 1973.

**9.3 Conclusions : The Failure of RMP's development strategies and the dream of the New South.**

The failure of RMP's overall strategy and Land Use Proposals relating to the development of the New South, can be linked to several key points :

- The introduction of a new procedural planning approach based on 'Rational Comprehensive' methods, which encapsulated flexibility, choice and process, was counter to the 'Blueprint' method of planning used by the authorities at the time. The inflexibility of Blueprint planning was suited to the implementation of Apartheid policies. Thus there was a conflict between the company goals of RMP and state policies.

- There was a lack of a co-ordinated Metropolitan Authority, decision making was divided between the Local Authority - the Johannesburg City Council and the Provincial Authorities. This led to areas of concern directly related to the planning process being outside the control of the Local Authority.

- RMP had, by virtue of the size of its land holdings, seen itself as almost a local authority in itself. RMP saw itself as an extension to the City Planning department while not usurping the City's essential function. RMP also realised it had a certain social responsibility where, *" Sound development in a business sense is not incompatible with good development in business sense." Segal ( -.10)*

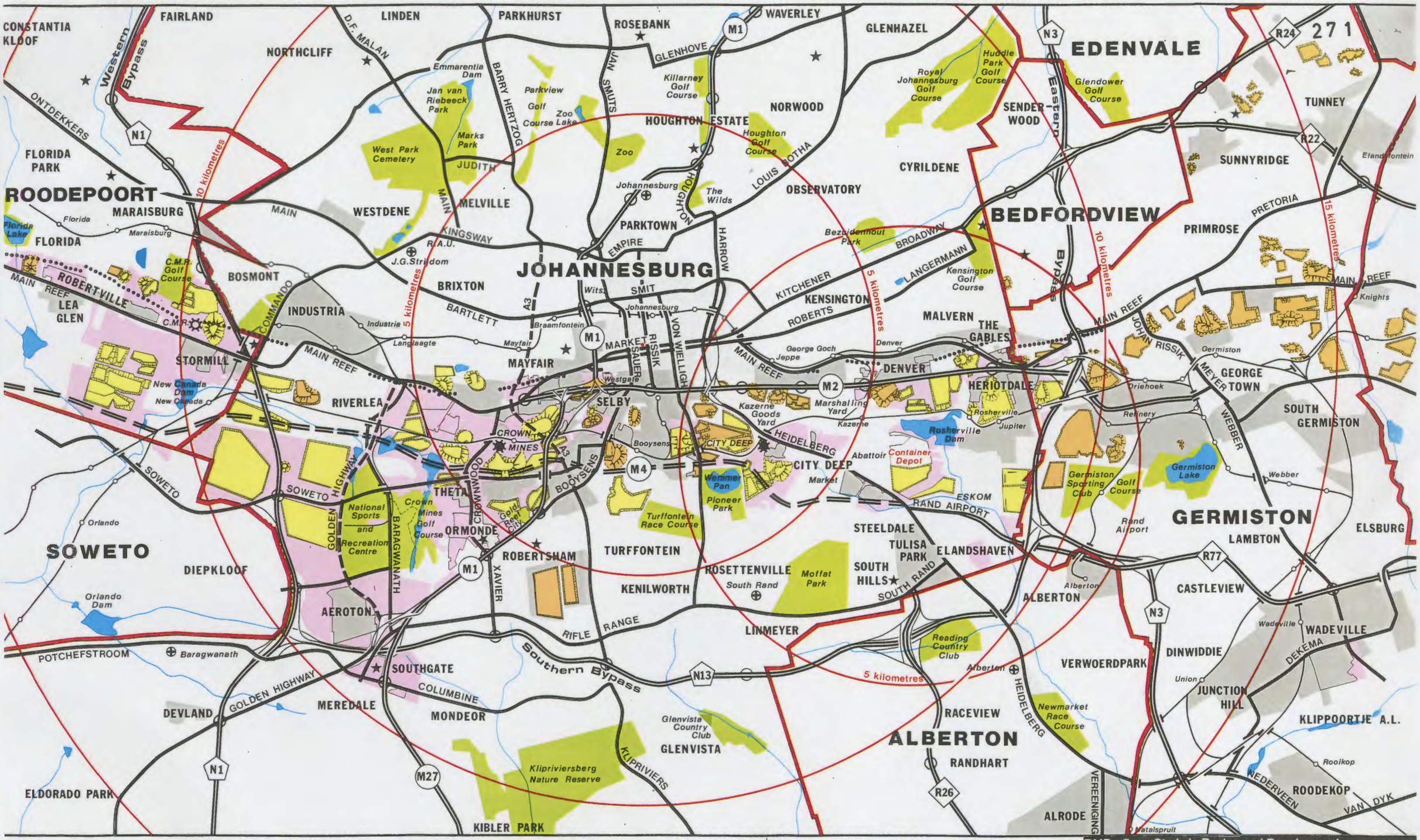
  When Barlows took over RMP in 1970, they worked within strict commercial parameters, where social responsibility was seen as incompatible with market driven forces and adequate returns for their shareholders.

- Barlows also introduced strict financial controls which required returns on an annual basis. The Land Use and Transportation plan had been phased over a twenty year period, where long term investment was required in order to realise a greater profit over a longer period of time. Thus there was a problem with a long term horizon plan vs. short term cash flows.

- The development of RMP's land holdings had been based on its potential and the structuring of a vision that would realise this potential. However in reality the land was derelict mining land with a poor environmental image, and with the stigma of 'the south' attached to it.

**9.4 RMP as a property trading company.**

Although John Muller took a broad synoptic view of the land holdings in terms of a planning framework, which led to the RMP 'Pink Plan' *(Fig. 9.12)*, the emphasis of RMP's business was to be on the sale of township land and the upgrading of land into township form. RMP saw their role as purely the




**REFERENCE:**

- RMP Freehold
- Business / Offices
- Industrial / Commercial
- Sand Dump / Slimes Dam — RMP Ownership
- Sand Dump / Slimes Dam — Outside Ownership
- Main Reef Outcrop
- Existing Sand Plant Site
- Possible Sand Plant Site
- Hospital
- Shopping Centre
- Motorways
- Proposed Motorways
- Major Roads
- Railways / Stations
- City Hall

Kilometres
1 0,5 0 1 2 3 4
Scale 1 : 75 000

RMP : Case Study in Design and Development

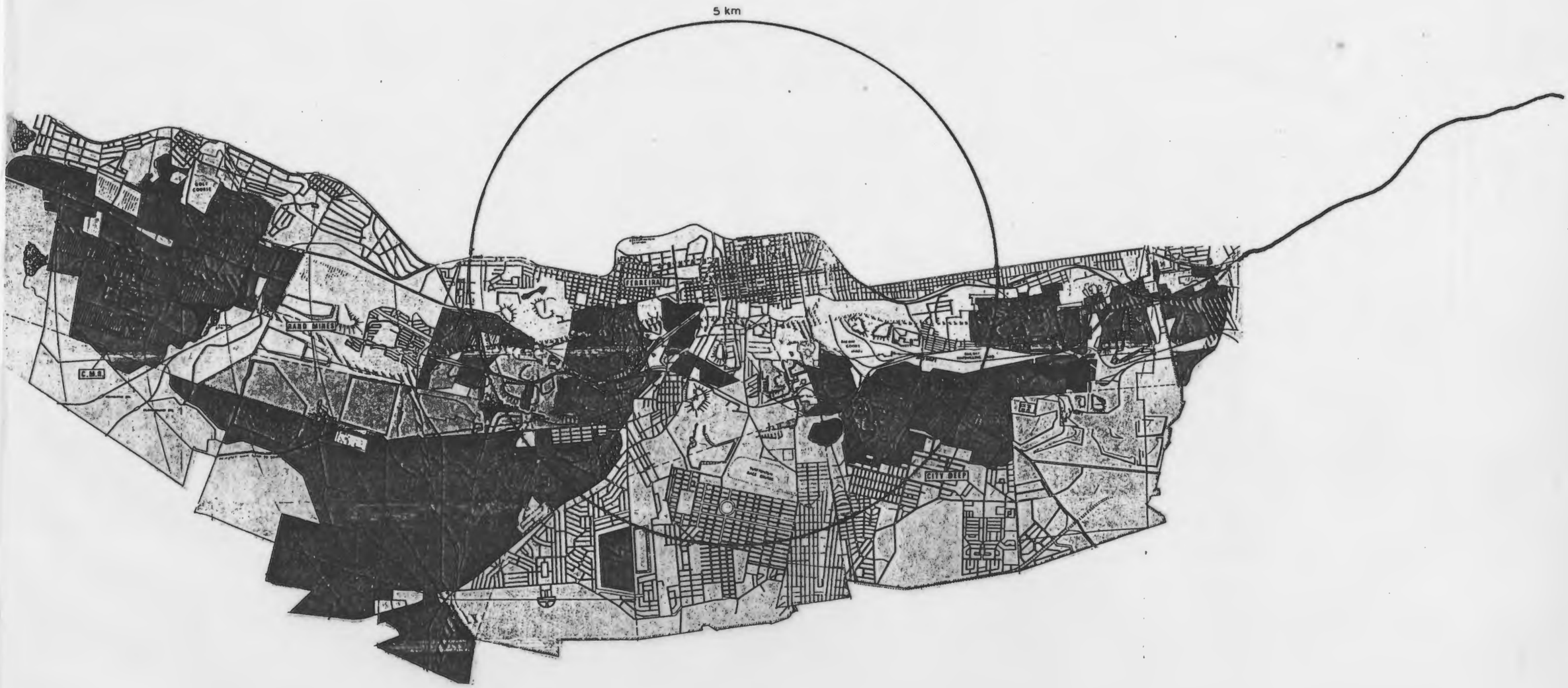
Fig. 9.12 1 : 50 000

MAP - RMP PINK PLAN 1988


RMP Management Services Limited
P.O. Box 27
Crown Mines
2025
Tel. (011) 839-2411



Reg. No. 70/08120/06
JUNE 1988




RMP : Case Study in Design and Development

**Fig. 9.13** **1 : 50 000**
**MAP - RMP PINK PLAN 1988 WITH 1968 OVERLAY**

CONSTANTIA KLOOF
FAIRLAND
LINDEN
PARKHURST
ROSEBANK
WAVERLEY
GLENHAZEL
NORTHCLIFF
EDENVALE
TUNNEY
SENDER-WOOD
SUNNYRIDGE
FLORIDA PARK
ROODEPOORT
MARAISBURG
HOUGHTON ESTATE
NORWOOD
CYRILDENE
OBSERVATORY
BEDFORDVIEW
PRIMROSE
WESTDENE
MELVILLE
PARKTOWN
JOHANNESBURG
BOSMONT
BRIXTON
KENSINGTON
MALVERN
THE GABLES
LEA GLEN
INDUSTRIA
STORMILL
MAYFAIR
DENVER
HERIOTDALE
GEORGE TOWN
SOUTH GERMISTON
RIVERLEA
SELBY
CITY DEEP
GERMISTON
ELSBURG
SOWETO
DIEPKLOOF
ORMONDE
ROBERTSHAM
TURFFONTEIN
STEELDALE
TULISA PARK
ELANDSHAVEN
LAMBTON
CASTLEVIEW
ALBERTON
KENILWORTH
ROSETTENVILLE
SOUTH HILLS
LINMEYER
AEROTON
VERWOERDPARK
DINWIDDIE
WADEVILLE
JUNCTION HILL
SOUTHGATE
MEREDALE
MONDEOR
GLENVISTA
RACEVIEW
KLIPPOORTJIE A.L.
DEVLAND
ELDORADO PARK
KIBLER PARK
RANDHART
ALRODE
ROODEKOP

Western Bypass
D.F. MALAN
JAN SMUTS
BARRY HERTZOG
ONTDEKKERS
MAIN
KINGSWAY
EMPIRE
HOUGHTON
LOUIS BOTHA
HARROW
BROADWAY
KITCHENER
ROBERTS
LANGERMANN
PRETORIA
MAIN REEF
ROBERTSVILLE
COMMANDO
BARTLETT
VON WIELLIGH
RISSIK
MARKET
MEYER
WEBBER
JOHAN RISSIK
HEIDELBERG
CROWN MINES
BOOYSENS
SOWETO HIGHWAY
CROMWOOD
GOLDEN HIGHWAY
BARAGWANATH
XAVIER
RIFLE RANGE
Southern Bypass
COLUMBINE
KLIPRIVIERS
VAN DYK
NEDERVEEN
VEREENIGING
EASTERN BYPASS
10 kilometres
15 kilometres
5 kilometres

N1 N3 N4 N12 N13 R21 R22 R24 R26 R77 M1 M2 M4 M27 A3

Florida Lake
Florida
Maraisburg
C.M.R. Golf Course
Jan van Riebeeck Park
Emmarentia Dam
Parkview Golf Course
Zoo Lake
Zoo
Marks Park
West Park Cemetery
Johannesburg
The Wilds
Houghton Golf Course
Killarney Golf Course
Royal Johannesburg Golf Course
Huddle Park Golf Course
Glendower Golf Course
Bezuidenhout Park
Kensington Golf Course
J.G.Strijdom
R.A.U.
Wits
Braamfontein
Langlaagte
Industria
Mayfair
Johannesburg
Westgate
George Goch
Jeppe
Denver
Germiston
Driehoek
Knights
Kazerne Goods Yard
Marshalling Yard
Kazerne
Rosherville
Jupiter
Rosherville Dam
Refinery
Abattoir
Container Depot
Booysens
Pioneer Park
Turffontein Race Course
Market
ESKOM
RAND AIRPORT
Rand Airport
Germiston Sporting Club
Germiston Golf Course
Germiston Lake
Webber
Orlando
Orlando Dam
National Sports and Recreation Centre
Crown Mines Golf Course
Gold Reef City
Baragwanath
Moffat Park
South Rand
Alberton
Reading Country Club
Newmarket Race Course
Wadeville
Union
Rooikop
Glenvista Country Club
Klipriviersberg Nature Reserve
Natalspruit

## REFERENCE:

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- Business/Offices
- Industrial/Commercial
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- Main Reef Outcrop
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- Proposed Motorways
- Major Roads
- Railways / Stations
- City Hall

N

Kilometres
1 0,5 0 1 2 3 4

Scale 1 : 75 000

RMP : Case Study in Design and Development

**Fig. 9.13** **1 : 50 000**

**MAP - RMP PINK PLAN 1988 WITH 1968 OVERLAY**

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2025
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Reg. No. 70/08120/06
JUNE 1988

Previous Pages :

Figure 9.12 :
RMP Pink Plan ( June 1988)
Showing RMP land holdings.

Figure 9.13 :
RMP Pink Plan (1988)
Showing current RMP land holdings.with overlay of RMP Prospectus Map of 1968.

provider of serviced and proclaimed land. The Pink Plan became a marketing tool, in terms of identifying potential land for sale and informing their sales strategy.

Thus RMP was to essentially become a property trading company whose *"mission is to use its principal asset - its substantial land holdings and to add value to that asset by clearing and rehabilitating its land and finally to have it legally proclaimed for township development and bring it to the market." Fiford (1993.55)*

Because of the intrinsic value of its land in terms of its location in relation to Johannesburg's CBD, RMP saw its role as being within industrial and commercial township developments, where realisable land values were invariably higher. Most of RMP's proclaimed townships are in the Selby, Theta, Aeroton and Crown areas in the south, Robertville and Stormill in the west and City Deep, Heriotdale, Denver and Wadeville in the east. RMP's core business became the sale of township land, land clearing and gold recovery, with property development and investment to a lesser extent.

### 9.4.1 Land Restoration and Dump Vegetation

RMP recognised its environmental responsibility in terms of its dumps with regard to dust pollution, groundwater contamination and radon gas emissions through an extensive grassing and vegetation program, which would potentially allow them to be used as 'green areas' for recreation.

However it was the rising Gold price in the late 70's which led land rehabilitation and dump removal to be linked to the gold recovery process. Thus dump removal not only made sense in terms of reclaiming land for township proclamation and development but made additional moneys in terms of recovering gold. Gold extraction technology was first introduced into South Africa in the late 70's when the gold price had reached US$800 an ounce. The initial profits generated from the gold reclamation operation through RMP's Rand Mines Milling and Mining (RM3) were substantial. However since the late 70's the gold price declined substantially. In reality gold recovery is a marginal business, with its viability contingent on a formula taking into account the grade of gold in the dump, the percentage recovery of the gold, the cost of recovery and the value of the underlying land. In terms of the economics of dump clearing there has to be some gold recovery to add additional revenue in order to make clearance operations feasible.
In 1993 RMP had 35 former mine dumps constituting 105Mt of material. It is estimated that 1100 ha of saleable land could be released onto the market once the majority of dumps on Johannesburg's southern perimeter have been cleared. However, there is a limit to the availability of land at the present gold price , but potential for further land to be reclaimed should the gold price rise, is fairly open ended.

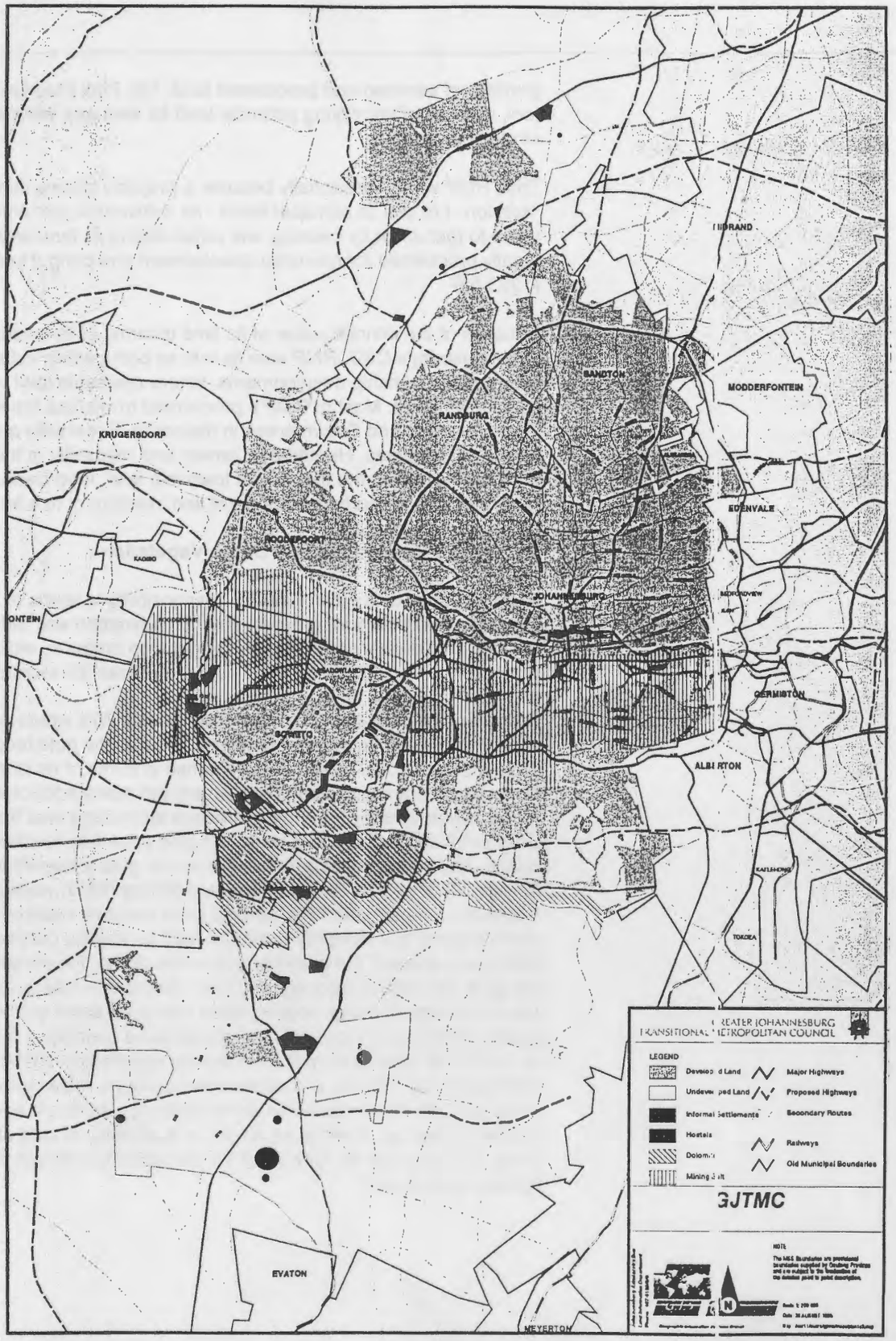

KRUGERSDORP
RANDBURG
SANDTON
MODDERFONTEIN
EDENVALE
GERMISTON
ALBERTON
SOWETO
EVATON
MEYERTON
GREATER JOHANNESBURG
LEGEND
Major Highways
Proposed Highways
Secondary Routes
Railways
Old Municipal Boundaries
GJTMC

Fig. 9.14

Figure 9 14 :
Greater Johannesburg Transitional Metropolitan Council (GJTMC) Area. (1996)
*( source : Johannesburg Administration : Land Information Department )*

## 9.5 RMP in the 1990's

Since the 1970's, when Barlows took over RMP, RMP have followed the route of property broking, marketing land in the industrial and commercial sectors. The bulk of RMP's profits have been generated from the sale of industrial land.

Most of RMP's land has remained in a derelict state under speculation for an extended period of time, partly as a result of no rates and taxes being levied on mining land[4]. At present RMP owns approximately 3500 ha (8648 acres) of land[5]. Compared with the its initial land holding of approximately 14000 acres, this represents about half of its initial land holding. Thus RMP remains a major land owner within the city.

RMP has come under increasing pressure as a major land holder to co-ordinate its policies in line with the city's vision for integrated, sustainable development. RMP have outlined their vision for the future, entitled 'Vision 2010', in terms of three major projects; Crown City, Land adjacent to and including the Crown Mines Golf Club and City Deep Production Park. Robertson (January 21 1996).

- Crown City :
  Crown City is seen as a catalyst for linking Soweto and central Johannesburg. Crown City is seen as an urban mixed use development. The first phase of approximately R700 million, would incorporate retail, office, commercial and residential areas, with an approximate total of 500 000 m2 bulk building space. The total area of the proposed 'city' is about 40% of the size of Johannesburg's CBD. The project would involve the removal of an estimated 100 million tons of tailings to a site on the West Rand[6] and the environmental restoration of the area. Access to this area has always been problematic, therefore the project would also include the construction of an interchange on the M1 and the upgrading of a railway station. The urban designers appointed for the Crown City project are GAPP Architects and Urban Designers, of which Ivor Prinsloo is a

[4] It was reported that the Gauteng government was considering the implementation of a land tax to limit speculation and force private owners to release land for development. The main target of the tax would be mining houses and large corporations that own large amounts of land. Paton, C. Sunday Times April 7 1996.
[5] This figure is based on figures referred to in various articles (The Star, Financial Mail, Business Times). However, the overall land holding is subject to change, depending on the varying gold price and subsequent viability of clearing further land for development. Therefore the total figure is subject to change and may be higher than this.
[6] RMP has proposed re-utilising and enlarging a series of slimes dams in Fleurhof, south of Johannesburg. This has been opposed by the residents of Fleurhof. Jones. The Sunday Independent January 19, 1997.

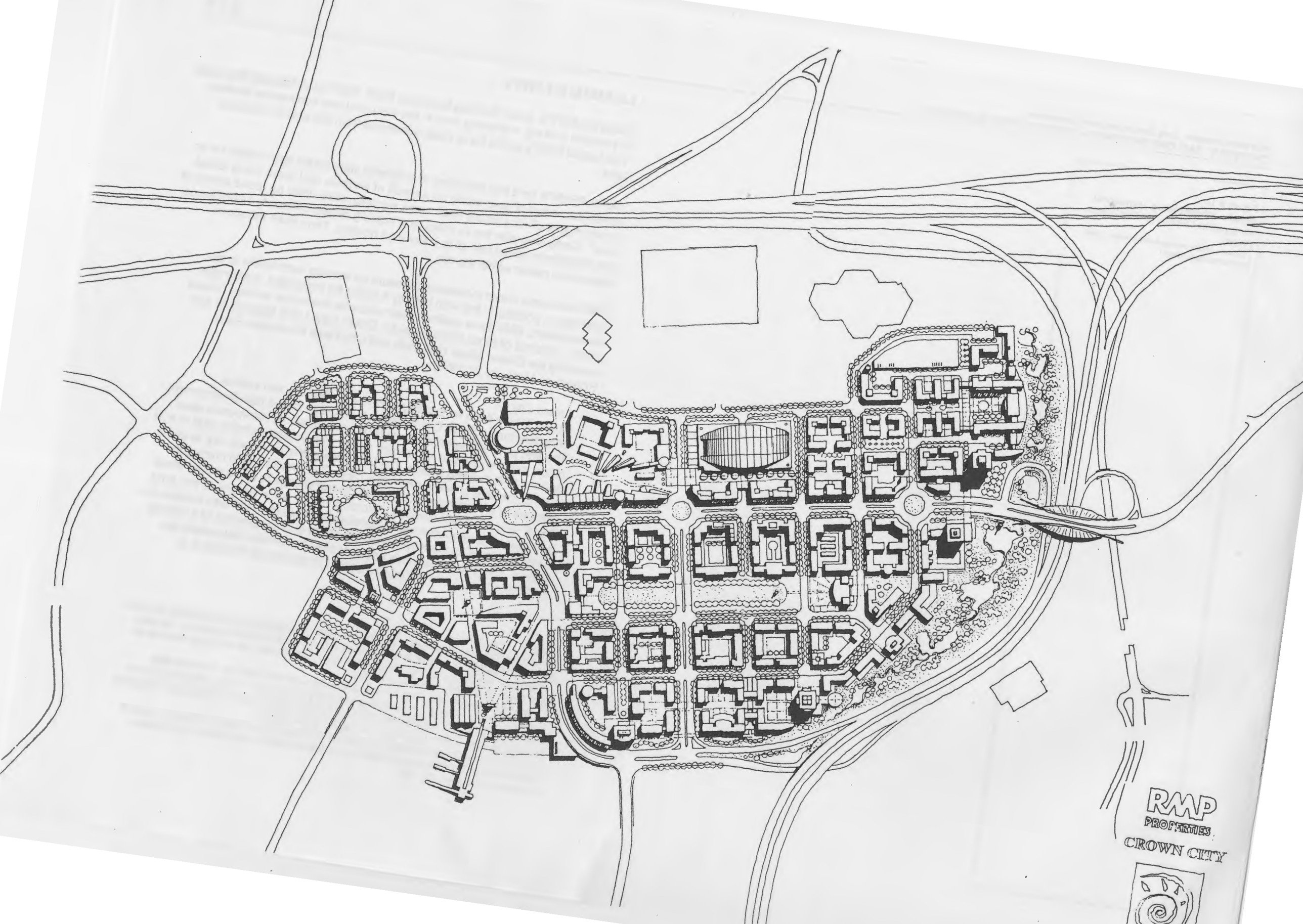

RMP
PROPERTIES
CROWN CITY

Figure 9.15 :
Crown City (1997)
Conceptual Plan - GAPP Architects and Urban Designers.
*( source : GAPP )*

Director[7]. Johannesburg's Southern Metropolitan Substructure approved the Crown City Development Framework in February 1997[8].

- Land adjacent to and including the Crown Mines Golf Club :
  This project would address the provision of recreation and tourist facilities on company owned property which includes the Crown Mines golf course. This development would create a 'tourism belt' to complement existing facilities in the area, such as Nasrec, Gold Reef City and FNB Soccer Stadium, and would provide major employment opportunities for Soweto.

- City Deep Production Park :
  This R 140 million Industrial Park on a 20ha portion of land in the city neighbouring Kaserne container depot and the Johannesburg fresh produce market, is aimed at the distribution industry. It will offer 16 stands zoned for industrial use ranging in size from 7330 - 20 000 m2.

RMP describes itself as a *"company with a mission.....to transform the central Witwatersrand into a model of real estate planning with a mix of commercial, industrial and residential usage, creating a harmonious girdle of development following closely the axis of original Witwatersrand gold reef.....The first components of this far sighted master plan are already in place in the context of what RMPP (RMP Properties) describes as its 'Vision 2010'.....It follows a comprehensive and holistic use to planning and development, focused on the complementary and synergistic activities of land clearing and gold recovery, land development and sales, property development, property investment and property management." Star Business Report June 6, 1996.*

Statements such as this are embued with a rhetoric that gives one a sense of déjà vu when comparisons are made with statements made by RMP in relation to their vision of the New South in the late sixties.

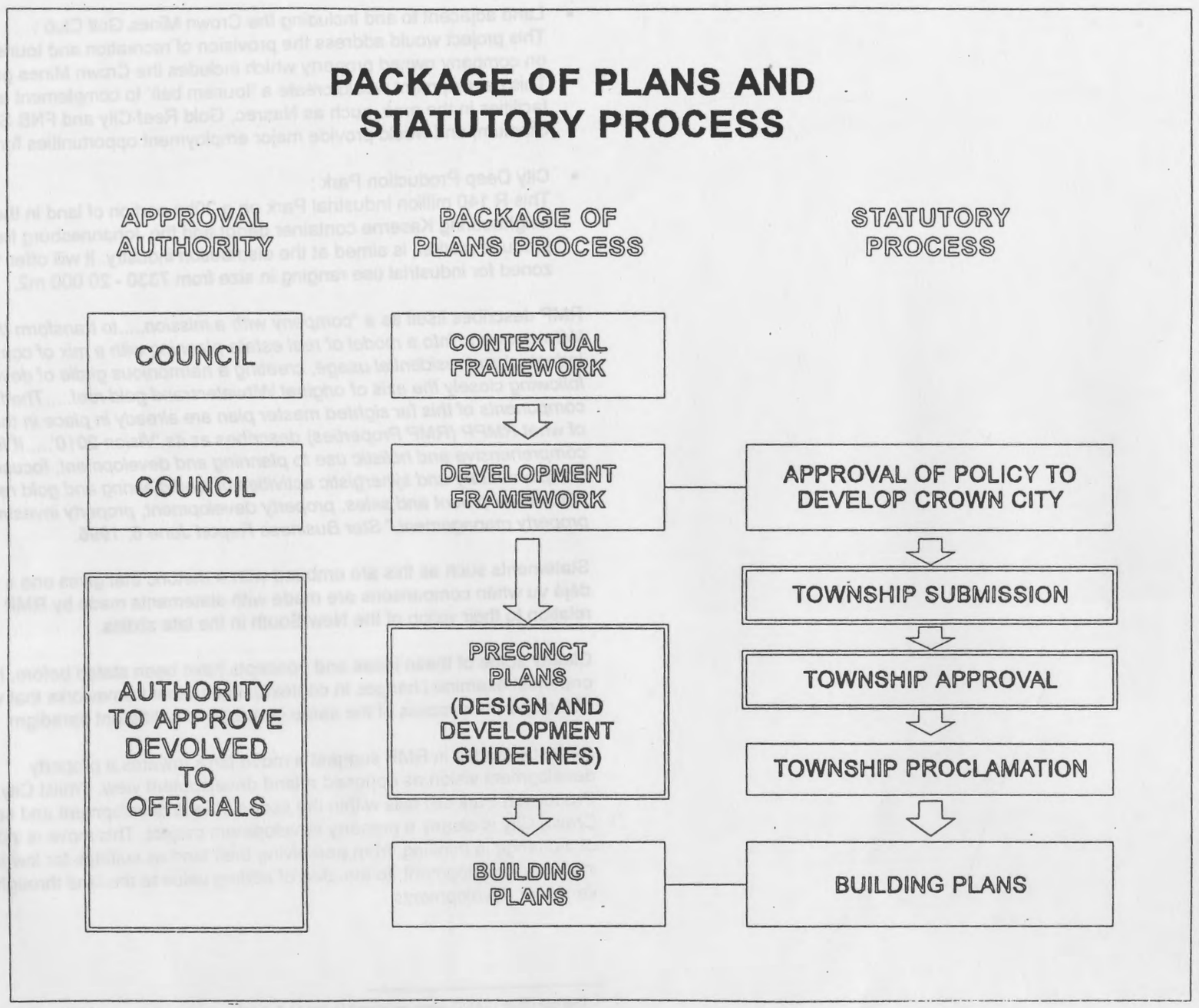
Clearly some of these ideas and concepts have been stated before, however one must examine changes in contextual and other frameworks that would determine the success of the same concepts in a different paradigm.

Recent changes in RMP suggest a move back towards a property development vision as opposed a land development view. Whilst City Deep Production Park still falls within the scope of land development and sales, Crown City is clearly a property development project. This move is indicative of a change in thinking, from perceiving their land as suitable for low intensity industrial development, to the idea of adding value to the land through a variety of developments.

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[7] The fact that GAPP were involved in the V & A Waterfront in Cape Town was one of the factors that led to their appointment as lead consultants on Crown City.
[8] This was reported in Business Day February 27 1997.

# PACKAGE OF PLANS AND STATUTORY PROCESS




RMP PROPERTIES

CROWN CITY

CITY VIEW PRECINCT

LEGEND

TITLE PACKAGE OF PLANS & THE STATUTORY PROCESS

GAPP ARCHITECTS URBAN DESIGNERS

MLH ARCHITECTS AND PLANNERS

Fig. 9.16

Figure 9.16 :
Diagram : The Package of Plans Approach.
*( source : GAPP )*

Clearly the development context in the post - Apartheid nineties is very different from the context of the sixties. The spatial boundaries of Johannesburg have changed under a new metropolitan authority *(Fig. 9.14)*, as have the processes of governance and policy making. The nature of practice in defining appropriate strategies of action and the mechanisms for implementation have also changed and evolved over time. RMP's initial development proposals were hampered by the absence of a 'umbrella' metropolitan authority, as well as by the State's implementation of blueprint planning procedures and Apartheid policies. This led to the abandonment of their proposals, as well as the commitment to planning process and social responsibility, in favour of pure commercial practice. However, the commitment of a new Government and Metropolitan Authority to the formation of policy through participation, capacitation, and transparency has meant a new commitment from RMP to the process of consultation and involvement between business, community and the authorities.

Crown City *(Fig. 9.15)* has been conceptualised through four components : a vision, a development framework, implementation strategy and management framework.

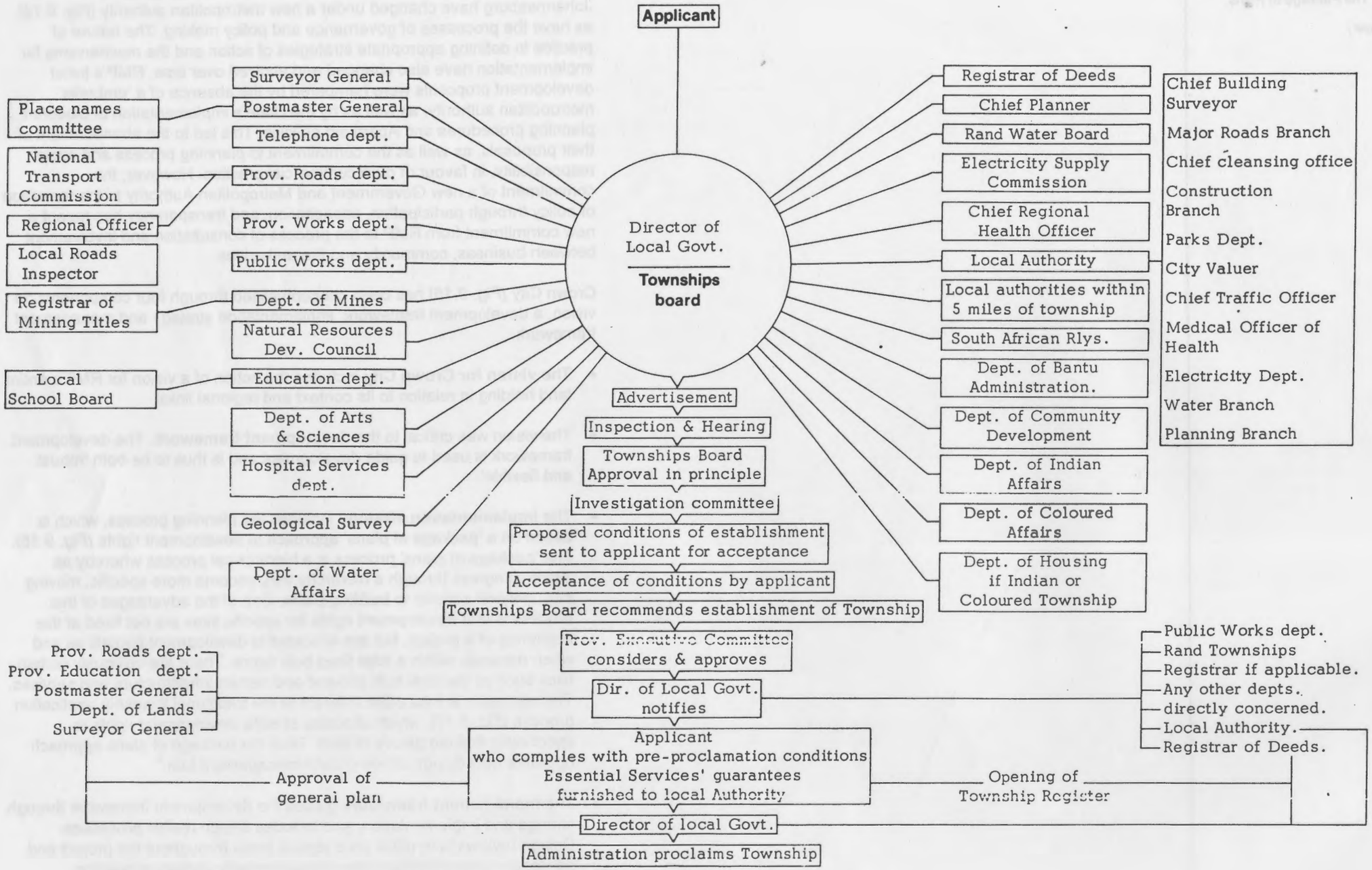
- The **vision for Crown City** included the notion of a vision for RMP's entire land holding in relation to its context and regional links.

- The vision was critical to the **development framework**. The development framework is used to guide development and is thus to be both 'robust and flexible'.

- The **implementation strategy** includes the planning process, which is based on a 'package of plans' approach to development rights *(Fig. 9.16)*. The 'package of plans' process is a hierarchical process whereby as 'plans' progress through a hierarchy they become more specific, moving from general policies to building plans. One of the advantages of this process is that development rights for specific sites are not fixed at the beginning of a project, but are allocated to development parcels as and when required, within a total fixed bulk figure. There are obviously certain fixes such as the total bulk allowed and certain infrastructure and services. This approach is thus quite different to the traditional township application process *(Fig. 9.17)*, which allocates specific development rights to specifically defined pieces of land. Thus the package of plans approach operates as a design driven growth management tool.[9]

- The **management framework** guides the development framework through change and implementation, and includes design review processes. Design reviews take place on a regular basis throughout the project and address a range of issues from infrastructure to individual building

[9] The package of plans approach was used by GAPP in the V & A Waterfront development in Cape Town.




# TOWNSHIP ESTABLISHMENT PROCESS

Rand Mines Properties Limited
CMP
Urban Design Consultants
40 Loop Street · Cape Town · South Africa

Figure 9.17 :
Diagram : The Township Application Process.
*( source : UDC (1969) )*

Overleaf :

Figure 9.18 :
Views of Ormonde today
*( source : H.Dodd Photos )*

Figures 9.19 :
Municipal submission plans Ormonde Ext. No 1 for Schachat RMP by Grinker Abramson Nitsun and Portnoy.
(1973)
*( source : Johannesburg City Council Plans Department )*

Figures 9.20 :
Municipal submission plans Ormonde Ext. No 1 for Schachat RMP by Michael Sutton Walker.
(1974)
*( source : Johannesburg City Council Plans Department )*

Figures 9.21
Municipal submission plans Ormonde Ext. No 1 for Schachat RMP by Julian Cooke within the RMP Planning Office.
(1973)
*( source : Johannesburg City Council Plans Department )*

designs. They go hand in hand with the package of plans approach and attempt to balance freedom and control, allowing change within a overall framework through the design review process.

In terms of the development process, the development framework was the first step in the approvals process. This was approved in mid 1996. The 'package of plans' process had to approved by the local authorities and thus had to fit in with existing council and township application processes. A steering committee was set up by the Southern Metropolitan Substructure to deal with the Crown City project. Since the development framework was approved, work has commenced on the precinct plans and the first precinct.

The precinct plans identify principles but not fixes. Major roads and bulk services have been identified, with the intention that the minimum amount of infrastructure should result in a maximum amount of benefit in the initial project stages. An amount of 27 million Rand has been allocated to planning and infrastructure in the initial phases. Within the Crown City, RMP may choose to sell land, develop projects themselves for clients or develop and retain the investment themselves.

In order to sell the vision of Crown City, a marketing video and virtual reality 'fly-through' have been produced. This implies that the precinct designs be quite detailed, in order to produce a 'picture' that potential clients can relate to. The essential conflict between the production of a 'picture' and the flexibility of long term planning, was an essential conceptual stumbling block in the Ormonde Project by Urban Design Consultants. As soon as a design was produced it was fixed. Crown City hopes to overcome this through management and implementation strategies. The essential difference between Crown City and both RMP's New South and UDC's Ormonde, is that Crown City is approached through the package of plans process, which is flexible in terms of the range of opportunities that can be offered . Both the New South and Ormonde relied on the township application process, where the township was set in terms of stand sizes and rights from the beginning. If Crown City was to have been declared through the township application process, its inherent flexibility would have been negated and the project would not be viable. Another essential part of the Crown City process is that of urban cost modelling, where the cost implications of decisions on residual land values is assessed. Through urban cost modelling the consultants are able to assess the implication of decisions on a 'if this, then that' basis : this process introduces flexibility in decision making. Thus the relationship between 'intention and experience' that the RMP Planning team was trying to define in their planning strategy in the sixties is explored through this 'tool'.

Clearly some of the conceptual ideas that were explored by RMP in the 'Dream Developments' of the late sixties, are still current, and have resurfaced in Crown City. Together with an understanding of ideas and concepts are the mechanisms that allow the realisation of these concepts in a

project, thus the key to their success in Crown City lies in implementation and management frameworks.

**9.6 Conclusions.**

This chapter examined the change in RMP's development strategy from the vision of the 'New South' to a market led speculative policy under Barlows. This difference between the two was the total long term vision under RMP, as opposed to an approach which led to piecemeal development in relation to changing market parameters. The failure of RMP's vision of the New South was that it was not market driven and that planning as a strategy became an end in itself. However, there is a difference between market driven and market led. Thus a planning policy with no vision, that is purely responsive to speculative demand, can result in piecemeal interventions which eat away at the cohesiveness and effectiveness of an overall land holding.

Crown City is attempting to reconcile a vision with a planning strategy that is market driven. Thus it is as if RMP has turned in a full circle. However, only time will tell if Crown City is successful in terms of sustaining development over a long time, through the application of flexible planning strategies, while maintaining a vision of the future.





Fig. 9.18

325800

west elevation

south elevation

EXTERNAL FINISHES
PLASTER
PAINT

east elevation (house)

sectional elevation V-V

section Z-Z

north elevation

section W-W

section S-S

recess elevation (living)

outdoor living

entrance court

terrace

garage

yard

kitchen

servant

bed.1

bed.2

bed.3

family rm.

living

dining

n.b. foundations not to encroach boundary

section X-X

section Y-Y

n.b. levels of outbuildings to be determined on site

east elevation (outbuildings)

block plan scale 1:500

proposed residence on stand nº 83 ormonde ext. nº 1 for Schachat - RMP.

JOB No. : PE 2205
DATE : 26th September 1973
DRAWN : e.g.m.

REVISIONS

SERIES 567, 821
SCALES 1:100
1:500

31/08
50/75

ARCHITECTS
BRINKER, ABRAMSON, NITSUN & PORTNOY
SUITE 1004 HELHOF COR. PRITCHARD & DELVERS STREETS
JOHANNESBURG TEL. 22-1157/8/9

Unless otherwise specified:-
External walls 220 mm
Internal walls 110 mm
Window heads at 2,180

Fig. 9.19

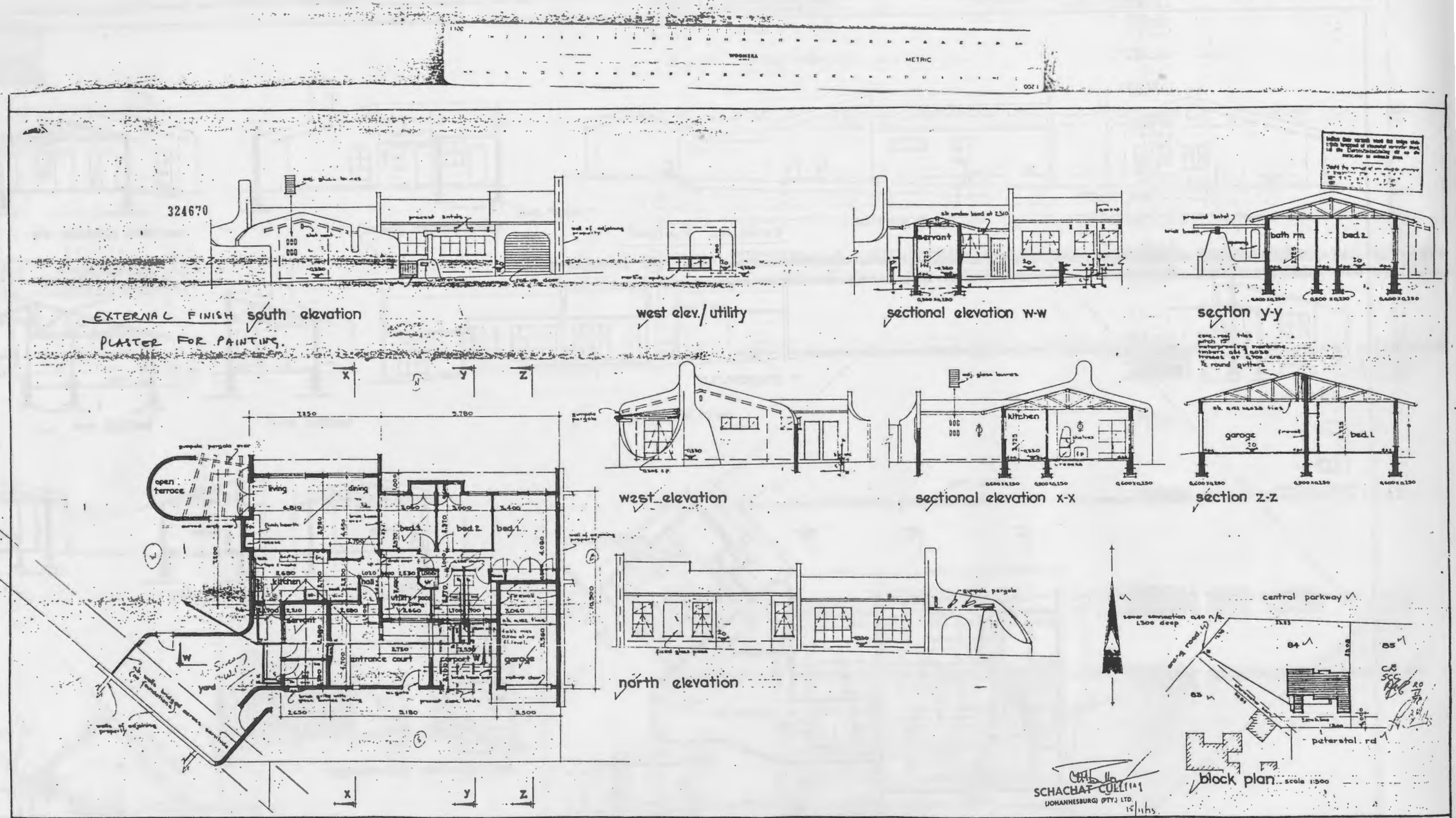


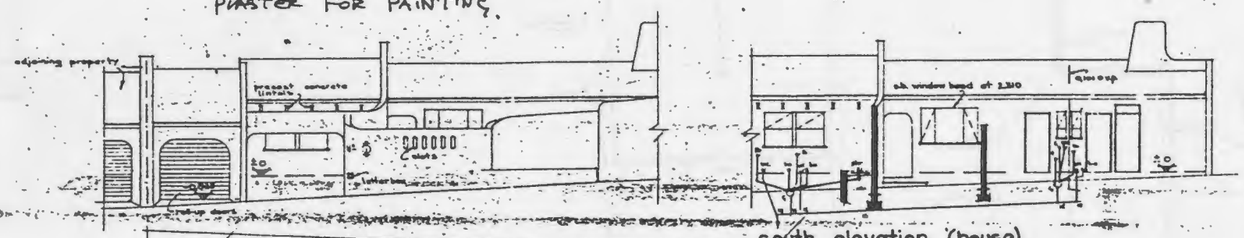

Fig. 9.19

MICROBOX

325801

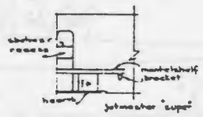
EXTERNAL FINISH

PLASTER FOR PAINTING.

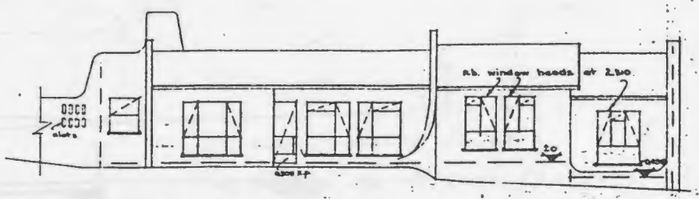



street elevation (south)

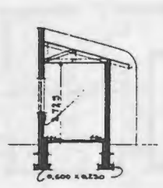
south elevation (house)



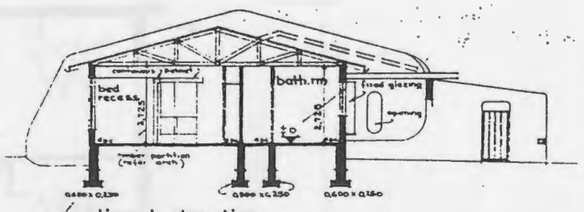

fireplace elevation



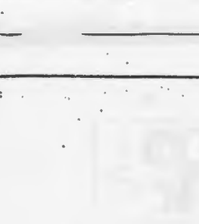

north elevation

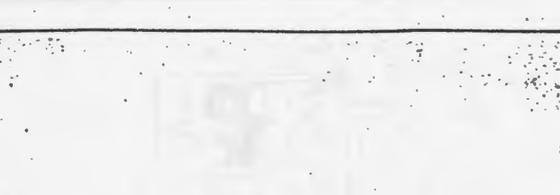



section W-W




sectional elevation y-y

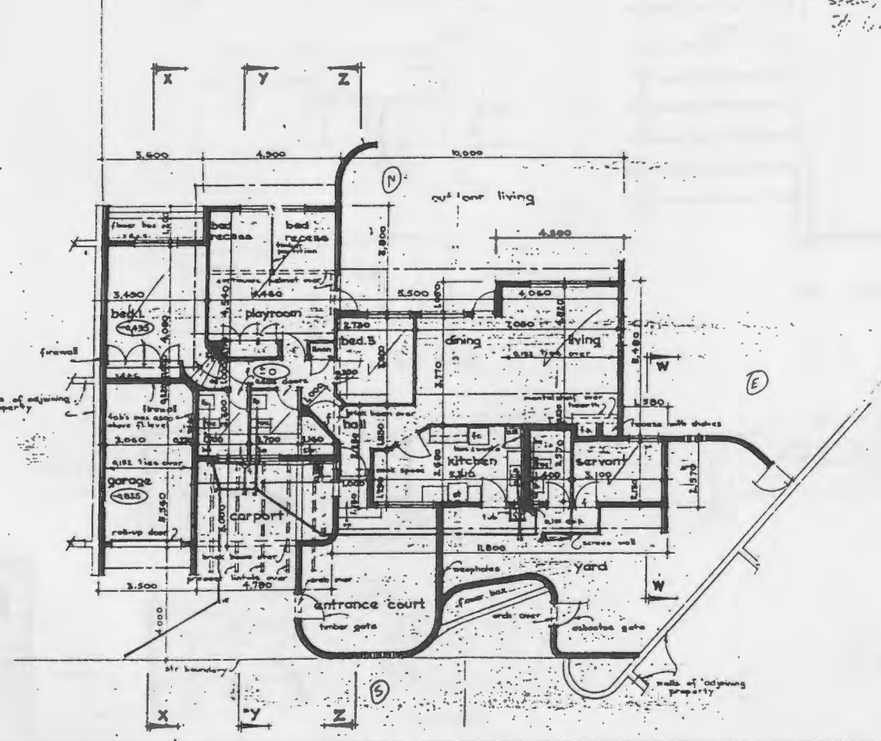


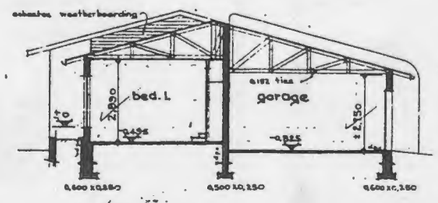




sectional elevation Z-Z

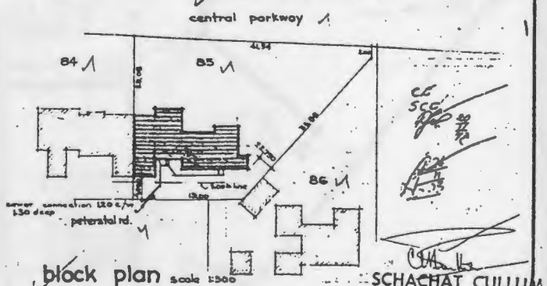



east elevation




section X-X




block plan scale 1:500

SCHACHAT CULLUM
(JOHANNESBURG) (PTY.) LTD.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| JOB No. : C 2227<br>DATE : october 1973<br>DRAWN : egm. | proposed residence on stand nº 85 ormonde ext. nº 1 for ,<br>Schachat - RMP . | REVISIONS | SERIES<br>:00,821<br>:86,45 | SCALES<br>1 : 100<br>1 : 500 | A R C H I T E C T S<br>BRINKER, ABRAMSON, NITSUN & PORTNOY<br>SUITE 1004 KELHOF COR. PRITCHARD & DELVERS STREETS.<br>JOHANNESBURG TEL. 22-1157/8/9 | | Unless otherwise specified :-<br>External walls 220 mm<br>Internal walls 110 mm<br>Window heads at 2,150 | 2 ab's to external walls of kitchen, bathrooms, w.c's, servants rooms and garage. 1 ab. over each door and window. Drains 100mm p.v.c. min. fall 1:40 l.a.'s at all bends and junctions. Marked covers at ground level. Raised traps to all waste fittings. All pipes to be accessible for repair and cleaning. A.s.v.p.'s to all w.c's having more than 1220mm vert. discharge from crown of trap to base. Soil pipes under bldg. to be concrete encased. D.p.c.'s to all window sills. Gutters and r.w.p.'s to all roofs. Flashings to underside of roof covering. |

31/77
36/37

Fig. 9.19

MICROBOX

326205

SITE PLAN

SEWER DIAGRAM

PLAN

ROOF PLAN

NORTH ELEVATION

EAST ELEVATION

SECTION E-E

SECTION C-C

SOUTH ELEVATION

Roof Notes

Fig. 9.20

ORMONDE EXT.

NEW HOUSE

/ STAND n°42

for

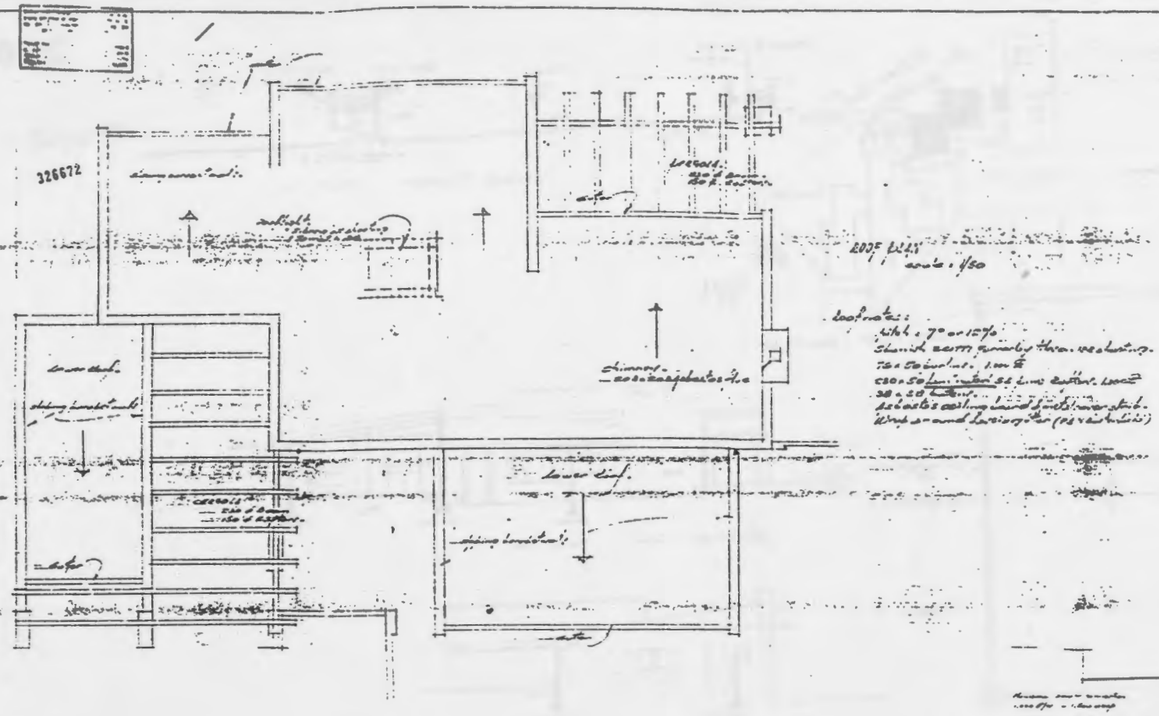
SchachatRMA

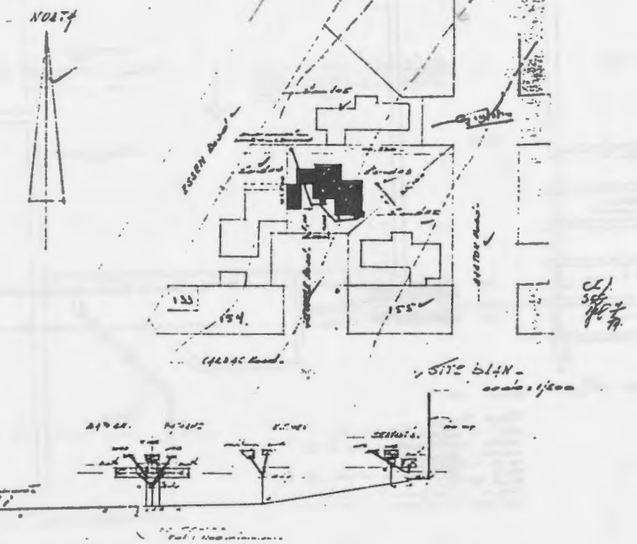
SITE PLAN,
GROUND AND ROOF PLAN,
SECTIONS AND ELEVATIONS
SEWER DIAGRAM.

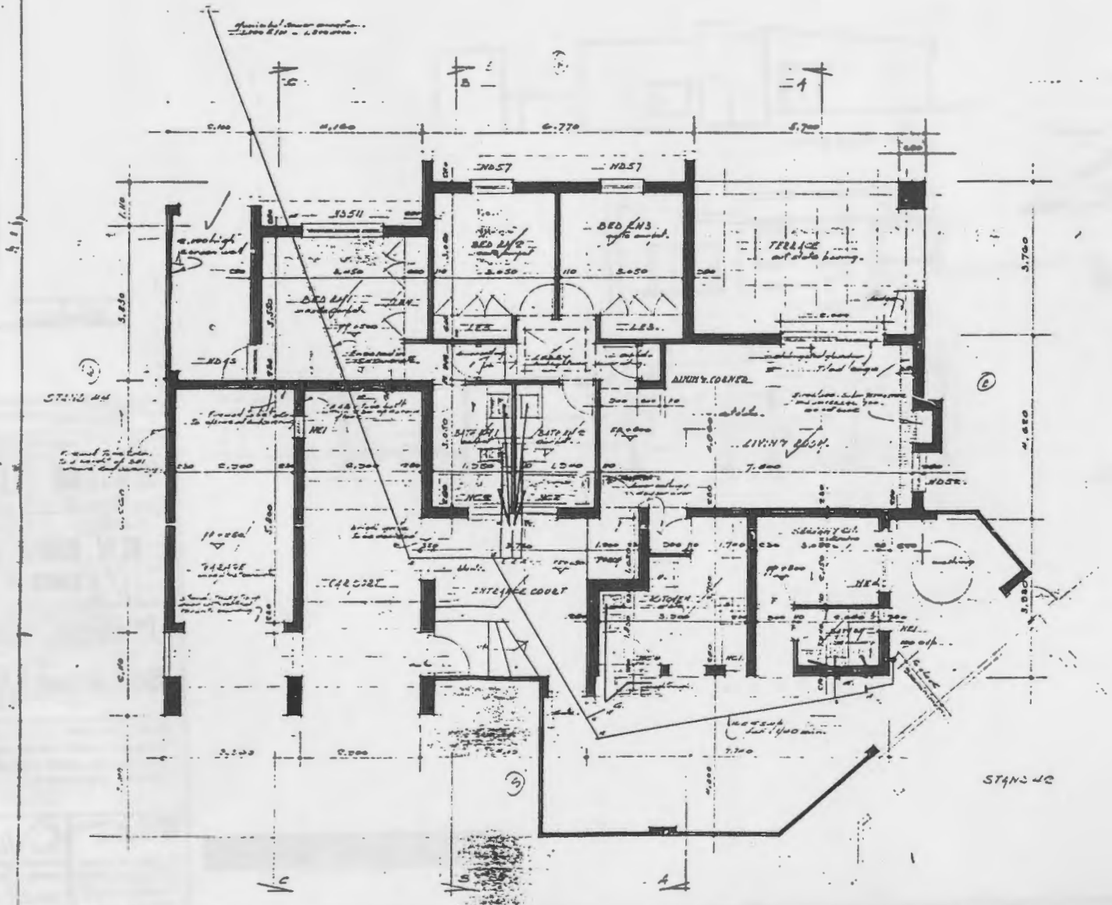
MICHAEL SUTTON,
LAND WALKER

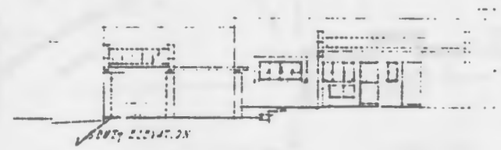
01/42

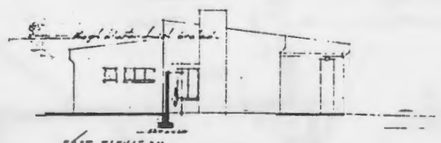
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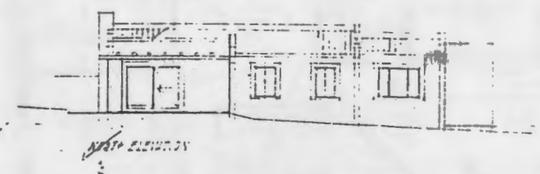


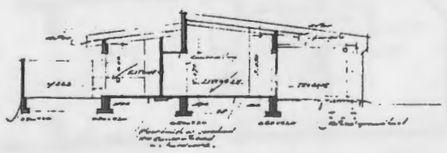



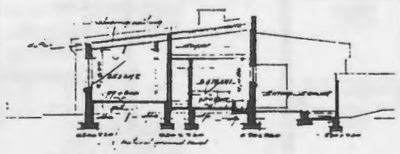



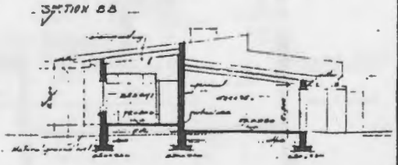




Fig. 9.20

ORMONDE EXT.

NEW HOUSE / STAND n° 43

for

SchachetRMP

SITE PLAN
GROUND FLOOR PLAN & ROOF
SECTIONS & ELEVATIONS
SEWER DRAINAGE

MICHAEL SUTTON AND WALKER
110 PRESIDENT PLACE
LOWER ROSEBANK
JOHANNESBURG
TEL. 0586/42.0505

01/43/1

drawn: Jan. 74

SCALE: DAT.

290

328596

Roof Plan

Roof Notes

Site Plan

Section 'A-A'

Section 'B-B'

West Elevation

North Elevation

Ground Floor Plan

Living Room

Garage

Kitchen

Dining Corner

Family Room

Bed Rm 3

Bed Rm 2

Bed Room 1

Patio

Yard

Mottle Court

Stand 42

Essex Road

ORMONDE EXT. 1

NEW HOUSE

/ STAND n° 42

for

Schachat RMP

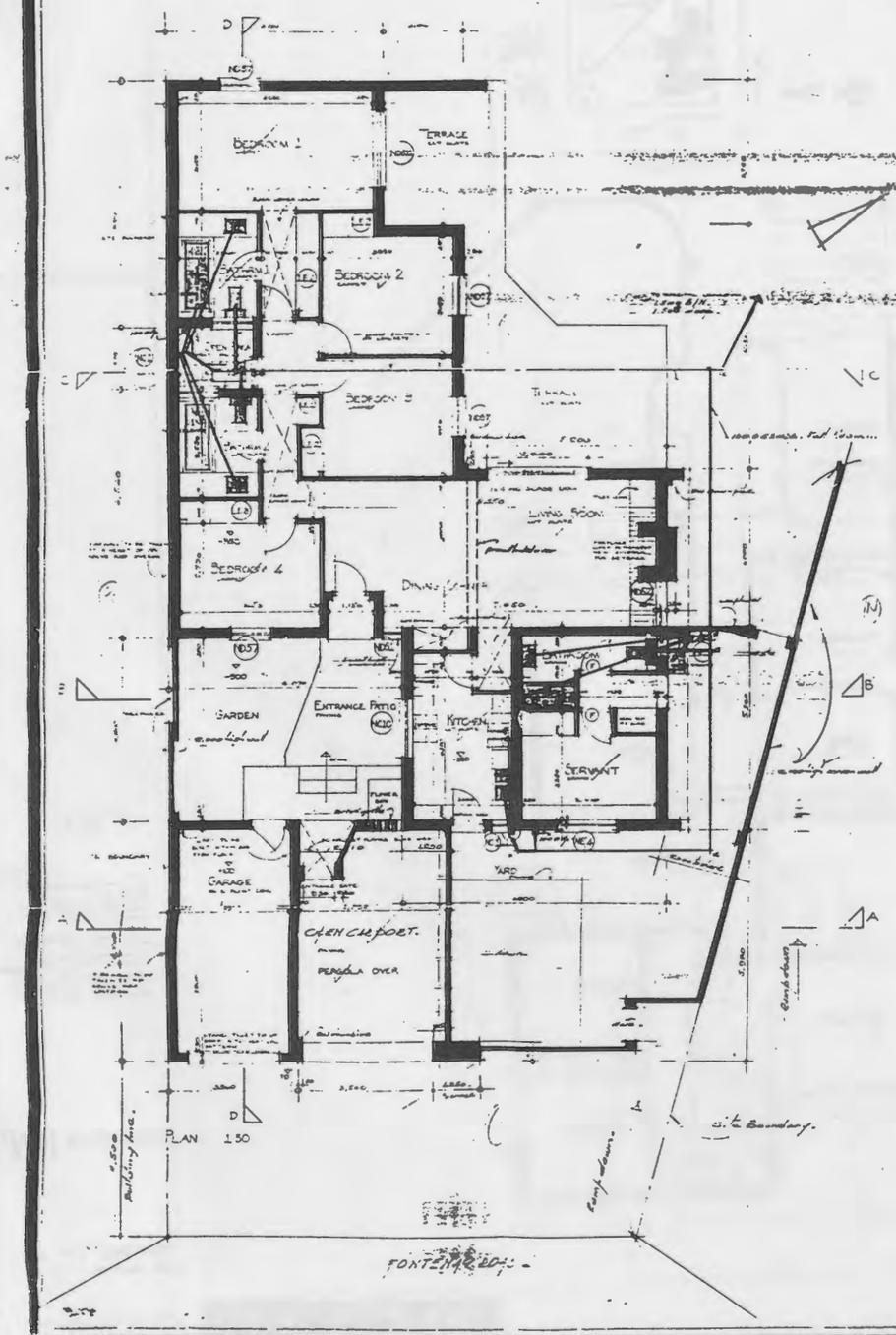
SITE PLAN
GROUND AND ROOF PLAN
SECTIONS AND ELEVATIONS
SEWER DIAGRAM

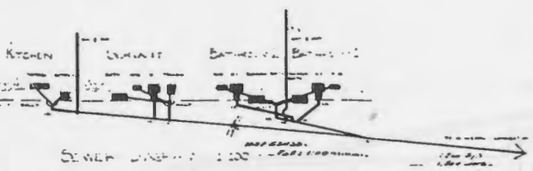
MICHAEL SUTTON AND WALKER

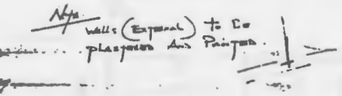
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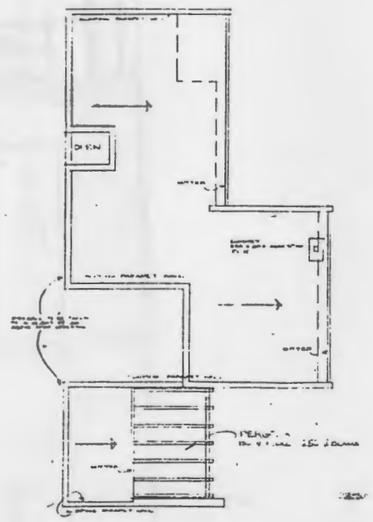
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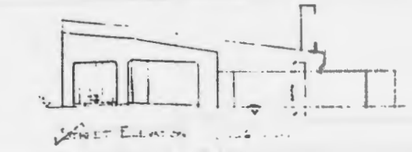
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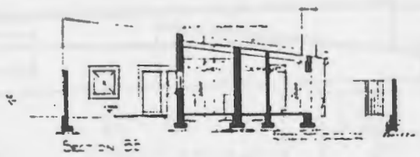


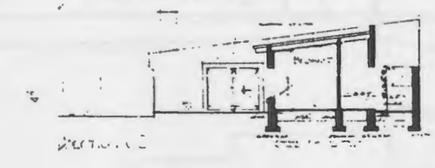



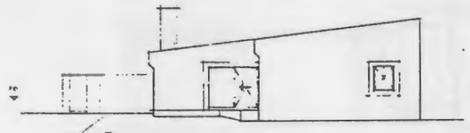



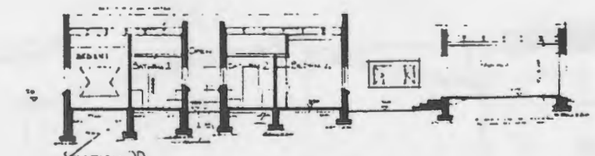



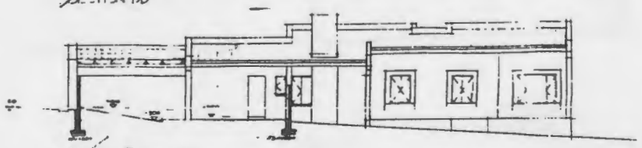



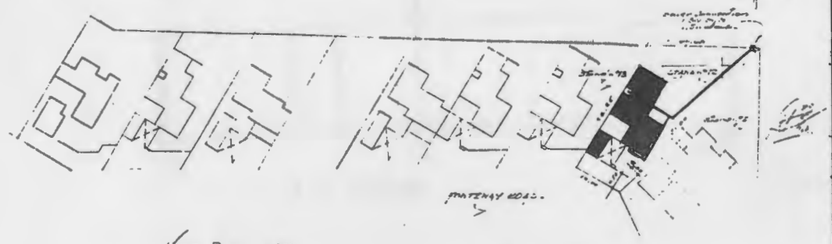




GRIMSBY CCT 1

NEW HOUSE
STAND n° 12

Schachat RMP

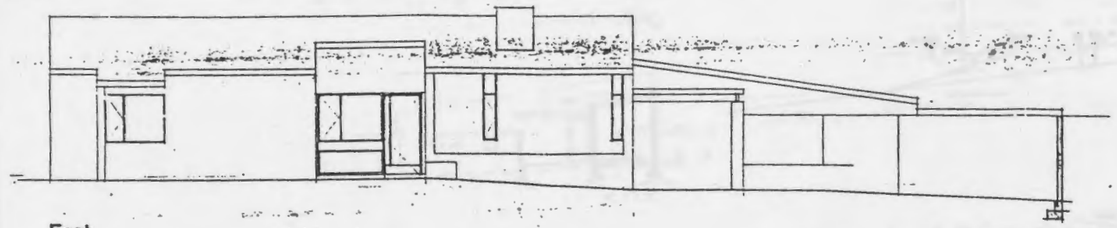
PLAN, SECTIONS, ELEVATIONS, SITE PLAN, ROOF PLAN, SEWER DIAGRAM

RICHARD SUTTON
ERIC WALKER

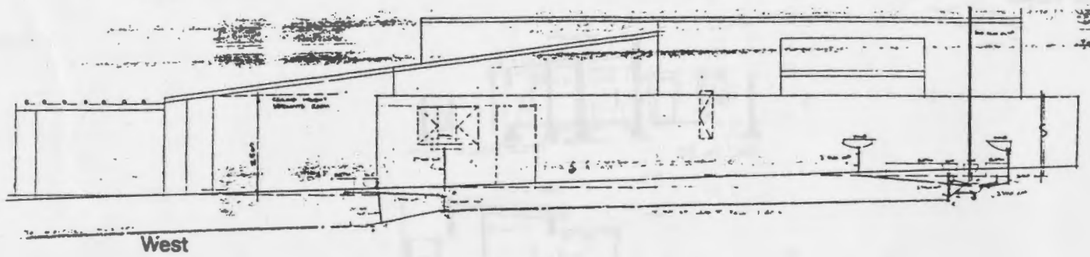
01/12/1

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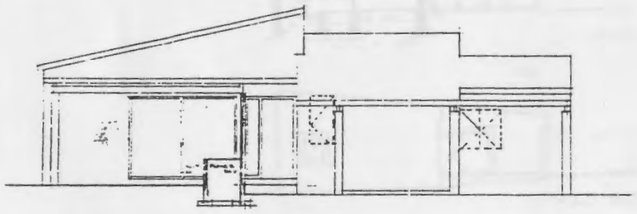
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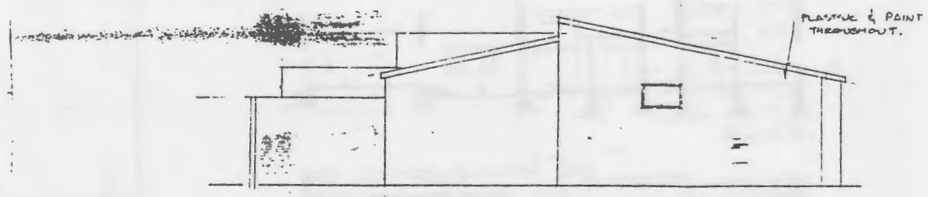
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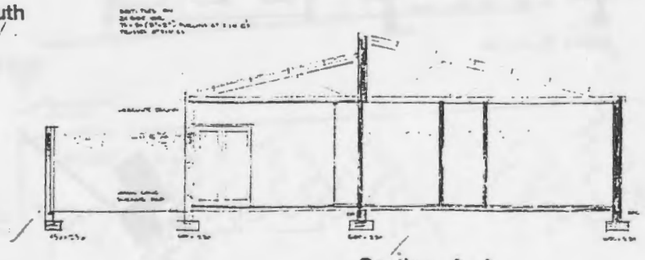
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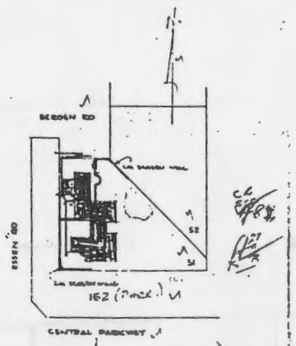
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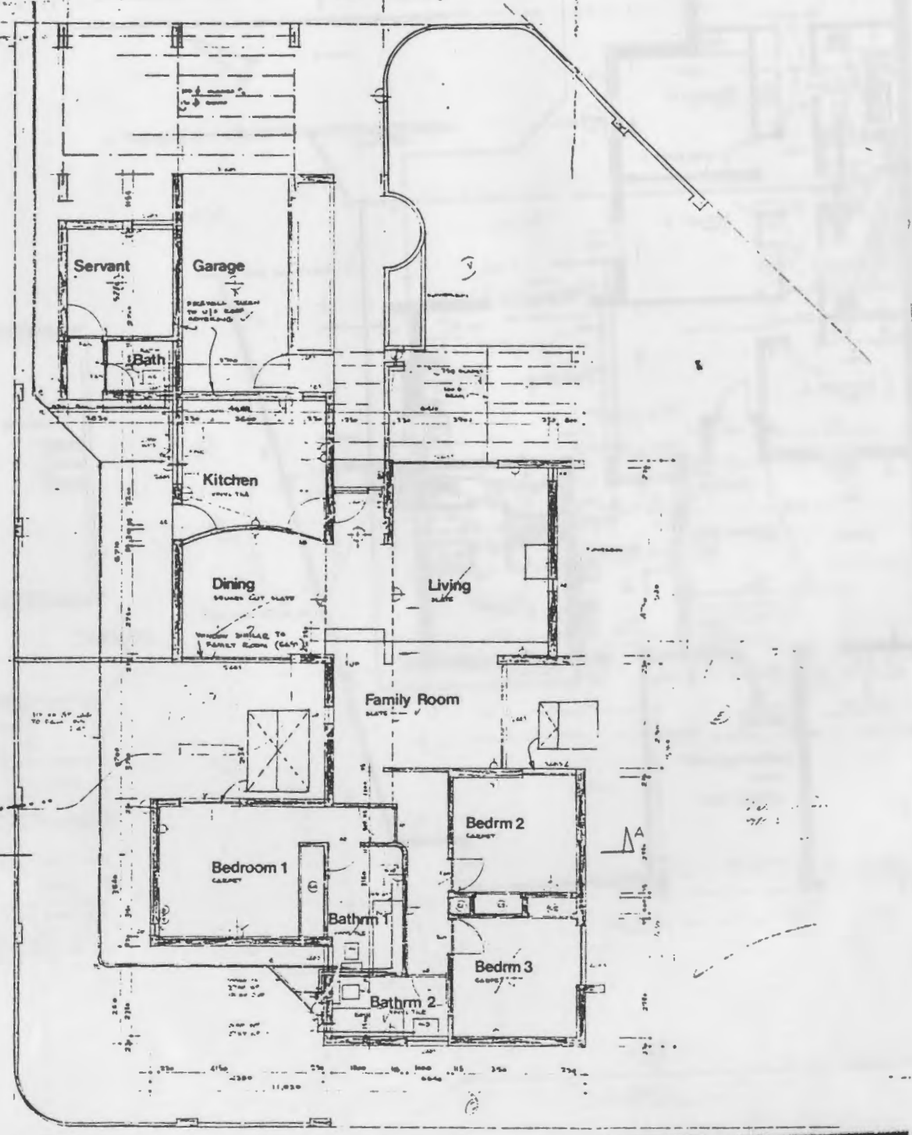

South



Section A · A




Site Plan




Plan

N

292

Schachat

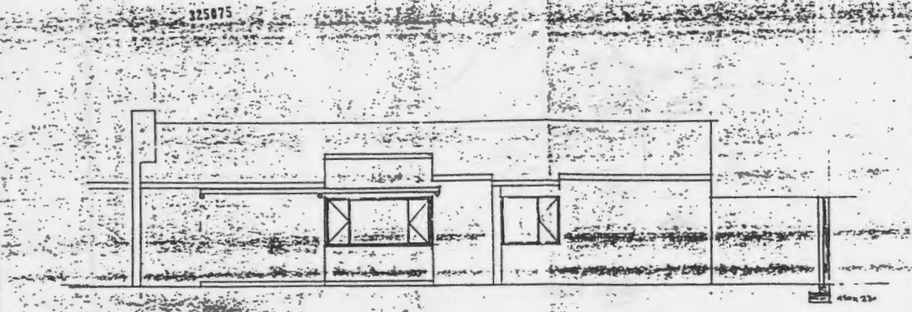
ORMONDE EXT 1
New house on erf no 51

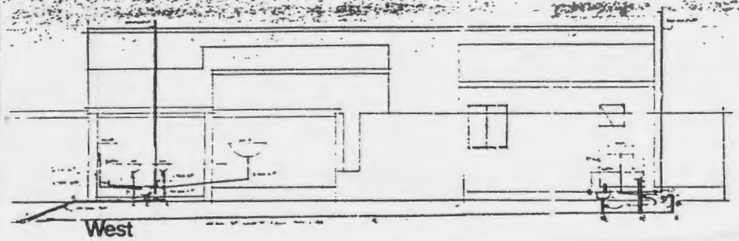
Plans, Sections & Elevations

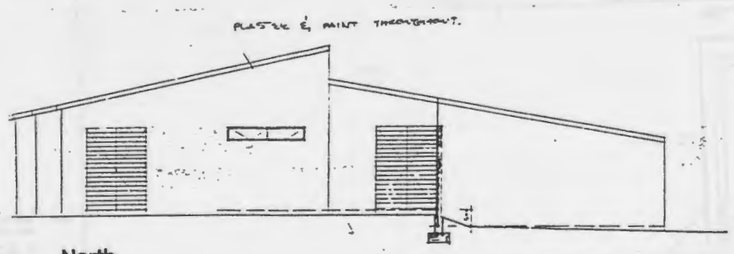
1:50 Sept '73

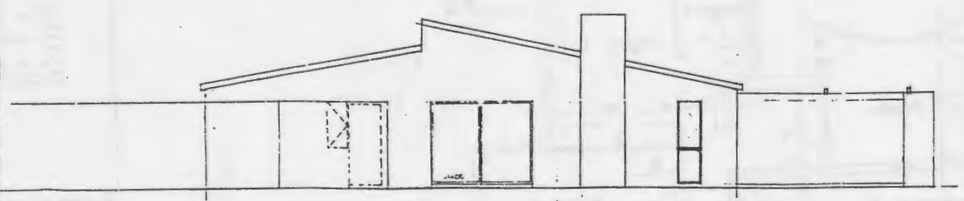
AND MINES PROPERTIES LIMITED

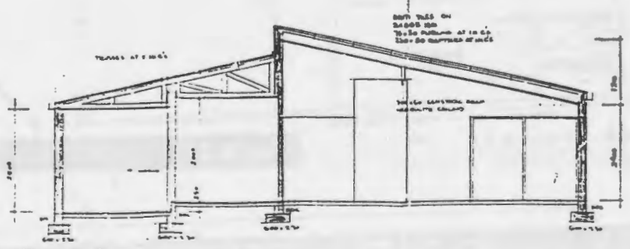
Fig. 9.21

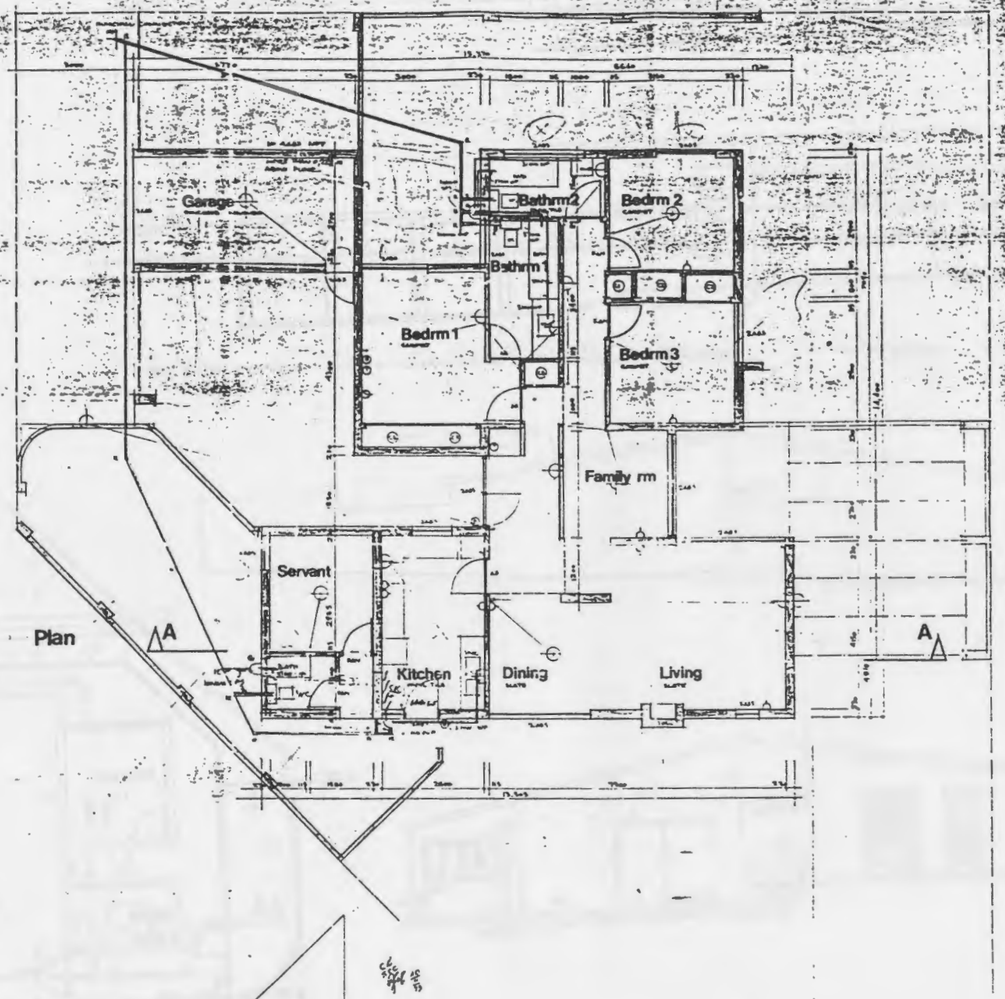


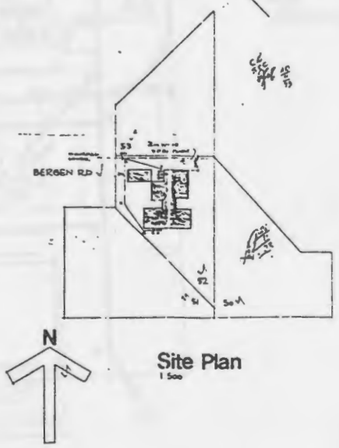




Plan




Site Plan
1:500

SCHACHAT-CULLUM
JOHANNESBURG (PTY) LTD.

NOTES:
ALL TO HAVE RAISED EDGES AT GROUND LEVEL
WASTE PIPES TO BE FITTED WITH ESCAPE TRAPS AND TO BE ACCESSIBLE ALONG ENTIRE LENGTH
GLAZED AREA 10% FLOOR AREA
OPENING SASH MIN 5%
FOUNDATIONS WILL NOT ENCROACH SERVICE BOUNDARIES
VENT PIPES WITH OPENING NOT LESS THAN 1,22m TO BE APPROVED BY ANTISMOKING.

Schachat RWP

ORMONDE EXT 1
New house on erf no 52

Plans, Sections & Elevations

1:50 Sept 73

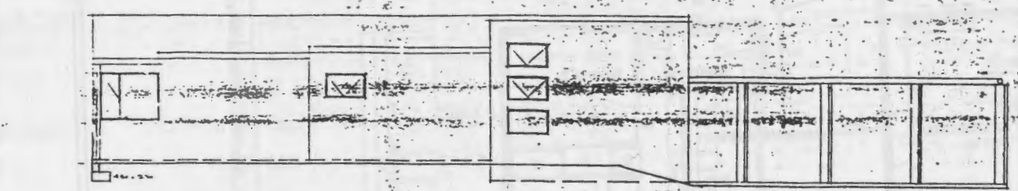
RAND MINES PROPERTIES LIMITED

Fig. 9.21

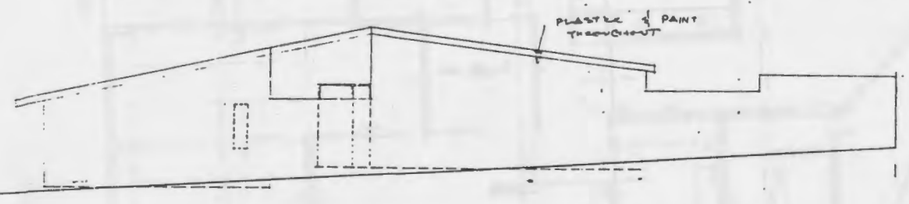
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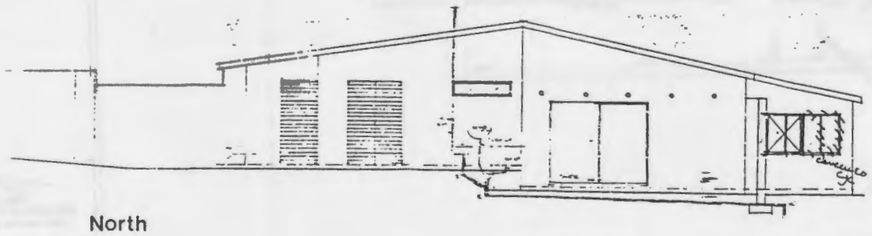
East
West



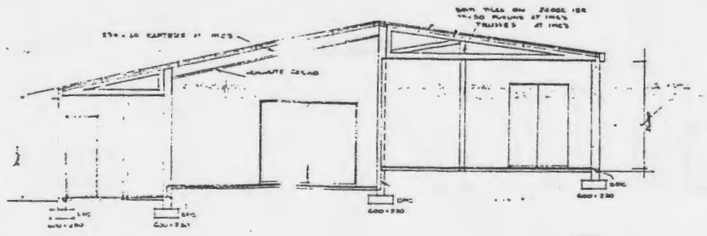
West
East



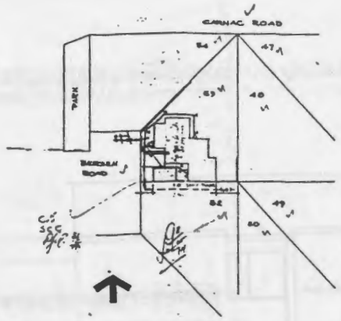

South



North



Section A·A




Site Plan
1:500

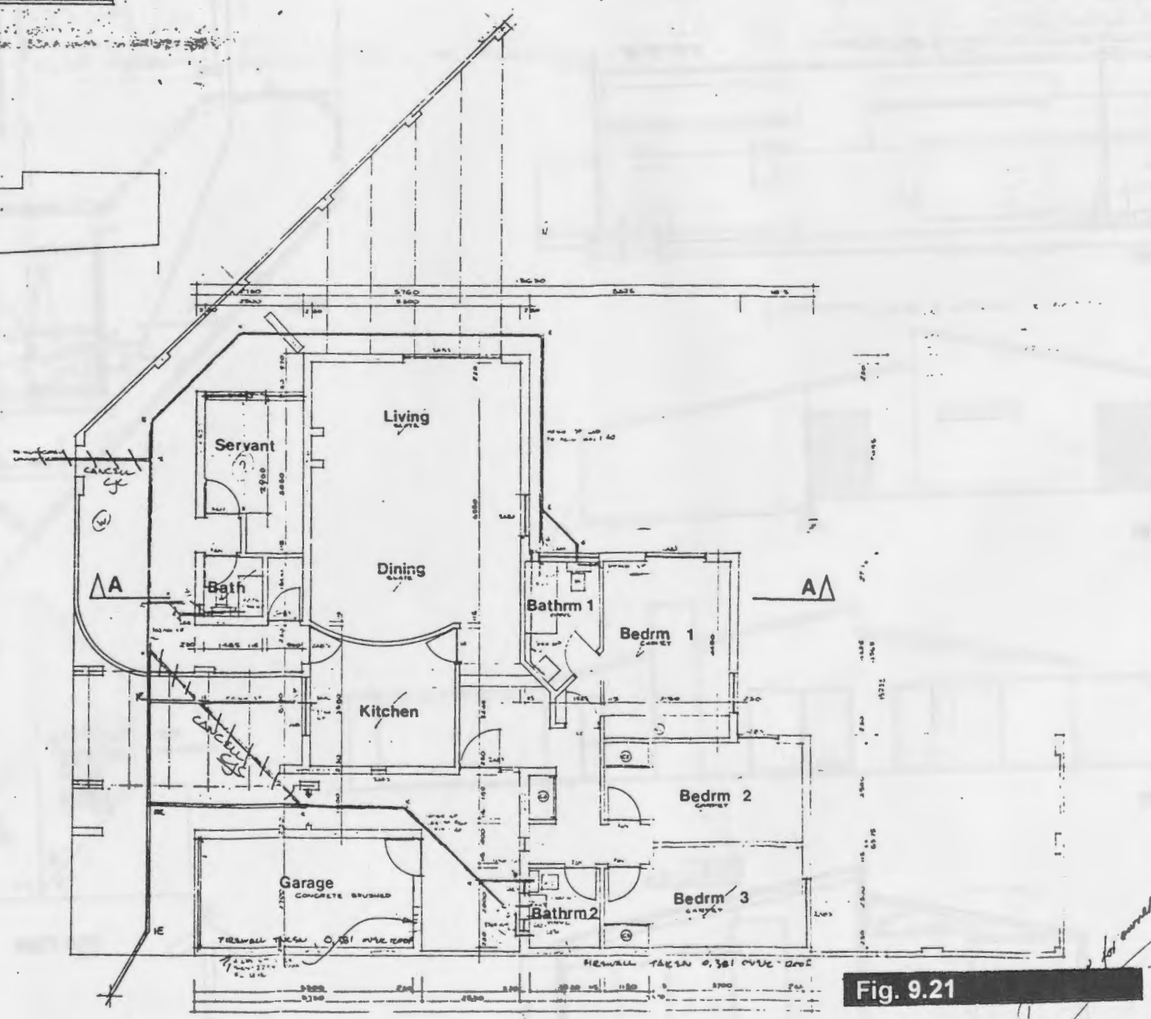



Fig. 9.21

Schachat RMP

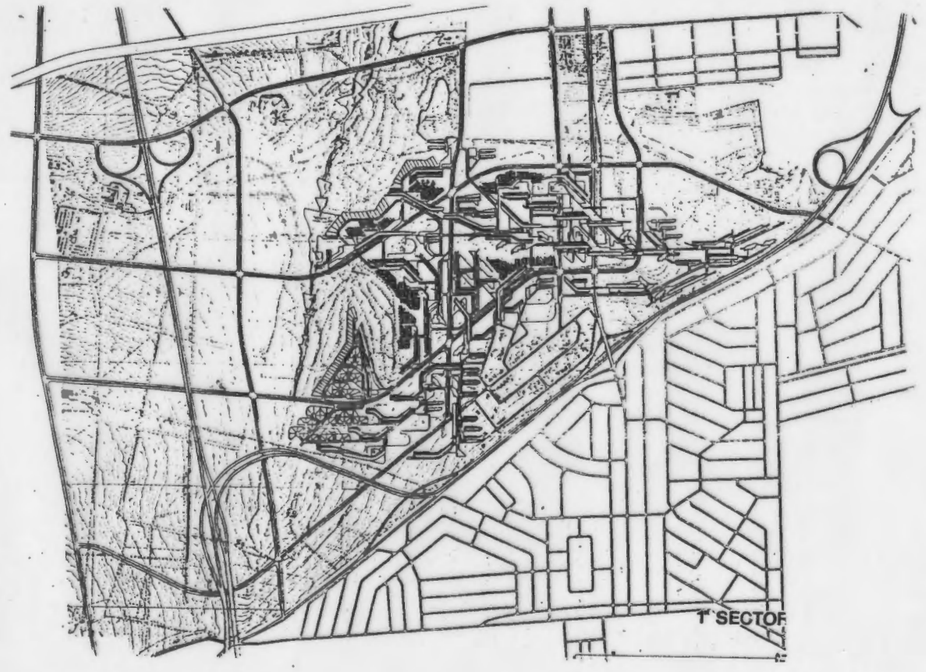
ORMONDE EXT 1
New house on erf no 53

Plans, Sections & Elevations

1:50 Sept '73

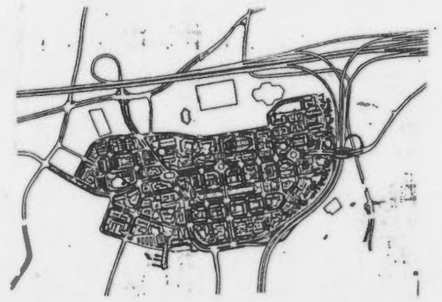
RAND MINES PROPERTIES LIMITED

28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25



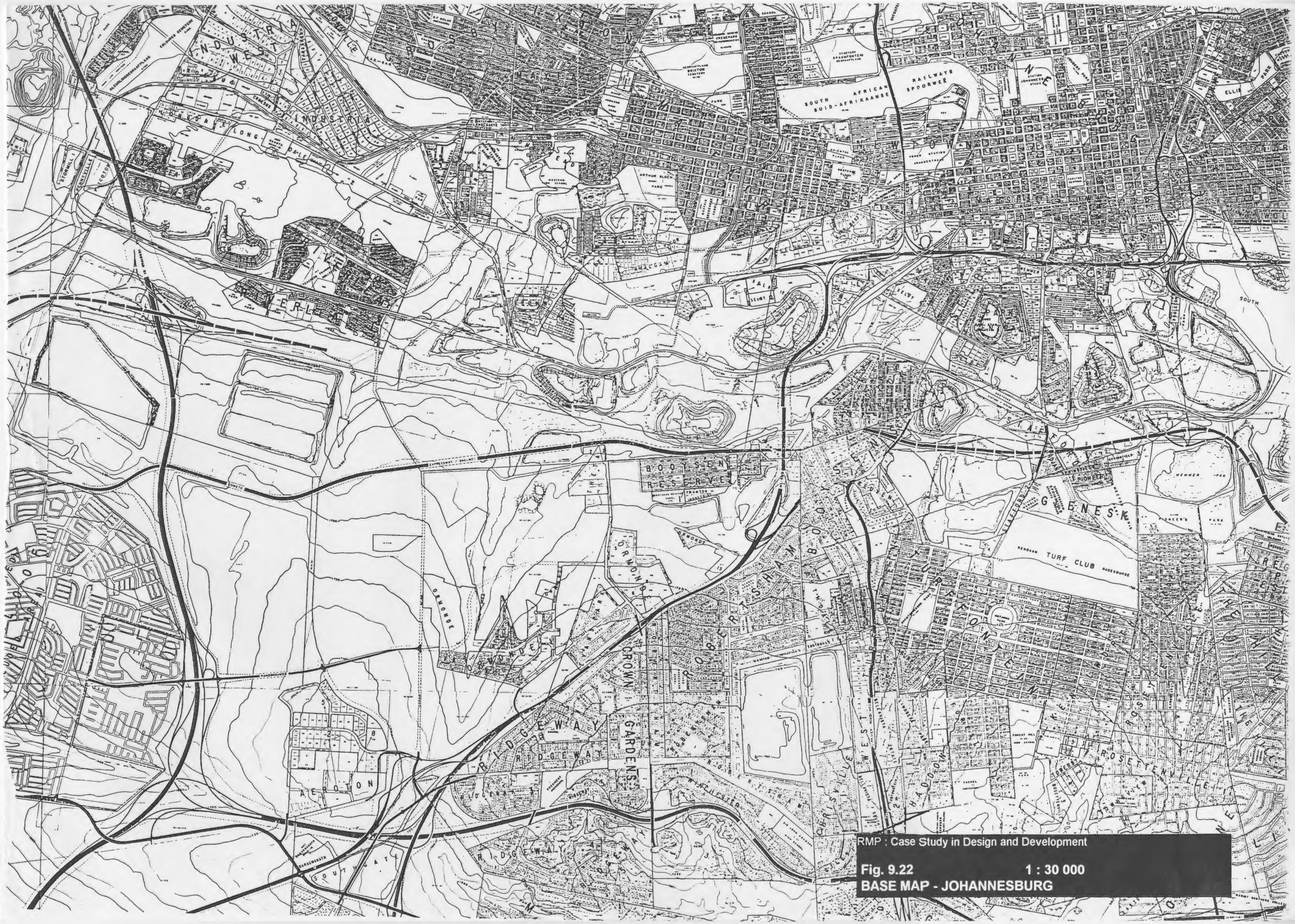

RMP : Case Study in Design and Development

**Fig. 9.22** **1 : 30 000**
**OVERLAY - ORMONDE PROJECT 1971**



RMP : Case Study in Design and Development

Fig. 9.22 1 : 30 000
OVERLAY - CROWN CITY 1997




RMP : Case Study in Design and Development

**Fig. 9.22** **1 : 30 000**

**BASE MAP - JOHANNESBURG**



**Rand Mines Properties : Case Study in Design and Development**

# CONCLUSION

The principal aim of RMP was to develop the property owned by the company. The initial land holding described in the RMP Prospectus in 1968 represented 13% of the total municipal area of Johannesburg. Within the context of the structure of the city, the land holdings of RMP offered a unique opportunity to develop land in close proximity to Johannesburg, whilst spatially integrating the city.

The development of RMP's land holdings was based on its potential and the structuring of a vision that would realise this potential. This required challenging and changing the spatial structure of the city, in constructing a new urban system. In reality the land was derelict mining land with a poor environmental image, no infrastructure and with the stigma of 'the south' attached to it.

*"The notion of a vast acreage of available urban land rested on a distant vision rather than present opportunity. Only by drawing the spatial and temporal boundaries very differently from the way in which people experienced them and were used to thinking of them, could the sense of a unique, dramatic opportunity be sustained." Marris (1987.63)*

Thus the vision of developing the 'New South' required a shift in perception and thinking in terms of the strategies and processes involved in a project of this nature.

Three contrasting planning strategies are examined, each was relative to a particular mindset, context and set of defined parameters. Each was informed by a particular set of ideas, theories and images, as defined by a specific set of paradigms. The intention and application of specific strategies, together with the ideas that informed them, are contrasted with the realisation of the concepts.

RMP's vision of the 'New South' was conceptualised through the Dream Map. The Dream Map contextualised the overall strategy and was a tool in understanding the nature of proposed interventions. In order to structure a vision that would be consistent yet flexible over a long period of time, a planning strategy, which was conceptualised as a process was adopted by the RMP Planning Office. The model of planning as a strategy which would evolve from a continuous interplay between intention and experience, continuously assimilating and integrating change, was a conscious move away from the blueprint planning model prevalent at the time.

Together with and integral with the planning strategy was the use of specific architectural references which were representative of a set of wider concerns, within the technique of collage of the Dream Map.

Planning as a strategy is only valid if it is linked to a set of financial, management and implementation strategies. Otherwise planning can be an end in itself : *"Planners do not characteristically carry out their plans and only for them is the integrity of the framework for prospective action a constant, crucial preoccupation. Everyone else only looks for a plan when they are bewildered or frustrated; planning for them, is an episodic response to the disintegration of purpose in action." Marris (1987.76)*
Planning also takes place within a broader realm, subject to the 'market' as well as to institutional (local and government authorities) and legislative controls. All of these factors are outside the control of planners and architects, yet they influence the process. RMP conceptualised the process as being flexible in absorbing change, but did not have the mechanisms to manage change.

RMP's planning strategy was innovative at the time, and as such outstripped the financial and marketing structures of RMP. Whilst intellectually current in terms of procedural theory in Britain and America, this approach was in conflict with the approach used by local planning authorities. Thus there was a failure to understand the complexity of the process in terms of its wider context. This was manifest in a lack of clear marketing, financial and implementation strategies.

Thus the failure of RMP's proposals was linked to the theoretical, procedural and institutional frameworks of the time.

Ormonde was undertaken as a project within the overall Land Use and Transportation Proposal, but by a separate team of consultants. Urban Design Consultants employed a slightly different approach to the design of Ormonde.

Ormonde was the product of a utopian mindset within a particular paradigm and period of time. In the late sixties the failure of orthodox masterplanning was generally acknowledged, however the alternatives were not well defined. The initial concept of affording the greatest opportunity for individual choice within the framework of a system of habitat, implied an open ended, process driven approach. Yet the final 'product' of the design 'process' was a masterplan. The conflict between the production of a 'picture' or design and the flexibility of a long term planning and design process, was an essential conceptual stumbling block in Ormonde. The contradiction between the production of a design expressing a vision, and a set of principles that would set certain design parameters, while being flexible and open to change in producing an environment over time, could not be reconciled.

Ormonde was influenced by a set of specific architectural theories and references. These were to inform a set of typological responses, that would set principles, rather than fixes. Yet the strength of the image in terms of architectural form and aesthetic overshadowed the principle that was meant to be transmitted.

The approach of planning as design set a specific design as a complete composition, where every element contributed to the whole vision of totality. The idea of process within this vision is ultimately negated.
Thus Ormonde too failed to understand the complexity of the process in terms of a wider context. The management of process while maintaining a consistent vision was not understood.

The idea of a major integrated project on the scale of Ormonde and the overall Land Use and Transportation Proposal for the New South, required specific implementation and management structures. These were not defined at the time, thus the conceptual ideas were not matched with appropriate strategies of action.

The Barlows take-over of RMP produced a radically different approach to development. By abandoning the vision and concepts of both the New South and Ormonde, RMP questioned the validity of the application of these concepts. In the commercial realm of property broking, these ideas had no relevance. RMP operated in a realm that was dictated to by the market, and responded to speculative demand for land. As such they were not property developers but land developers. By virtue of the size of their land holding RMP should have been a major player in the property market. Yet without a vision of the strategic value of their land in relation to the city, they have failed to become so.

However, with the end of Apartheid and the emergence of a new Metropolitan structure and urban policies, former mining land, including RMP's land remains the key to integrating the city, and correcting historically distorted spatial patterns, in terms of the vision of a 'compact city'. Constraints that hampered developments in the sixties no longer exist. The removal of apartheid legislation has removed a set of spatial controls that determined the growth of the city and the spatial restructuring of the metropolitan area of Johannesburg has shifted the emphasis of the city to the south.

Thus RMP's land has been identified in terms of the implementation of the development objectives of the city, and RMP has come under increasing pressure to release land primarily for housing development. The key concept here is the balance between public concerns - social responsibility and government policies vs. company policies within a competitive market. RMP has operated within strict commercial parameters since the 1970's, where the 'market' decided what usage the land should be put to. Now RMP is being forced to be part of a consultative process as a stakeholder with metropolitan authorities, in the formation of land development policies. RMP has to a certain extent acknowledged its social responsibility as a major land owner, but is not entirely philanthropic and is expected to make an adequate return for its shareholders.

Recent developments suggest that RMP is moving towards property development once again. Interestingly enough, some of the concepts outlined in their 'vision 2010', are the same as those stated in the sixties. However the context of development is completely different. However, once again, a vision for the development of a new south requires challenging and changing the spatial structure of the city as well as reconstructing the urban system taking into account the integration of vast areas of former mining land.

Crown City is conceived as a major mixed use development. The project process of Crown City is trying to reconcile a vision with a planning strategy conceptualised as a process. This process should be capable of sustaining development over a long period of time, yet be flexible and adaptable in terms of change, while still maintaining a vision of the future.
Clearly, the mechanisms that guide and maintain the planning process and the marketing and implementation structures will determine the success of Crown City as a process. As a complete design, Crown City will be doomed to failure, as was Ormonde.

The vindication for the New South and Ormonde lies in the fact that the idea of mixed use integrated development is still valid in those areas. The idea of planning as a process remains valid, but has become more sophisticated in solving some of the problems that contributed to the failure of the process in the sixties. The application of certain theories and images within a certain paradigm remains difficult to assess retrospectively. With hindsight, the megastructural approach of the sixties led to impoverished and dysfunctional urban environments. Although Ormonde tried to counter the megastructure with low scale development that was to engender the idea of 'choice and variety' in the environment, the overall picture was not that of a functional environment. Yet, the environment that will be produced by Crown City, although it is to be defined through a changing process which will be sensitive to contextual change over a long period of time, may well be an anathema to future critics.

RMP as a case study in the present context provides parallels between a particular project and general principals that are of relevance in large scale integrated projects. Clearly the success of large scale developments is dependent on several key factors. Large scale long term projects are subject to continual contextual changes. It can be argued that goals are continually and often retrospectively defined, and that it is in the nature of the process of the project that outcomes cannot necessarily be predicted. Thus the planning process should be flexible to allow and absorb changes in response to context. It is said that every idea has its time, this implies that the necessary mechanisms for development are in place and that the necessary legislative, political, social and market controls are conducive to development. Lastly, without a vision, the definition of appropriate strategies of action in relation to development are not possible, with consequent results for the definition of design and development.



**Rand Mines Properties : Case Study in Design and Development**

# APPENDIX ONE
# OVERSEAS STUDY TOUR

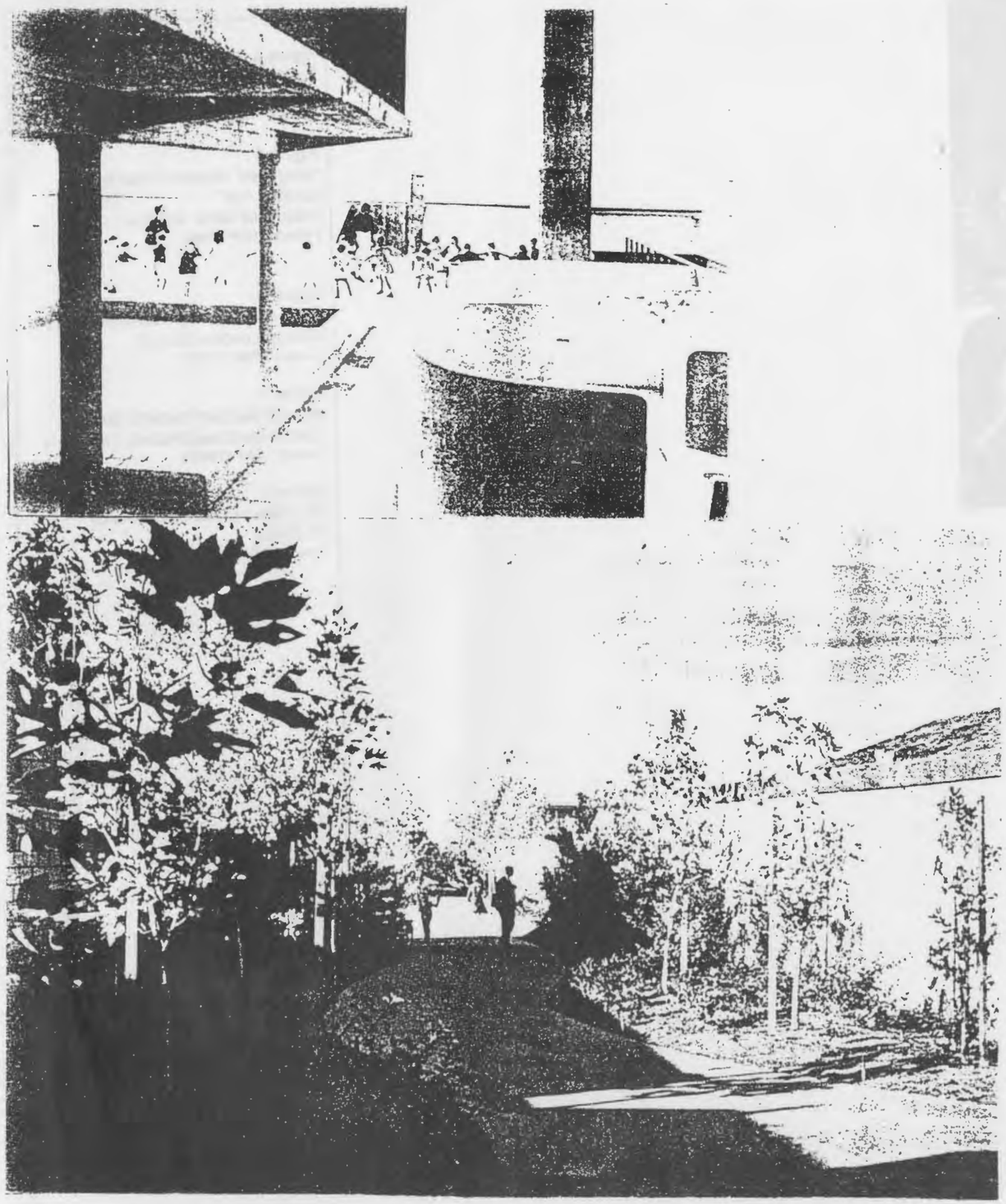
**A1**



Figure 1 :
Pedestrianway : Gropiusstadt (1966)
*( source : RMP (1968) )*

Figure 2 :
'Use of the roof' : l'Unite d'Habitation Marseilles (1948-52)
*( source : RMP (1968) )*

Figure 3 :
'Pasco' at Valencia California 'made possible by the use of cul de sacs.
*( source : RMP (1968) )*



The projects are listed in alphabetical order.
The reasons for visiting the projects were categorised as follows :

1. Housing Projects
2. New Towns and Projects that related to the overall concept
3. Reference Buildings that were considered to be illustrative of important principles.

| | 1 | 2 | 3 |
|---|---|---|---|
| Albertsland : Denmark : Housing | | X | |
| Alton West Estate : Roehampton 1955-59 : Housing | | X | X |
| Bagnols-sur-Ceze : Lyons 1959 : New Town | | | |
| Candilis Josic Woods | | | X |
| Barbican Redevelopment : 1960-71 : City Office Complex | X | | X |
| Bijkmormeer : Amsterdam : Housing | X | | X |
| Bull Ring Centre : Birmingham : Shopping and Transit | | | X |
| Canal Island : Utrecht : 1968 : Large scale housing | | X | |
| Cannery : San Francisco : Shopping / Restuarant Redevelopment | | | X |
| Carpenter Centre : Cambridge Mass : 1965 Le Corbusier | | | X |
| Centre Le Corbusier : Zurich : 1967 | | | X |
| Century City : Los Angeles | | | X |
| Chelmesley Wood : Birmingham : Housing | | X | |
| Champiguy : Paris | X | | |
| Colonnade : Toronto : 1967 : City Complex | | | X |
| Columbia : Maryland : 1967 : New Town | | X | |
| Cumbernauld : 1958 : New Town | X | X | X |
| Disneyland : Los Angeles | | | X |
| Dominion Centre : Toronto : 1969 : City Complex | | | X |
| Don Mills : Toronto : 1969 Office / Apartment Building | | | X |
| Economist Building : London : 1964 | | | X |
| Espergaerde : Denmark : Housing | | X | |
| Farsta : Sweden : New Town | | | X |
| Forest Crematorium : Stockholm : 1951 | | | X |
| Free University : Berlin | | | X |
| Ghirardelli : San Francisco : Redevelopment | | | X |
| Golden Lane : London | X | | |
| Gropiusstadt : Berlin : 1966 ; Housing | X | | |
| Habitat : Montreal : 1967 : Housing | X | | X |
| Hansa Viertel : Berlin : 1957-1962 : Housing | X | | X |
| Harbour Building : Amsterdam : Offices | | | |
| Harlow New Town : 1949 | | X | X |
| Harvard Married Students Quarters : Cambridge Mass : 1962-64 : Housing | X | | X |
| Harvard Yard : Cambridge Mass | | | X |





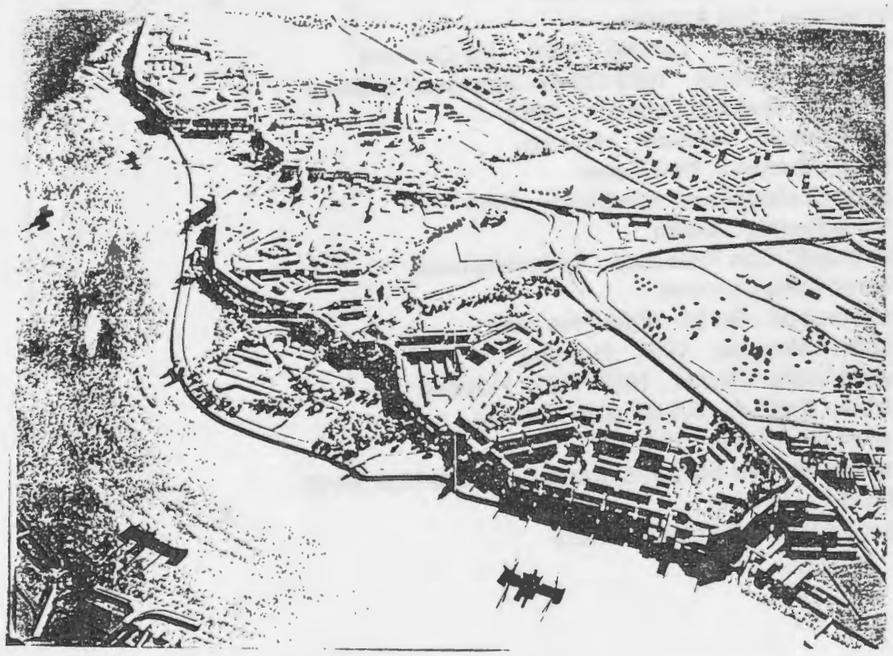


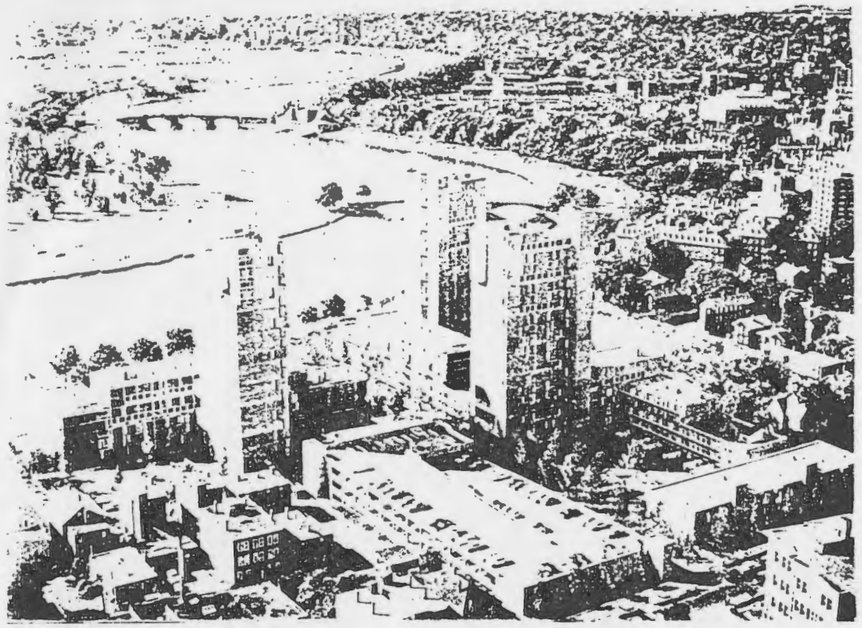
Figure 4 :
Taby Centrum Sweden Shopping centre (1968)
*( source : RMP (1968) )*

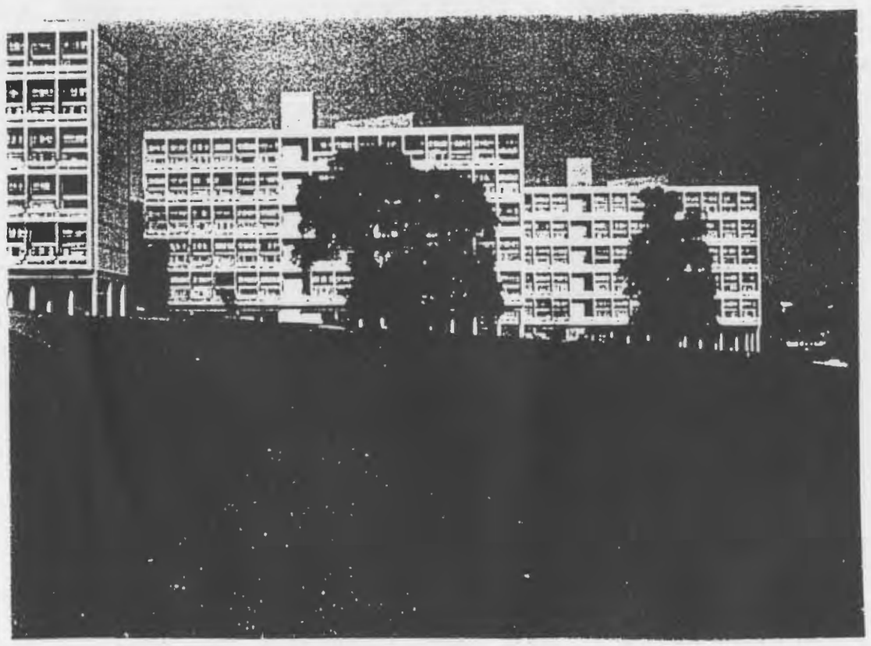
Figure 5 :
'Integrated Pedestrian movement Banking Hall'
Place Ville Marie Montreal
*( source : RMP (1968) )*

Figure 6 :
Thamesmeade 'new development by Greater London Council'
*( source : RMP (1968) )*

Figure 7 :
Harvard Married Students Quarters Cambridge Massachusetts (1962-64)
*( source : RMP (1968) )*

Figure 8
Alton West Estate Roehampton (1955-59)
*( source : RMP (1968) )*





| | 1 | 2 | 3 |
|---|---|---|---|
| Irvine Ranch : San Diego / Los Angeles : 1960 | | X | |
| Kingo Housing : Denmark : Housing / Prefabrication | X | | |
| La Defense : Paris : Redevelopment | | | X |
| La Duchere : Lyon : 1958 : Housing Project | | X | |
| La Tour L'Eveque : Nimes : 1958 | | X | |
| La Vista : Marseilles : 1959 | | X | |
| Le Clos d'Orville : Nimes : 1961 | | | |
| Le Couvant de la Tourette : Le Corbusier | | | X |
| Le Petite Nice : Aix-en-Provence | X | | |
| Les Galleries d'Anjou : Montreal : Shopping Centre | | | X |
| Les Minguettes : Lyon : 1959-64 : Point/Slab Blocks | | | |
| Lijnbahn : Rotterdam : 1953 : City Development | X | | X |
| Unite d'Habitation : Marseilles : 1948-52 : Le Corbusier | X | | X |
| Marina del Rey : Los Angeles : 1958-65 | X | | |
| Markisches Viertel : Berlin : 1965 | X | | |
| Netherlands Bank Headquarters : Amsterdam : Offices | | | |
| Nun's Island : Montreal : Housing | X | | |
| Park Hill Housing : Sheffield : 1957-66 | X | | X |
| Parly 2 : Chesnay, Paris : 1966 : Housing | | | |
| Paternoster Development London : 1968 | | | |
| Pendrecht Housing : Rotterdam : 1959 | X | | X |
| Place Bonaventure : Montreal : 1968 : City Complex | | | X |
| Place Ville Marie : Montreal : 1962-66 : City Complex | | | X |
| Reston : Virginia : 1961 : New Town | | X | X |
| Roi d'Espagne : Marseilles : Housing | | X | |
| Rossmore : Walnut Creek : Leisure World | | X | |
| Roxbury : Boston : Housing / Building System | X | | |
| Scarborough College : Toronto : 1964-66 | X | | X |
| Sea Ranch : California : 1966 : Low density residential | X | | X |
| Siedlung Halen : Berne : 1959-61 : Apartments | X | | X |
| Siemensstadt : Berlin : 1929-31 : Housing | | | |
| Society Hill : Philadelphia : redevelopment | X | | X |
| Skoubrynet : Denmark : Housing | X | | |
| St. James' Street Flats : London : 1961 | | | X |
| Taby : Stockholm : 1966-68 : New Town | | X | |
| The Cove : Tiberon : Marina | | | X |
| Townhouses Boston : 19th Century | X | | X |
| Valencia : Los Angeles : New Town | | | X |
| Vallingby : near Stockholm : 1951-56 | | | |

**Rand Mines Properties : Case Study in Design and Development**

# APPENDIX TWO
# RMP PROJECTS - THETA, FERREIRA, EDGARDALE

**A2**

| | | | | | 1969 | | | | |

## 1971

| | | | | | L.J. | R.P. | J.H. | M.G. | M.G. | G.O. | R.B. | J.N. | A.W. | C.E. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Prinsloo | Roden | Cooke | Doyle | Drake | Dyus | Hanig | Hoffrichter | Lategaan | Levitan | Lukson | Milner | Rosendahl | Segal | Spooner | Streton | Williams |
| PLANNING | DEVELOPMENT PLANS | March | Ophirton Extension | | | | | | | | | | | × | | | | | | | |
| | | May | Greater Area 1 Dev.Pl. | | × | | | × | | | | | | | | | | | | | |
| | | Aug. | C.M.R. North Dev.Pl. | | × | | | × | | | | | | | | × | | | | | |
| | | Dec. | City Deep Dev. Plan | | | | | | × | | | | | × | | | | | | | |
| | NEW TOWNSHIPS | Jan. | Mayfair South | | | | | | | | | × | | | | | | | | | |
| | | Feb. | Selby Ext. 8 | | | | | | × | | | | | × | | | | | | | |
| | INVESTIGATIONS AND LIAISON | Jan. | Ormonde Cash Flow | | | | | | | | × | | | | | | | | | | |
| | | Jan. | Edgars Warehouse | | | | | | × | | | | | | | | | × | | | |
| | | Jan. | Greatermans Warehouse | | | | | | × | | | | | × | | | | × | | | |
| | | June | Elandsfontein Pack.Deal | | | × | | | | | | | | | | | | | | | |
| | OVERALL PLAN | Jan. to Dec. | Mapping | × | | | × | | | | | | × | | | | | | | | |
| | | | Physical Studies | × | | | × | | | × | | × | × | | | | | | | | |
| | | | Demand Studies | × | | | × | | | × | | | | × | | | | | | | |
| | | | Strategic Plan & Implim. | × | | | × | | | × | | | × | × | | × | | | | | |
| | | | Cash Flow | | | | | | | × | | | | | | | | | | | |
| URBAN DESIGN | Mayfair | Jan. | General Residential Development | | | | | | × | | | × | | | | | | | | | |
| ARCHITECTURE | Northcliff | Jan. | Shops & Offices | | | × | | | | × | | | | | | | | | | | |
| | Theta | Jan. | Decentralized Offices | | | × | | | | × | | | | | | | | | | | |
| | Ferreira | Jan. | City Development | | × | | | | × | | | | | | | | | | | | |
| | K.O.P.S. System Data Set | Jan. | Prototype | | | | | | | | | | | | | | | × | | | |
| | | Jan. | Offices, Stores & Factory for Computer Company | | | × | | | | | | | | | × | | | × | | | |
| | Cargo | Jan. | Pre-Delivery Serv.Dept. | | | | | | | | | | | | × | | | × | | | |
| | Lamson | March | Engineering Works | | | | | | | | | | | | × | | | × | | | |
| | Caribonum | March | Printing Organization | | | | | | | | | | | | | | | × | | | |
| | Dryden Engineer. | April | Engineering Works | | | | | | | | | | | | × | | | | | | |
| | Metro Cash & Carry | July | Wholesale Supermarket | | | | | | | | | | | | | | | × | | | |
| | Jacksons | Sept. | Warehouse | | | | | | | | | | | | × | | | | | | |
| | Ormonde Clubhouse | Nov. | Golf Course Clubhouse | × | | × | | | × | | | | | | | | | × | | | |
| | Ormonde Houses | Nov. | Housing Project | | | | | | | | | × | | | | | | | | | |
| GENERAL | K.O.P.S. | Jan. | Film on Construction of Warehouse Prototype | | | | | | | | | × | | | | | | | | | |
| | Research / Library | Jan./ March | Data Bank and Inform. Service | | | | × | | | | | | | | | | | × | | | |

## 1972

| | | | | | Prinsloo | Muller | Cooke | Drake | Hanig | Levitan | Lukson | Milner | Scott | Silva | Theron |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | L.J. | I.G. | J.H. | M.G. | M.G. | R.B. | J.N. | A.W. | J.C. | A.E. | M.C. |
| PLANNING | DEVELOPMENT PLANS | Jan. | Pilgrims Rest | | × | | × | × | | × | × | | × | × | |
| | | Jan. | Greater Area 1 | | × | | × | × | | × | | × | | × | × |
| | | March | Aeroton Ext. 1 | | × | | | × | | × | | | × | × | × |
| | | Dec. | C.M.R. Implementation | | | | | × | | | | | | | |
| | NEW TOWNSHIPS | Jan. | Selby Exts.3,4,8,10,11 | | | | | × | × | | | | | × | |
| | | March | Denver Ext. 1 | | | | | × | | × | | | | × | |
| | | March | Heriotdale 6,7,8+Inc. | | | | | × | | × | | | | × | |
| | | Dec. | Robertville Ext. 1 | | | | | × | | | | | | | |
| | | Dec. | Wemmers Park | | | × | × | × | | | | | | | |
| | | Dec. | Edgars (Selby 12 + 13) | | × | | | | | | | | | | |
| | INVESTIGATION AND LIAISON | Jan. | Container Depot | | | | | × | | × | | | | × | |
| | | | Market-Abattoir | | | | | | | | | | | | |
| | | Jan. | Tvl. Rugby Stadium | | | | | × | | | | | | | |
| | | Feb. | Ferreira Parking Ground | | × | | | | | | | | | × | |
| | | April | Edgars | | × | | × | × | | × | | | | × | |
| | | May | Application for Ind.Rights | | | | | × | | × | | | | | |
| | | June | Greatermans Stores | | × | | × | × | | × | | | | × | |
| | | July | 17. Shaft | | | | | | | | | | | × | |
| | | Sept. | Shopping Centre Study | | | | × | × | | | | | | | |
| | | Oct. | Stormill | | | | | × | | | | | | | |
| | | Nov. | Ormonde Ext. 1 | | | | | × | | | | | | | |
| | GENERAL | Jan. | Expropriation :- Roadways - Powerlines | | | | | × | | × | | | | × | |
| | | June | Mapping & Updating | | | | | × | | | | × | | × | |
| ARCHITECTURE | Ormonde | Jan. | Planning & Investigation | | | | | | | × | | | | | |
| | Lamson | Jan. | Engineering Works | | | | | | | | × | | | | |
| | Garibonum Ltd. | Jan. | Factory | | | | | | | | × | | | | |
| | Northcliff Dev. | Jan. | Shops & Offices | | | | | × | | | | | | | |
| | K.O.P.S. 1 | Jan. | Development of System | | | | | | | | | | | | |
| | I.C.L. | Jan. | Factory | | | | | × | | | × | | | | |
| | Theta | Jan. | Shops & Offices | × | | | | × | × | | | | | | |
| | Ormonde | Jan. | Building Design | | | | | × | | × | | | | | |
| | Ormonde Ext. 1 | Jan. | Housing | × | | | | × | | | × | | | | |
| | Metro Cash & Carry | Jan. | Wholesale Supermarket | | | | | | | | × | | | | |

**WORK DONE IN THE RMP OFFICE**
*( source : Drake (1973) )*



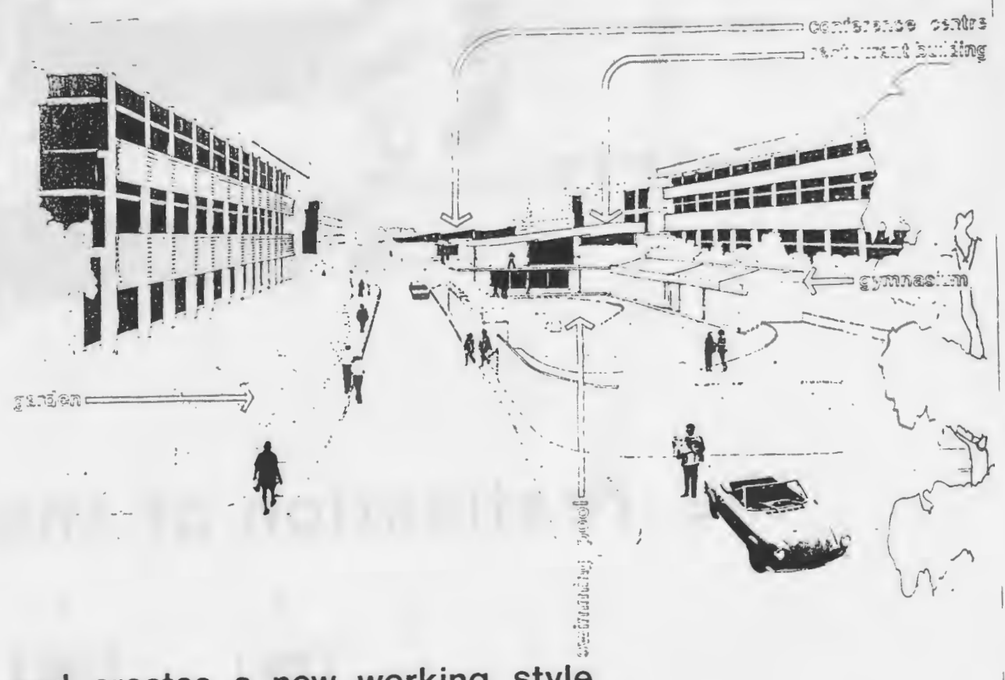

theta has the qualities of a decentralized position




Theta rejects the disadvantages of the ci

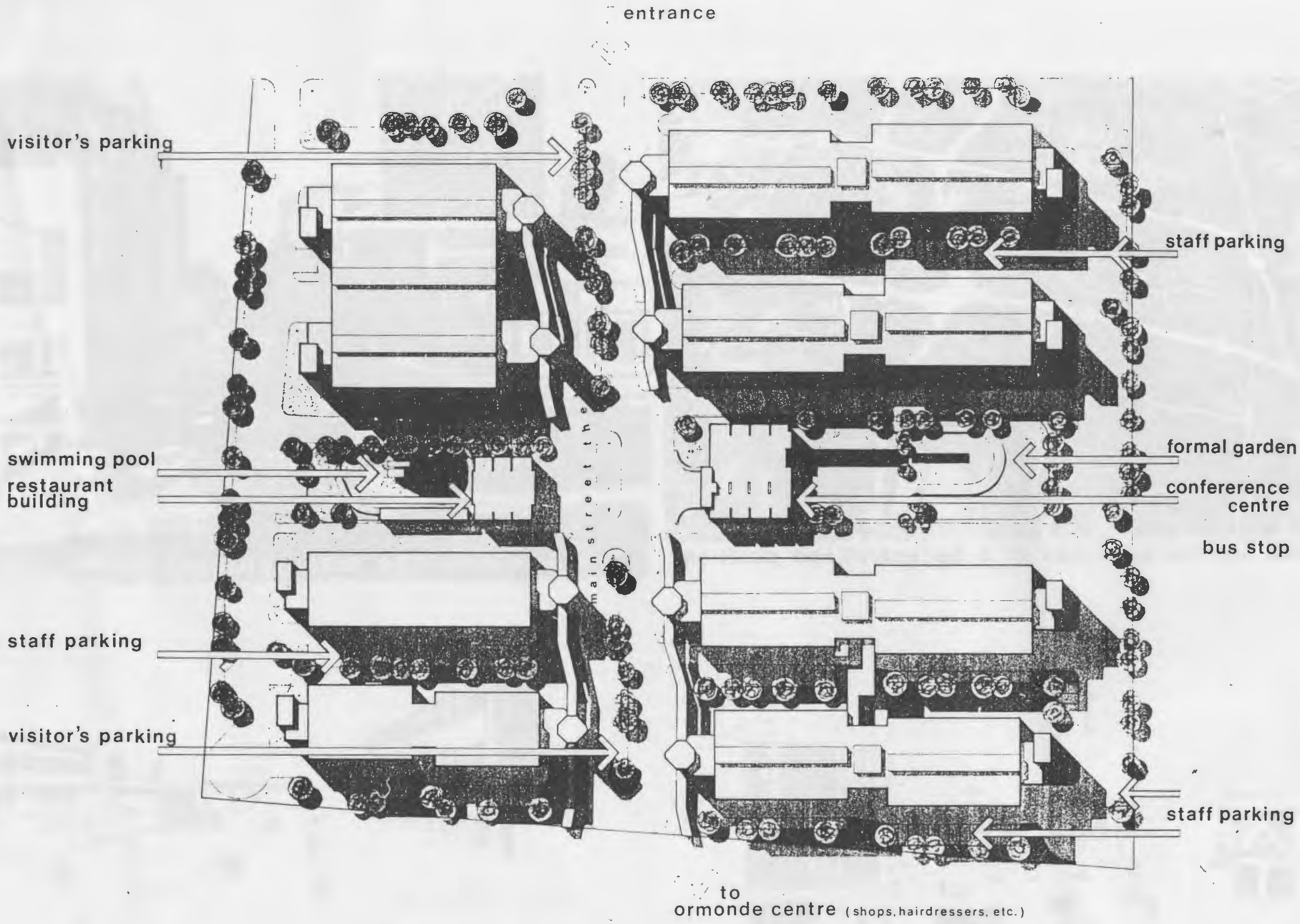



keeps the advantages .....

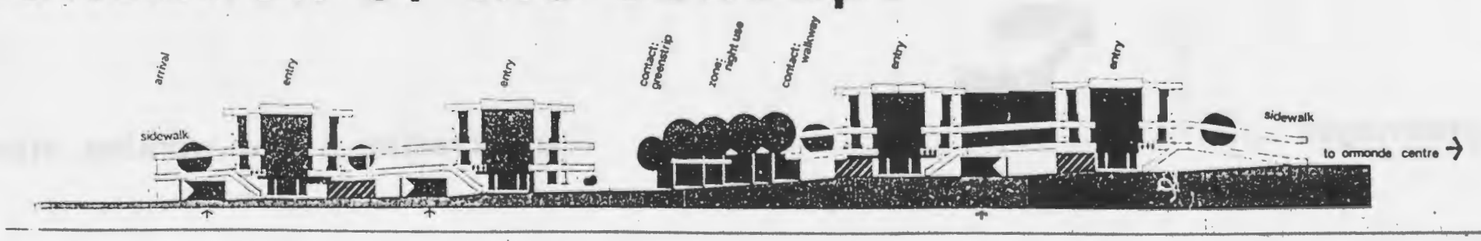



and creates a new working style

THETA - 1970
*( Source : RMP (1971) )*




# the realisation of the concept

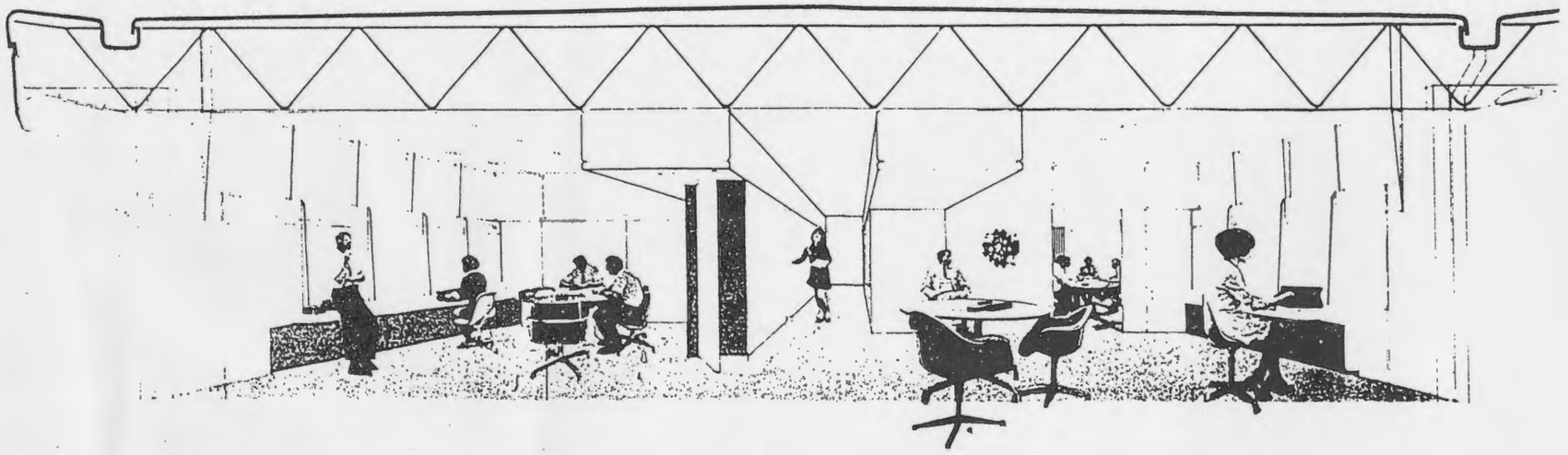



THETA - 1970
*( Source : RMP (1971) )*

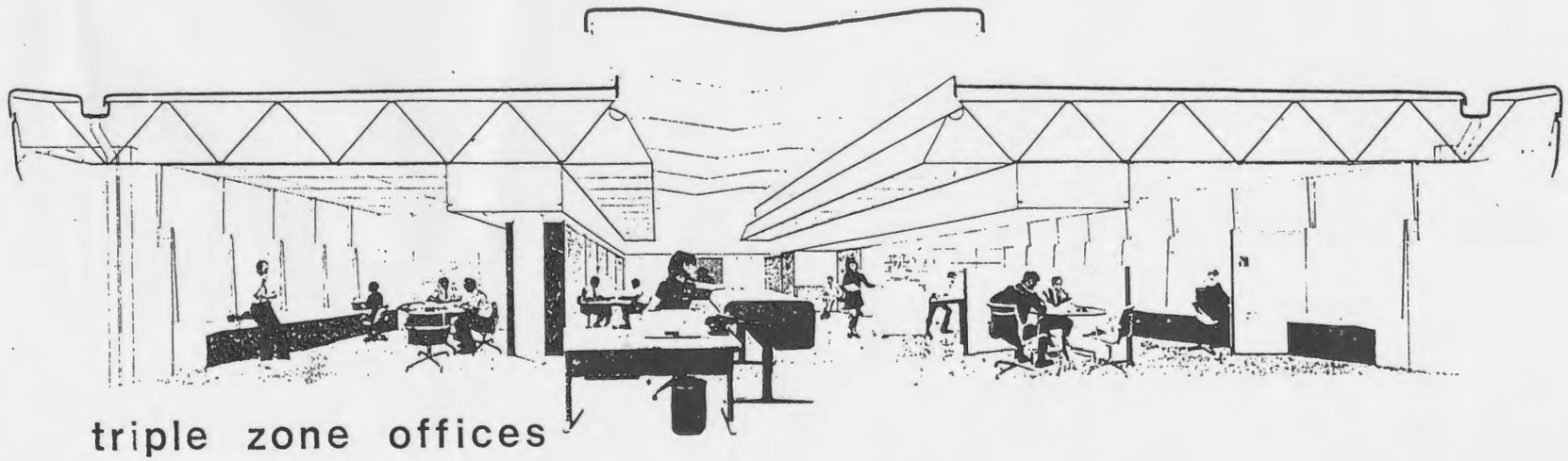


landscape office

## theta offers three office types

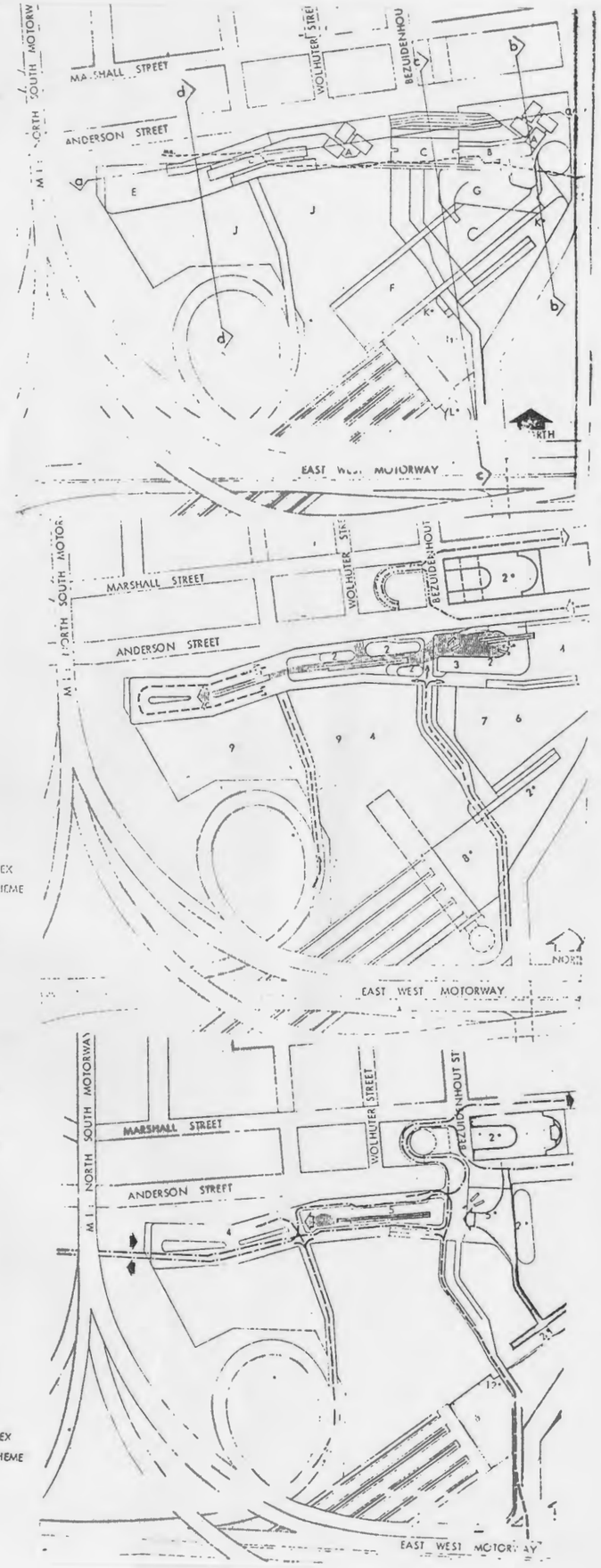


cell offices



triple zone offices

Tower Block: Offices
Deep Office Space
Slab Block : Hotel
Slab Block :Office Residential
Parking : Ramped
Exhibition Space
Convention Centre
Non-European Precinct
Open Space/Parking
Churches
Non-European entry to Exhibition Space




PROPOSED OFFICE COMPLEX
SECOND PRELIMINARY SCHEME
Layout Plan

Scale: 1:2500

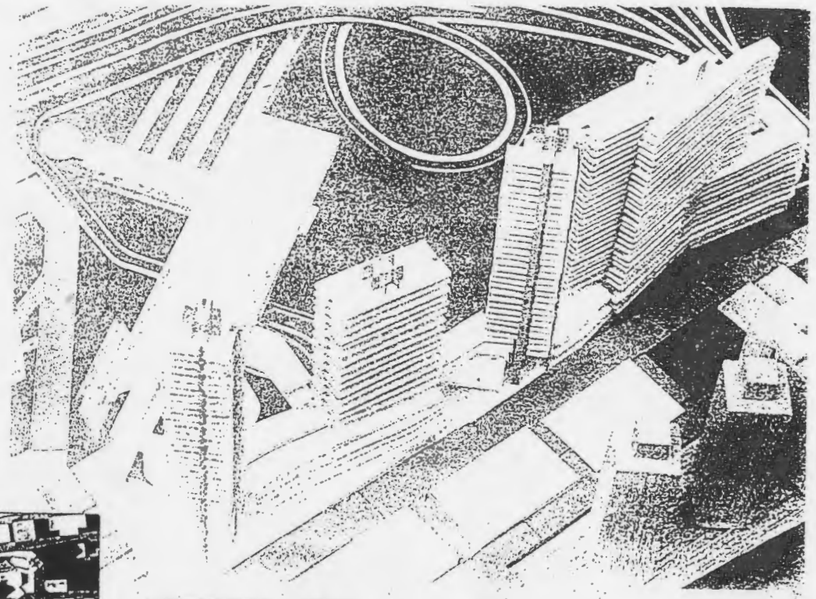
European Pedestrian
Rapid Transit System
Private Vehicular Traffic

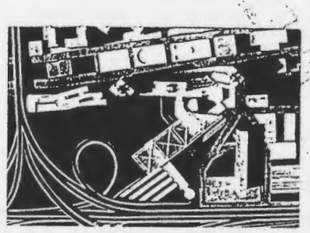
PROPOSED OFFICE COMPLEX
SECOND PRELIMINARY SCHEME
Movement level - 4.0 m
Scale: 1:2500

Non-European Pedestrian
European Pedestrian
Rapid Transit System
Private Vehicular Traffic

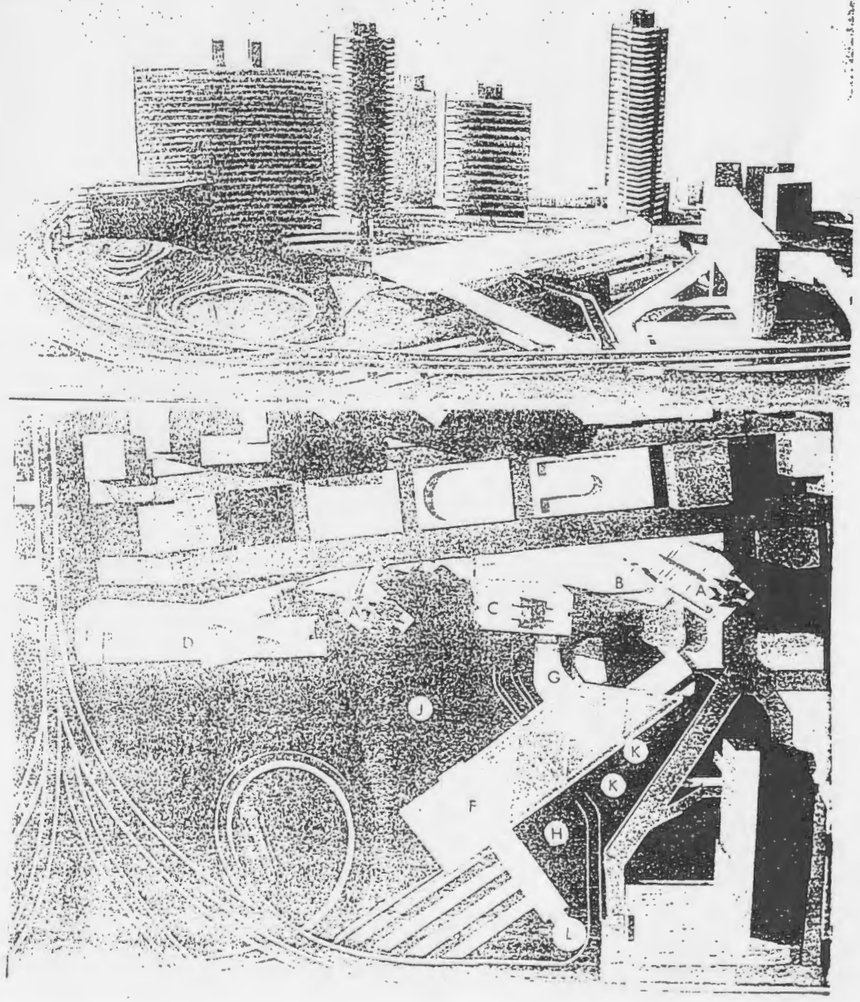
PROPOSED OFFICE COMPLEX
SECOND PRELIMINARY SCHEME
Movement level - 8.0 m

Scale: 1:2500

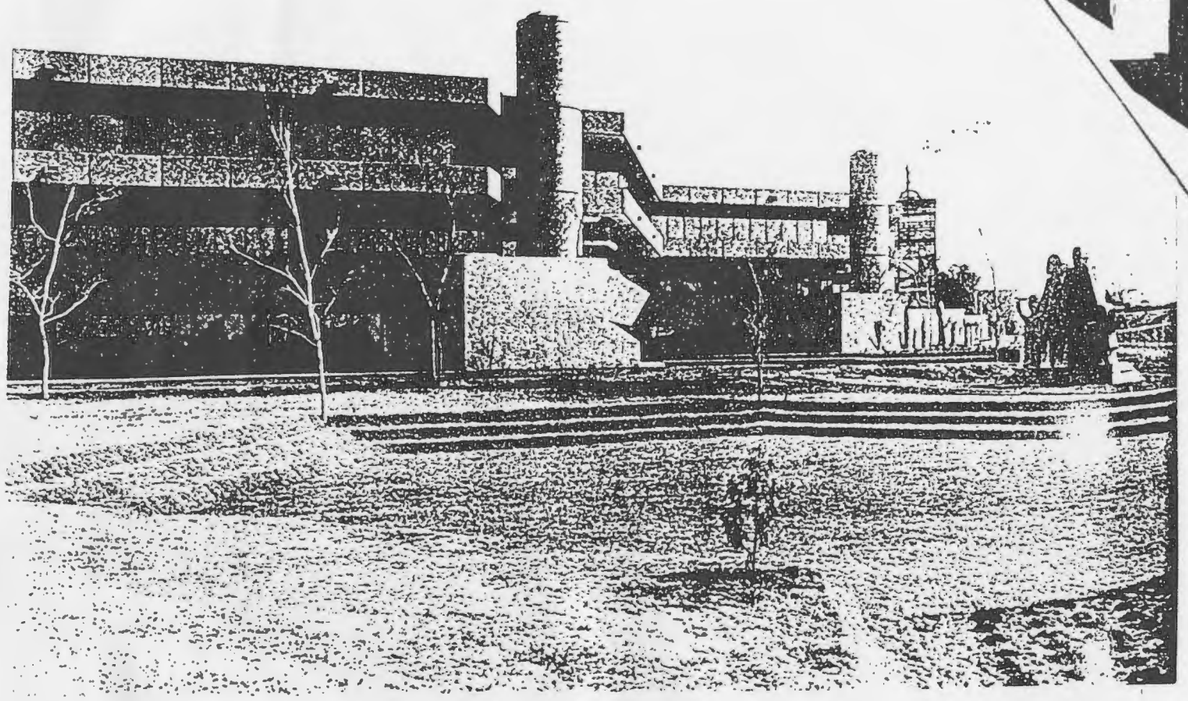


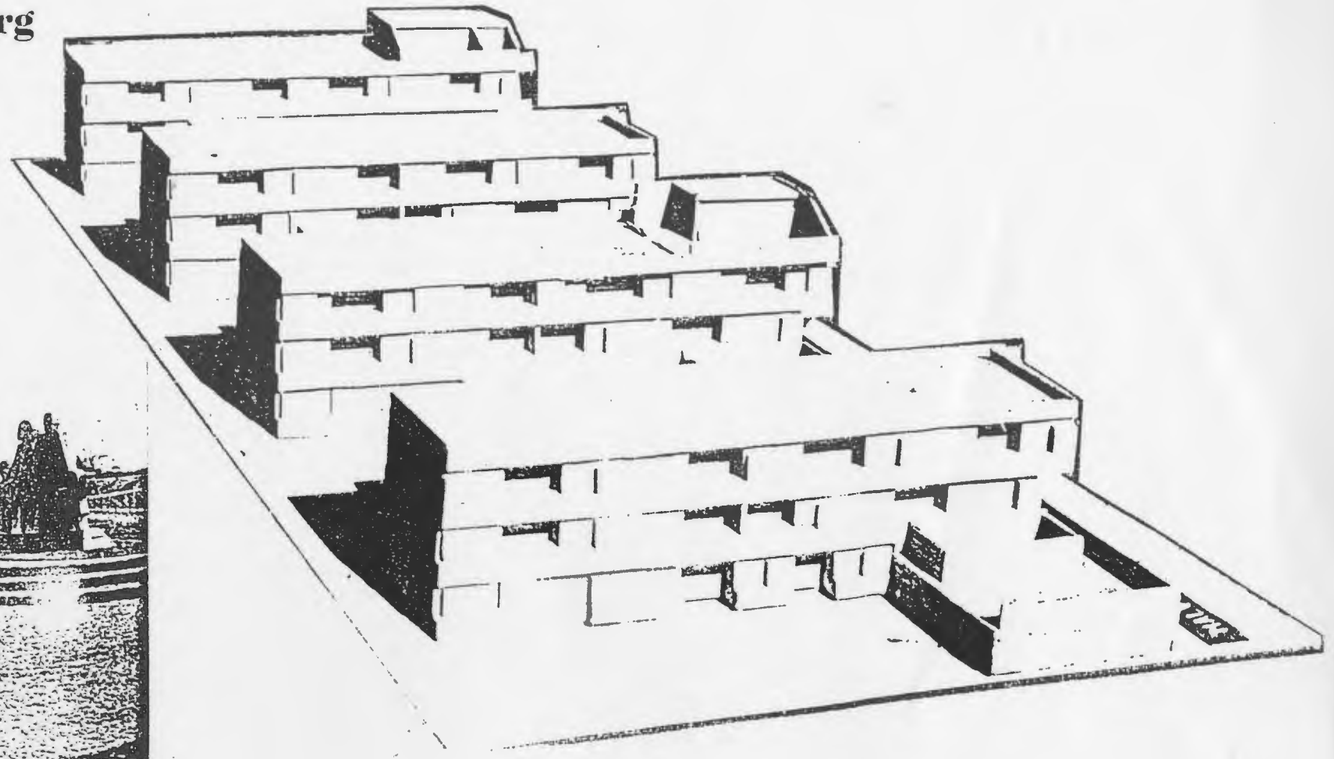


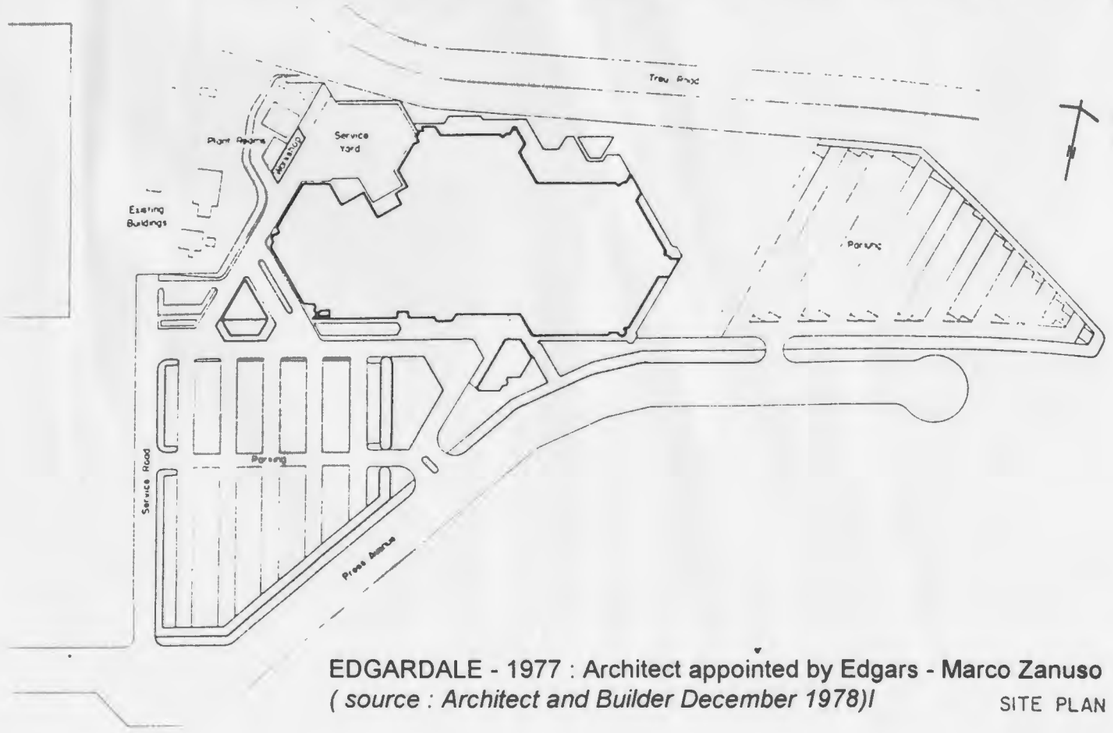
**FERREIRA - 1969**
**Comprehensive City Development**
***( Source : RMP (1970) )***



# EDGARDALE, Johannesburg

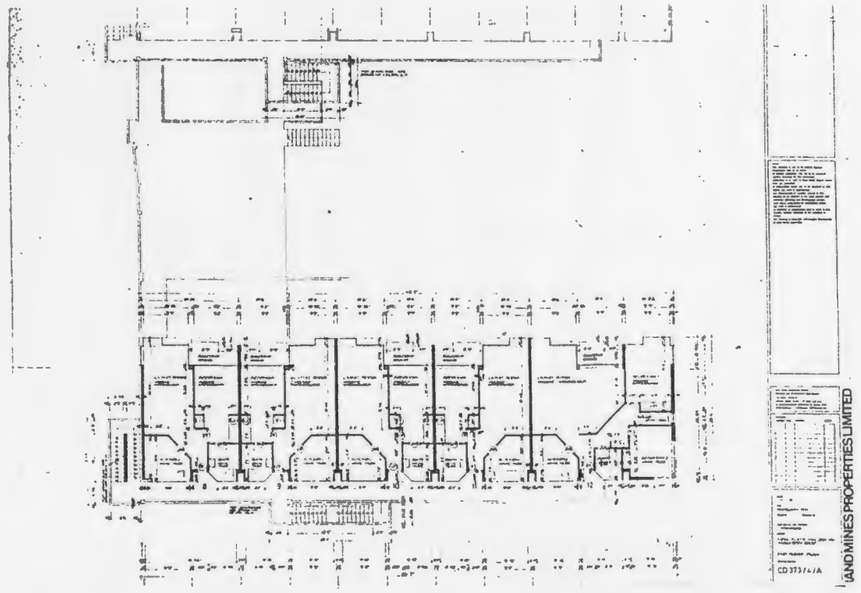







EDGARDALE - 1977 : Architect appointed by Edgars - Marco Zanuso
*( source : Architect and Builder December 1978)I*

SITE PLAN




MALVERN EAST FLATS - 1970 : Hans Schirmacher

A Cape Town Five Houses like fingers on a hand. In Domus 550 September 1975.

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