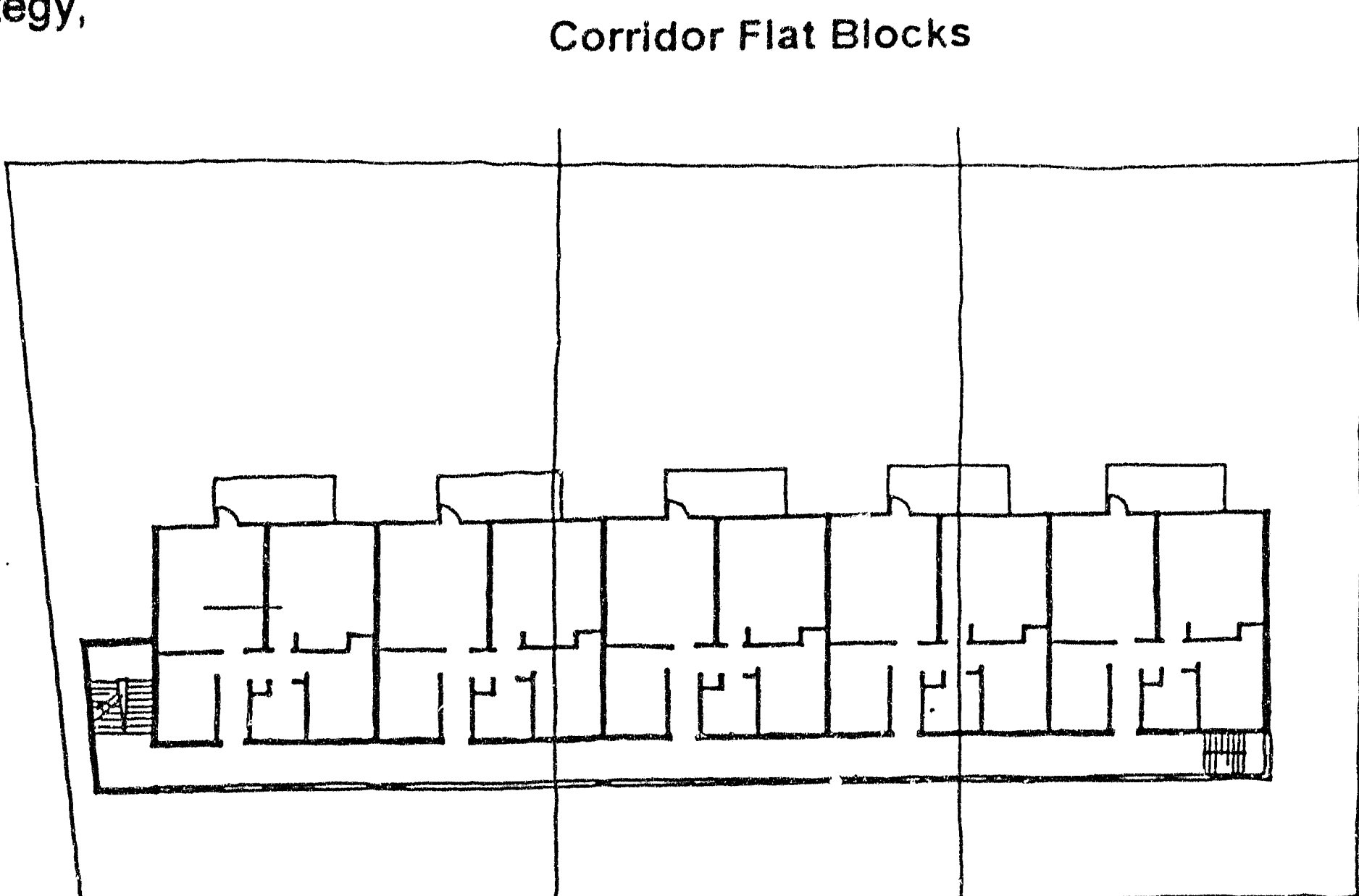


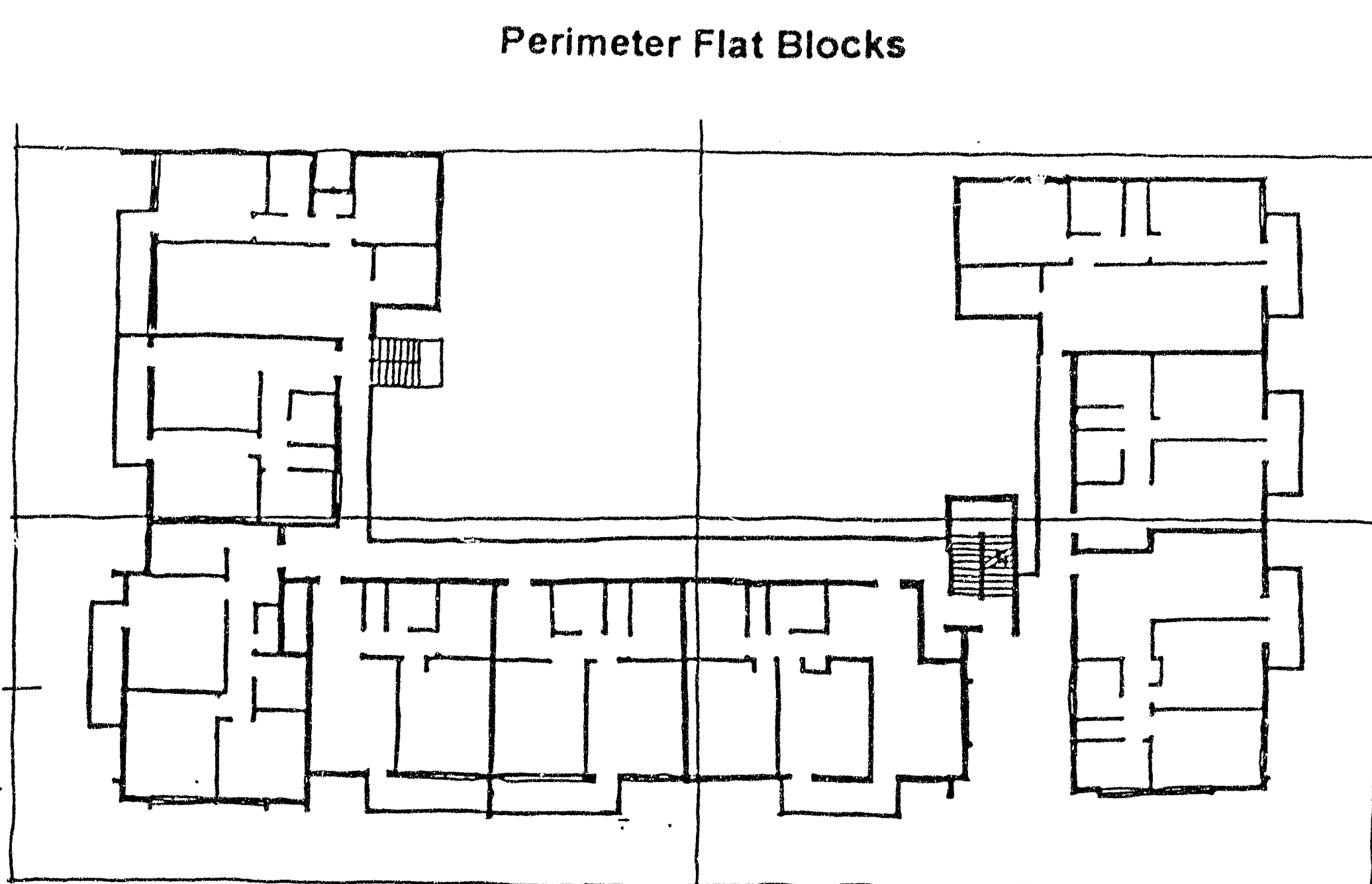
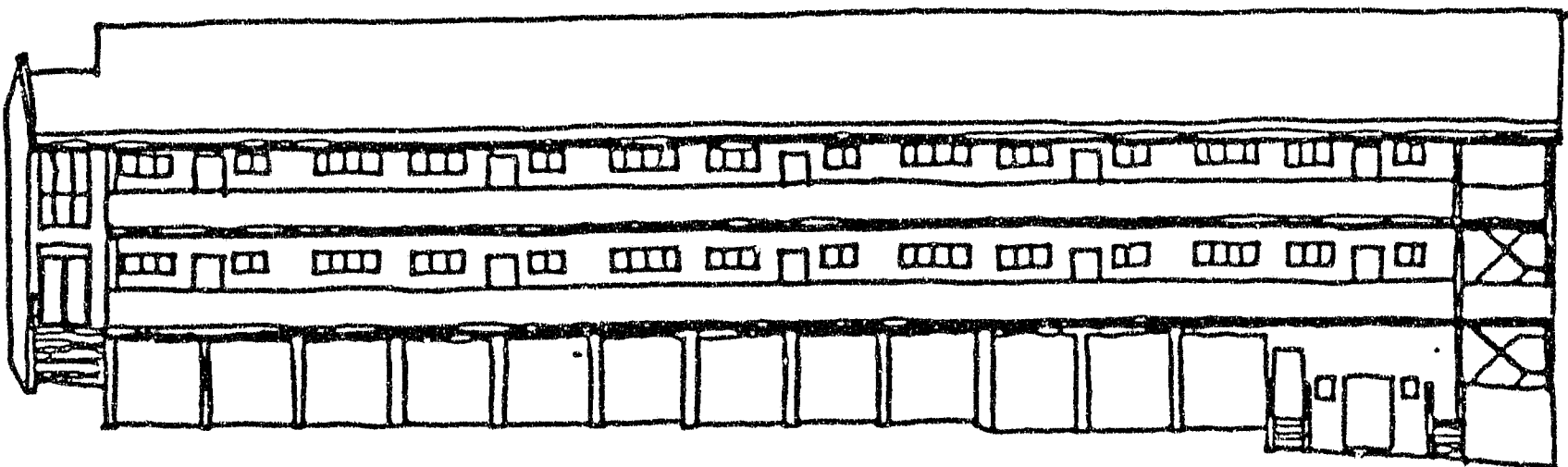
Zack, T., (et al), (1995), Eastern Sector Development Strategy, Book 3, Decline and Revitalisation



Erf Size: 1400m²
10 DU's (15 DU's)
NETT DENSITY
71 DU/HA (107 DU's)
GROSS DENSITY
48 DU/HA (72 DU's)

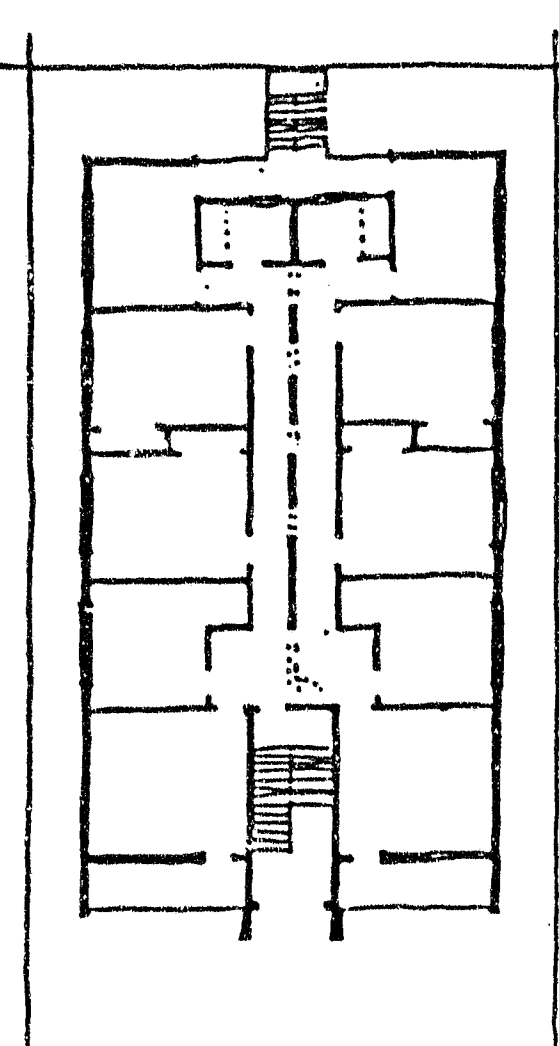
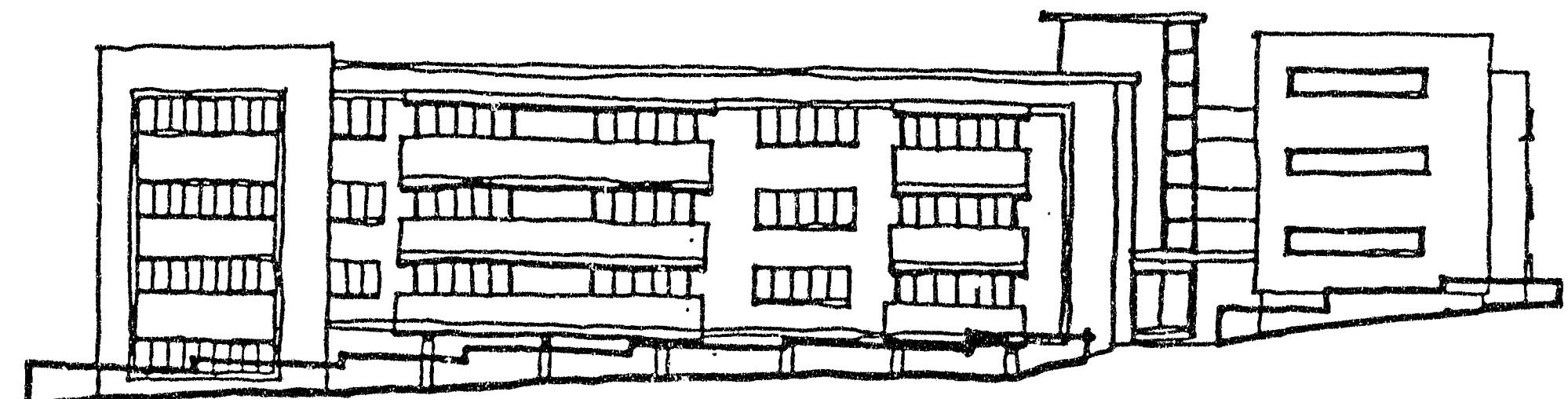


346, 347, 348 JUDITH'S PARK "KOPPIES VIEW"

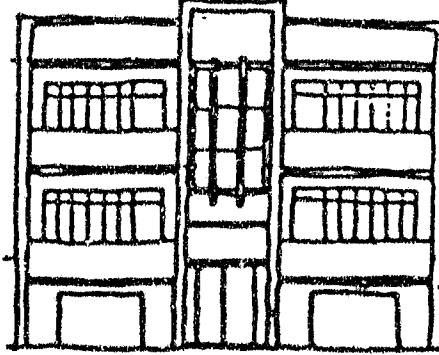


VILJOEN STREET "BELTRING COURT"

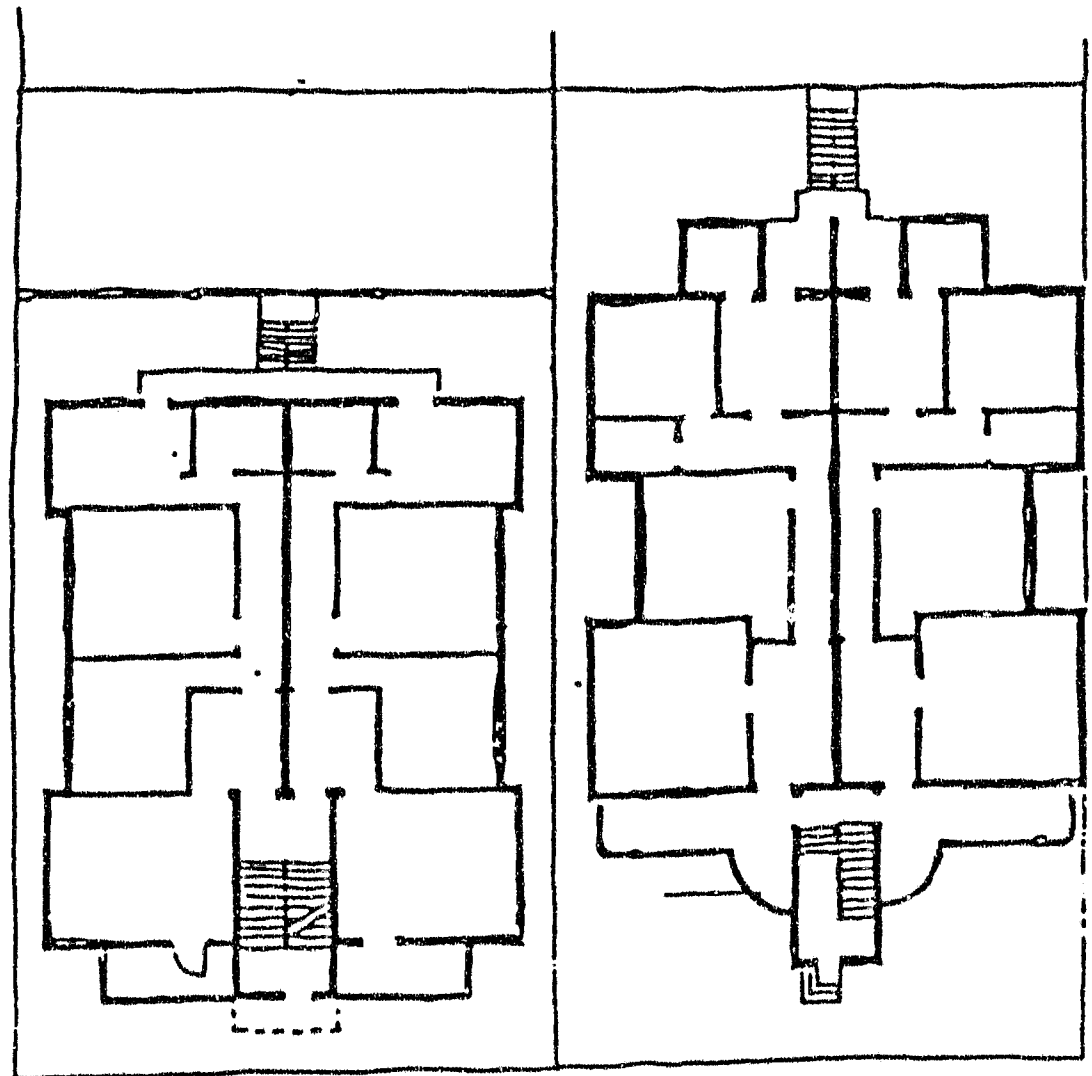
Erf Size: 1792m²
27DU's
NETT DENSITY
150 DU/HA
GROSS DENSITY
97 DU/HA



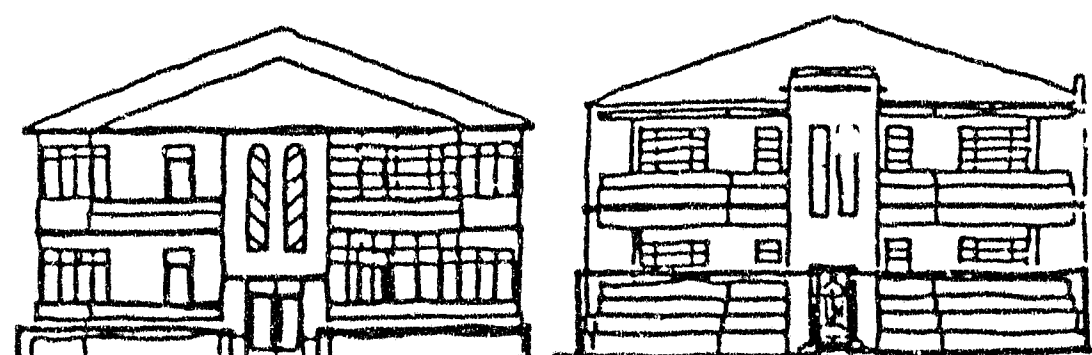
34 BEREA ROAD "HILTON"



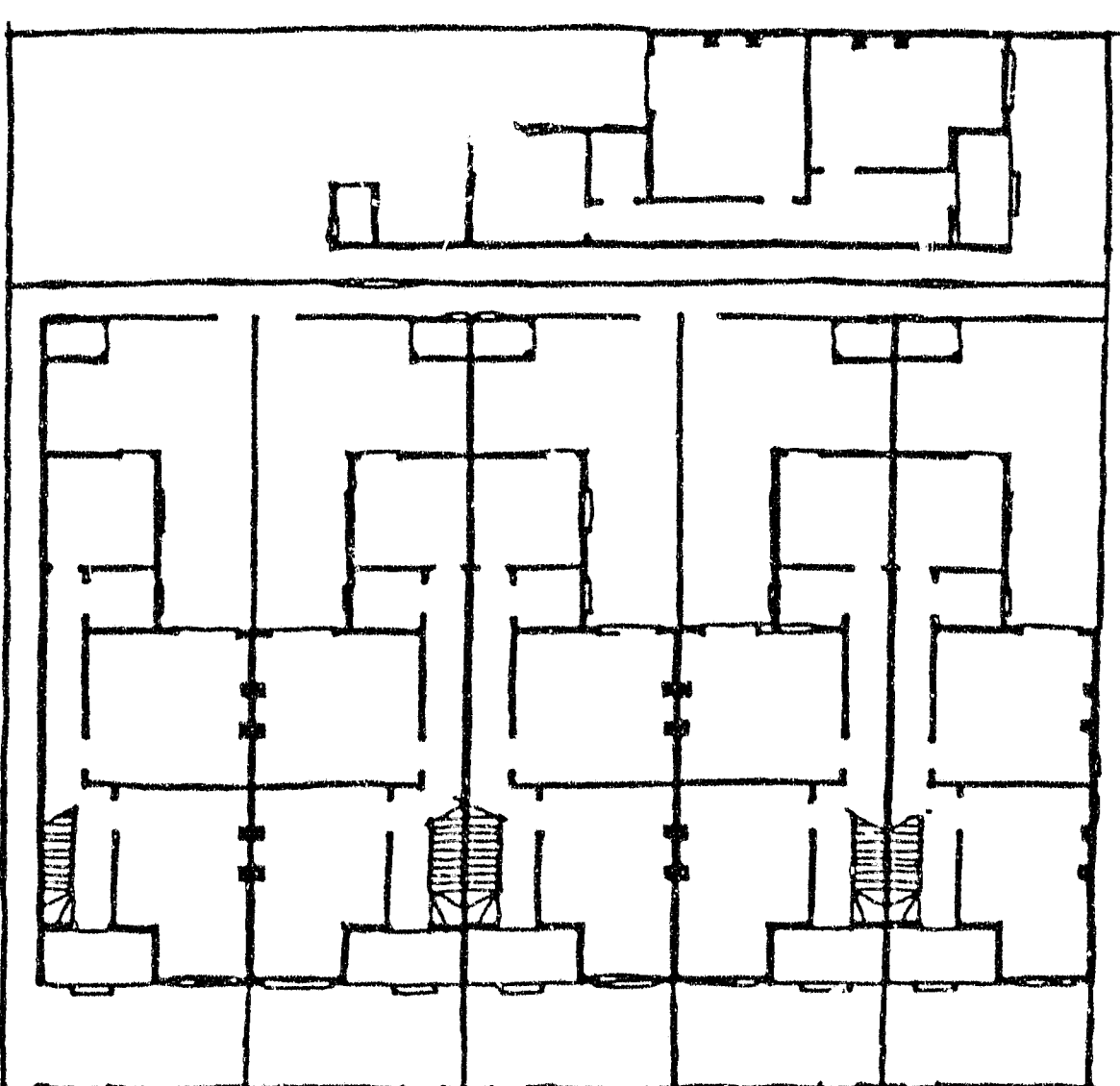
Erf Size: 448m²
4 DU's (6 DU's)
NETT DENSITY
89 DU/HA (134DU/HA)
GROSS DENSITY
55 DU/HA (80 DU/HA)



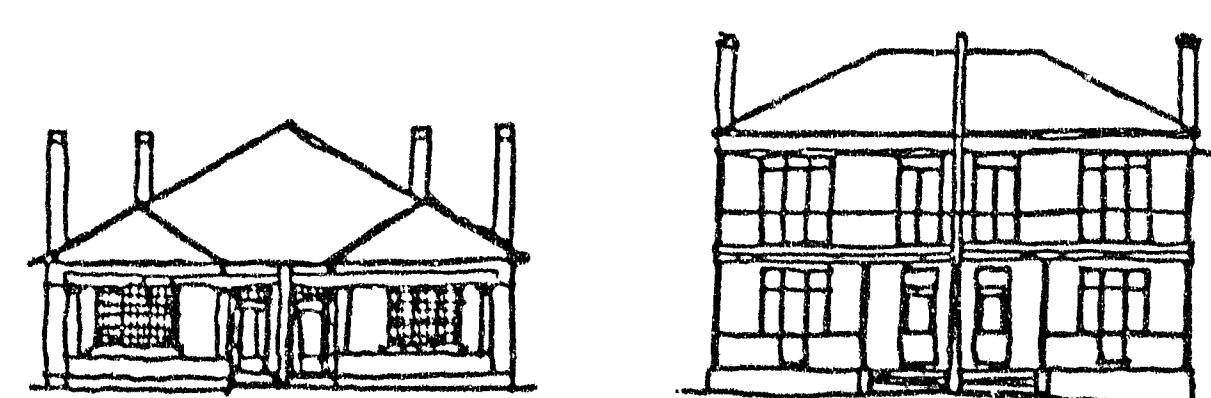
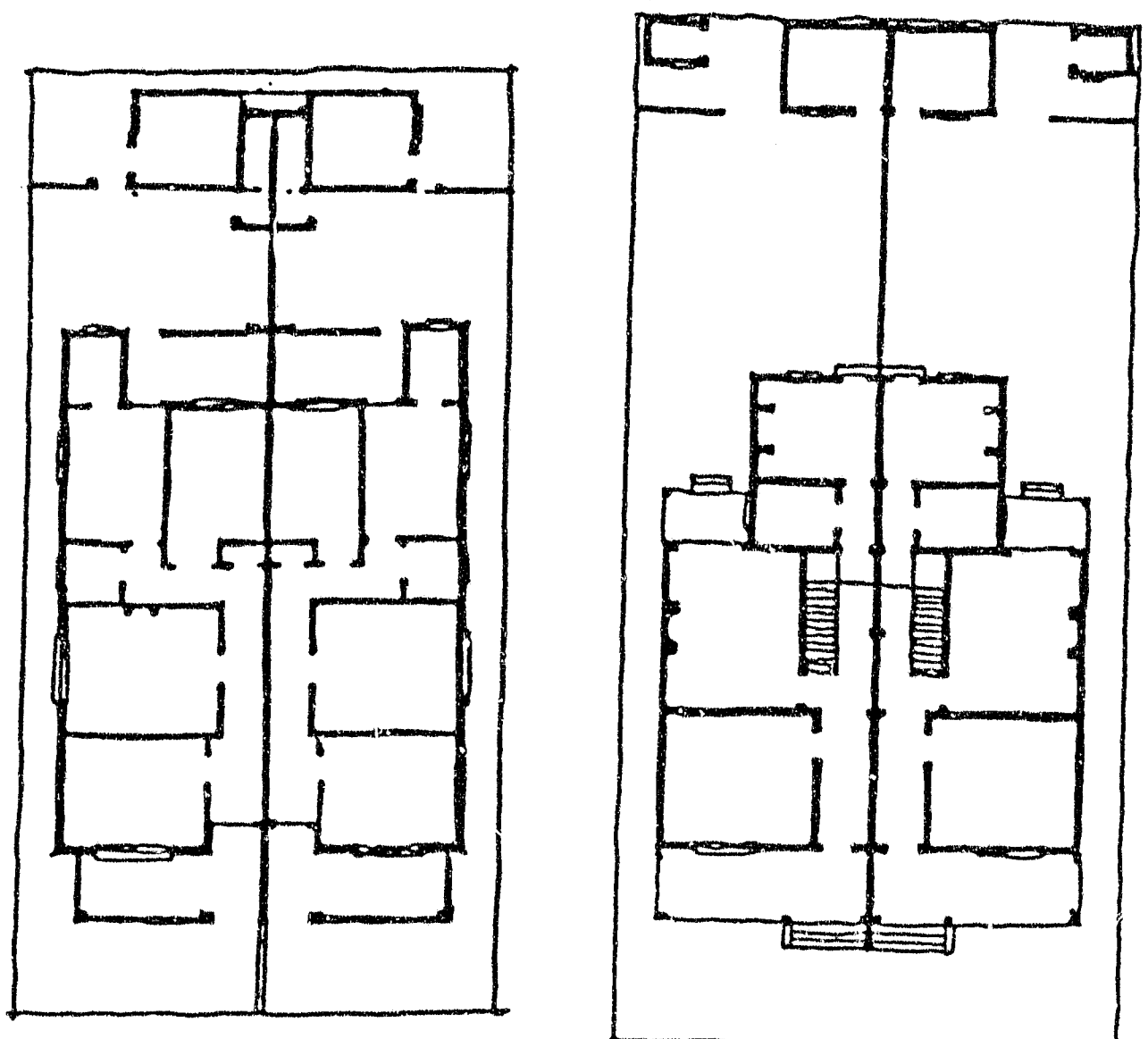
8 BEREA ROAD "COLLETTÉ" 6 BEREA ROAD "LUXMOR"



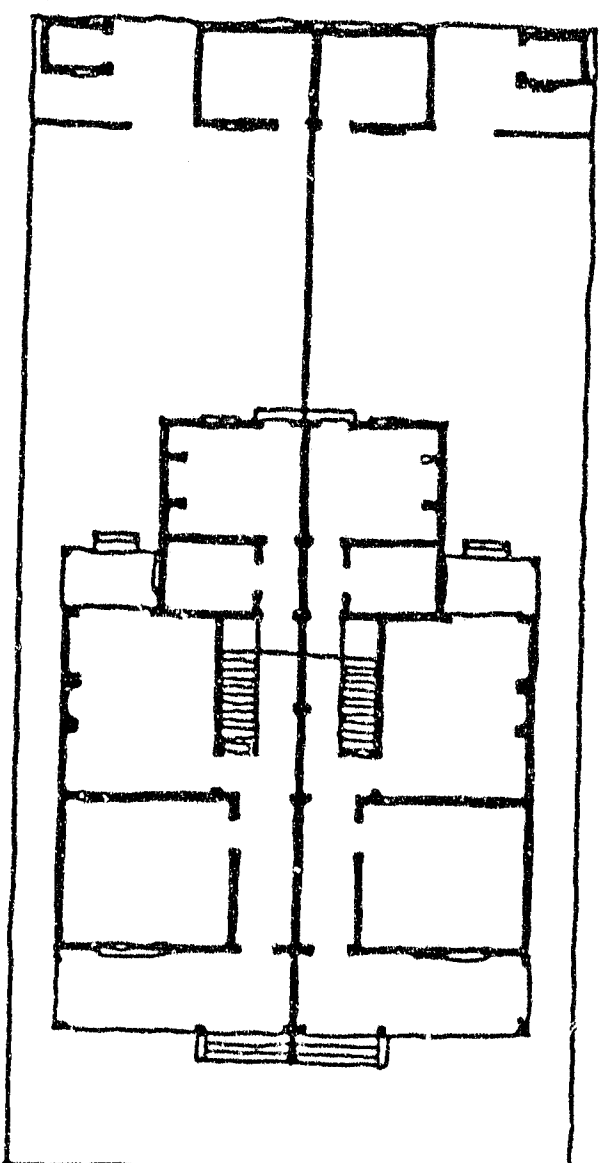
Erf Size: 448m²
4DU's (12DU's)
NETT DENSITY
89 DU/HA
GROSS DENSITY
69 DU/HA



Erf Size: 961m²
6DU's (12DU's)
NETT DENSITY
62 DU/HA (125 DU/HA)
GROSS DENSITY
41 DU/HA (82 DU/HA)

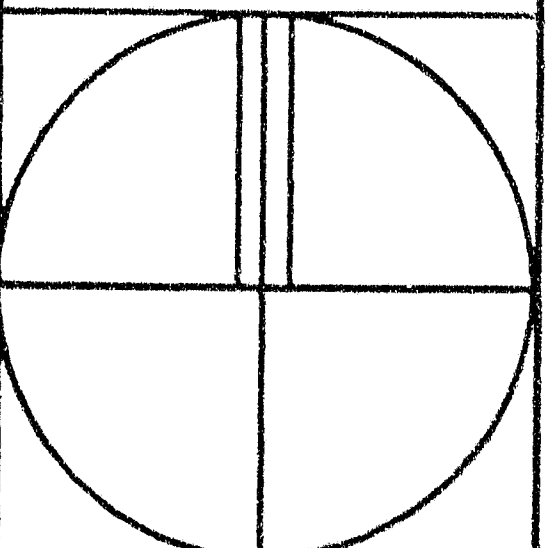


Erf Size: 435m²
2 DU's (15 DU's)
NETT DENSITY
44 DU/HA
GROSS DENSITY
36 DU/HA



Erf Size: 450m²
2DU's
NETT DENSITY
44 DU/HA
GROSS DENSITY
35 DU/HA

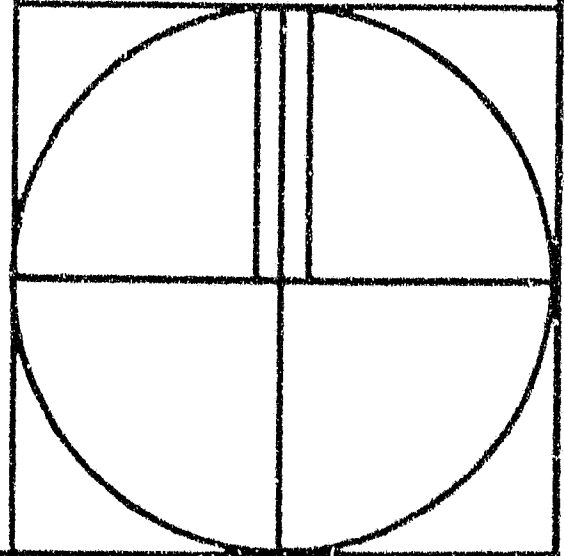
Recognition Stage - Analysis
EXISTING HOUSING TYPES
ELLIS PARK URBAN DESIGN FRAMEWORK



	Problems	Opportunities	Constraints
Metropolitan Context	• Flight of formal economy from the Inner City and Central Business District.	• EPP (Ellis Park Precinct) to support the Inner City role as link between the marginalised south-west / south and the formal northern economy • A service centre with regard to service / facilities provision and employment, provided to the above, as well as residents within the Inner City • Support the Inner City function as public transport hub (combi taxi, bus and rail), providing affordable and efficient public transportation. Develop multi-modal transport interchanges. • Maximising the utilisation of infrastructure and facilities. • Building on the remaining office infrastructure. • Economic restructuring, focusing on small- to medium enterprises and the informal economy.	• Lack of management and resource capacity (in terms of capital and administration); an overburdened public administration. • Divisive and competitive local administrations, lacking functional and development synergy.
Inner City Context	• Physical decline and deterioration of infrastructure utility services. • Decline in and lack of public facilities, such as public ablutions, parks and open space. • Physical degradation of streets and pavements. • Negative impacts of informal trading: overcrowding on pavements, unhygienic conditions due to lack of facilities (cleaning, refuse removal and storage) • Lack of bye-law enforcement: land use, building control, environmental health, planning, traffic and safety standards. • Physical decline and deterioration of buildings, in particular residential buildings which are in disrepair, causing urban blight and dereliction.	• EPP is a major sport centre: Being promoted as a national centre for high performance sport and training (sport academy). Establishment of a sport hall-of-fame. • EPP is a major tertiary education node and meet their needs such as student accommodation, access to facilities etc. • Precinct Management: major event management, security, and establishment of City Improvement district. • Potential for national sport bodies to set up their office / administration. • Introduction of residential component: single, family, student.	
Historic Context	• EPP is in cycle of stagnation and potential decline, because of uncertainty regarding its future development and functions.	• Decline opens up opportunities for new and additional functions and activities, enabling the rejuvenation and redevelopment of the precinct. • Incorporate and build on the historic buildings and associated activities within the precinct: De Klerk's Copper Smithing Works, Alhambra Theatre, the "Triangle" Historic Buildings	
Topography and Setting	• The setting of EPP in the cradle of the valley that forms the source of the Jukskei river is under-exploited.	• The development of EPP into a special place due to its physical situation. • The utilisation of the Jukskei water source as physical element, and attraction of bird and other animal life. • There are no constraints with regard to development due to overall topography and geology.	• Containment of development by ridges due to slope and policy to leave these undeveloped. The aim is to integrate them into the urban environment as part of the natural structure and related ecosystems.
Movement	• The EPP is encompassed by metropolitan movement routes that physically separate it from adjoining areas, due to high traffic volumes and the speed with which these, wide road widths and the s	• The road grid-network facilitates easy motorised access to the EPP, which is strengthened by the metropolitan routes that enclose the precinct. • The grid facilitates pedestrian movement throughout the area. • The EPP is serviced by public transport, both in terms of rail access, two bus routes and a bus- and taxi transport node adjoining the EPP station. • Public transport in the EPP is easily accessible to adjoining areas: a comfortable 5min to 10min walk.	• The north-south metropolitan routes cannot be redirected due to the fact that Harrow Road is one of the few routes over the ridge, and is therefore an important metropolitan connector. Also the slope of the ridge prevents realignment (unless at great cost, which is unviable in terms of the minimal socio-economic gains that would be achieved). • Similarly the east-west metropolitan routes are directed by the east-west layering of the ridges.
Imageability	• The physical decline of adjoining areas and underdeveloped nature of the EPP is creating a negative perception and image of the area.	• Build on the major landmark elements (the athletics stadium, rugby stadium, the "Ponte" tower etc.), districts and sport activities that form the image of the precinct. • Structure the area in terms of districts.	

Recognition Stage - Problems, Opportunities & Constraints

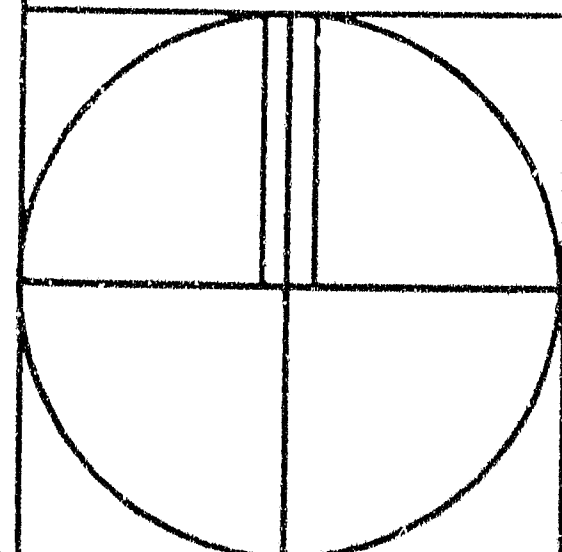
OVERALL CONCLUSIONS YIELDING PROBLEMS, OPPORTUNITIES & CONSTRAINTS
ELLIS PARK URBAN DESIGN FRAMEWORK



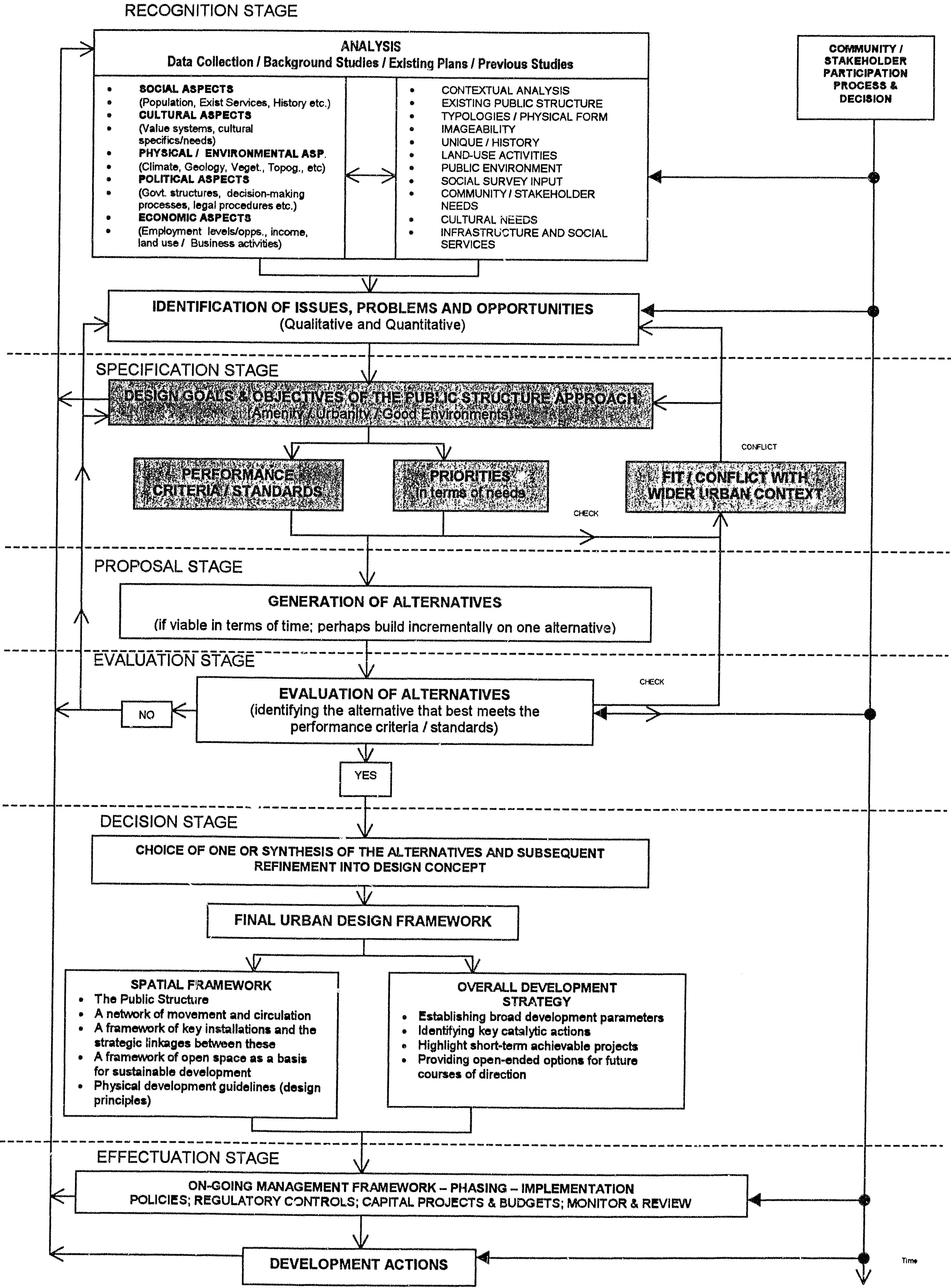
<i>continued ...</i>	Problems	Opportunities	Constraints
Land Use and Ownership	- Fragmented and compartmentalised. - Different activities and functions at different times of the day and serve different levels, from national / metropolitan to sub-regional, down to local.	- Overlap and mix of activities in a manner that achieves synergy and efficiency. The land-use activities vary on a horizontal level; thus there is access to diverse uses (albeit that these are compartmentalised) within a relatively short extent of geographic area. This is to be enhanced through overlap and mix of uses. - Multi-use of facilities for different purposes.	Varied interests which may not necessarily seek multi-use and multi-function, due to more complex management aspects etc.
Open Space and Vegetation	- The ridge and Jukskei river system are excluded from an open system aspect. They are considered as disparate elements. - Existing open space, vegetation and recreation facilities occur in isolated pockets. - There is no structured open space and natural environment system	- Establish an open space system that structures the built environment of EPP, integrating and connecting the ridge with the Jukskei River system. Link the latter to open space and natural environment components beyond the site and integrate these into the metropolitan context. Incorporate recreation and sport facilities into the system. - Provide public open space facilities and appropriate natural ecological environments.	
Existing Built Form & “Soft” Buildings	- Coarse nature of the physical built environment does not “fit” with the surrounding urban context. - Comprises an environment of isolated buildings set in landscaped properties, with no conscious engagement with or relationship to the public realm.	- Turn the coarse buildings into special and unique elements, particularly the athletics and rugby stadia which are not only important functional elements but have architectural value. - Integrate buildings through conscious design of the public realm. - The “soft” buildings are predominantly located on the edge outside the EPP and within the adjoining residential areas. - Retain the structure of buildings, but enable change in function and multi-use thereof.	Very few of the existing buildings within the EPP can be physically demolished, due to their size and that they are well-maintained and suited to current uses and needs.
Existing Public Structure	- Underutilised public open space. - Derelict and unkempt properties. - Road structure configured to accommodate primarily motorists. - Public open space focuses on environmental beautification, as opposed to meeting functional and recreational needs of adjoining residents. - Extensive blank walls along the public environment.	- Extensive public space available to direct and structure physical redevelopment and overall rejuvenation of the EPP. - Utilisation of the space created through wide pedestrian paths and blank walls to introduce activities.	
Social Facilities	The EPP has few social facilities (one post office), and therefore does not serve local adjoining residential needs.	Introduce facilities and activities that meet the needs of adjoining residents, as the EPP is within their close proximity (5min to 10min walking distance).	
Population Distribution	- EPP lacks a residential population. The existing population comprises a workforce that migrates on a daily basis (mostly office and sporting administrative with minor retail). - EPP causes a residential east-west discontinuity (a residential vacuum).	A significant residential population threshold adjoins the EPP (approximately 61 000 people), representing economic and market potential.	
Social Aspects	- Lack of services and facilities. - Lack of residential accommodation due to higher occupancy densities (in Bertrams these have trebled) and no increase in building stock. - Crime and incivility.	- Provision of needed facilities: parks, retail and shopping, sport and recreation facilities, clinics and hospitals amongst others. - Upgrading of public transport. - Accommodate household and SMME enterprises: mechanic, shop/selling, shebeen, tailor etc. and others. Also points to mixed use.	
Residential Housing Types	EPP lacks residential variety in and quantity of housing types. The single one that is located within the study area is an apartment block for students.	The area has historically comprised a variety of housing typologies similar to those in the adjoining residential areas. This type of residential density should be promoted.	

Recognition Stage - Problems, Opportunities & Constraints continued ...

OVERALL CONCLUSIONS YIELDING PROBLEMS, OPPORTUNITIES & CONSTRAINTS
ELLIS PARK URBAN DESIGN FRAMEWORK



8.3 SPECIFICATION STAGE



The design Goals and Objectives for the Ellis Park Precinct study are premised on the principles of the public structure urban design approach. The application of the latter to the Ellis Park Precinct is outlined in the context of the analysis and related problems, opportunities and constraints.

DESIGN GOALS AND OBJECTIVES

1. THE DEVELOPMENT OF A COMPLEX URBAN ENVIRONMENT

1.1 Multi-functional

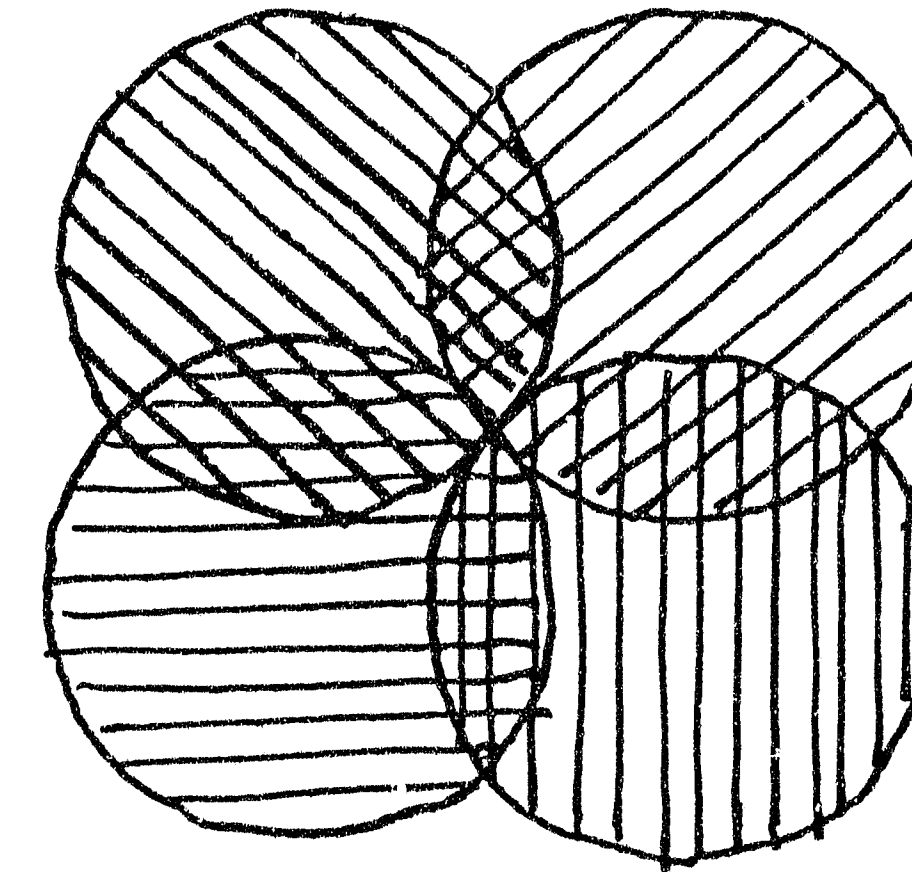
The Ellis Park Precinct (EPP) has major national and international quality sporting facilities (rugby / soccer & athletics stadium, tennis - outdoor and indoor, swimming) and one major tertiary institution, Wits Technical College (with another in close proximity, Wits technikon). Other activities include retail (Spar, Beit Street activity strip), restaurants, a theatre, on office component, a student residence, the historic De Klerk's copper works and a post office. Transport encompasses motorised access, rail and bus facilities. This 'mixed bag' of facilities ranges from the international, national and provincial level through to the metropolitan, to the sub-regional and local (see table below). The facilities are developed for specific functions within the EPP. Most are focused on the sporting and mass entertainment event side, making them mono-functional, in the sense that they are built and uses for a specific purpose. This results in an area that is used sporadically. Combined with a mono-managerial approach, whereby local communities do not have access to the facilities, the resources remain underutilised, resulting in an inefficient utilisation of resources and an underperforming precinct.

In this context, the primary aim of this study is to achieve a multi-functional urban environment that enables a "multi-managed" approach. It sets out to achieve a vertical synergy between the resources and facilities, i.e. that they mutually support one another from local through to national level. This is to be achieved by restructuring the physical use of the public environment within the Ellis Park Precinct, all its various facilities, and the establishment of guiding principles and parameters for development.

1. International & National	Rugby, Athletics / Soccer, Tennis, Swimming, Gymnastics, Entertainment Events (Music Concerts etc.), Tertiary Education, Historic (De Klerks Copper).
2. Provincial & Metropolitan	Rugby, Athletics / Soccer, Tennis, Swimming, Gymnastics, Entertainment Events (Music Concerts etc.), Theatre, Historic (De Klerks Copper), Tertiary Education, Light Industrial / Commercial, Offices, Manufacturing, Major access routes into the CBD and north-south linkages over the ridge.
3. Sub-regional (i.e. facilities accessible to surrounding residents & businesses)	Retail shopping, Employment (not necessarily), Public transport (bus, rail & combi-taxi), Post office, Historic (De Klerks Copper), Swimming.
4. Local	Student residential, Retail shopping, Employment (not necessarily), Public transport (bus, rail & combi-taxi), Post office, Historic (De Klerks Copper).

1.2 Multi-actors / Multi-cultural

The design approach must take into consideration the needs and requirements of a number of stakeholders: Sport bodies and administrations (rugby, athletics, swimming, tennis), business people, adjoining residential neighbourhoods (particularly Bertrams as it is the most closely associated), the adjoining light industrial / manufacturing area, property owners and the Council (as it is a major property and facility owner).



1.3 Appropriate Minimum Intensity of Physical Development

Development of the precinct and adjoining areas at an appropriate level of physical built form intensity. This encompasses infill development and appropriate densification.

1.4 Activity Integration (overlapping and integrated)

The objective is to enable the utilisation of facilities by a number of actors, for example sport fields should be accessible not only to athletes, but educational institutions and local residents (in managed conditions). This is to develop a synergy and support between activities and functions.

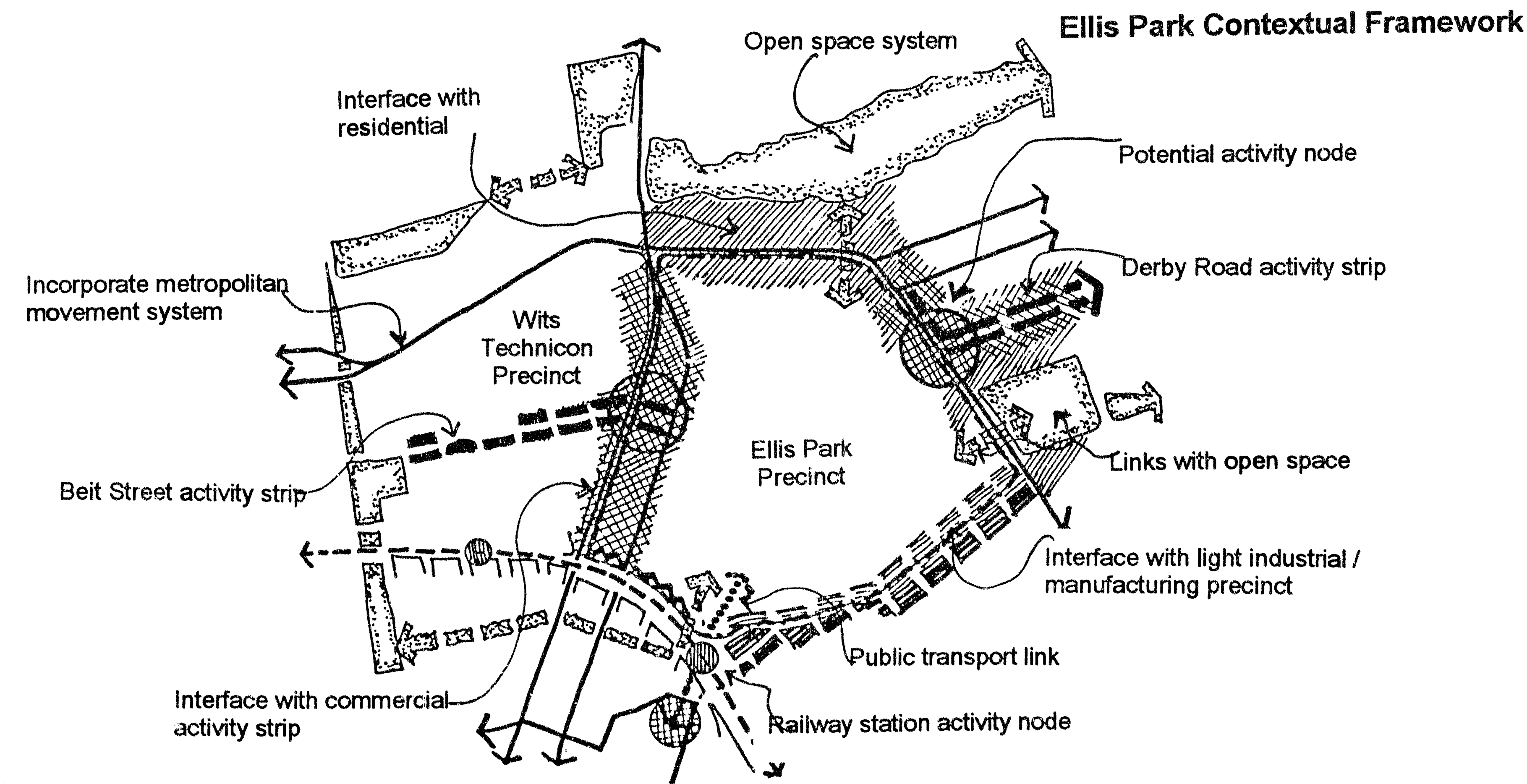
1.5 Appropriate Population Threshold

A minimum population threshold requires to be achieved within the Inner City context. Dewar & Uytendogaardt (1995) recommend approximately 250 person per hectare, in order to make inner city environments viable, achieving a sufficient population threshold that maximises the use of facilities and achieves a more efficient and viable level of support. Although this may not be applicable to the study area directly - as it may be developed as a public open space and recreation facility - it must be ensured that the adjoining areas are developed at these minimum densities in order to maximise the utilisation of facilities and activities of the Ellis Park Precinct.

Thorne's (1994) analysis of inner city residential density indicated a preferential range from 200 persons per hectare to a maximum 400 to 450 person per hectare. This begins to optimise floor areas per person at about 15m². Too low densities do not support social infrastructure and facilities, and make economic activity unsustainable. A too high density yields a floor area of 10m² per person, which is socially unsustainable. It causes overcrowding resulting in excessive strain on service infrastructure and facilities, resulting in the physical decline of the environment and contributing to social insecurity and breakdown.

1.6 Consideration of City Dynamics

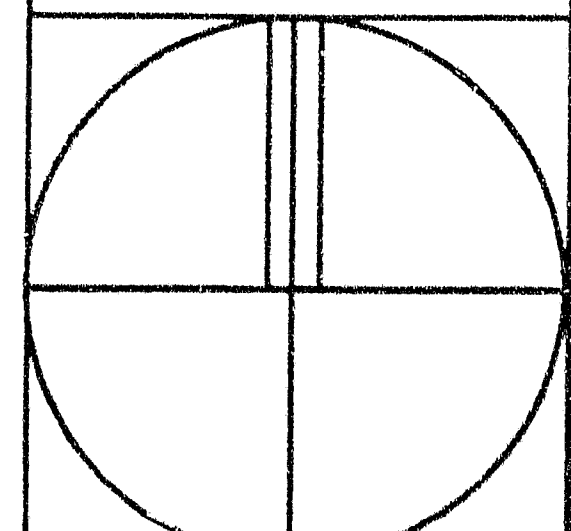
The diagram below, highlights the contextual framework within which the Ellis Park Precinct urban design framework is to be established. The following requires consideration: (i) adjoining precincts and their needs, (ii) open space linkages, (iii) metropolitan movement routes, (iv) edges, (v) activity nodes and streets, and (iv) linkages.



Specification Stage

DESIGN GOALS AND OBJECTIVES (1)

ELLIS PARK URBAN DESIGN FRAMEWORK



Design Goals and Objectives continued...

2. MEET PEOPLE'S URBAN LIVING NEEDS

- 2.1 Survival Needs
Ensure the supply of and access to electricity and water. Food in the inner city needs to be considered in the context of retail and food outlets catering for all income levels, which need to be accommodated.
- 2.2 Shelter / Residential
In the Inner City context the aim is develop workable low- to medium-rise high density residential typologies, which encompass an income range from very low income to middle income. The typologies that were considered for this study are indicated in pages Ch8:24 to Ch8:28, ranging from boarding types to medium-rise higher density walk-up types. In the context of unemployment, the latter typologies also encompassed home-business options. The types were guided by the proposed densities, people's needs and their design layout, which combined a sense of place and community.
- 2.3 Safety and Security (natural elements, human elements, artificially created elements)
Enable the development of space-hierarchy of types from public, to semi-public and private, thereby creating defensible space environments, that facilitate communal control of the neighbourhood environment with regard to crime. This is to be enhanced by a physical building layout that faces on to the public environment, potentially increasing street activity and neighbourhood surveillance.
- 2.4 Human Development, Health and Welfare
The provision of public social facilities and amenities commensurate with adjoining communities needs: a public park, public conveniences, a school, provision for literacy, adult education and skills training, a public bath house, library, telecommunications and community centre / hall or facility. Enable access to the latter by the physically impaired. Build on the education facilities of the Ellis Park Precinct, making them accessible to all stakeholders and provide education programmes and courses that meet communities needs (e.g. adult literacy, handcrafts skills etc.).
- 2.5 Socio-cultural Facilities and Utility Service Infrastructure
These were not identified as critical needs within the Ellis Park context, as surrounding communities have sufficient facilities in this regard. Also the Inner City environment has a well established utility services network that is functioning reasonably well. The concerns with the latter are focused on maintenance and renewal.

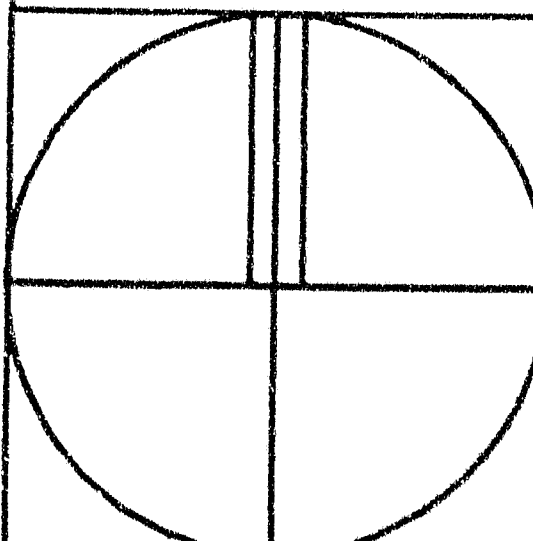
- 2.6 Economic Vitality and Activity
Promote the development of informal trade through the provision of appropriate space and facilities, as well as the development of micro-scale enterprises. Strengthen the formal economy, particularly the Beit Str. and Derby Rd. activity strips, and support the manufacturing / light industrial precinct. Assist in the establishment of mixed economic activities, that benefit from agglomeration and synergy. The development of new activity nodes such as around the railway station and local community shopping nodes.
3. FACILITATE SOCIAL ORDERING
- 3.1 Enable the development of Social Ties and Community Groups
This is not only to be achieved in terms of physical structuring of the public environment, but include facilities and activities within the Ellis Park Precinct which meet the adjoining communities needs, such as community facilities, economic opportunities (both for residents and businesses), physical rehabilitation and well managed areas (from Zack, et al., 1995).
4. PLACE MAKING
- 4.1 Designing the Physical Quality and Space Syntax of the Public Environment
Physically restructure the public space within the Ellis Park Precinct into a "place", making it unique by enabling communal support, offering enjoyable life experiences and directly meeting people's needs. The design considerations outlined in Chapter 6 apply. The particular challenge is to integrate the "monolithic" buildings and structures in relation to the more fine-grained surroundings, and develop the appropriate urban space syntax in this regard.
5. MOVEMENT ACTIVITY AND SPACE
- 5.1 Design of Movement Activity and Space in the context being a carrier, shelter, urban structuring device (city builder), communicator and connector.
Consideration of the principles as outlined in Chapter 6. Aspects to focus on are a link between Beit Str. and Derby Rd.. The structuring of the movement system in terms of environmental areas and movement modes.

6. ACCESS
- 6.1 To all urban dwellers, to a range of resources, facilities and services, transport modes, information, diverse environments, autonomy.
With regard to Ellis Park this encompasses establishing a multi-modal transport facility around the station area. Build on the public transport facilities that traverse the area, namely bus and rail. The establishment of a pedestrian movement network that is predicated on pedestrian / commuter movement, informal trading, activity nodes and streets and key installations (such as educational and community facilities). Enable permeability by appropriate path connections and links throughout the Ellis Park Precinct, thus facilitating movement and accessibility. The aim is to give people a choice of movement and location within the wider area, in terms of direction, permeability and mode of movement. Also, retain the option of a possible light rail link to Pretoria via the Jukskei River valley, as outlined in the diagram below.
-
6. NATURAL ENVIRONMENT AND ECOLOGICAL PROCESSES
- 6.1 Environmental Balance and Synergy
The Ellis Park Precinct presents the opportunity of establishing a public park with natural water bodies. The source of the Jukskei River is within the precinct, and this allows for the establishment of a natural water body, to attract birdlife and allow for the introduction of diverse plants and vegetation. The objective is to establish principles of passive storm water management in terms of which water bodies are used as attenuation ponds. Furthermore, the design of the precinct is to be structured such that it re-establishes a continuous natural open space system, as outlined in the contextual framework. This is to be achieved by the structure of an internal open space system with strategic links, but also through tree-lined avenues, streets and paths, which form part of the overall system.

Specification Stage

DESIGN GOALS AND OBJECTIVES (2)

ELLIS PARK URBAN DESIGN FRAMEWORK



PERFORMANCE CRITERIA

The performance criteria which the public structure urban design approach must achieve, are elicited from the priority needs as identified in the goals and objectives, as well as from the analysis. The performance criteria are:

- (1) Multifunctional facilities within the Ellis Park Precinct serving a variety of users from the local residents and workforce, to sub-regional, metropolitan and national level.

(2) Assist in meeting the needs of adjoining residents. These needs are: a park (public open space) and recreation facilities, education facilities, public conveniences, a public bath house, a library, telecommunications centre and community hall and offices.

(3) Enhance the functionality and viability of existing activities, namely sporting (athletics, soccer, rugby, tennis etc.), the staging of mass entertainment events, offices, education and retail.

(4) Integration of the natural environment opportunities into an open space system, achieving an environmental balance.

(5) Improvement of public transportation, enabling easy access (i.e. within a 400m walking distance) to a variety of public transport modes.

(6) The provision of parking facilities, preferably structured, for mass entertainment and sport events.

(7) Accommodation and provision of the informal economy. Enabling trade, the sale of fresh produce, busking, car guards etc.
- (8) Development of the Ellis Park Sport World, focused on sport and entertainment. Retail complex focused on sport, leisure and entertainment (2 200m²), hotel (Sportsman's Lodge) of 90 rooms, office space (1 200m²), events and promotions area (2 500m²) and bus and taxi transit facilities.

(9) Development of a National Centre for High Performance Sport (or sport academy), and associated sport hall of fame and national sports museum.

(10) Appropriate edge development, establishing a positive physical interface between the Ellis Park Precinct and its surroundings.

(11) Reinforcement of the connections between Beit Street and Derby Road activity streets.

(12) The development of Ellis Park Station into a mixed use activity node, encompassing formal structures for informal trade activities, small scale manufacturing etc.

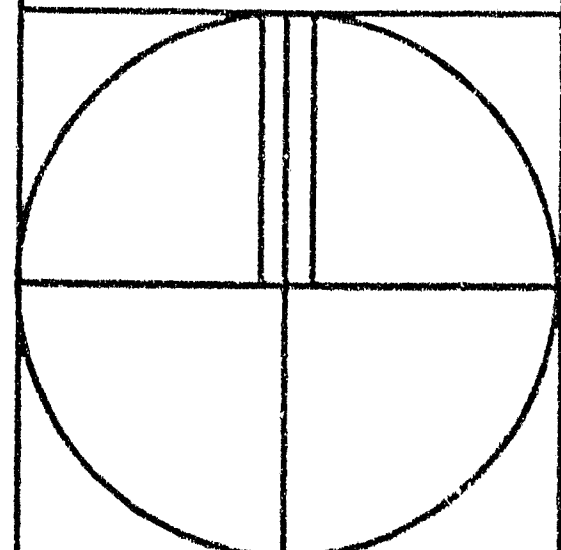
(13) The enhancement of the mixed use / commercial activity spine along Sivewright and Siemert roads.

(14) The physical design of a qualitative public environment, making Ellis Park a "place", which people take pride in and utilise as a resource to meet their needs.

Specification Stage

PERFORMANCE CRITERIA

ELLIS PARK URBAN DESIGN FRAMEWORK



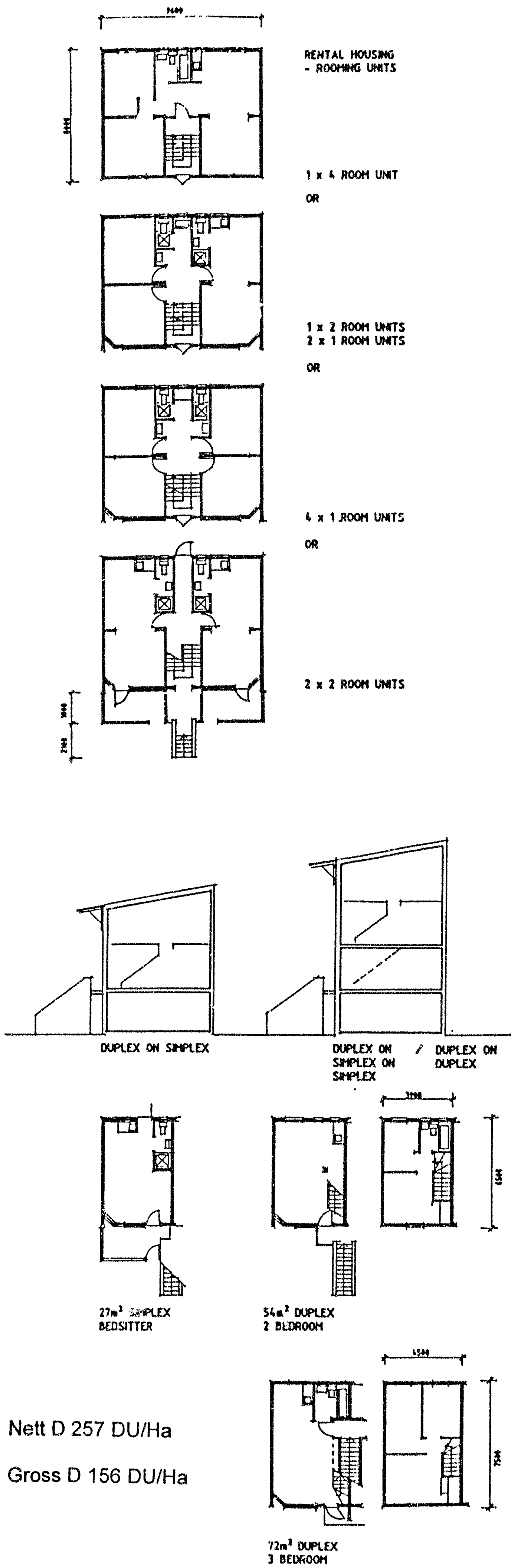
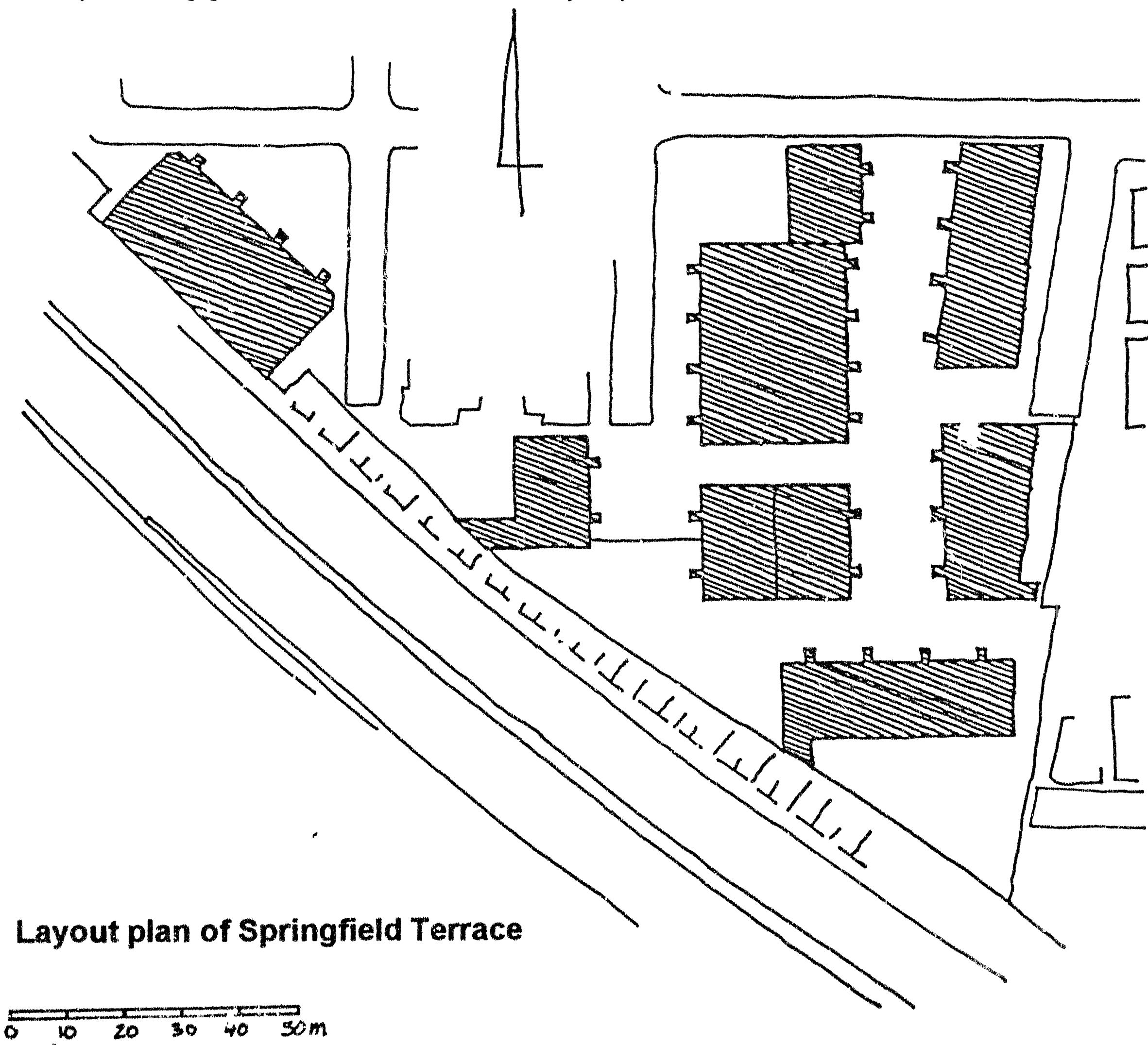
HIGHER DENSITY LOW-RISE RESIDENTIAL DEVELOPMENT (DEWAR)

SPRINGFIELD TERRACE: A Review of Inner City Housing Project in Cape Town, with some lessons for urban reconstruction

"Central to the urban design concept was the desire to create humanly scaled public spaces and street-scapes which would operate not only as circulation space but a social spaces or urban 'rooms'. The philosophy behind this is that while units for lower income households must of necessity (for reasons of affordability) become smaller over time, the public spaces, which impact on the lives of many households must operate effectively as extensions to private dwelling units. The housing units were therefore arranged in blocks of 3- or 4-storey walk-ups and the fronts of the blocks were carefully used to define the court and street spaces and to protect the space from wind."

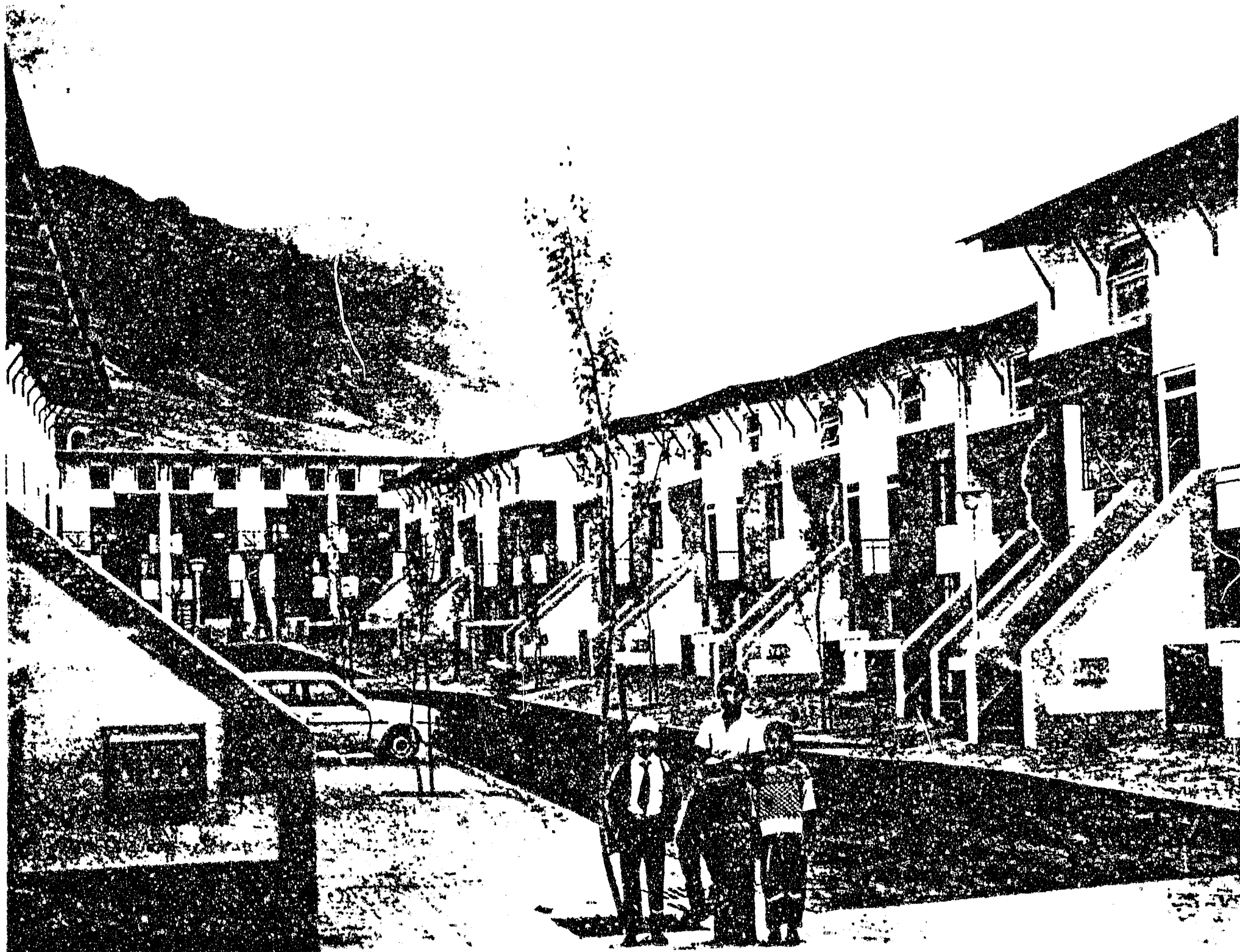
The specific objectives of the scheme were:

- (i) to produce a high density, low rise, environment based upon a qualitatively fine, humanly-scaled public environment, where street space was primarily designed as social space, as opposed simply to movement space for vehicles;
- (ii) to demonstrate appropriate forms of inner city housing;
- (iii) to provide inner city accommodation for lower middle income households, regardless of race;
- (iv) to provide a range of unit sizes and forms of tenure in order to encourage social mix;
- (v) to provide a range of price structures and to demonstrate systems of cross-subsidisation in order to lower entry prices for poorer households;
- (vi) to mobilise a full range of existing national housing subsidies;
- (vii) to rehouse existing tenants in the new development as owners or tenants or offer to provide them with alternative assistance;
- (viii) to make full use of, and to revitalise existing community facilities by increasing local thresholds
- (ix) to achieve lower serviced land prices by capitalising on historical investments in utility services;
- (x) to encourage upgrading in the surrounding area, without, however, promoting gentrification and non-voluntary displacement.



Bedsitter	27m ²
2 Bedroom Duplex	54m ²
3 Bedroom Duplex	72m ²

- designed for rental
- units flexibly designed, so that they could be organised and re-organised, at very little cost, into one-, two- or three-bedroom boarding units, which share bathroom and kitchen facilities

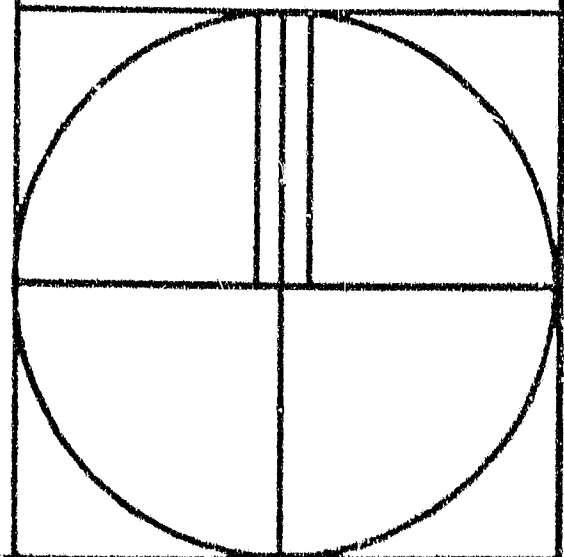


Source: Dewar, (1995), ISBN NO 0 7992 1679

Specification Stage

VIABLE INNER CITY HOUSING TYPOLOGY 1

ELLIS PARK URBAN DESIGN FRAMEWORK



BOARDING HOUSES

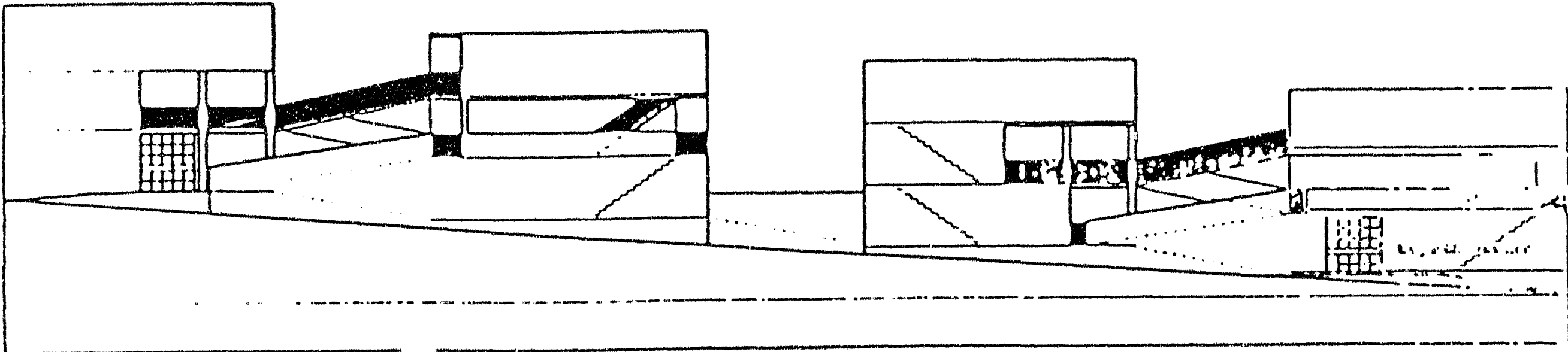
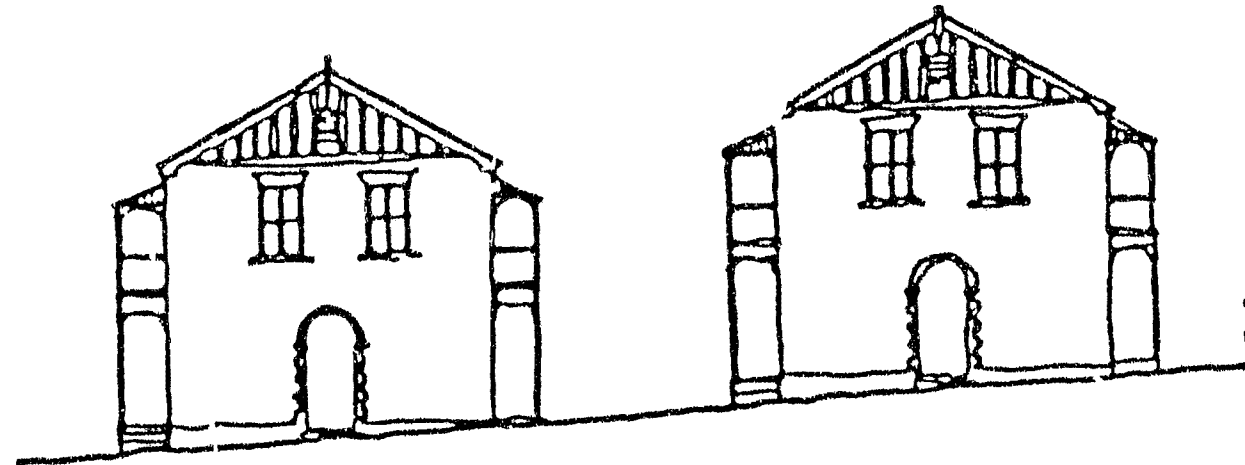
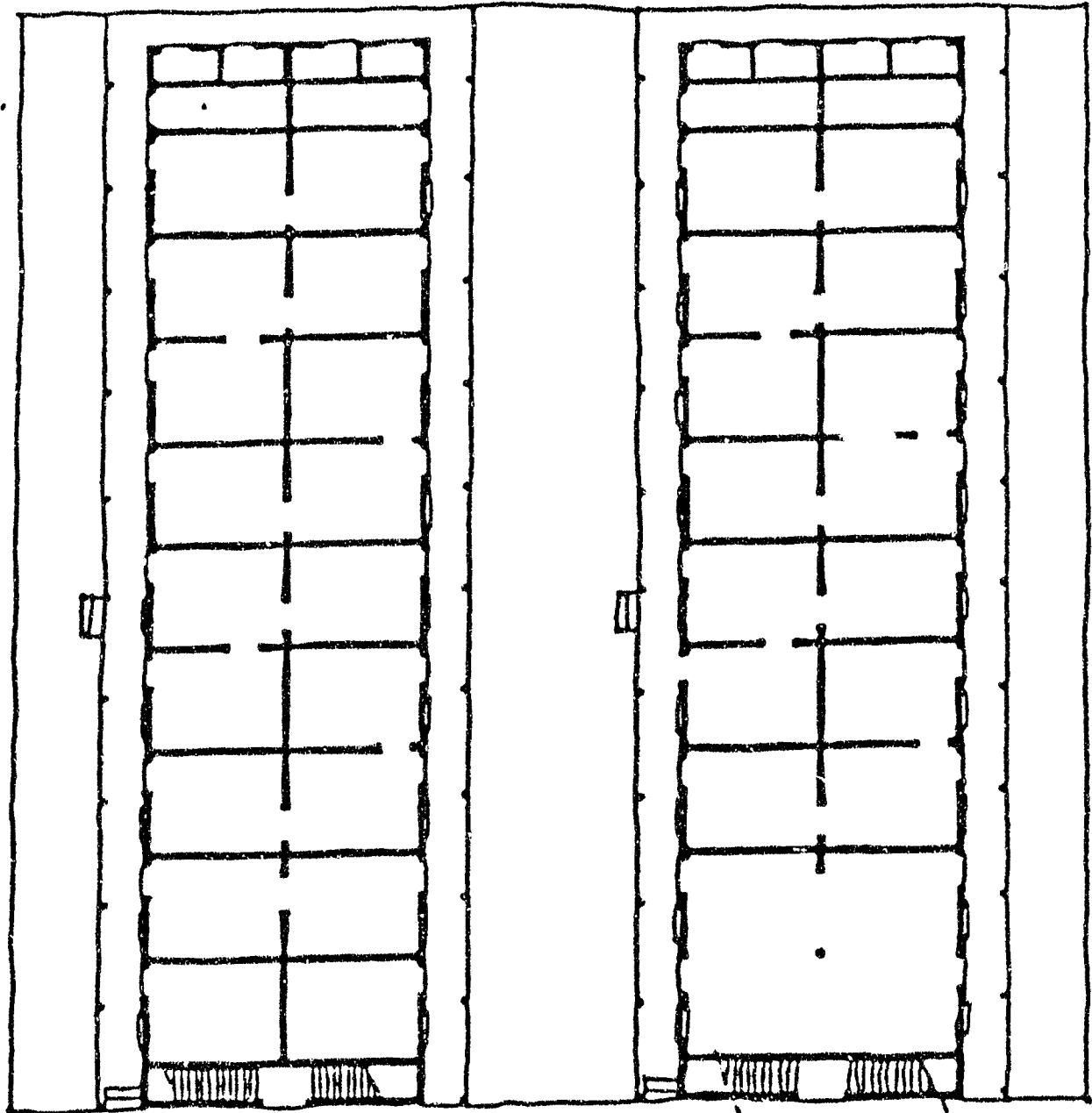
Although these are not the ideal type, they provide affordable residential accommodation to the lower income household. Facilities that are lacking are provided in the capital structure domain, such as communal Laundromats, public bathhouses, communal recreation space etc..

Boarding houses have become increasingly common in the Eastern Sector as increasing numbers of poor people are attracted to the area. They maximise economic opportunity on a given site with minimum capital outlay by:

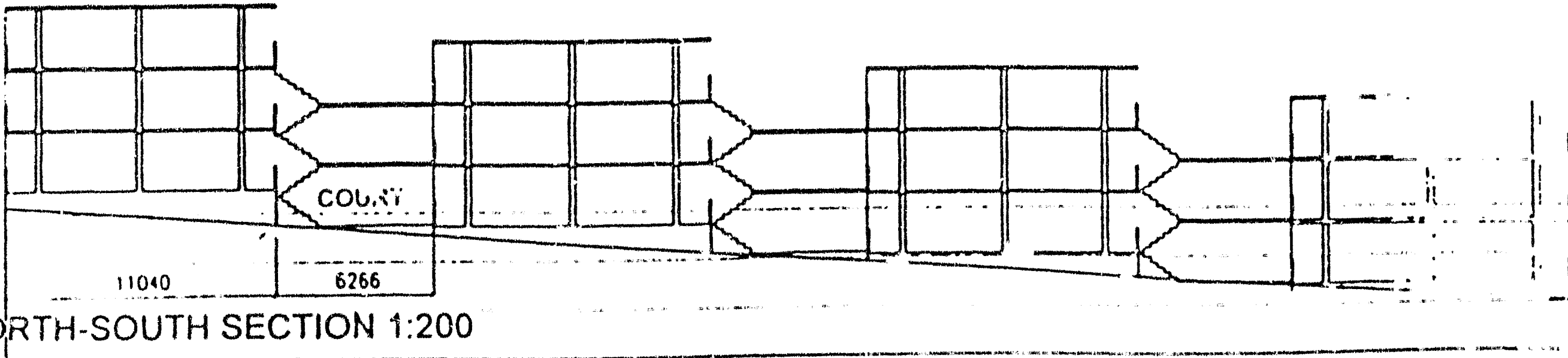
- Providing only a single room per tenant (even in cases where an entire family must share the room), thus maximising the number of occupants per square metre.
- Utilizing shared bathrooms and kitchens, the two most expensive facilities in any residence, allows for lower building costs. In many boarding houses in the study area, there is no kitchen at all; residents cook on primus stoves in their rooms.

Boarding houses are far from ideal forms of accommodation, offering the individual neither space nor privacy, but they are common in cities around the world as accomodation for families moving for the first time into urban areas.

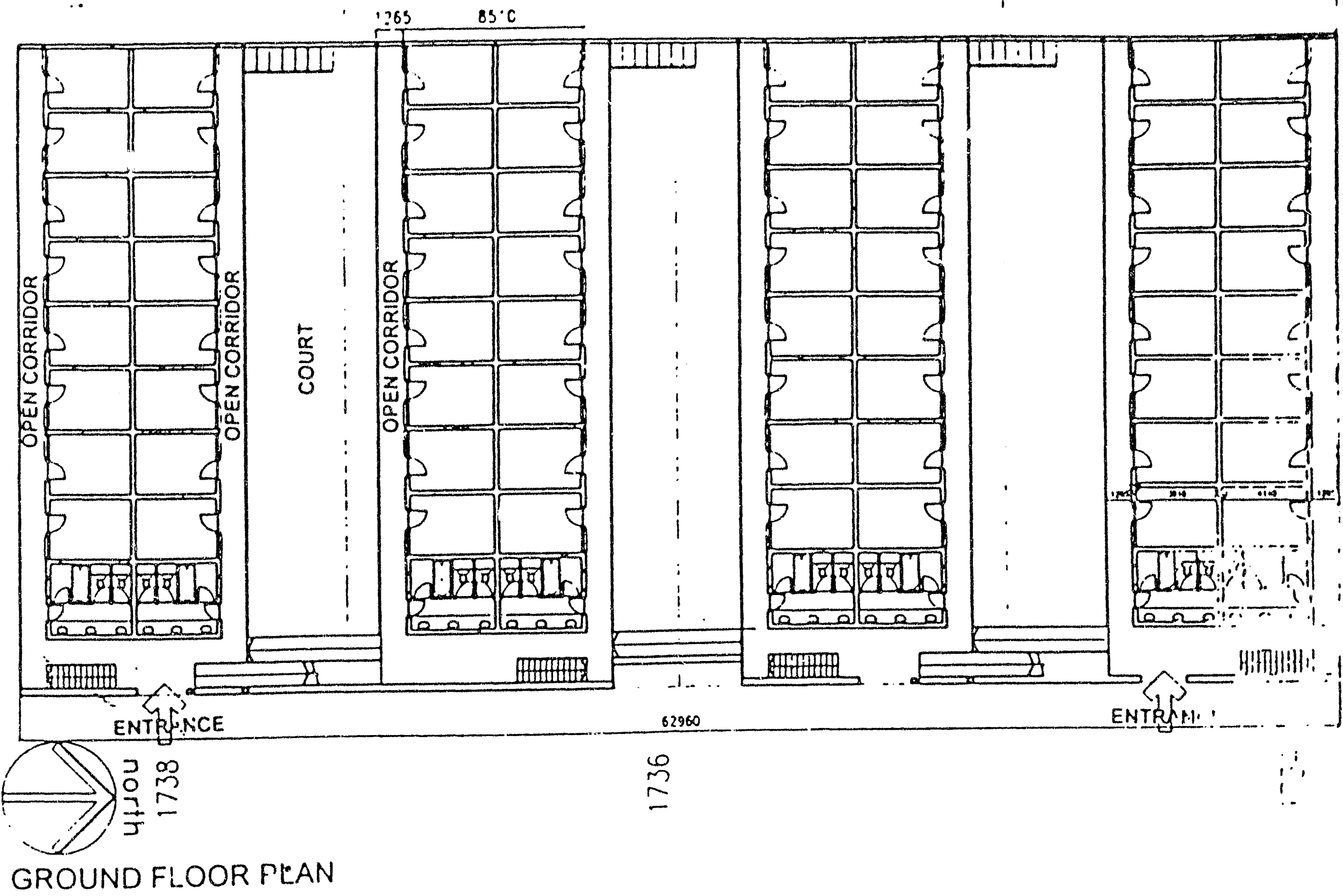
The plan for the boarding house designed for this study is not intended as an architectural model for building an ideal living type; it is simply a costing exercise to produce the cheapest possible housing type.



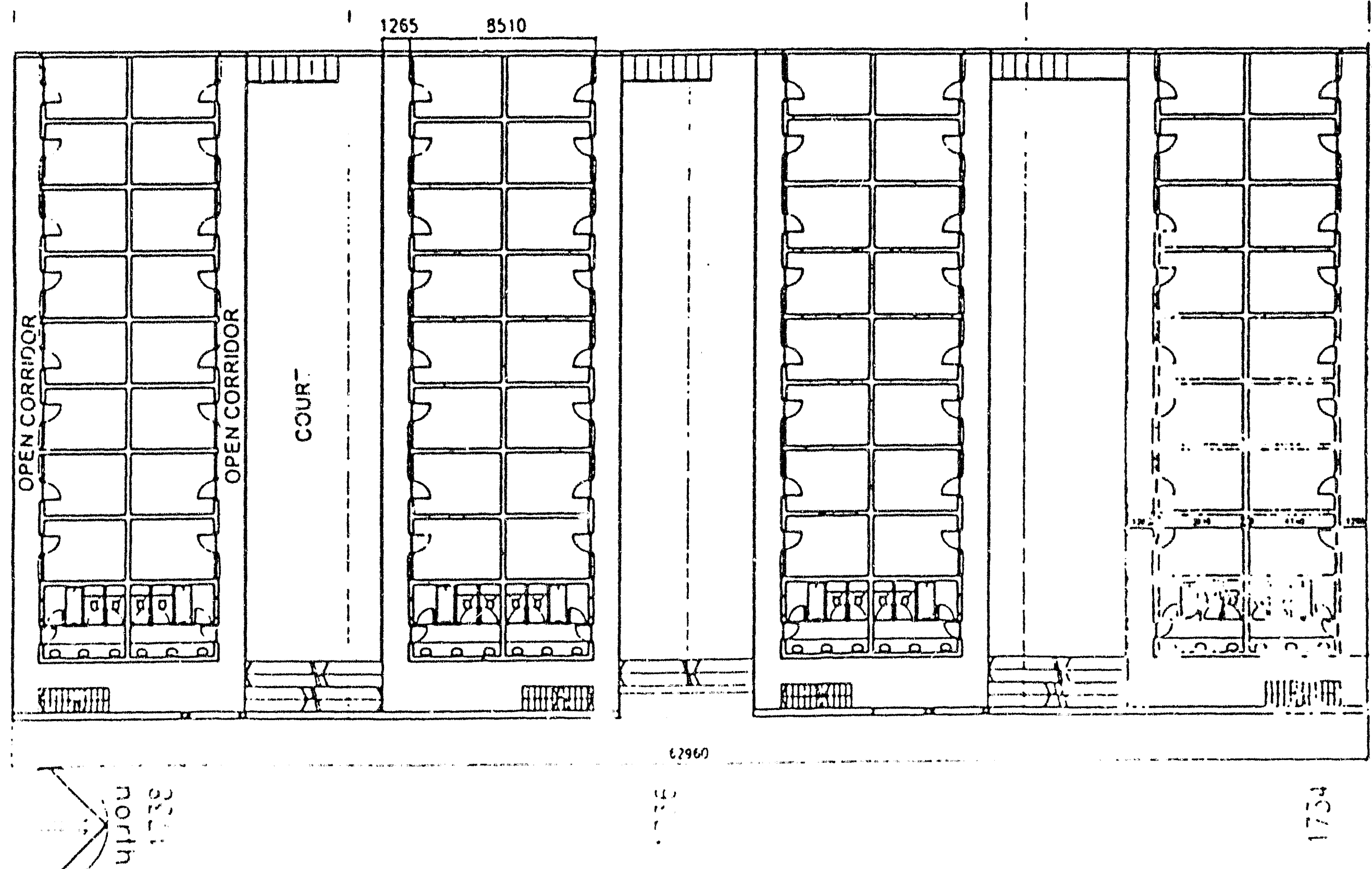
EAST ELEVATION 1:200



NORTH-SOUTH SECTION 1:200



GROUND FLOOR PLAN



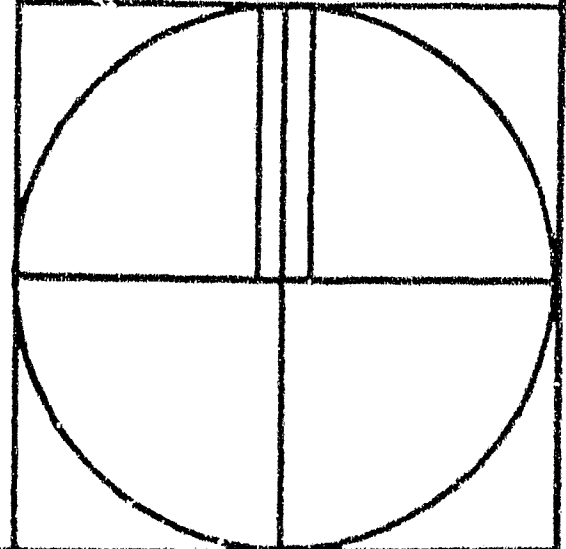
FIRST FLOOR PLAN 1:200
SECOND FLOOR PLAN 1:200

Source: Zack, T., et al., (1995), *The Eastern Sector Development Strategy, A Development Framework Study* commissioned by the Planning Department of the Greater Johannesburg Transitional Metropolitan Council, Johannesburg.

Specification Stage

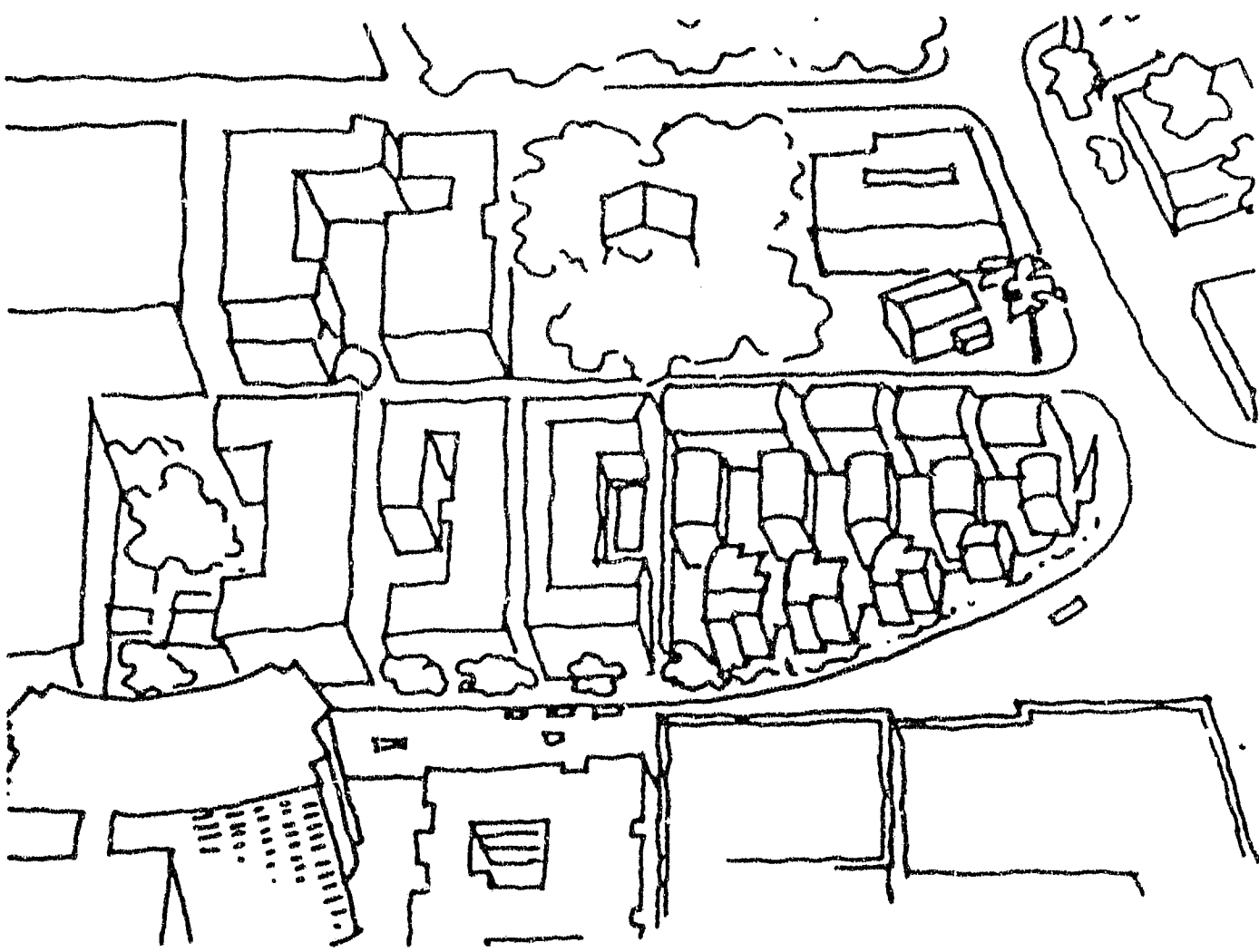
VIABLE INNER CITY HOUSING TYPOLOGY 2

ELLIS PARK URBAN DESIGN FRAMEWORK

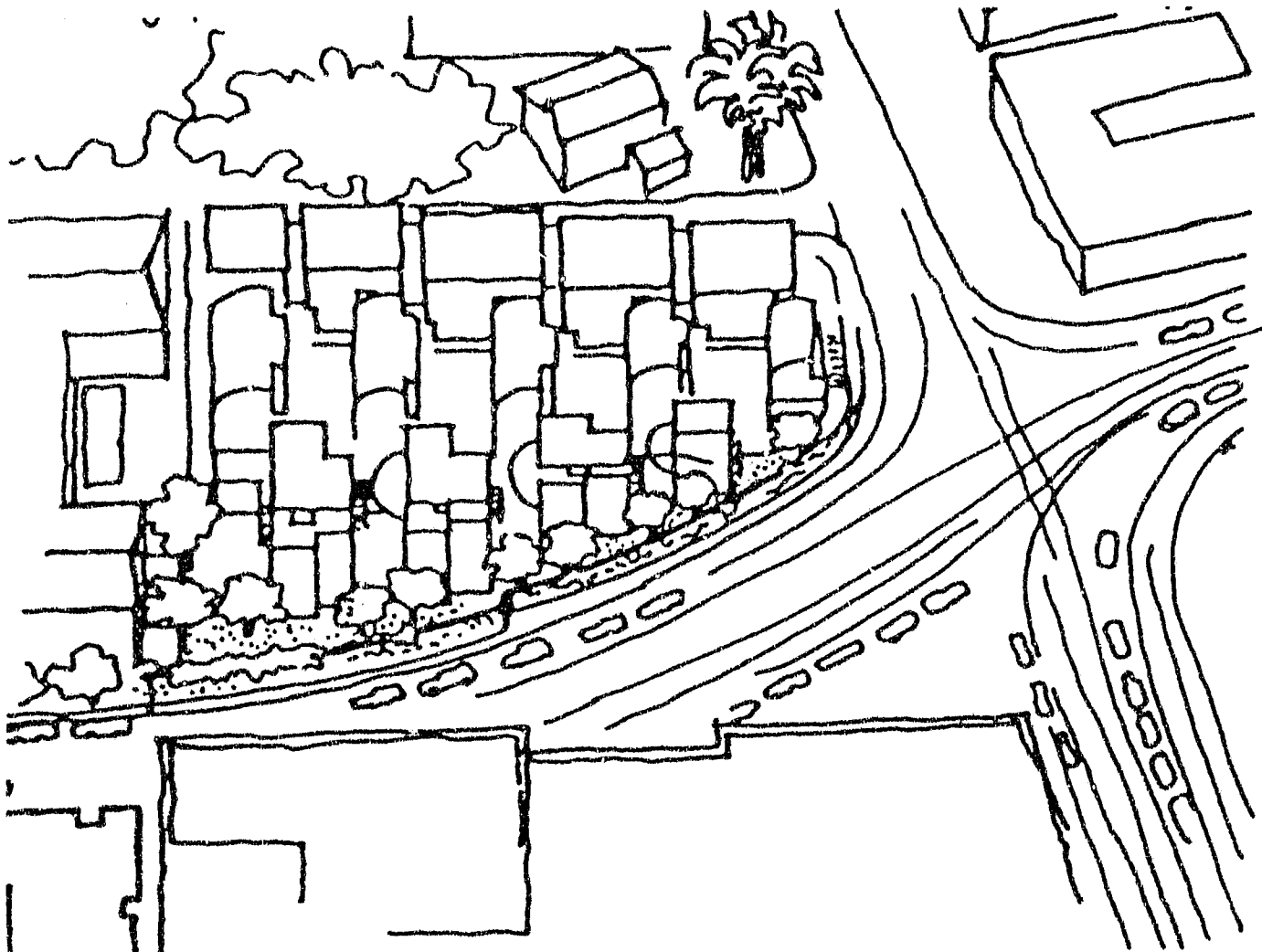


HIGHER DENSITY LOW-RISE RESIDENTIAL DEVELOPMENT
(Naudé Santos)

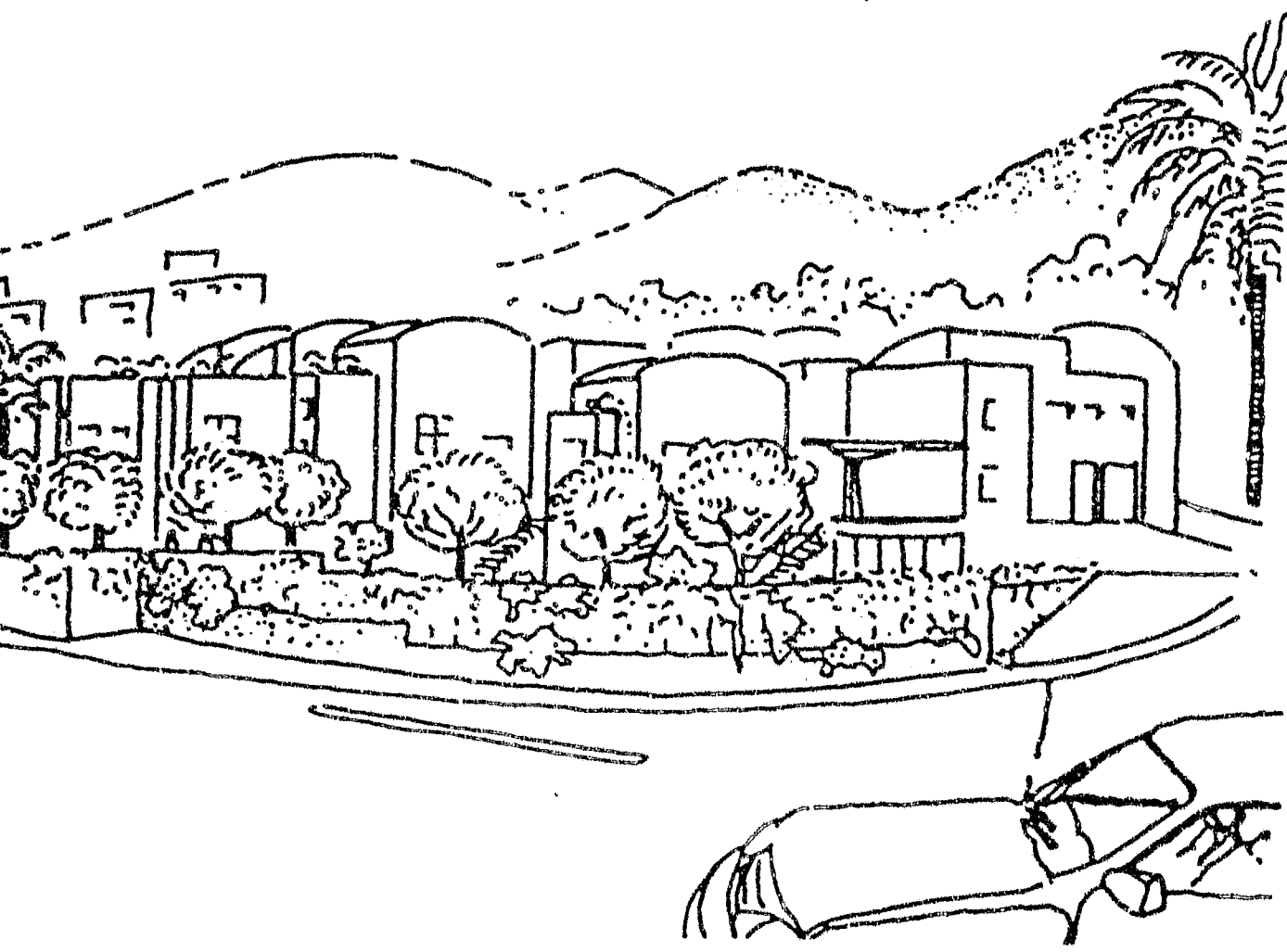
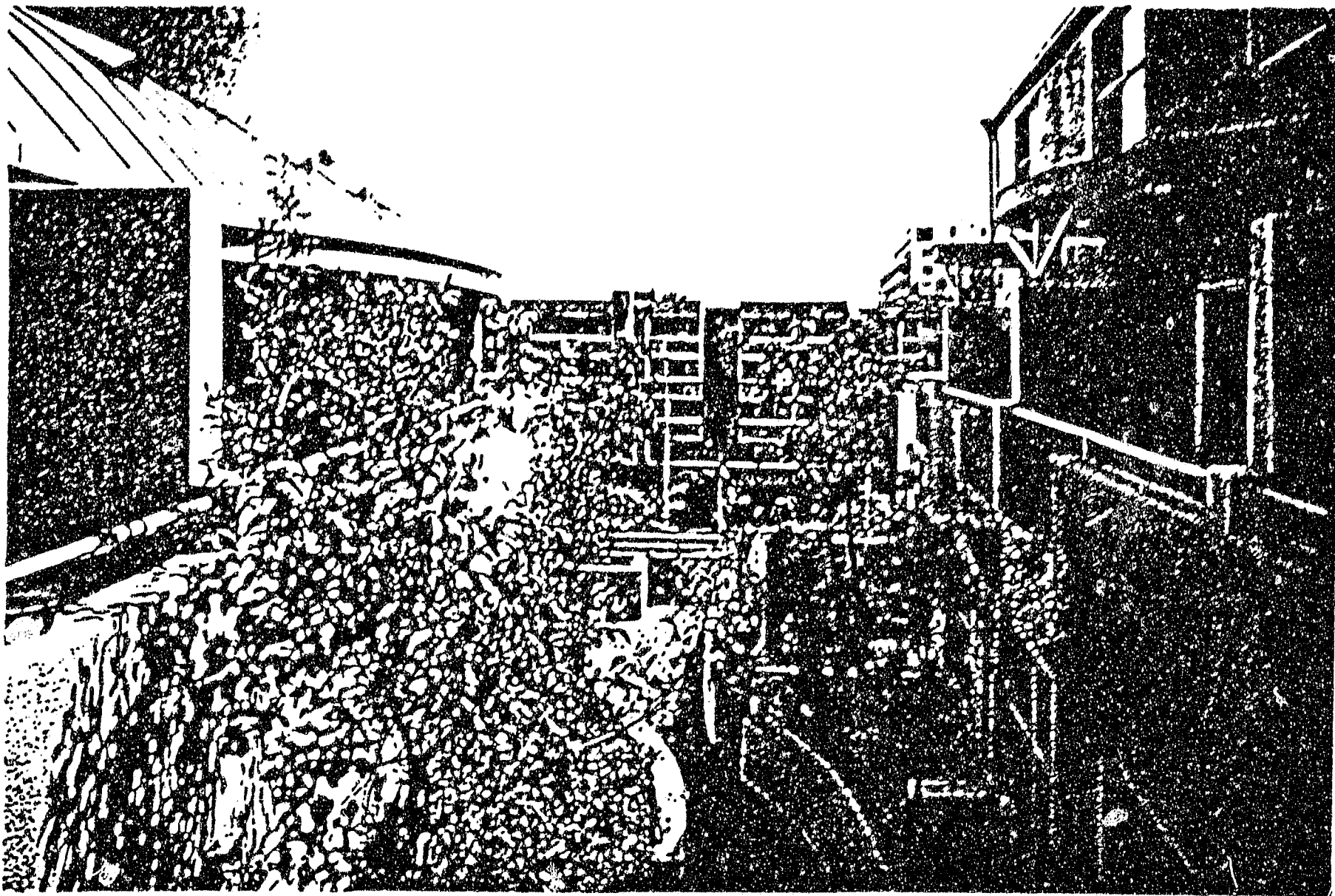
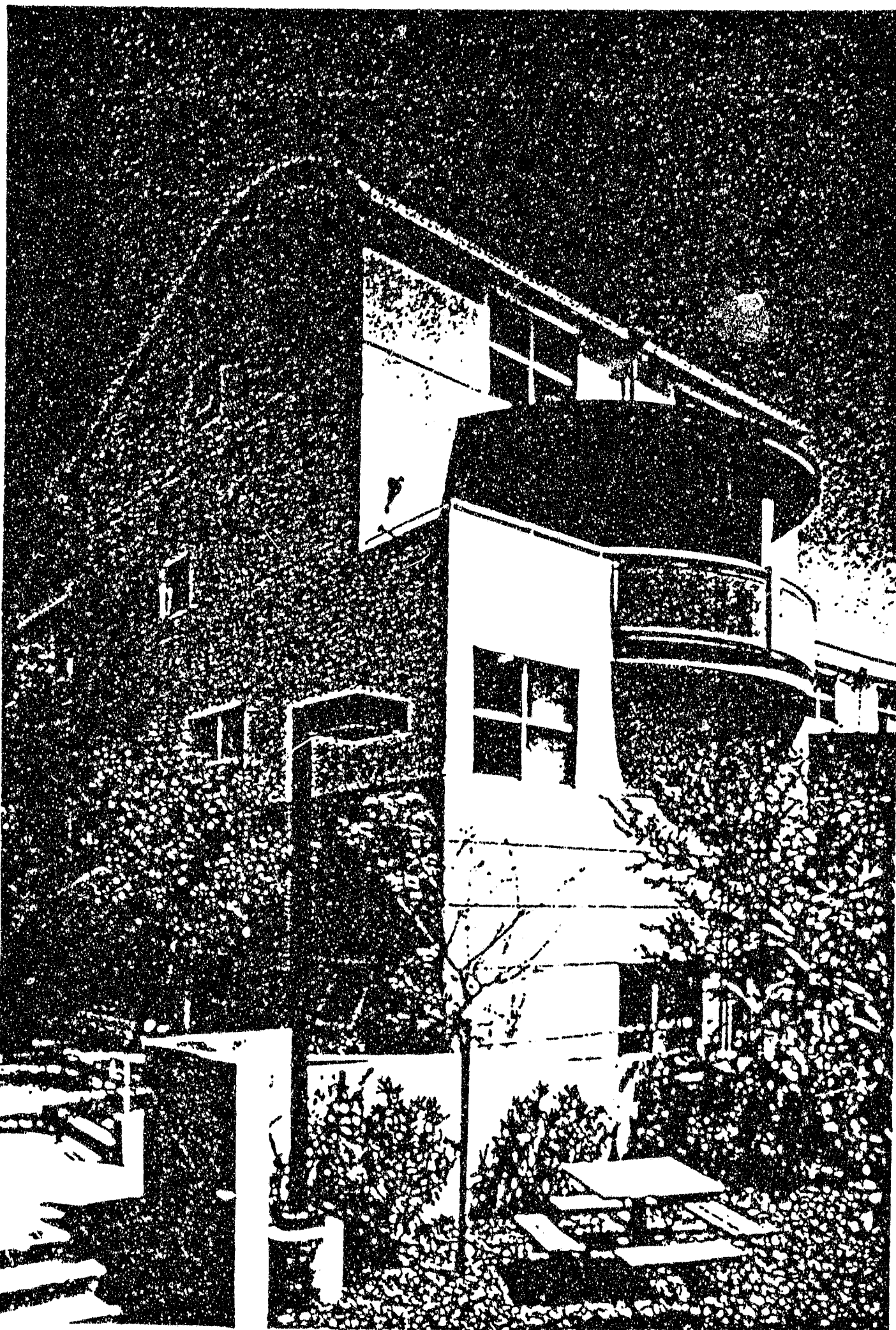
Naudé Santos' project for 40 units higher density housing for low and moderate income households, with wide variety of unit types from bachelor, 1-bedroom, 2-bedroom, 3-bedroom and 4-bedroom (Source: SA Architect, September 1998)



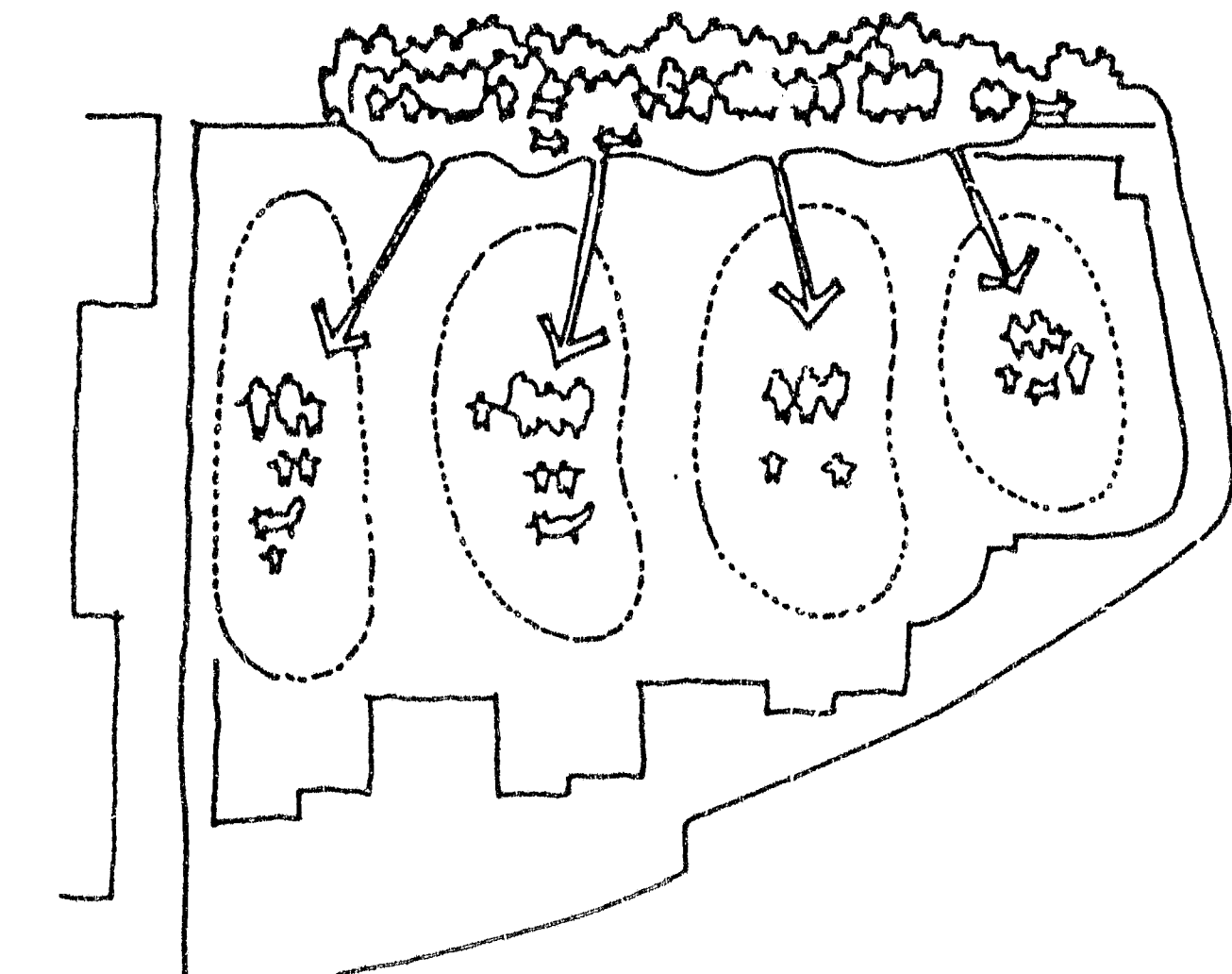
We have created a low, small-scaled complex in contrast to the large, monolithic buildings recently constructed in the area.



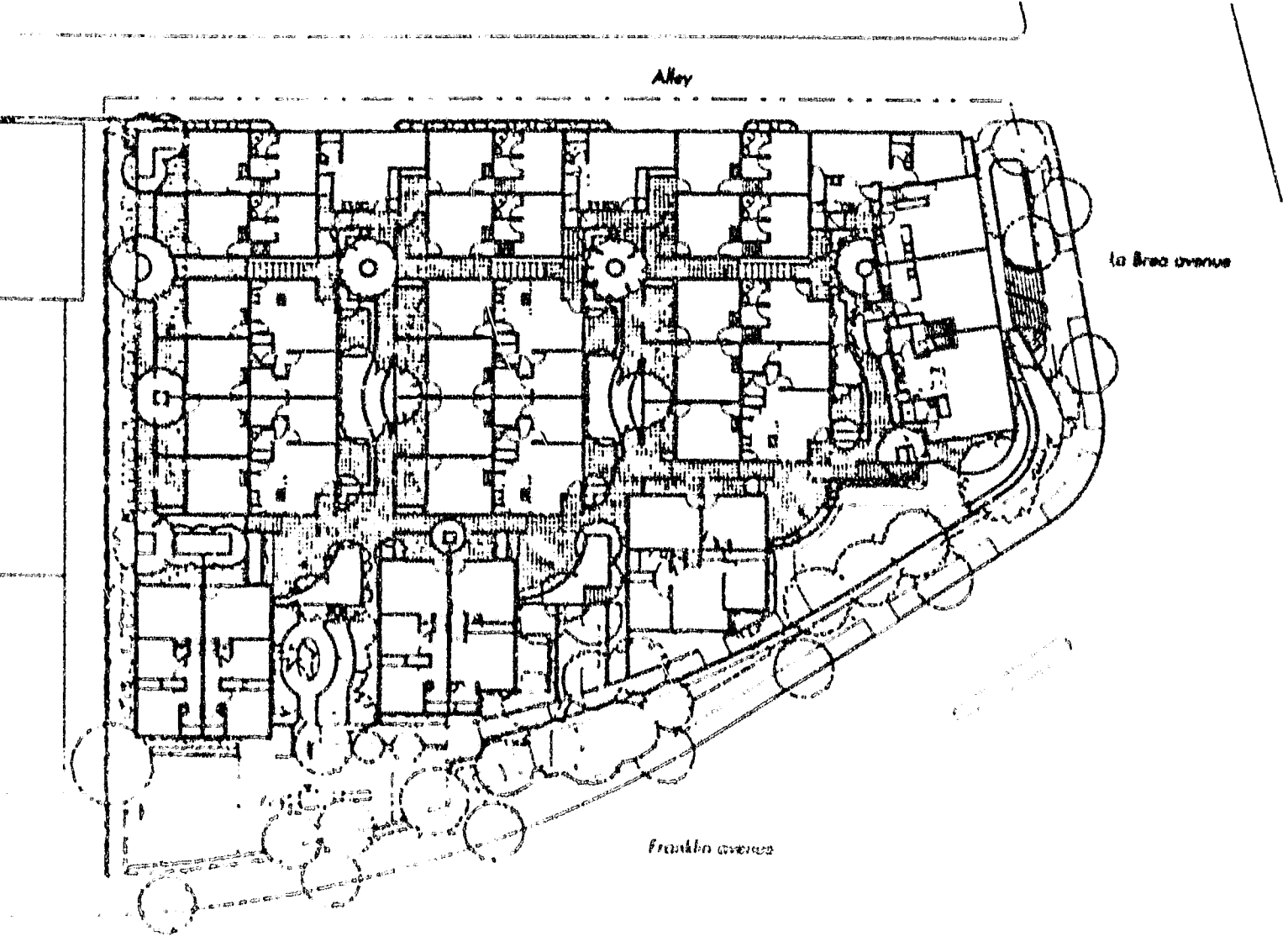
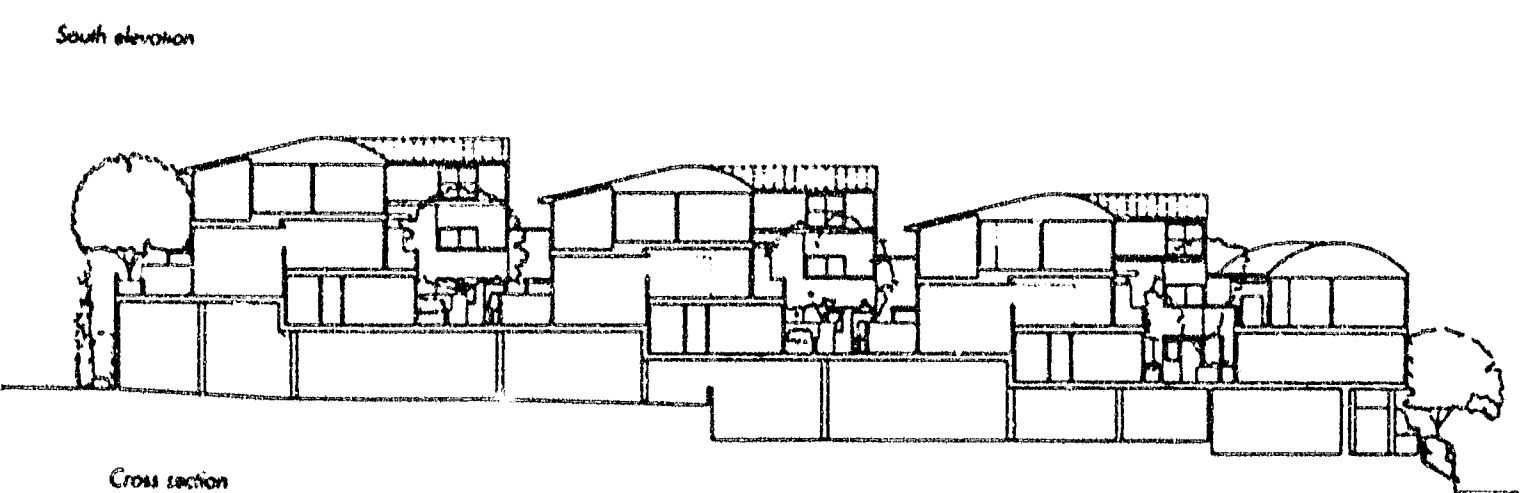
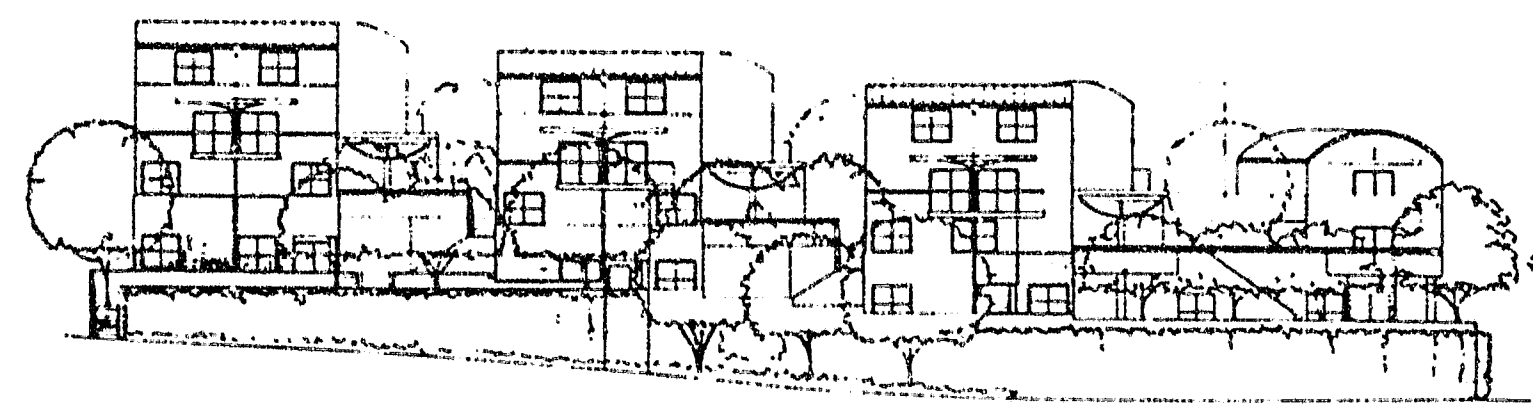
The Franklin Avenue edge will be formed by a landscaped retaining wall with shade trees, to protect the residents from the noise of the busy traffic intersection.



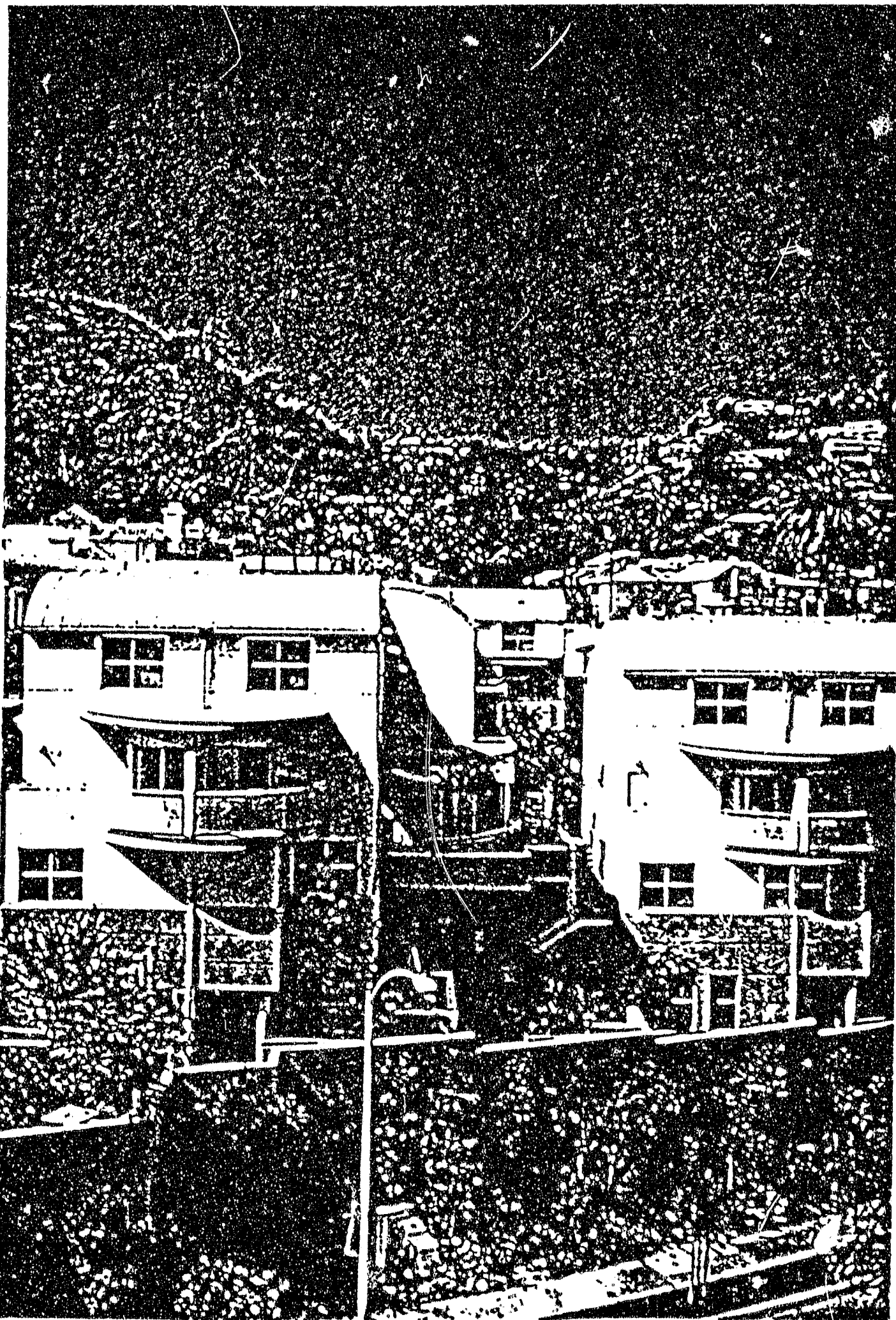
From Franklin and La Brea avenues, the project will appear as several large houses set in gardens.



Approximately 180 people will live in the project, too large a group to know each other and develop a sense of community. We have divided the project into four courtyards of approximately ten families.



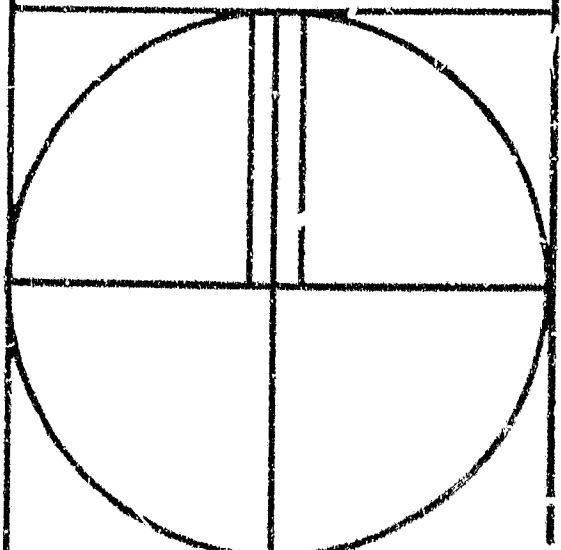
SA ARCHITECT
13



Specification Stage

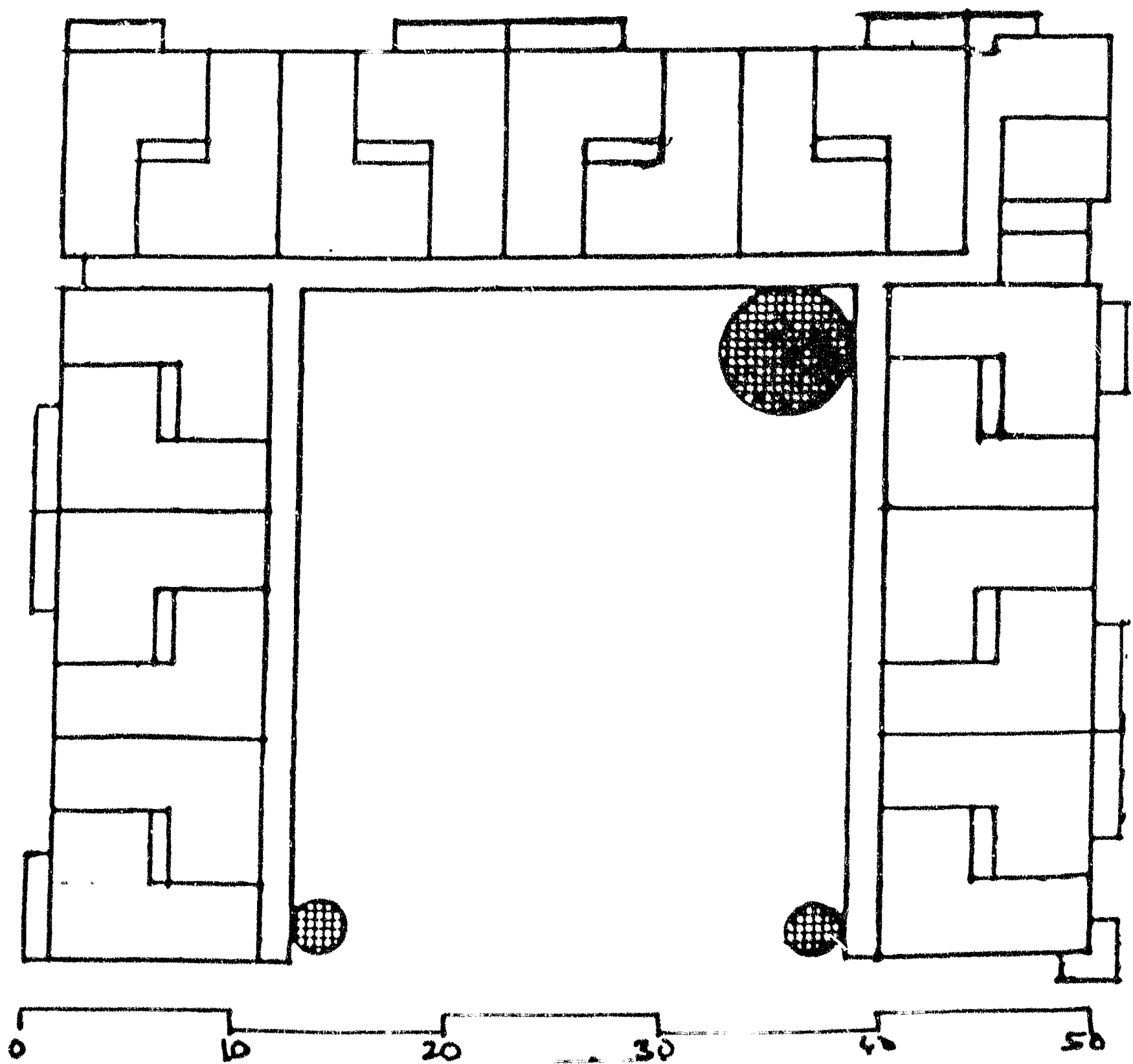
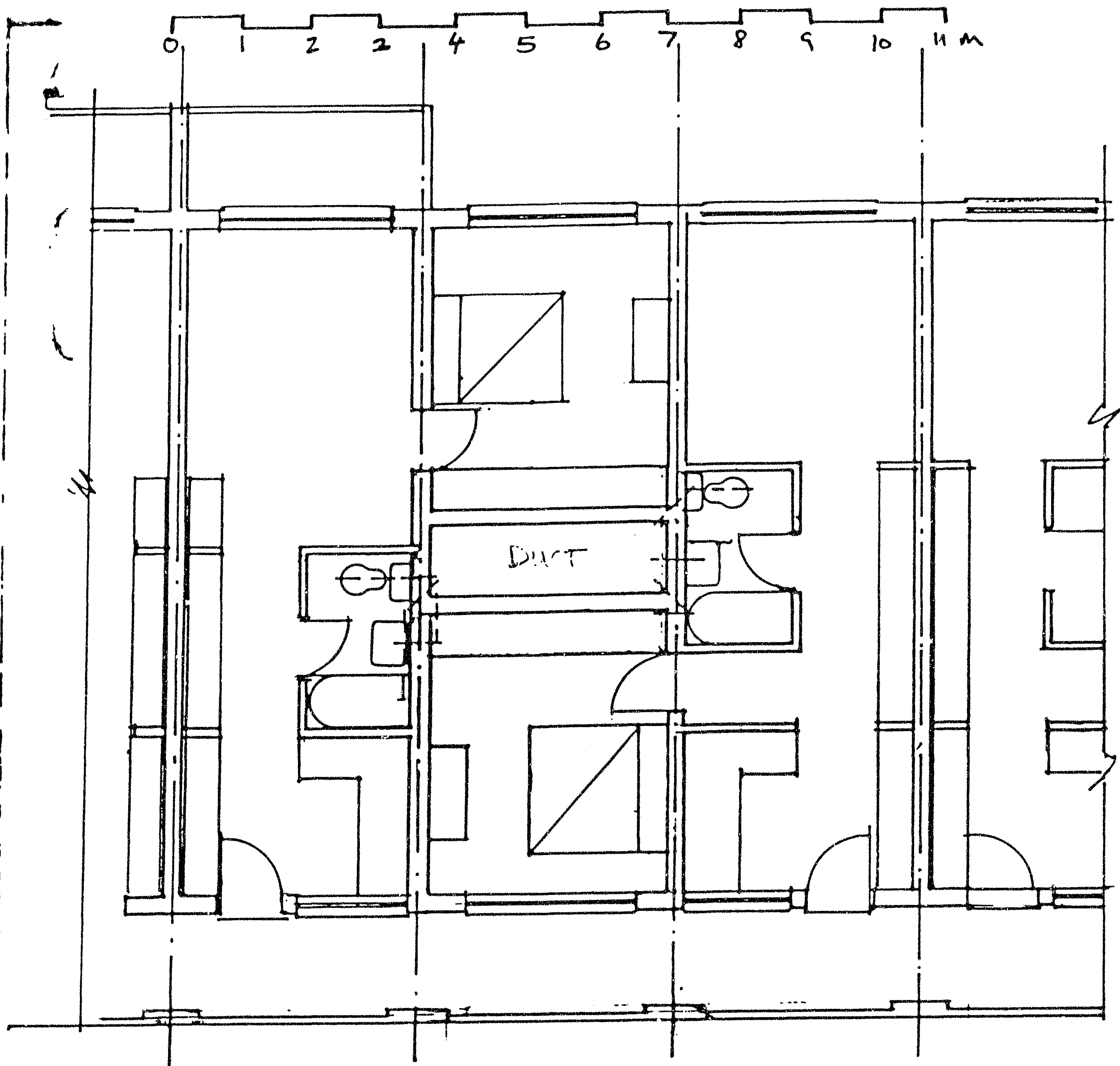
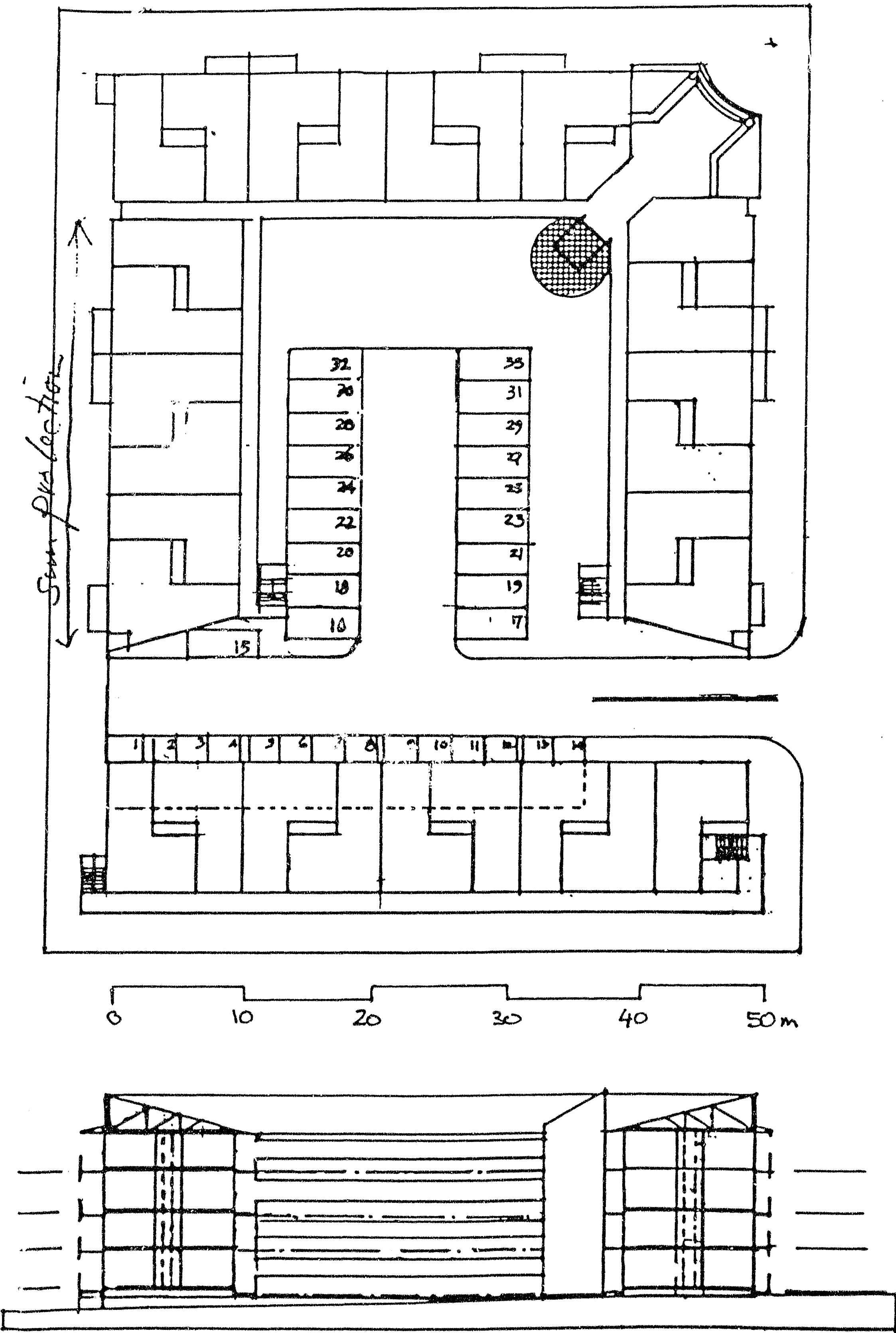
VIABLE INNER CITY HOUSING TYPOLOGY 3

ELLIS PARK URBAN DESIGN FRAMEWORK



**HIGHER DENSITY LOW-RISE RESIDENTIAL DEVELOPMENT
(Boden)**

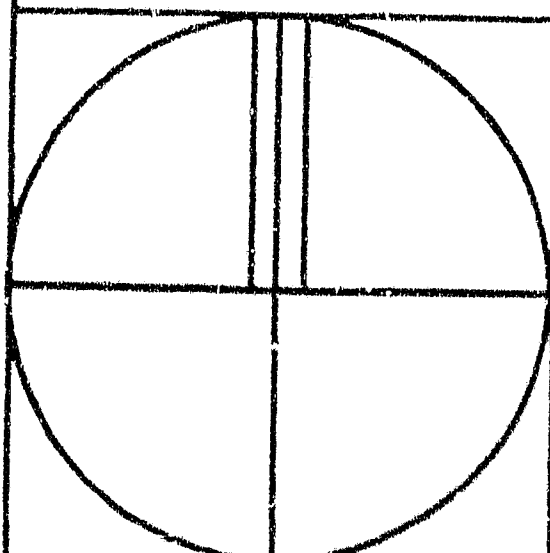
Boden's proposal for walk-up four storey residential block. Average unit size approximately 50m². Over a site area of 4161m², achieves 122 dwelling units, yielding a nett density of 269 dwellings per hectare, and gross density of 172 dwellings per hectare. (Source: from Boden directly, 1999)



Specification Stage

VIABLE INNER CITY HOUSING TYPOLOGY 4

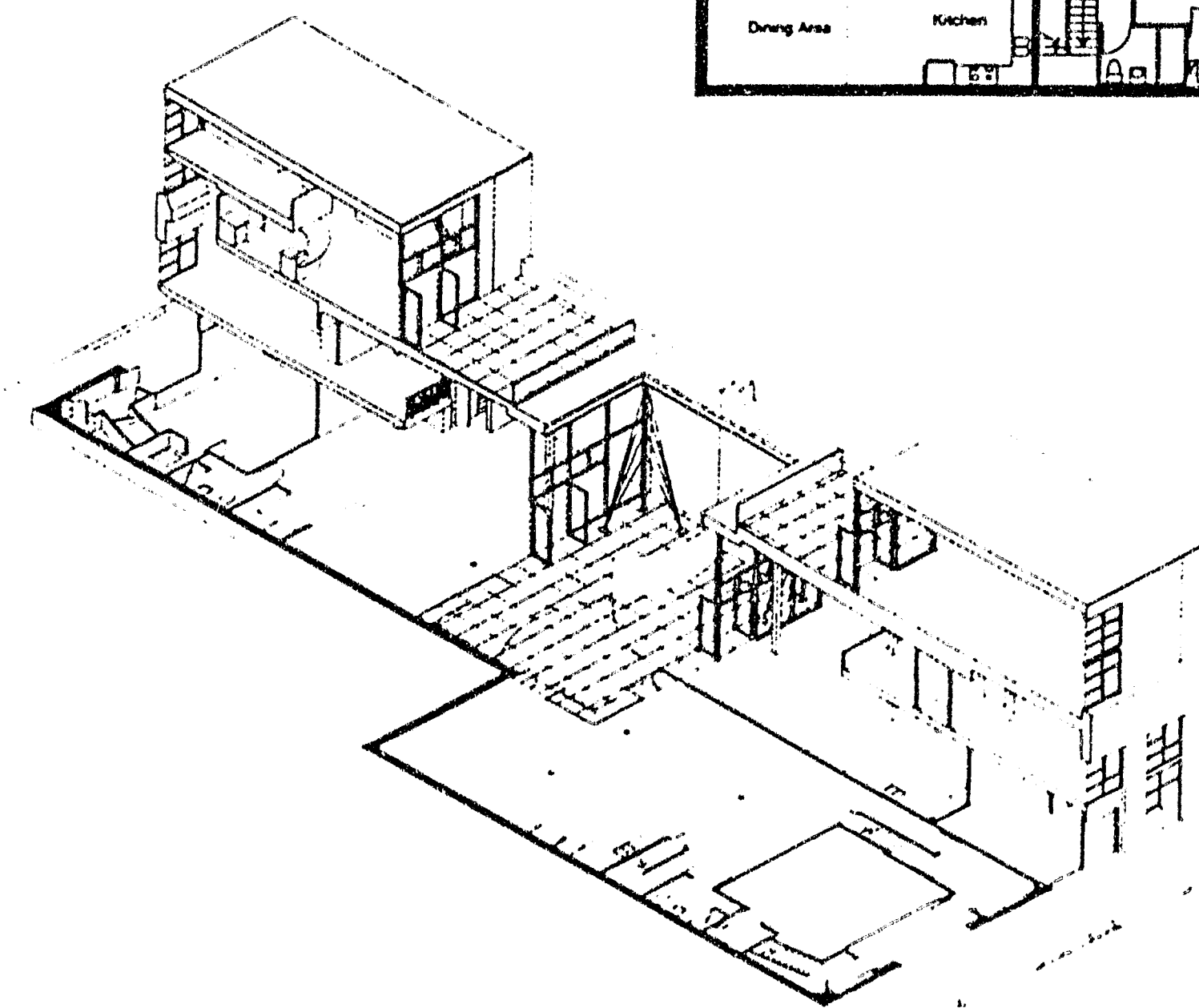
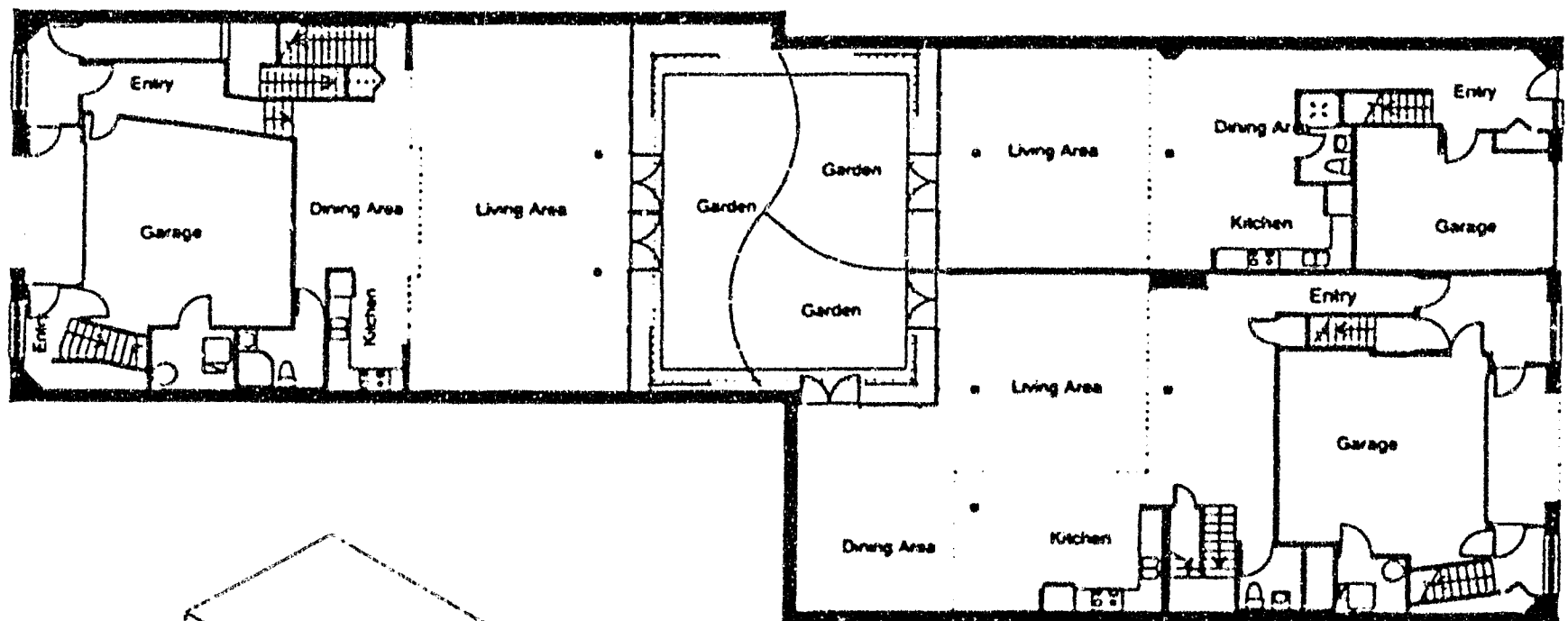
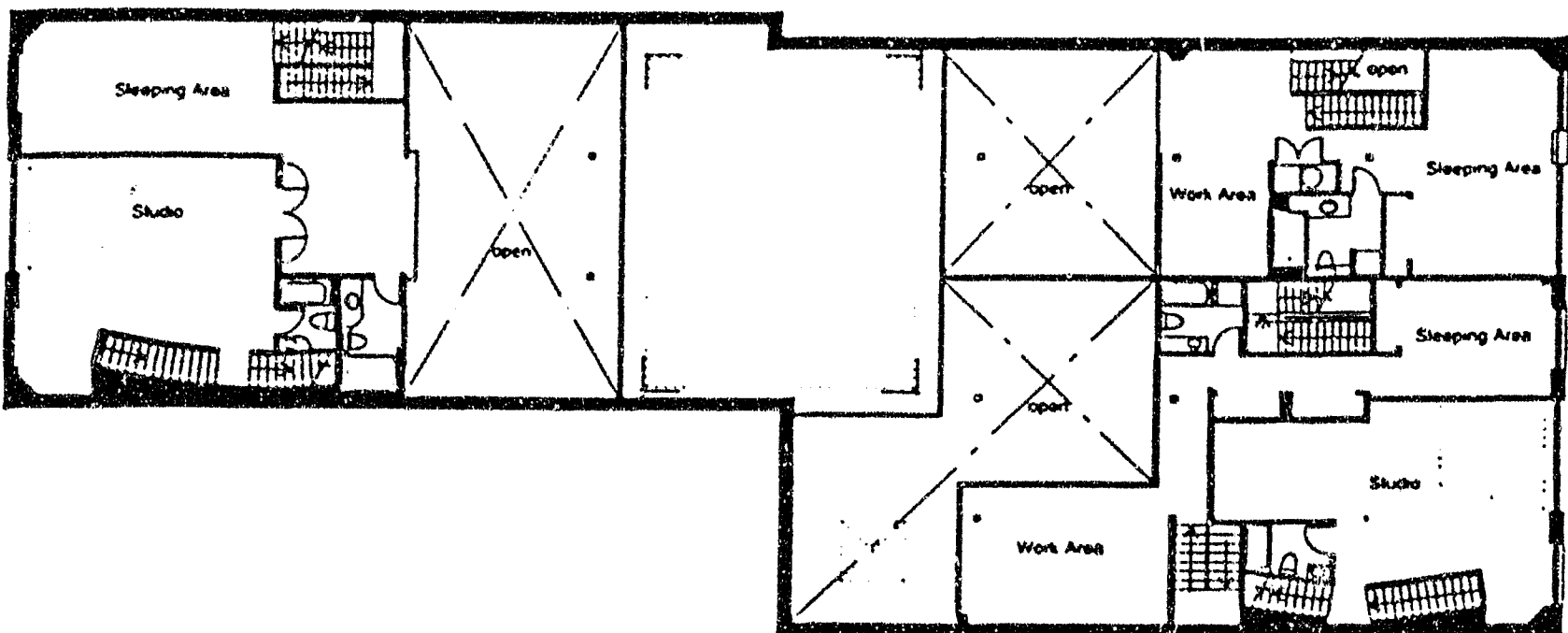
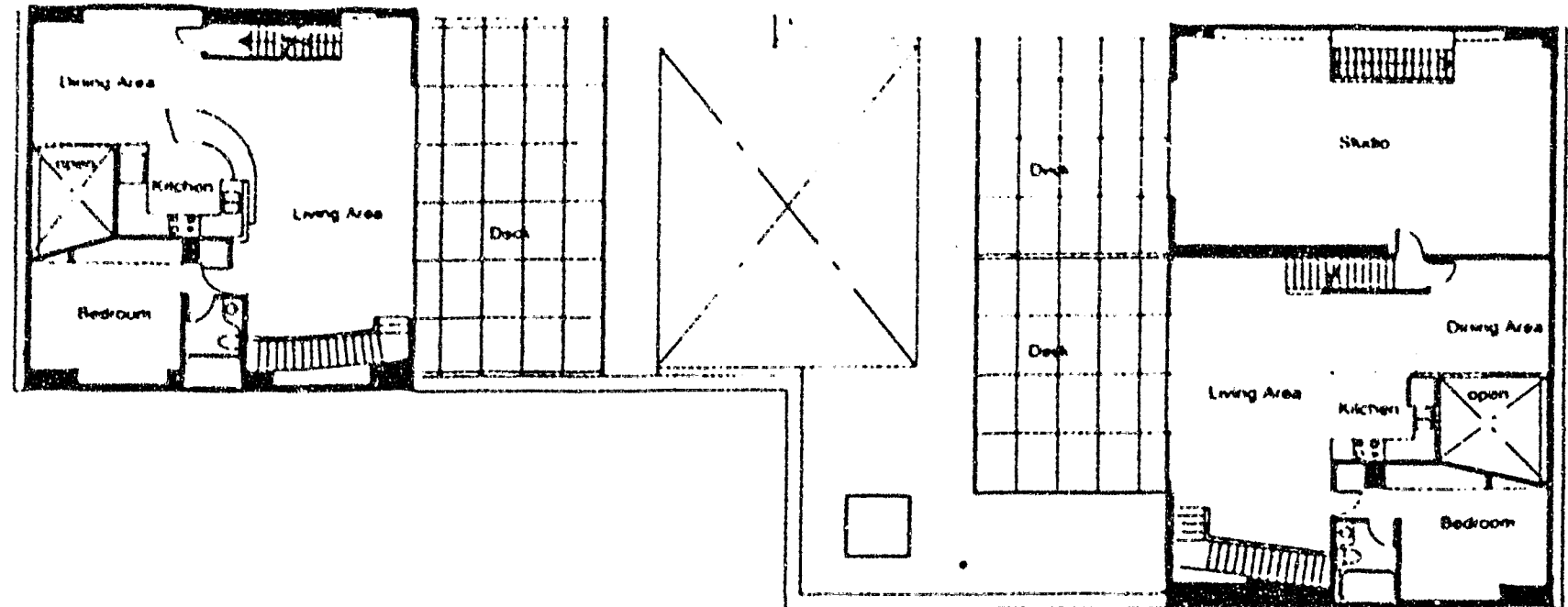
ELLIS PARK URBAN DESIGN FRAMEWORK



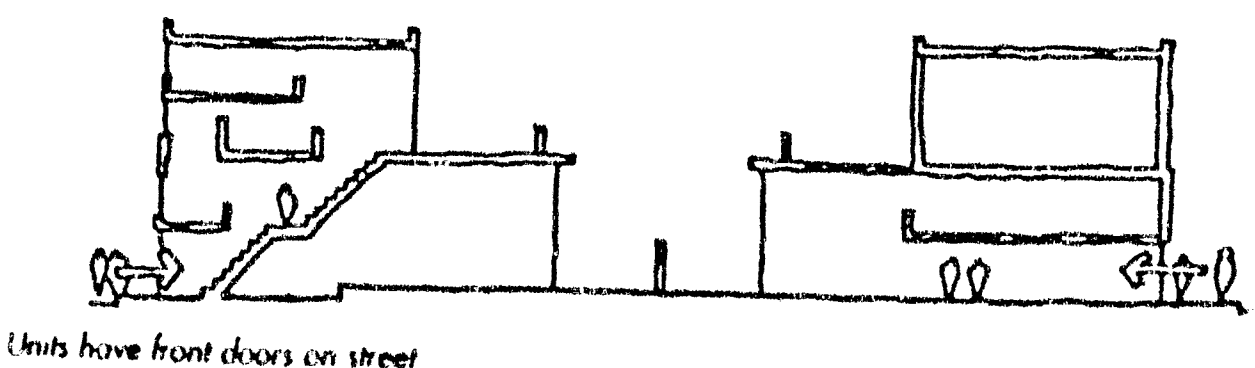
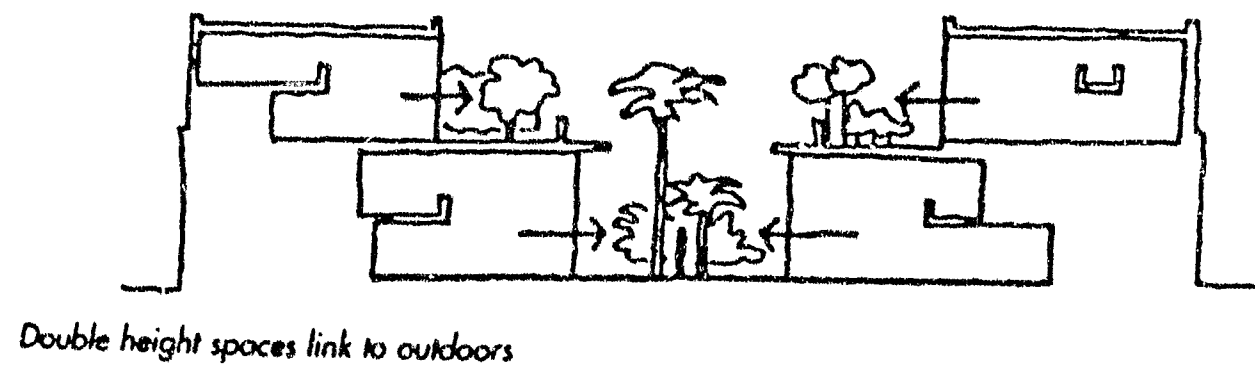
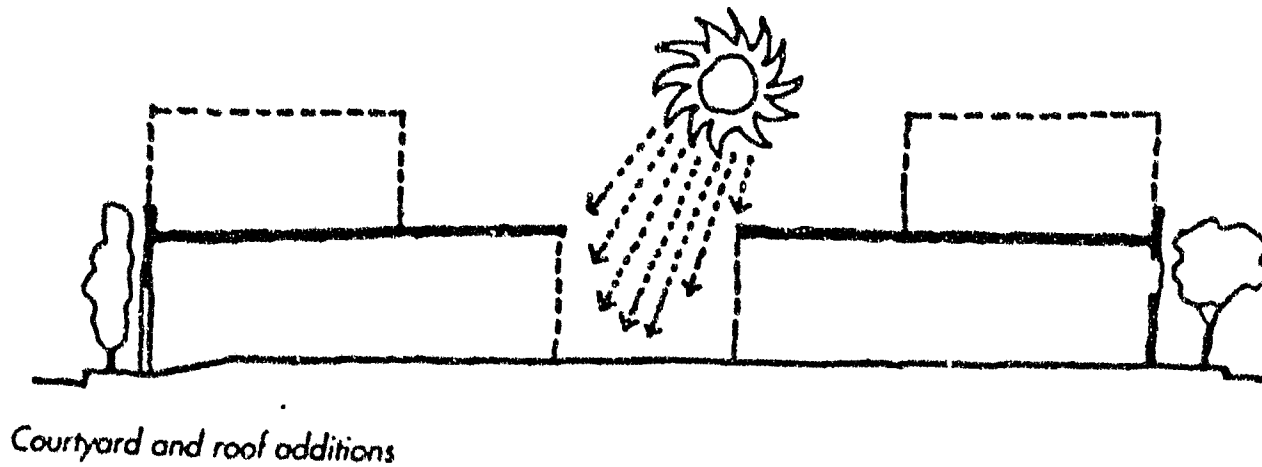
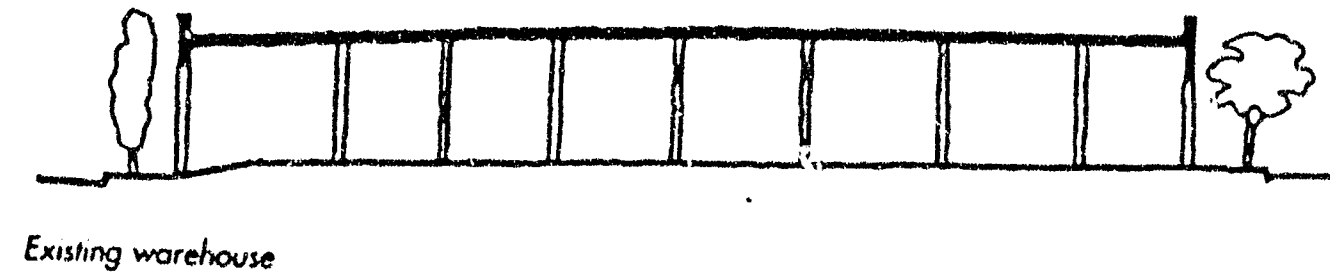
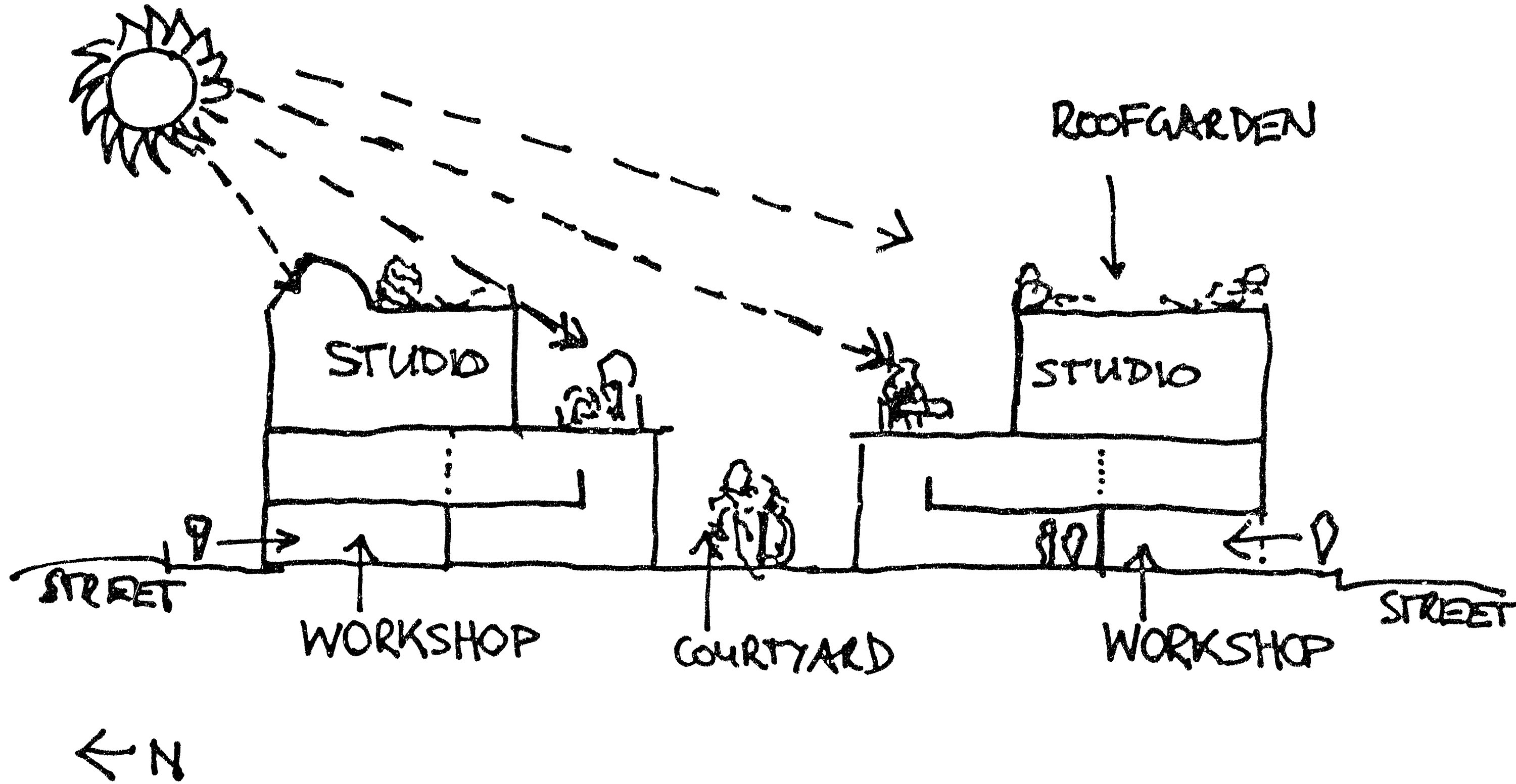
PROPOSED HOME WORKSHOP

The proposed home-workshop for the inner city area is adapted from work by Naudé Santos, as outlined below (Source: SA Architect, September 1998).

The concept comprises a courtyard arrangement, comprising residential with a workshop (light industrial), and a bachelor / studio unit above. The internal courtyard allows for light and air, and the studio unit has a balcony, with roof garden on top.



- 1 View of cruciform steel column
- 2 View of stair and bridge to mezzanine
- 3 View of lower studio
- 4 Dining area looking towards patio
- 5 Entry to living room of upper unit
- 6 View of living space from mezzanine
- 7 Third floor
- 8 Second floor
- 9 Ground floor
- 10 Isometric



The site is located in the South Park warehouse district of San Francisco currently undergoing conversion into a mixed use environment. The predominant new building type is the live-work loft intended to house people who wish to work at home, most of whom are in multimedia or the arts.

The property has frontage onto two parallel small streets, Ritch and Zoe. The existing concrete warehouse had 20-foot high ceilings and was used for a series of light industrial uses, most recently as a printing press. Although the concrete walls were unusually massive, there was no steel reinforcing which was not uncommon in a structure built in 1927. The seismic upgrading consisted of adding a reinforced shot-crete wall to the existing structure, adding concrete sheer wall and a steel frame defining a courtyard carved out of the interior. On each street frontage a double height addition was built on top of the existing roof.

The building contains five live-work lofts, two with access from Zoe Street and three accessed from Ritch Street. The courtyard which brings light into the interior severs the building into two distinct halves. Although this is a condominium project individuality and autonomy of each unit is stressed. Each unit has a front door on the street with street access from a garaged parking space. Large double high spaces, the focus of each unit, open into generous private patios or roof terraces. Three of the units are tri-level, spatially interconnected with more than one double high space. Each unit has two full bathrooms, a bedroom and a mezzanine.

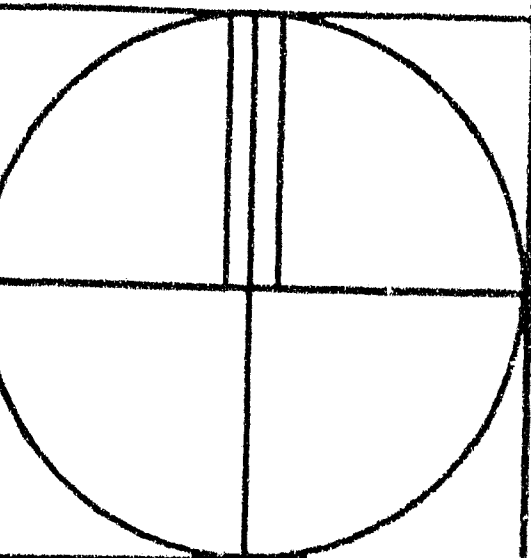
The central courtyard is divided into three private patios by a serpentine galvanised steel mesh wall on which vines have been trained. The steel columns and beams which define the space were designed to have a minimum profile. The cruciform columns are supported by steel rods which fan out into two directions. Pairs of a variety of species echo the geometry of the columns and enhance the privacy screen. The glass walls to the patios are full height and width allowing the concrete walls to slip through from inside to the outside merging interior and exterior space.

Architects: Adèle Naudé Santos & Associates
Engineer: Charles Blosszies
Contractor: Sneed 7 Company Construction Inc.
Completed: July '98

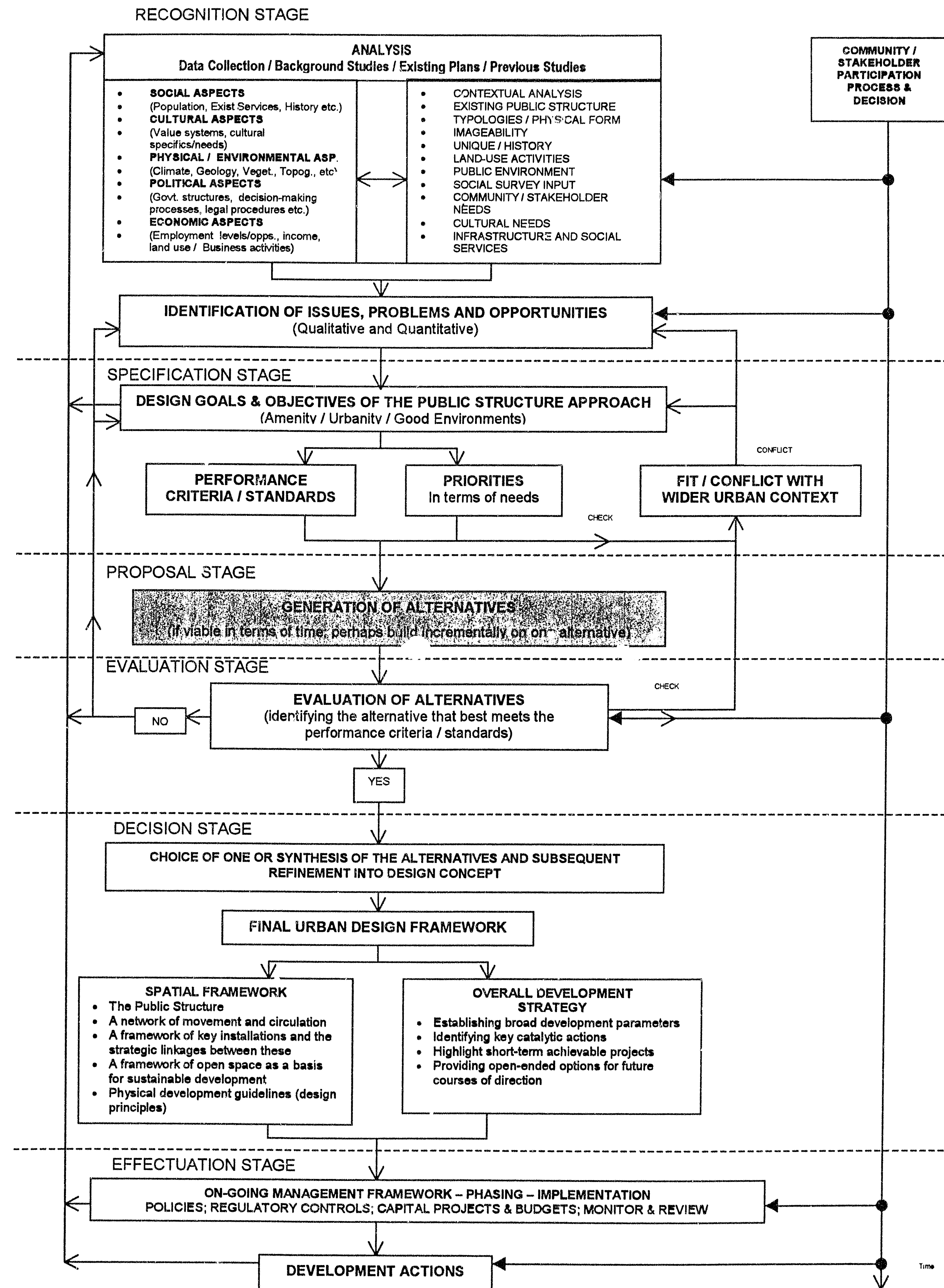
Specification Stage

PROPOSED HOME WORKSHOP TYPOLOGY

ELLIS PARK URBAN DESIGN FRAMEWORK



8.4 PROPOSAL STAGE



PARK DE LA VILLETTE

A 35 Ha 'park', the largest in Paris. Not just a 'park', but a fully-fledged socio-cultural facility, with major cultural and tourist attractions. Includes a museum, trade exhibitions, music hall etc.. Urban design compromises buildings and structures as celebrated elements in a park-setting, structured according in a grid layout.

The park de la Villette is a unique cultural and tourist center, hosting a wide range of events and activities – right in Paris. All year long, shows, exhibitions and tours offer a variety of exciting calendar dates and discovery opportunities.

History and Architecture

In 1862, Baron Haussman grouped the Paris municipal slaughterhouses at one location and for over 100 years this was the sole activity at la Villette. In 1974, the slaughterhouses were closed permanently and gave rise to an ambitious project, which involved transforming 136 acres of former industrial domain into a 21st century urban park. Today, the former slaughterhouses have been replaced by a unique cultural and tourist complex. The Veterinarians Hall is now the maison de la Villette and the "halle aux boeufs" has been converted into the grande halle. Architects, landscape designers, creators and artists fulfilled their mission of assembling an architectural facility devoted to music, science and diverse arts, and a park – a city-park and a park within a city – on one site.

Recreation and Relaxation

Culture and leisure go hand in hand at la Villette. It is difficult to resist the urge to stroll through the themed gardens, winding along the "cinematic" walkway before a show or after an exhibition.

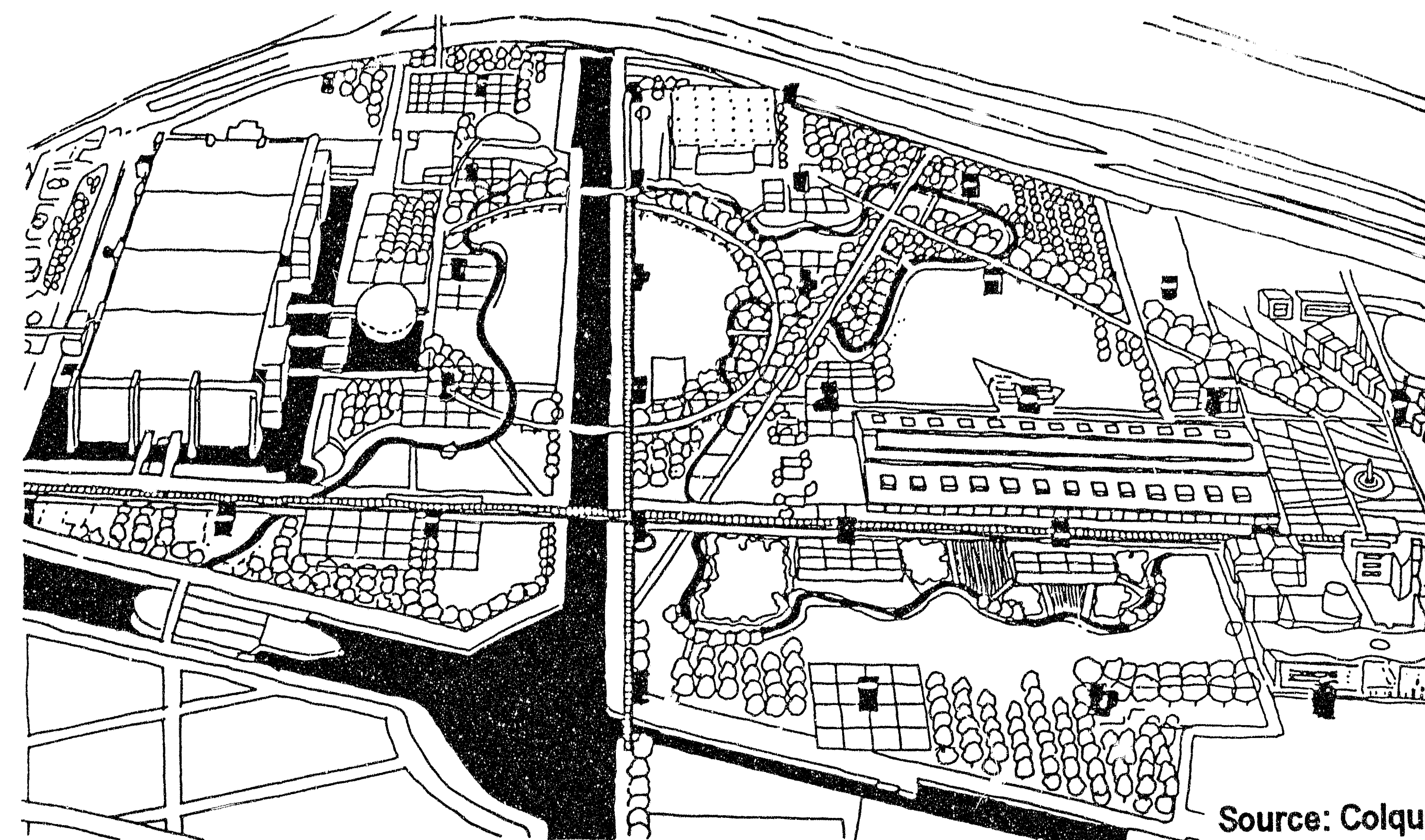
When the weather is fine, the prairies – the cast green lawns at la Villette – welcome both those who adore reading in the sun and ball players. The canal is dotted with refreshment stands offering beverages and snacks to Paris cruise passengers.

On the edge of the park, biking aficionados can cycle along the bike path. Away from the daily hustle and bustle, visitors can plan their own agenda of relaxation, play and discovery.

Activities:

- Education Centre : Sciences Exhibition Centre, Planetarium
- Arts and Culture : Changing and Permanent Exhibitions
- Leisure: Recreational park, walking, biking, relaxing, etc.

Source: Tourist Information Brochure



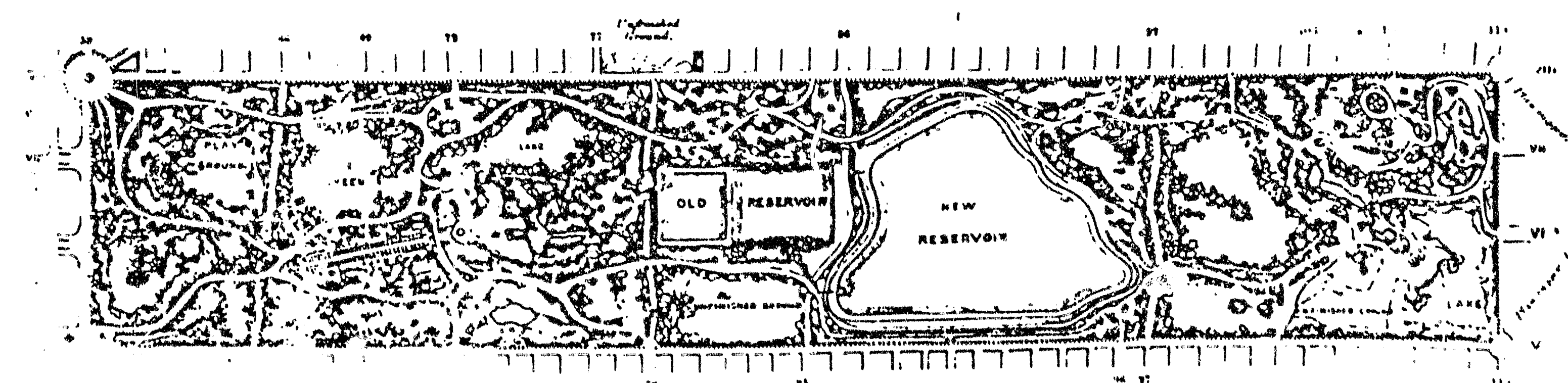
Source: Colquhoun, 1995

CENTRAL PARK, NEW YORK

New York's 'urban room', comprising an extensive park fronted by high density rise buildings on all sides that face directly on to the park. The latter form a distinct edge and enclose the space, although the park itself can be traversed on foot, and public transport is allowed through it. The facilities within the park serve the recreational and relaxation needs of the surrounding population.



498, 499

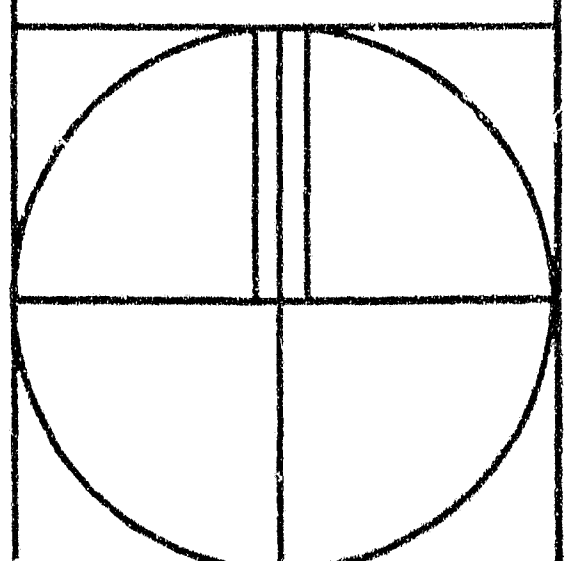


Source: Kostof, 1991

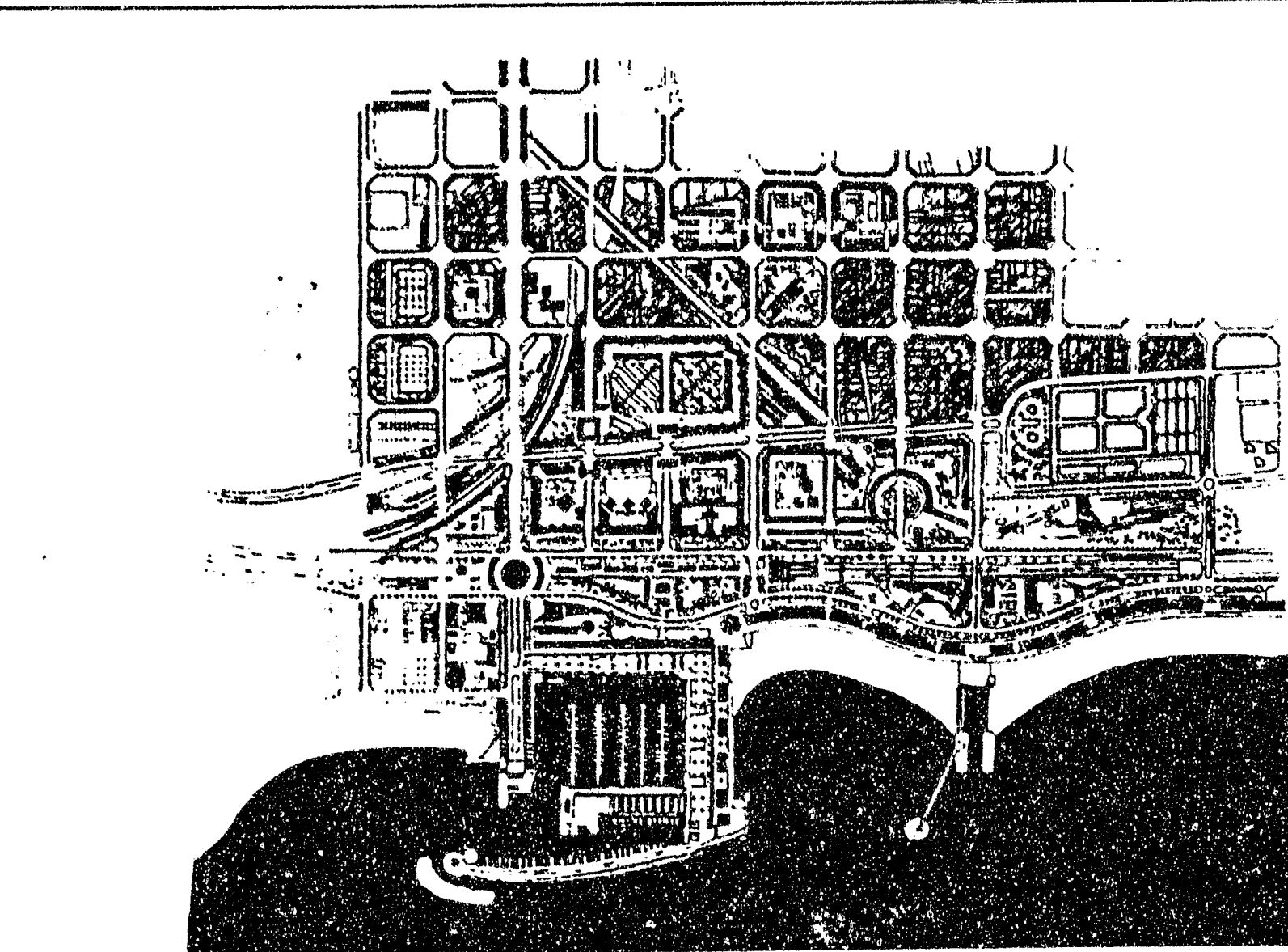
Proposal Stage

CONCEPTUAL IDEAS: THE ROLE OF THE PARK (1)

ELLIS PARK URBAN DESIGN FRAMEWORK



BARCELONA – OLYMPIC GAMES 1992



The development of the Olympic Village served as a catalyst to regenerate derelict industrial land in the centre of the city. The principles of the design encompassed:

- The development of residential accommodation was integrated with the surrounding city environment, through the natural extension of the city's road structure and city blocks.
- The location of the sports complexes throughout the city, linked with a new road system, gave, through their facilities and activities, renewed economic and socio-cultural impetus and physical upgrading and redevelopment.
- The extensive design and development of public spaces: the new harbour, the tree-lined boulevards, the parks, the incidental spaces in the residential areas, the street art and sculpture, the play spaces, small seating areas, etc.
- Redevelopment of old buildings with new functions and uses.

Source: Colquhoun, 1995

REGENT'S PARK



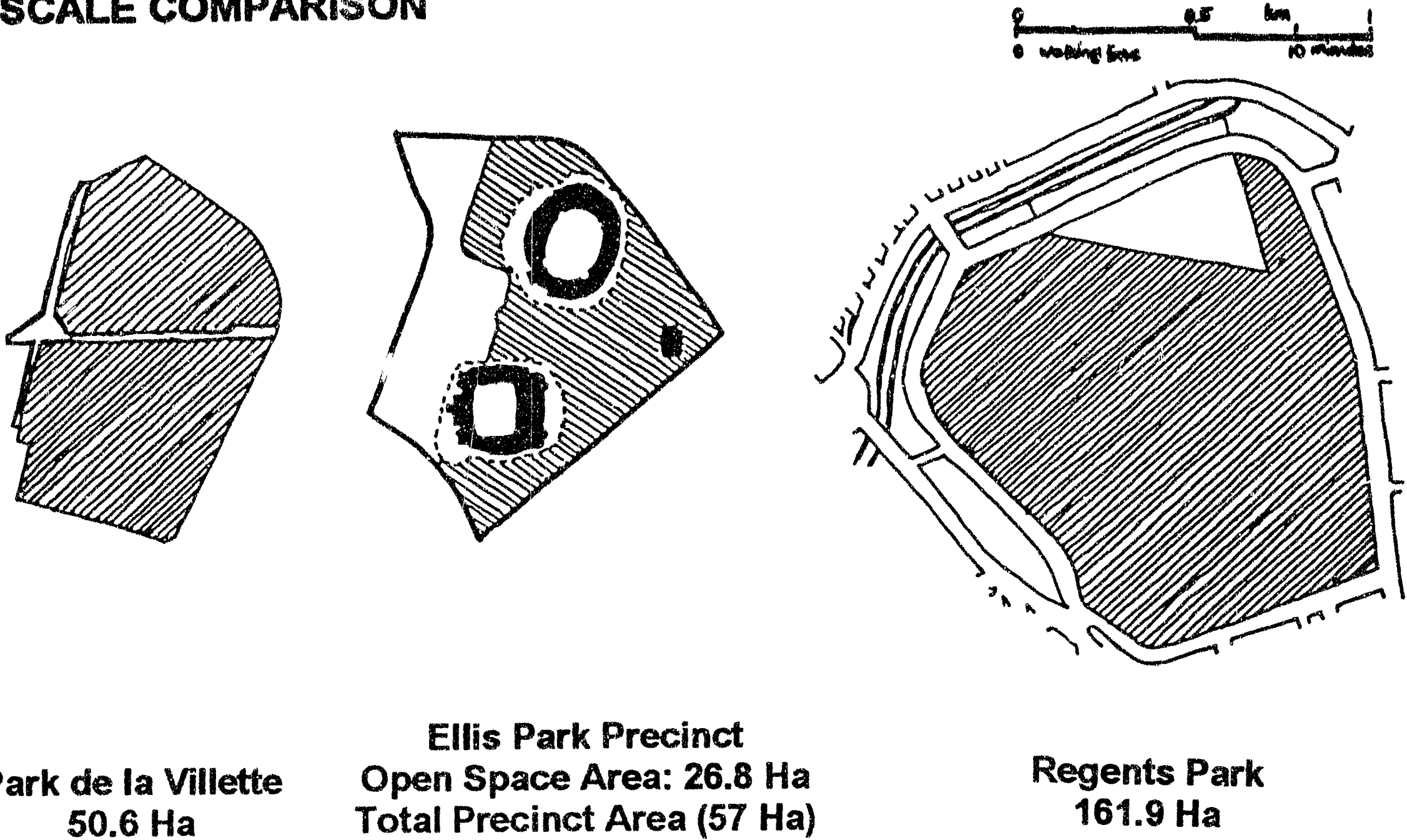
Historical summary
Regent's Park evolved from the 1811 plans of John Nash, Crown Architect and friend of the Prince Regent, who, to raise revenue for the Crown, designed a private residential estate set in parkland. The site is gently undulating, rising steeply in the north to the steep summit of Primrose Hill from which there are fine views of Westminster and the City. Many changes have taken place within the framework of Nash's original scheme. The area now open to the public exceeds 400 acres, predominantly open parkland but supporting a wide range of facilities and amenities including fine gardens, a lake with islands, heronry and waterfowl collection, sports and catering facilities, children's playgrounds and an Open Air Theatre. It also contains the London Zoo.

Source: British Tourist Authority, 1999

Amenities

- Open Air Theatre (end May to early September)
- Bandstands (a variety of concerts, lunchtime and evening)
- Lake-side theatre (occasional)
- Rose Garden Buffet
- Toilets for the disabled and nappy-changing room by the Chester Gate Tea House
- Broad Walk Tea House
- Tennis and netball courts and tea pavilion (booking office and changing rooms)
- Tennis and golf school
- Bernhard Baron Pavilion (changing rooms)
- Athletics track
- Cricket
- Blind cricket
- Softball pitches
- Rounders pitches
- Football
- Rugby
- Hockey
- Playground (3, each with attendant)
- Puppet shows and other children's activities on weekdays throughout August
- Boating: on main lake, April to September – rowing, electric launch
- Children's pool: rowing, canoeing, pedalos
- London Zoo (entrance in Outer Circle with coach and car parks)
- Waterbus (on Regent's Canal)

SCALE COMPARISON



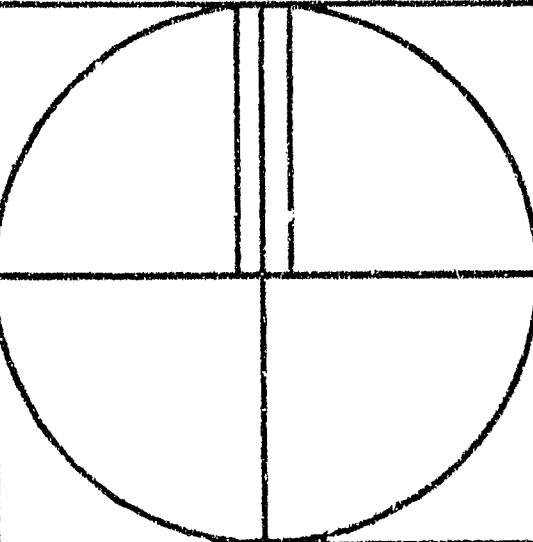
Population Served	Area Ha	Population (at 0.6 Ha per 1000 Population) international standard	Population (at 1.0 Ha per 1000 Population) South African standard
Regents Park	161.9	270 000	162 000
Park de la Villette	50.6	84 000	51 000
Ellis Park	26.8	50 000	27 000

The scale comparison is an indication that the Ellis Park precinct is quite small in comparison to other park and recreation facilities. However, if correctly developed and designed in part as a public recreation and open space facility, Ellis Park could serve a sizeable population between 27 000 to 50 000 people. This in the context of a approximately 61 000 residential population catchment area of Ellis Park. The analysis emphasises the fact that Ellis Park has a significant role to play as a public open space and recreation facility (this in addition to the other needs identified).

Principles emerging from successful park developments:

- Synergistic functions and activities that fit into the immediate urban context.
- Physical fit and linkage.
- Conscious treatment of edge condition.
- Multi-functional, meeting local residential needs, whilst simultaneously catering for sub-regional, metropolitan and national activities and functions.
- Can be catalysts for urban redevelopment.
- Design of the public environment.

It is in this regard that the Ellis Park precinct must be considered, underlining the importance of overlap between and complementing functions, not only within Ellis Park itself, but also in relation to its surroundings.

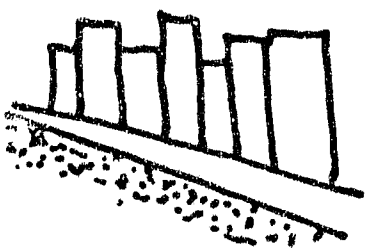


INVESTIGATION S INTO THE CONCEPT OF EDGE

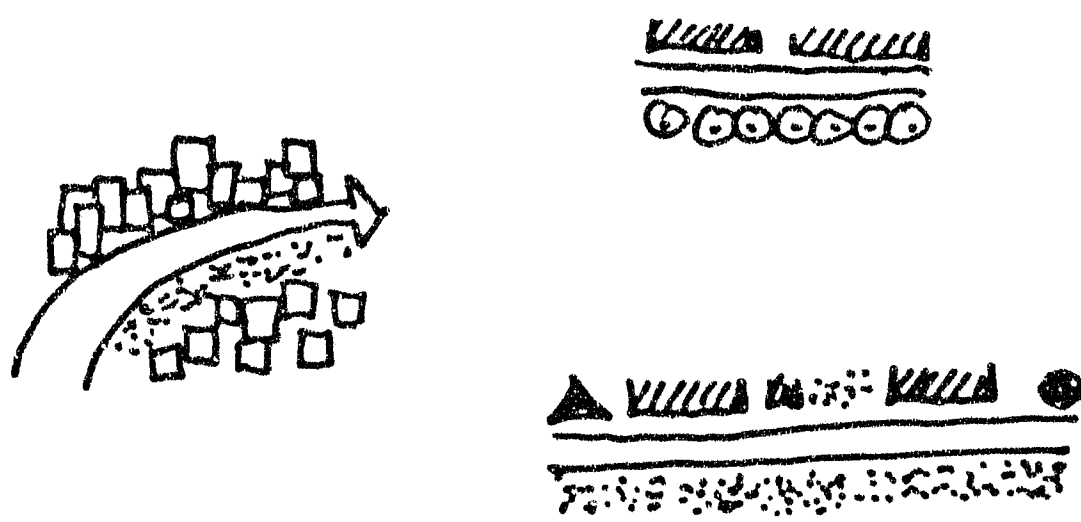
LYNCH (1960):

Edge

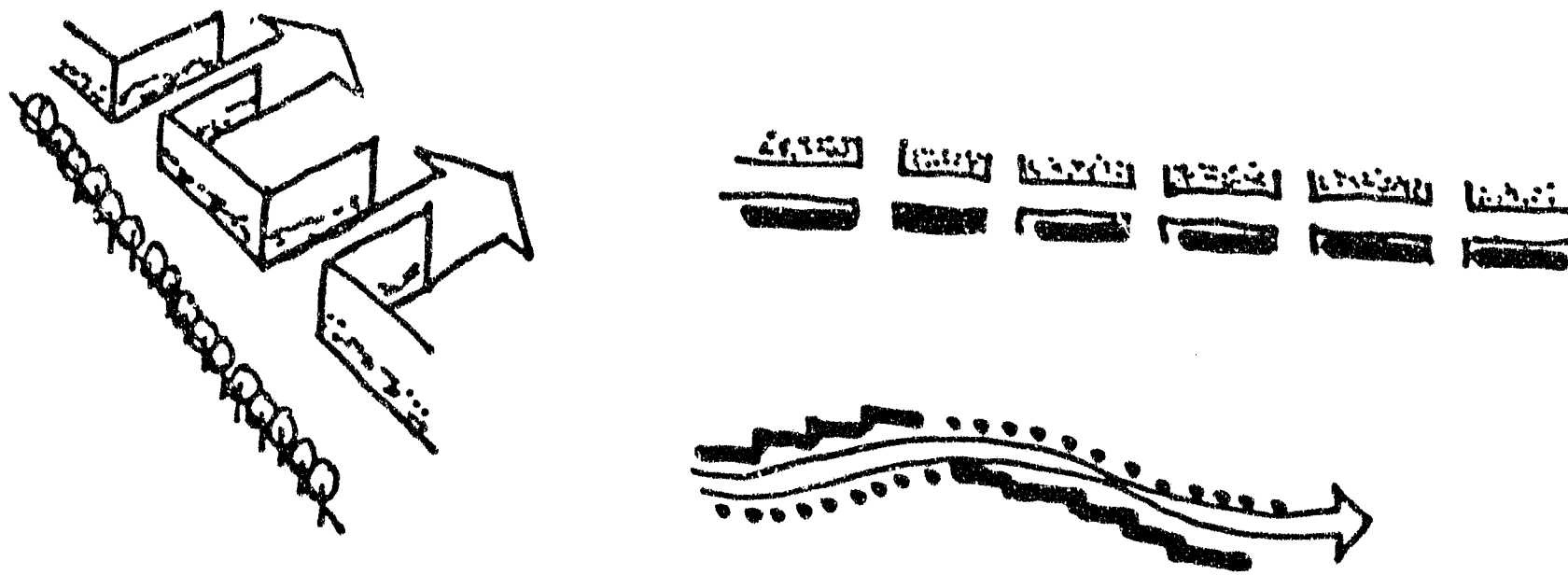
Made clear if it is laterally visible for some distance, marking a sharp gradient (distinction) of area character, and clearly joins two bounded regions. For example skyscrapers fronting onto Central Park, transition from water to land at a sea-front.



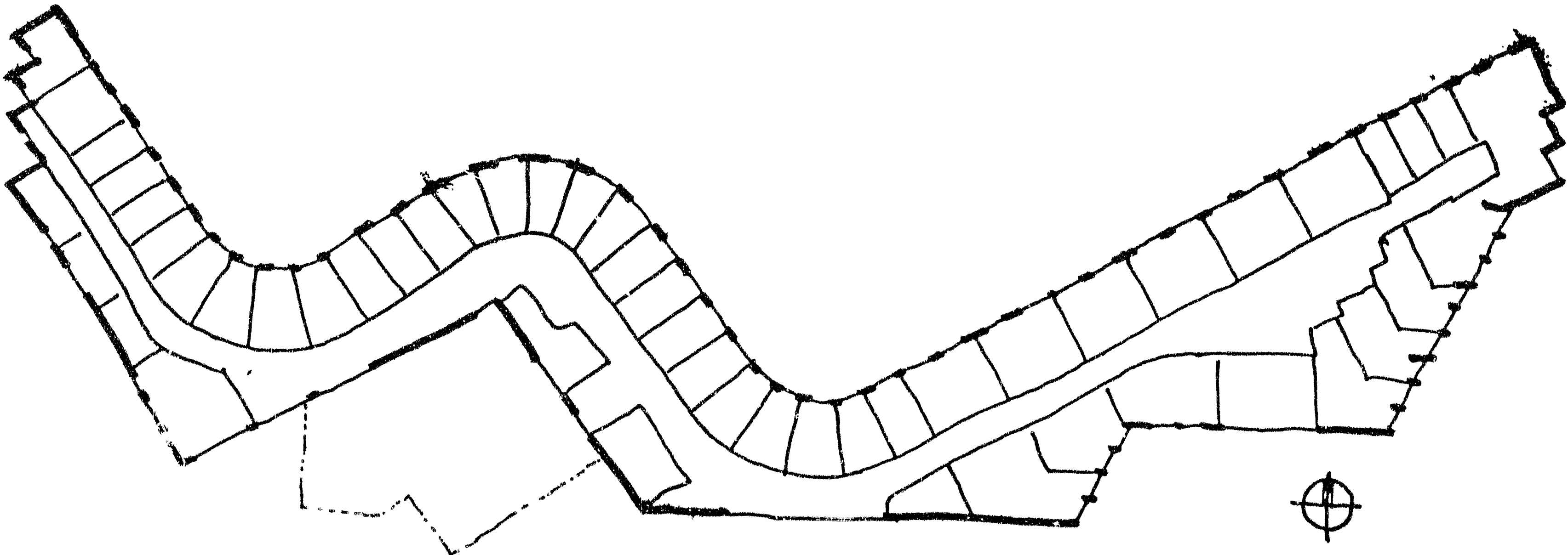
Where areas bounded are not sufficiently contrasting in nature, then it is useful to differentiate the two sides of the edge, orientating the observer in the "inside/outside" sense. Can be achieved by contrasting materials, by a consistent concavity line, or by planting. Or the edge may be shaped by a gradient, by identifiable points at intervals, or by individualizing one end from the other.



An edge becomes a seam (as opposed to a barrier) when visular or motion penetration is enabled, and structured to some depth with the regions on either side. A line of exchange along which two areas are sewn together.



Adaptation of Aalvar Alto's MIT Senior Dormitory, Cambridge (Mass), 1968 into Home-Workshops, comprising residential above and light manufacturing / workshops on the ground floor (possibly first floor). Up to four storeys walk-up. Suitable also for creating edge condition.



Byker Residential District: Multiple and diverse residential development of various types. Principle is edge residential "wall" that shields the interior from noise and pollution, affording a tranquil and protected residential development. Source: Kirschenmann et al., 1980, Residential Districts, Granada Publishing.

A district
Residential building structure with single and multi family units.

Building site (ha)	12.24	237	72
Dwellings	876	R/ha	D/ha C/D
Residents	2900		

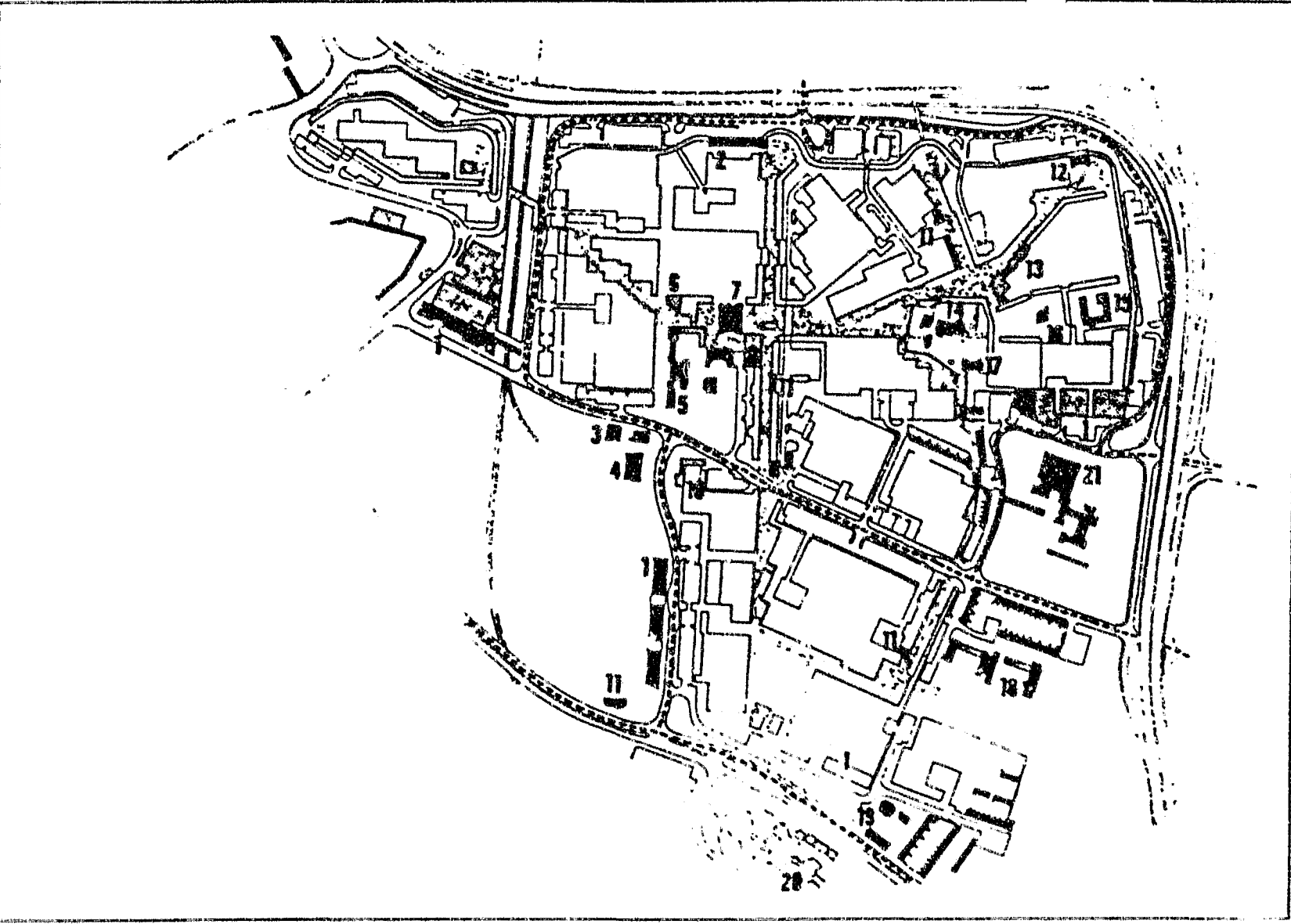
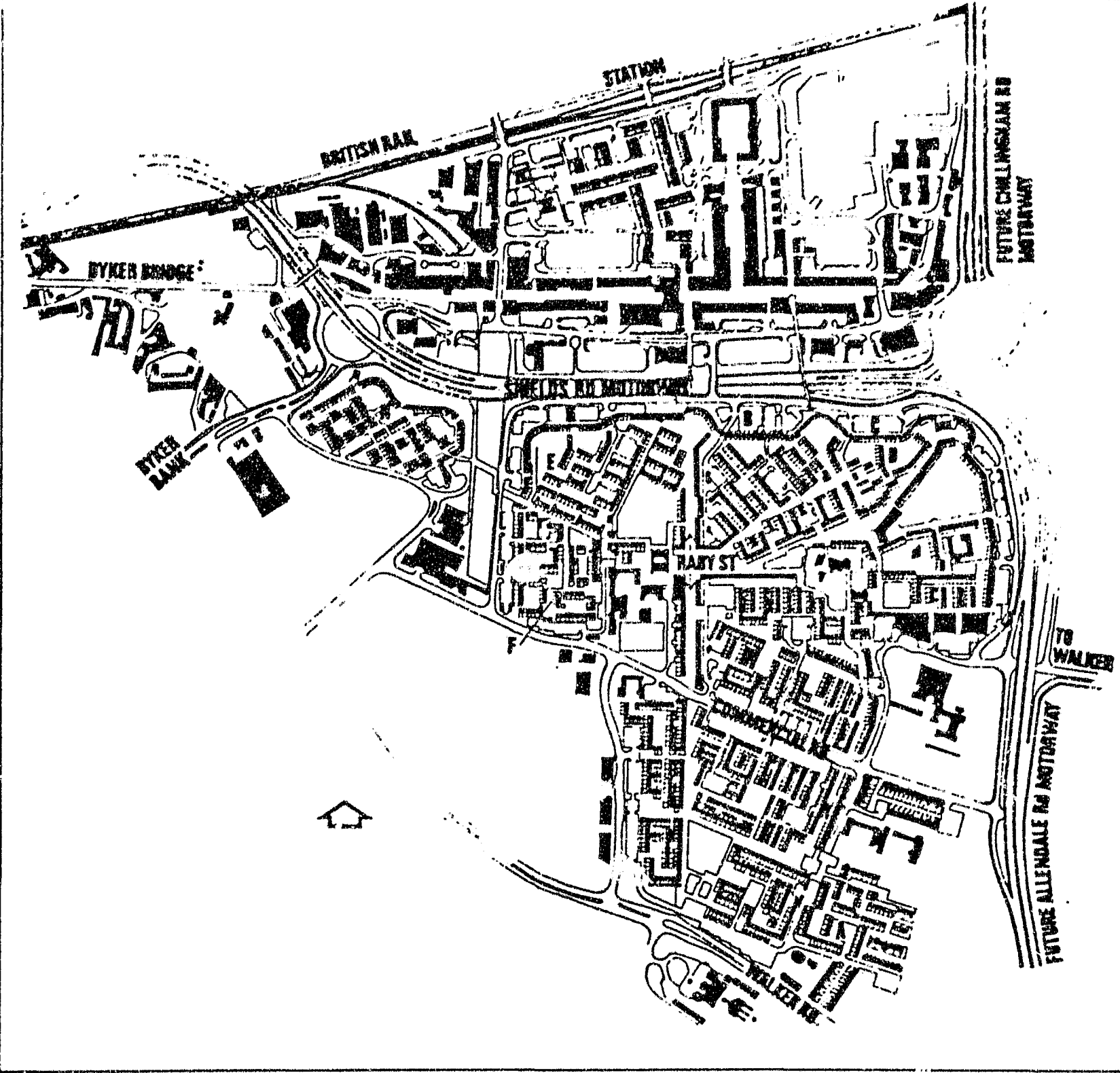
Byker, Newcastle upon Tyne/ England
Architect R. Erskine, V. Grace
Building sponsor District Council Housing Committee
Financed by public funds
First projected 1968 (preparatory work), from 1970
Construction time from 1970 onwards

Residential district - background
Location 1.5 km to the east of the town centre, adjacent to a shopping district in the north, with heavy industry further to the east. One of the planning conditions was a main road to be built in the future to the north and east. The site slopes steeply (15%) at first to the south west and is then flat. There are views over the Tyne valley. The whole renovation area covers some 81 ha and consists of 2-storeyed rows of terraced houses (shipyard workers) built during the middle of the last century, together with the necessary amenities. The planning target (first for 9500 inhabitants, today 6500) envisages a 15- stage renovation programme: building-moving-demolition-building, and is endeavouring to retain the character of the district and to preserve existing social relationships. The architects' office is in the district.

Housing development
The above mentioned data are based on the first five stages of the programme. Along the northern edge (8-storeyed) and towards the east (4-storeyed) is a sloping row with pathway access (forming a type of protective wall against noise), with 3 - 4-storeyed residential buildings in front of it and with predominantly 2-storeyed terraced houses in the flat area. To date, about 85% of the housing constructed has been in the form of flats and 15% single family houses. The residents were able to bring their experience to bear and had a say in the development thanks to the prior formation of a housing group (A). There are dwellings sizes for between 2 and 6 people in the form of flats, maisonettes and houses. 1 and 2 person 48%, 3 and 4 person 35%, 5 and 6 person 17%. The covered access balconies to the 'housing wall' are on the south side, whilst on the north side (brick graphics in five colours) there are only kitchens and auxiliary rooms.

Traffic - parking
External access system (including bus route) in the west, north and east, with open parking. Roads through to the development in front. Differentiated road system for the house groups. Max. distance between car and dwelling: 50 m.

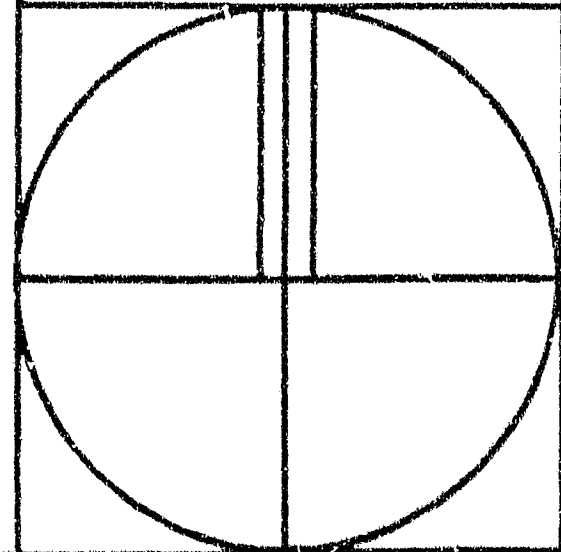
Footpaths - open spaces
The open spaces of the single family houses are integrated into the access paths by means of gardens. Walkways and stairs lead to the main footpaths, which, in the form of a traffic-free network, connect with all the main community amenities in particular. There are bridges to neighbouring areas.

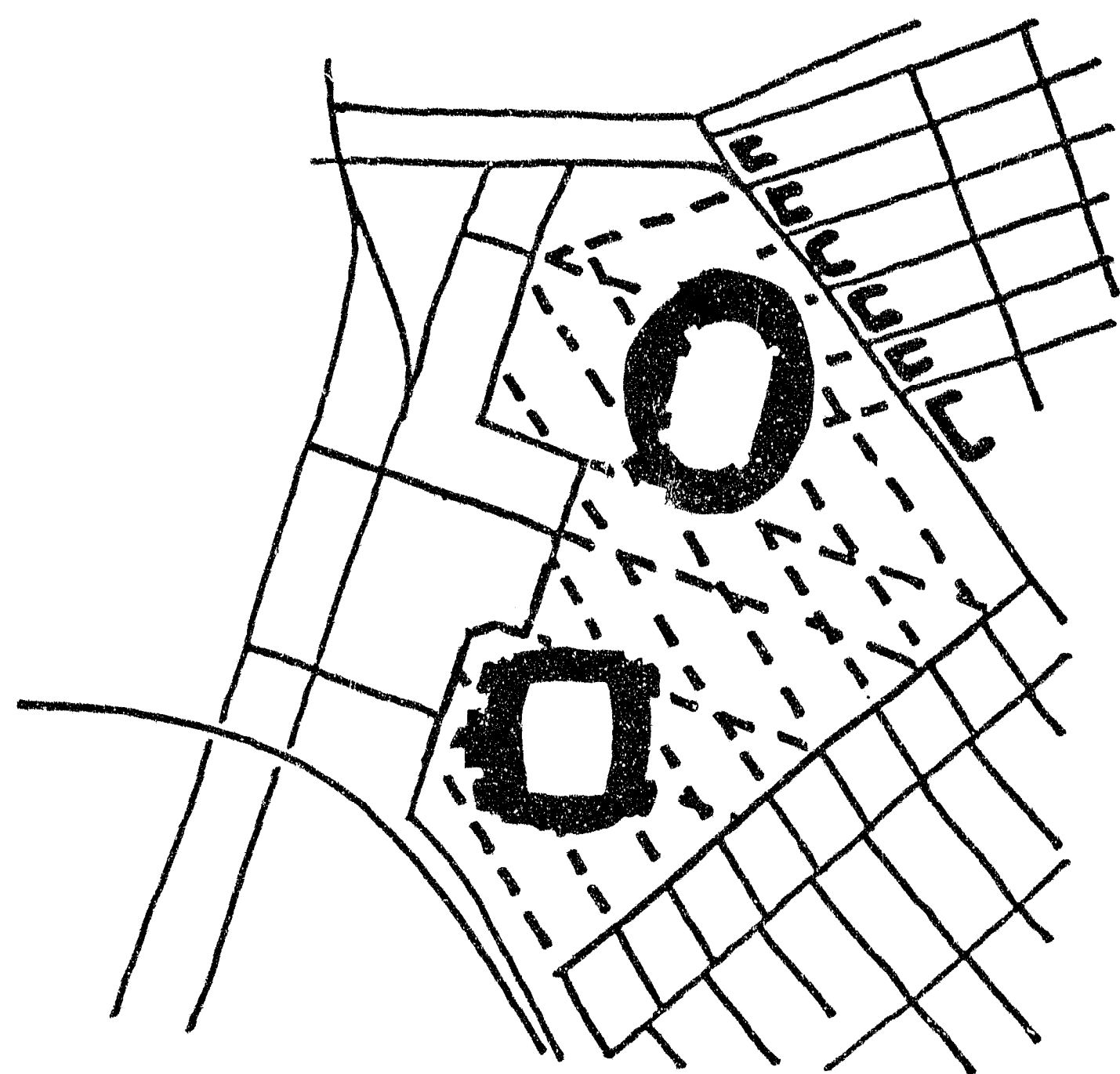


Proposal Stage

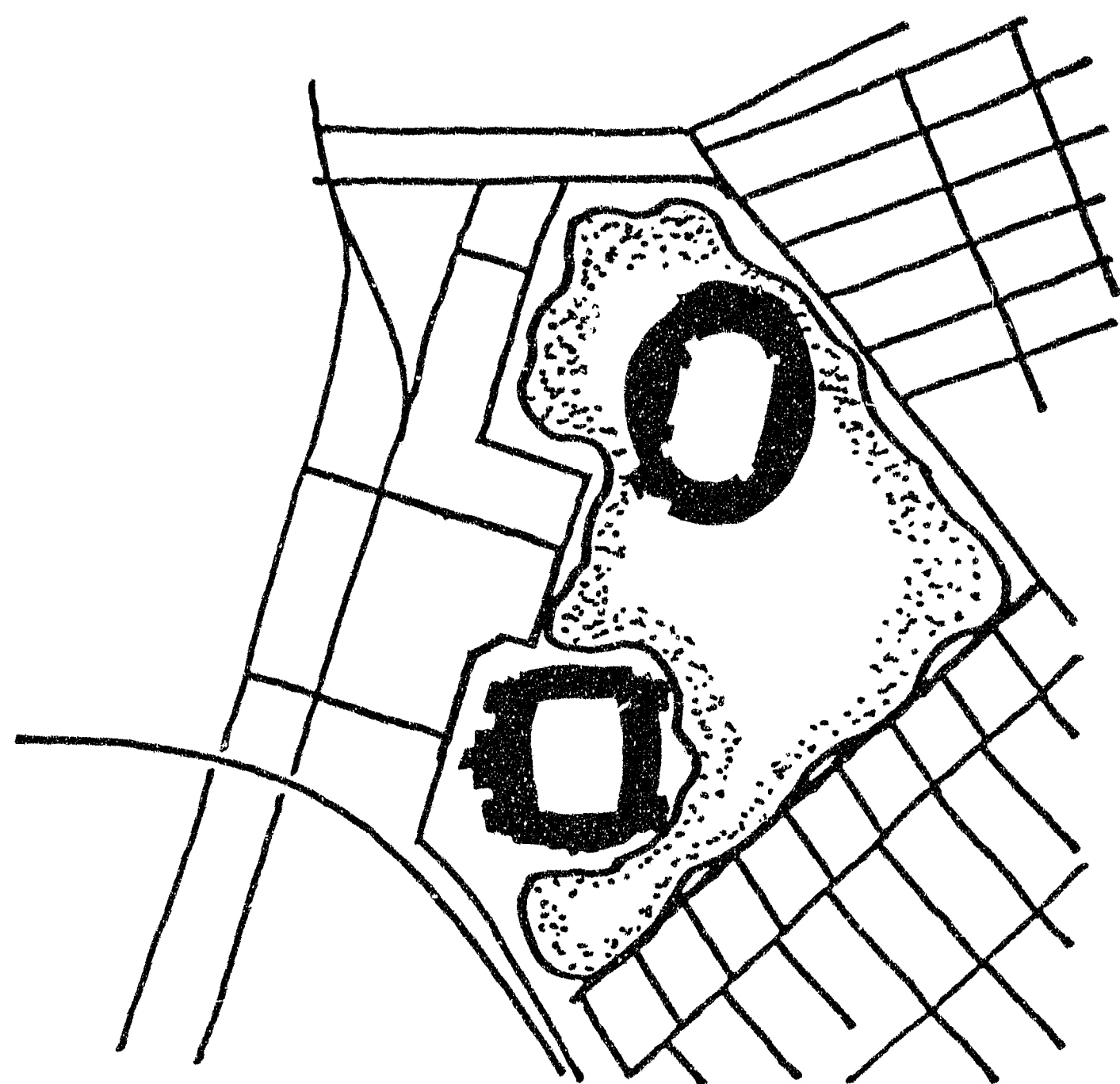
PRINCIPLES REGARDING EDGE DEVELOPMENT

ELLIS PARK URBAN DESIGN FRAMEWORK

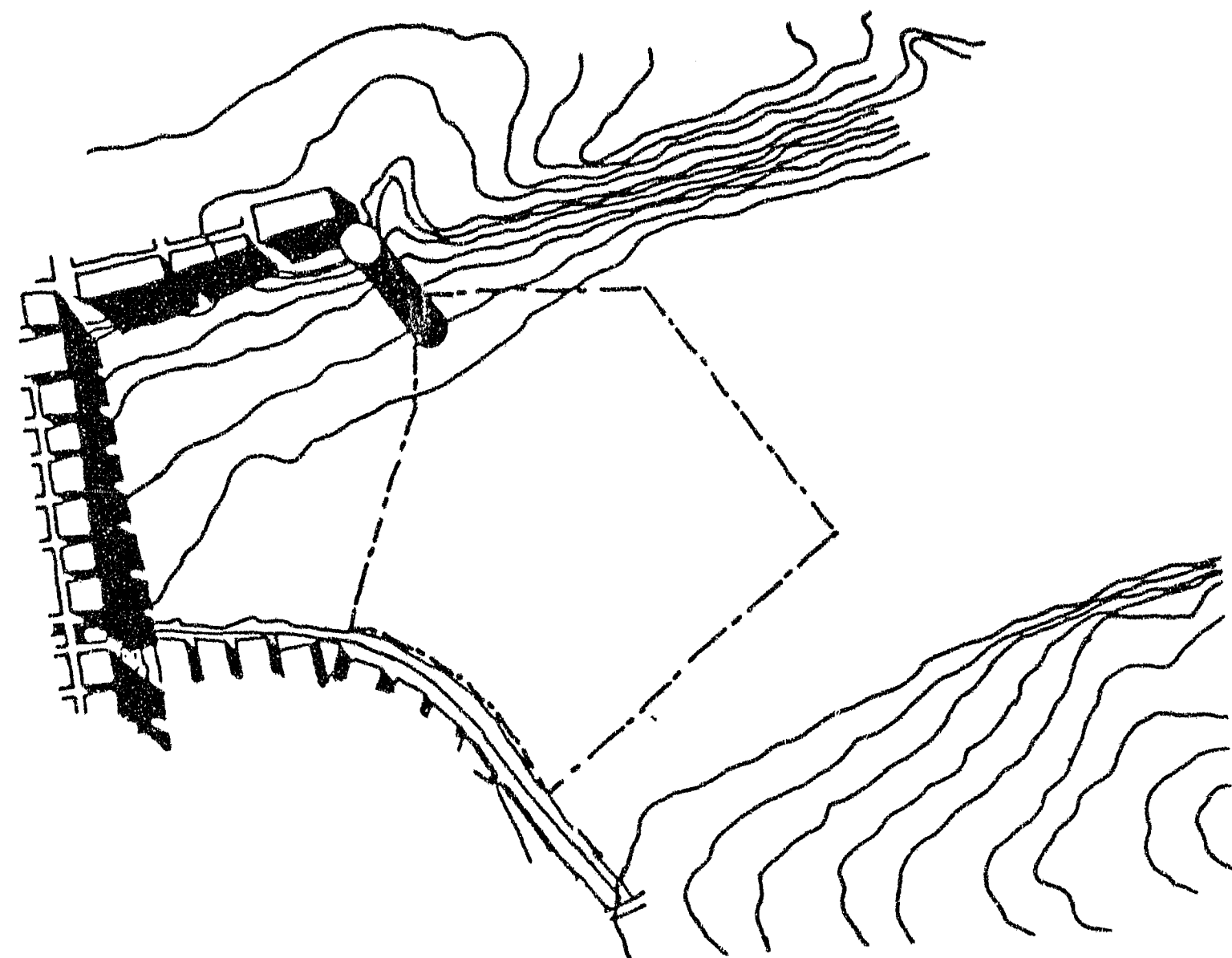




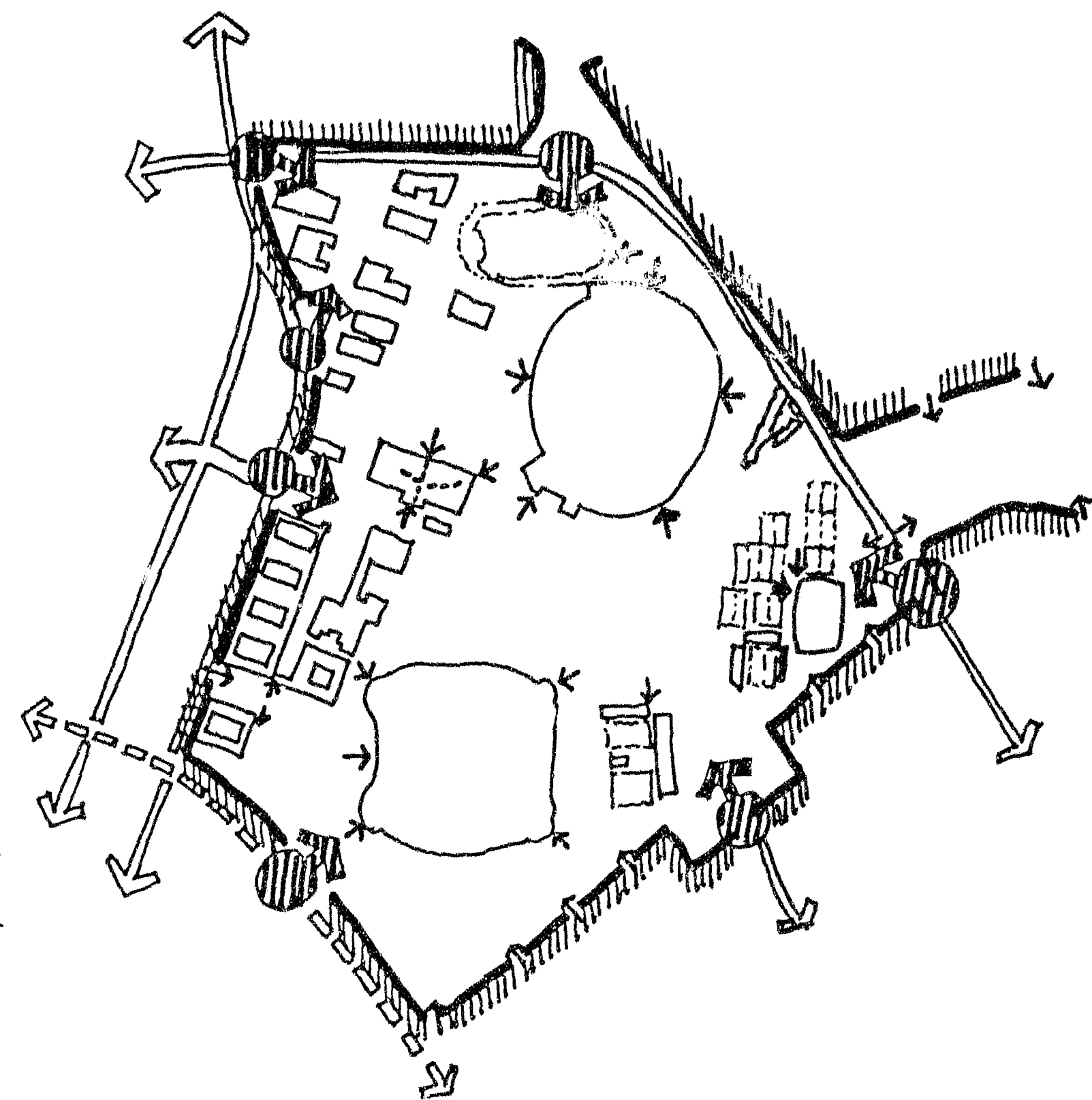
1. Clashing grids with isolated, individually places monolithic structures, intensely developed around the edge ...



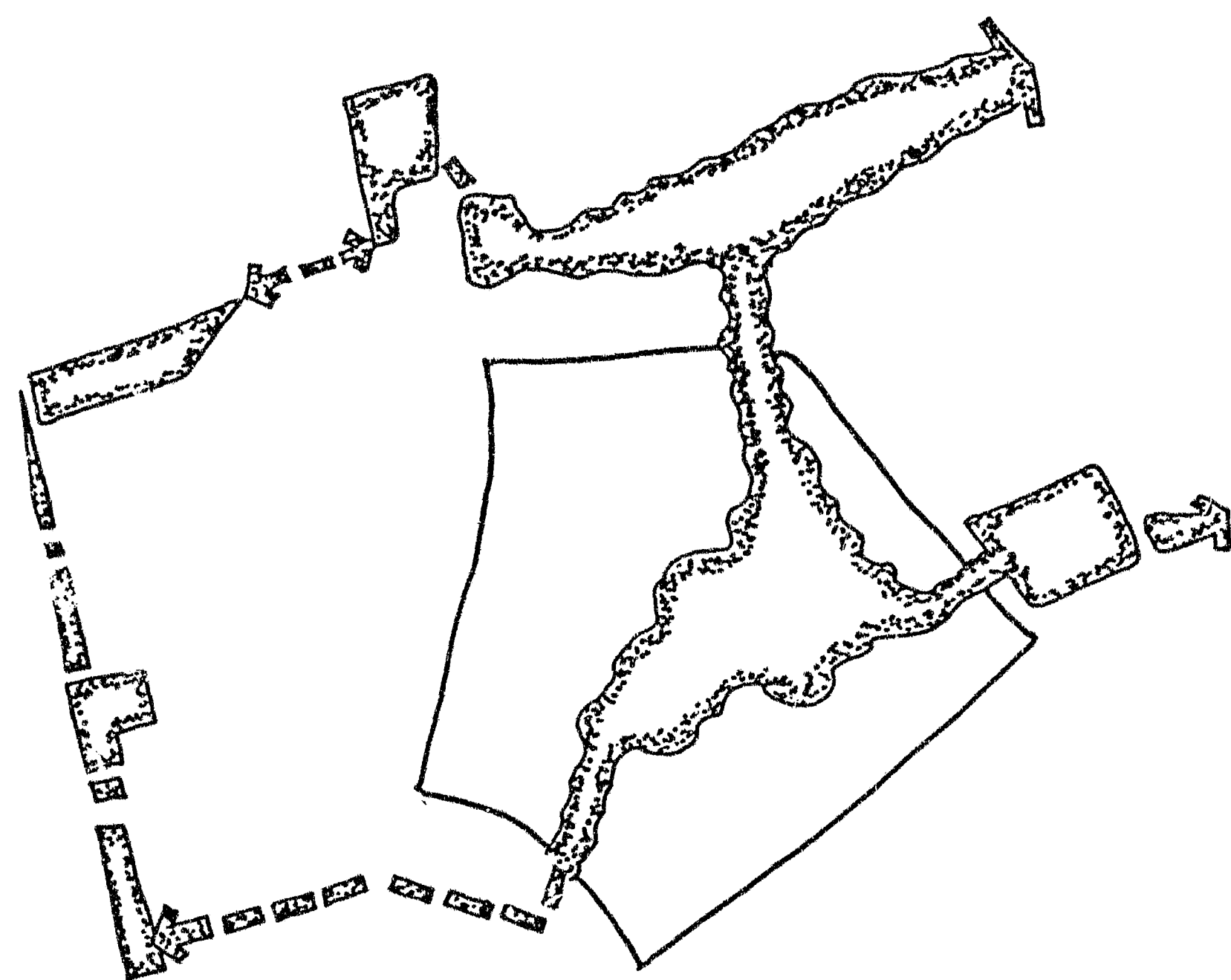
2. ... create the opportunity for the establishment of a place with special qualities ...



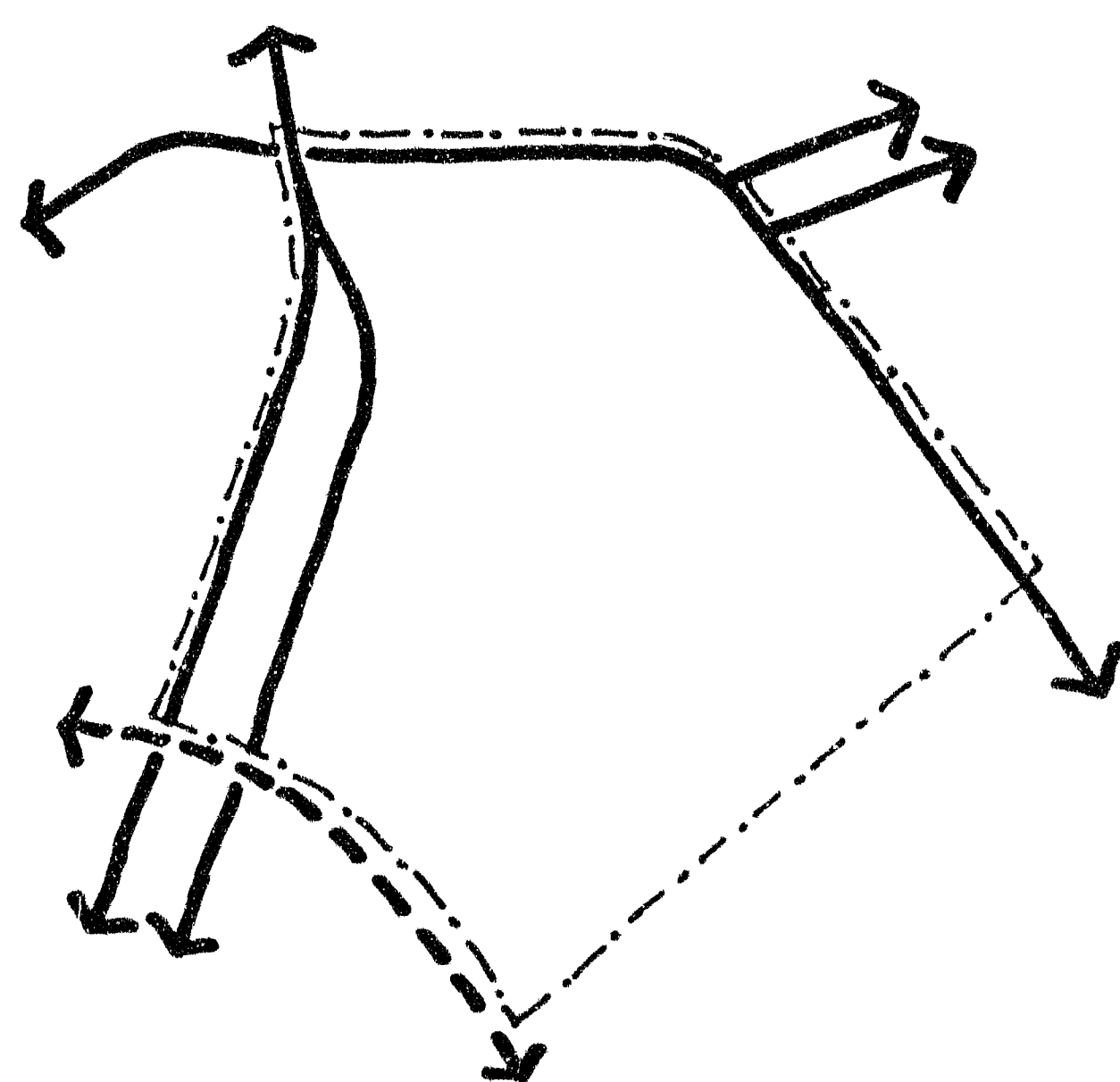
3. ... reinforced by its natural setting, a cradle formed by the surrounding ridges and the Johannesburg city skyline.



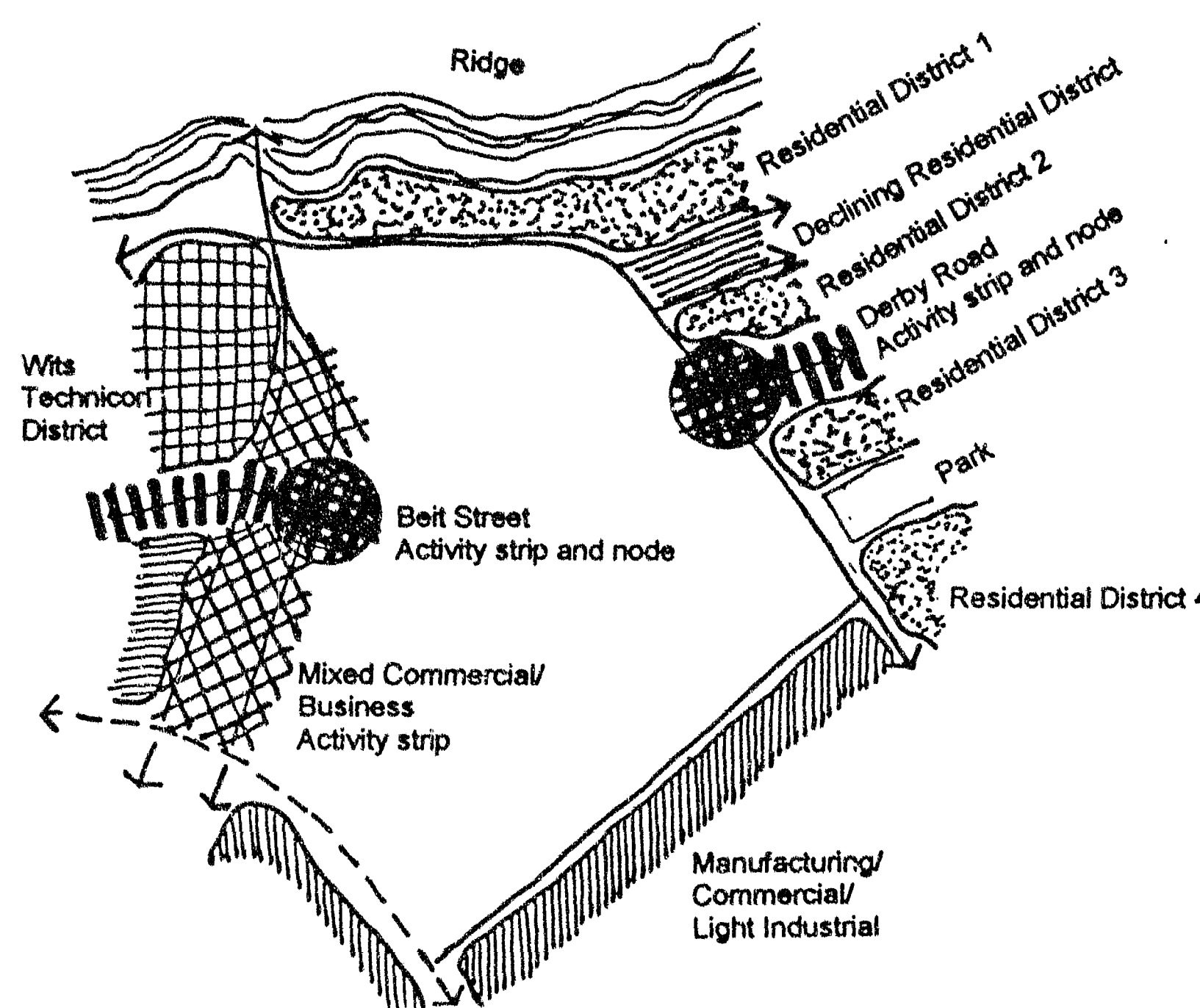
4. Major and secondary entrance points reveal a diffuse pattern, reinforcing the notion of a central space. The major entrances are at the edges of the precinct, reinforcing its "urban room" structure.



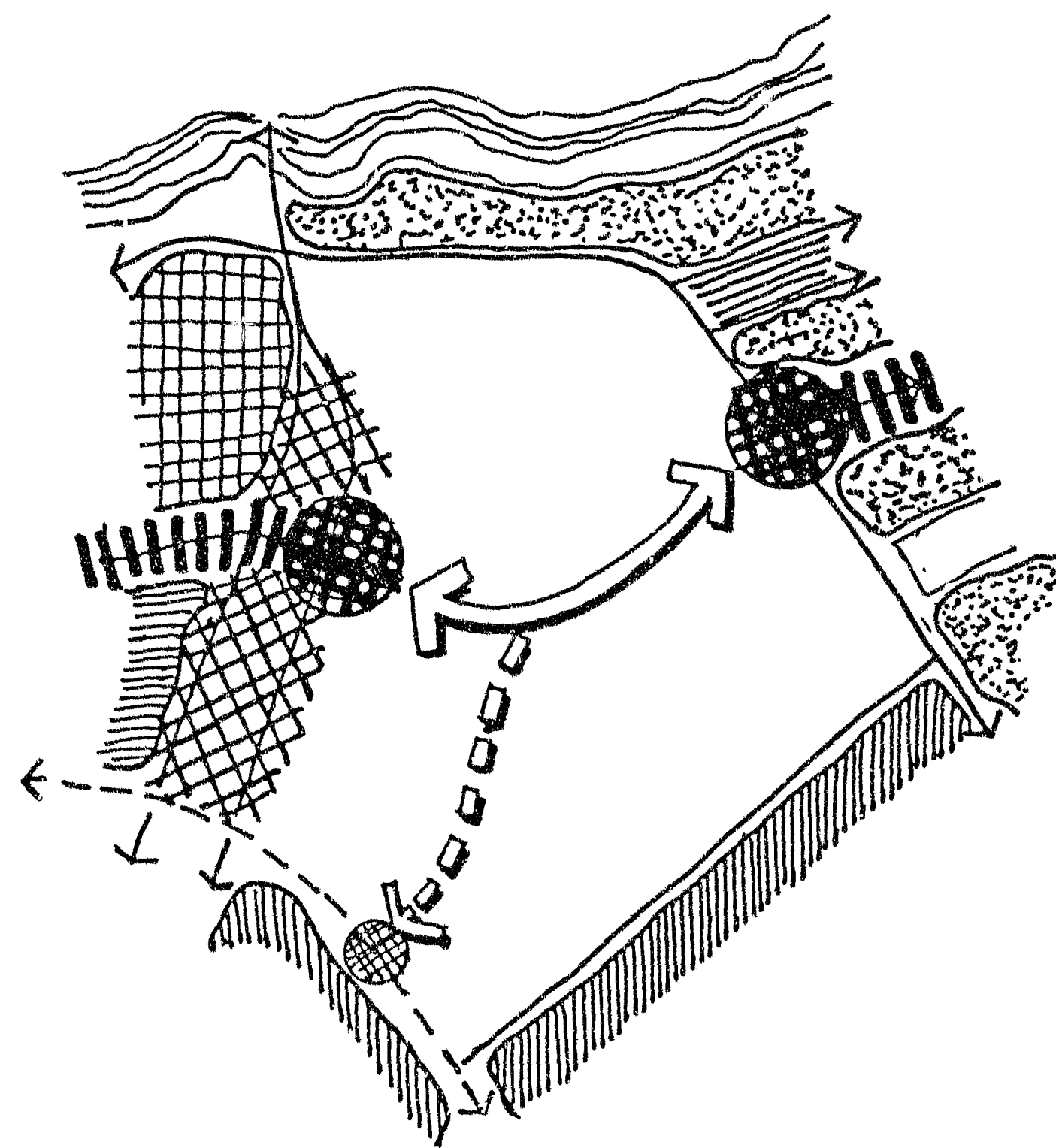
5. The identified objective to establish an open space system integrated with existing environmental structure, comprising existing parks, the ridge and the Jukskei River Valley.



6. Design within the constraints of the existing main route movement network.



7. Directed by the districts that structure the adjoining land-use activities...

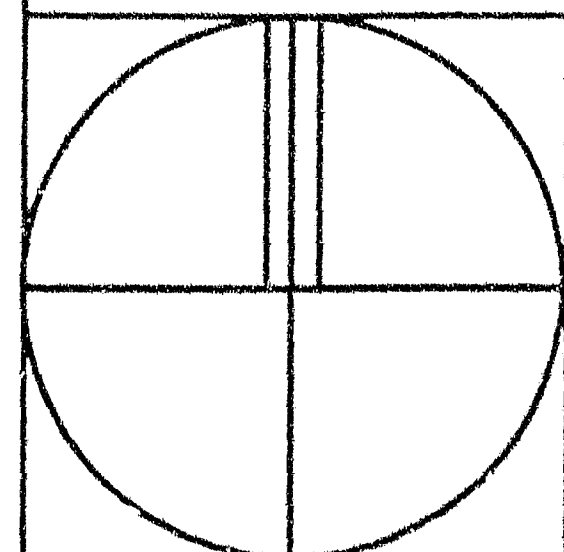


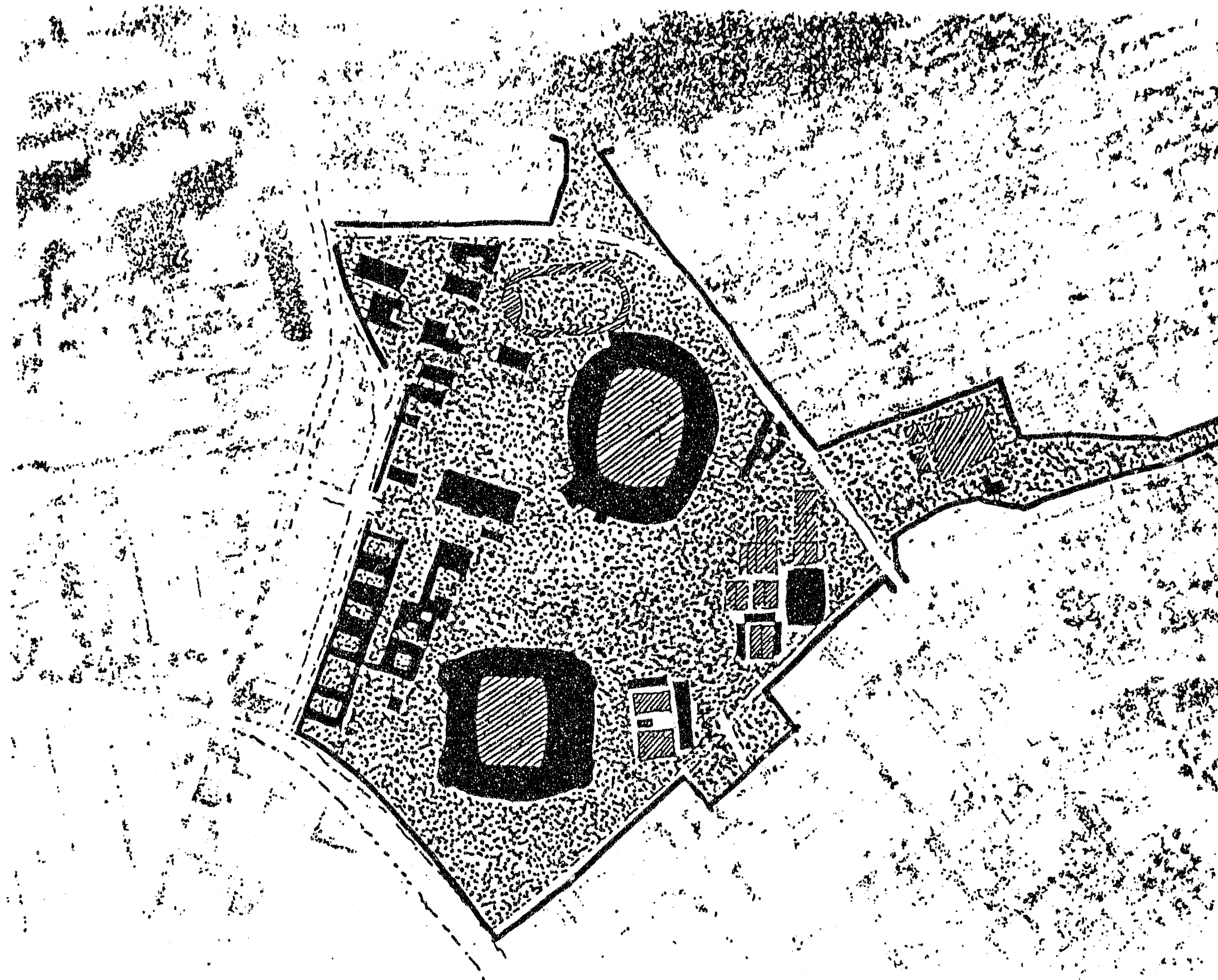
8. ... and the established need for linkages between nodes.

Proposal Stage

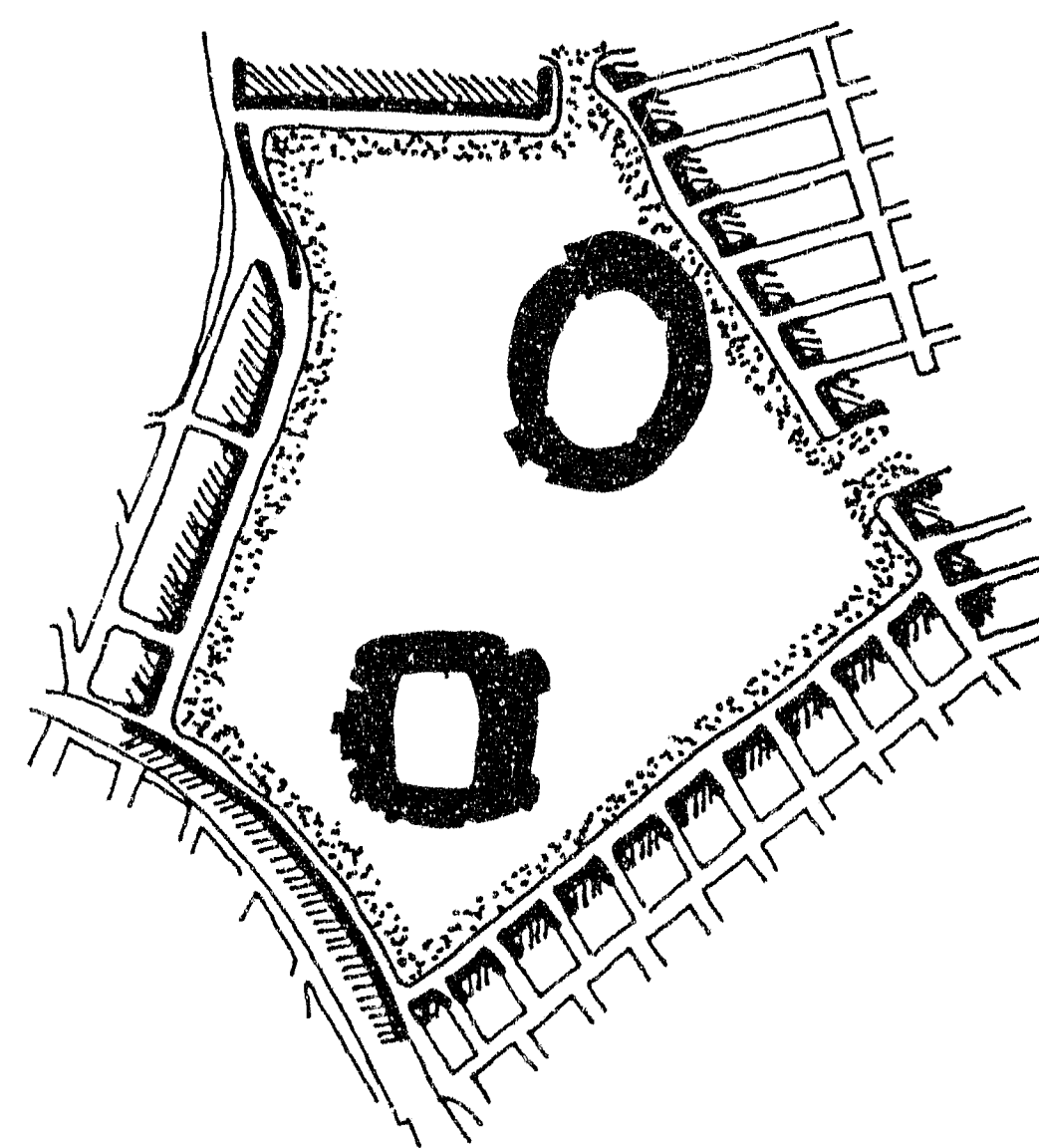
SPATIAL PRINCIPLES GUIDING DESIGN IDEAS

ELLIS PARK URBAN DESIGN FRAMEWORK



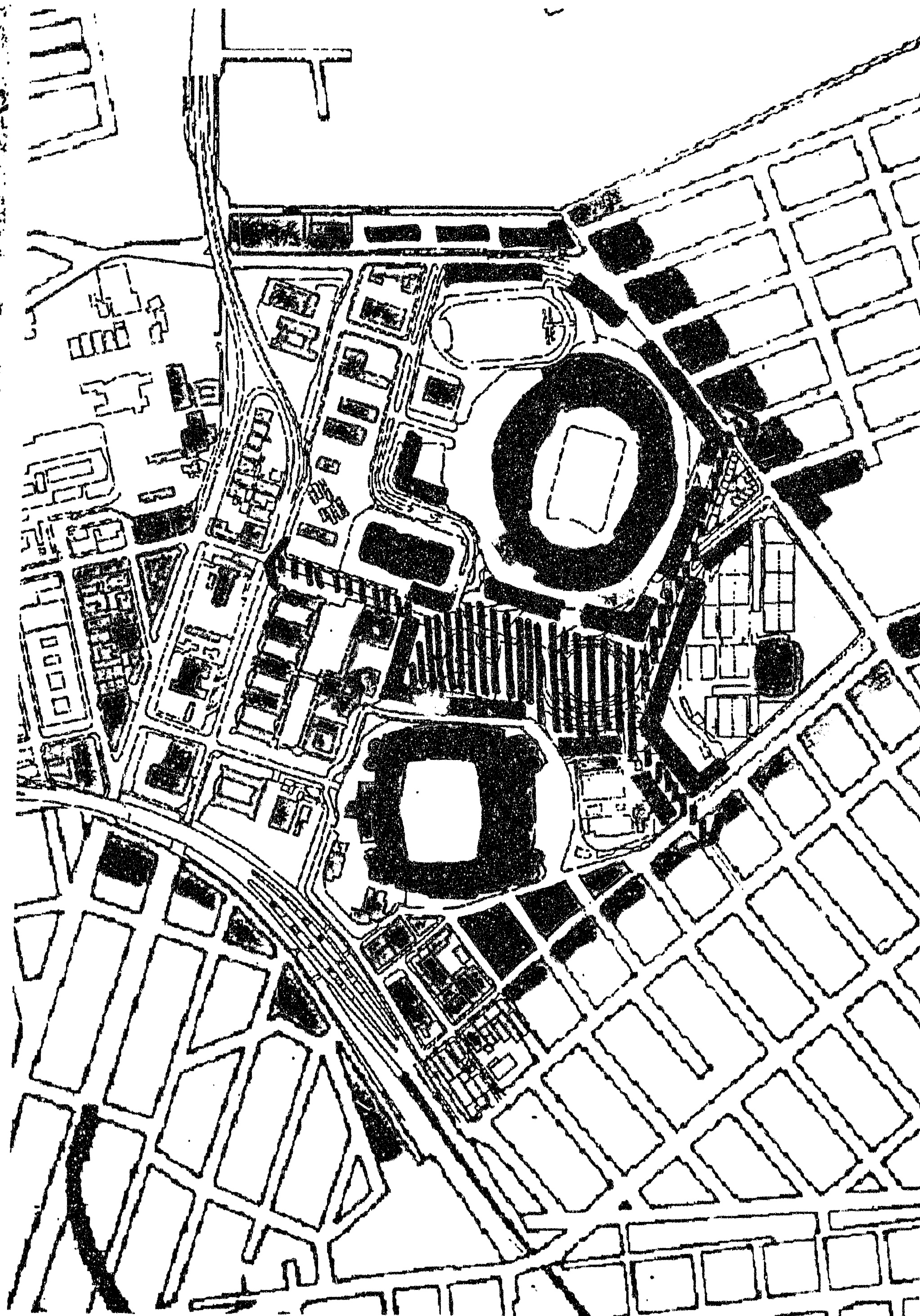
"CENTRAL PARK" TYPE

Within the context of existing built form.

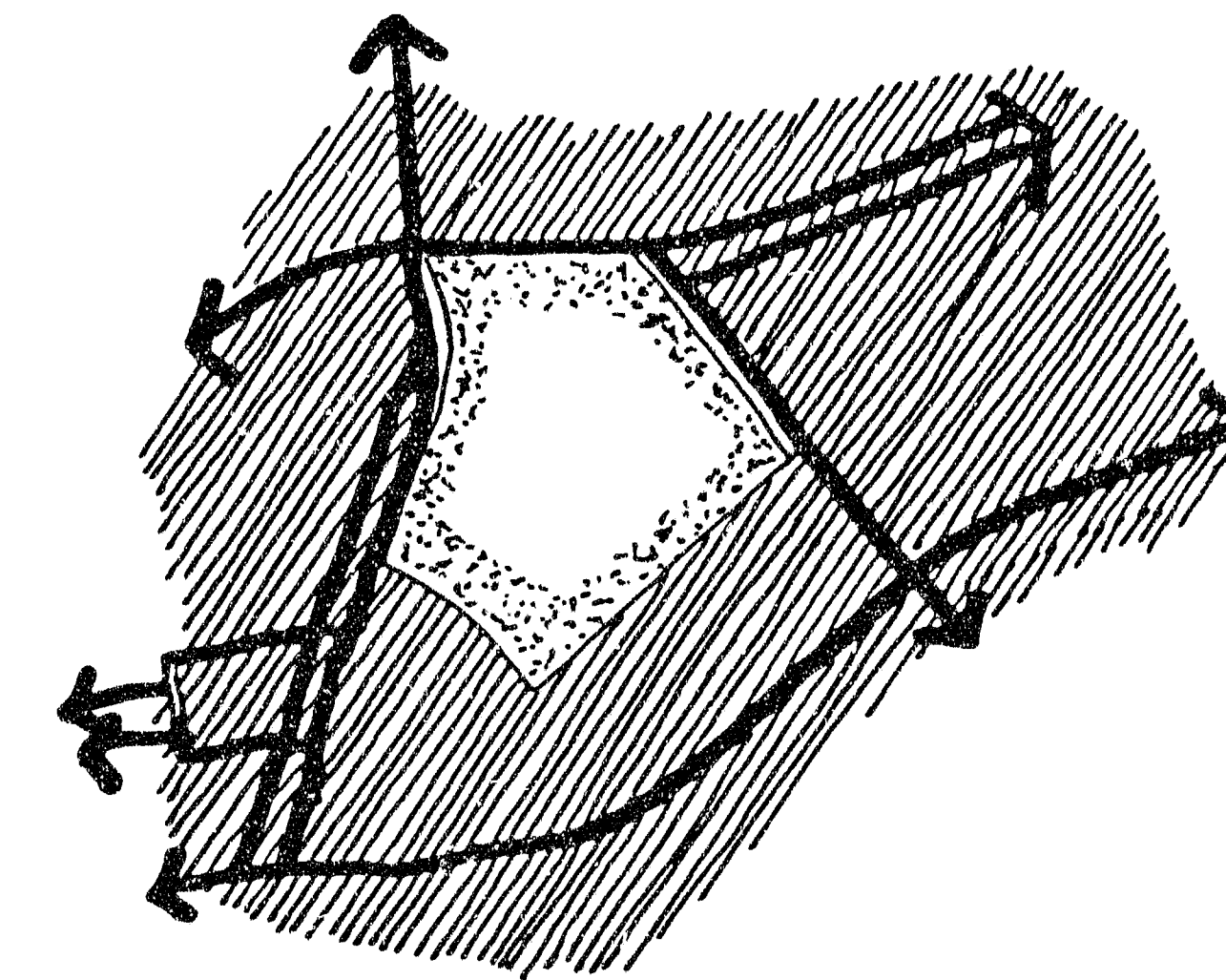


With all 'minor' buildings removed except the stadia

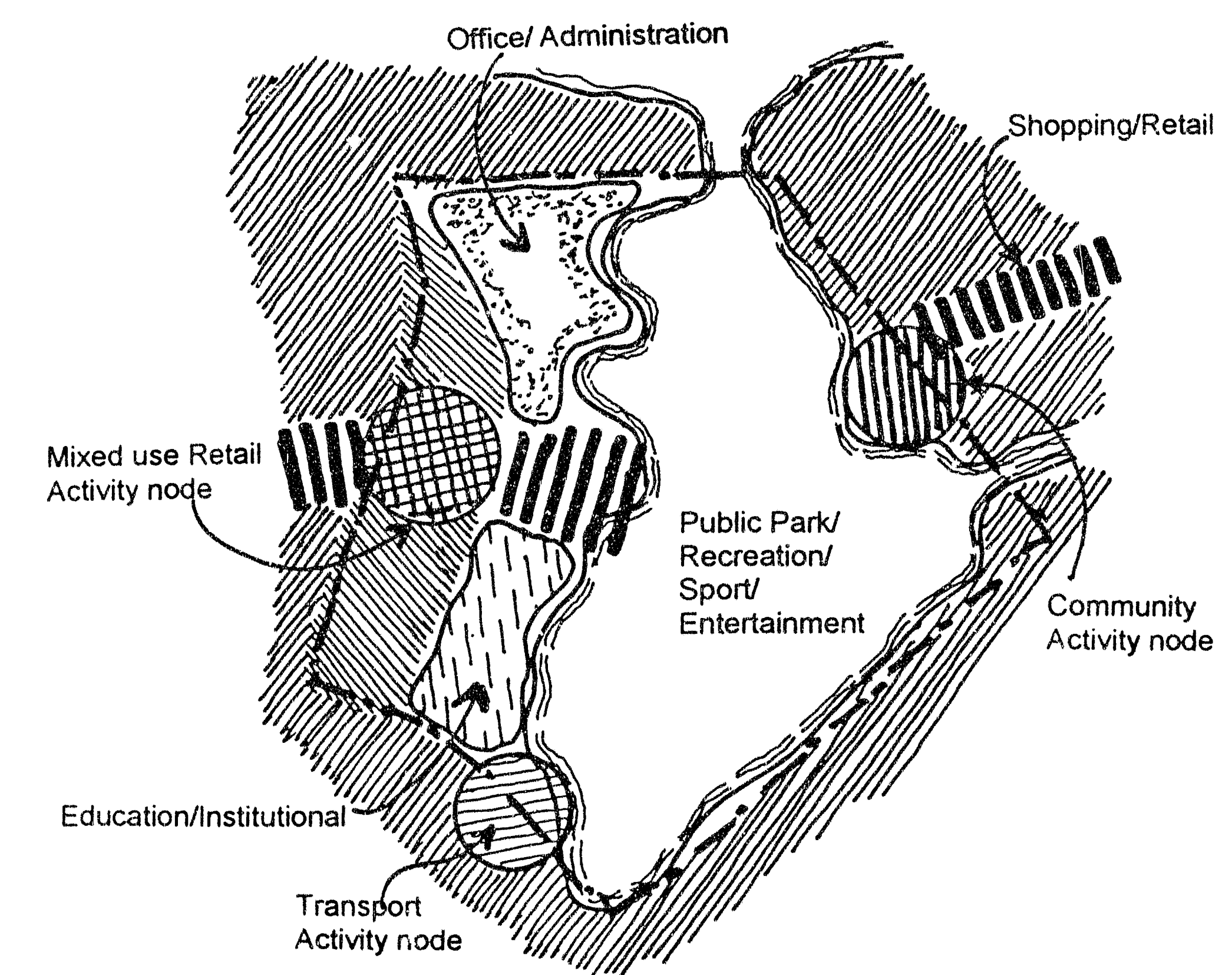
Alternative 1: A "Central Park" type approach, that develops the precinct into a public open space and sport recreation facility. The edges are strongly defined by development that fits with the adjoining context, such as residential along the northern and eastern edges, manufacturing and light industrial to the south and mixed business and retail to the west.

"CLIP-ON" TYPE

Alternative 2: "Clip-on Development". This approach considers adding development on to the stadia – adding mixed use activity buildings with a central public space.

"OASIS" TYPE

Ellis Park as an "Oasis" in the urban fabric



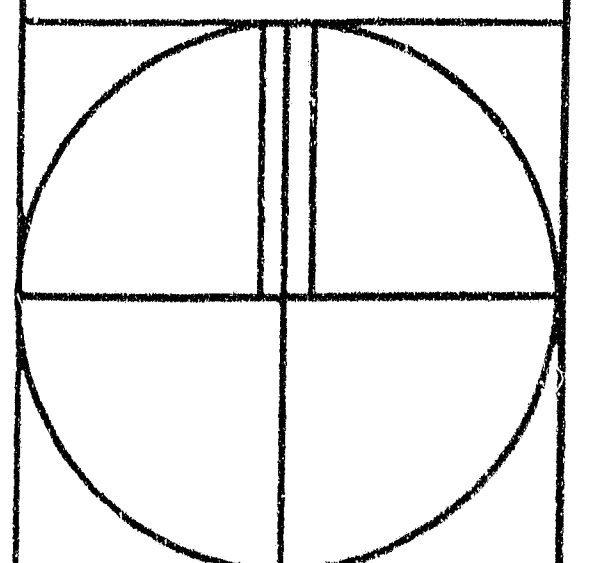
Ellis Park: A resource to its communities

Alternative 3: An "Oasis" approach. This considers the Ellis Park Precinct as a "resource" to its surrounding communities. People, be they residents and / or part of the workforce, come to Ellis Park for recreation, relaxation, partake in sport and physical entertainment, shopping and business, education and skills training etc. Ellis Park becomes an "oasis" within the dense urban fabric both in a physical sense and in terms of the resources provided to meet people's needs.

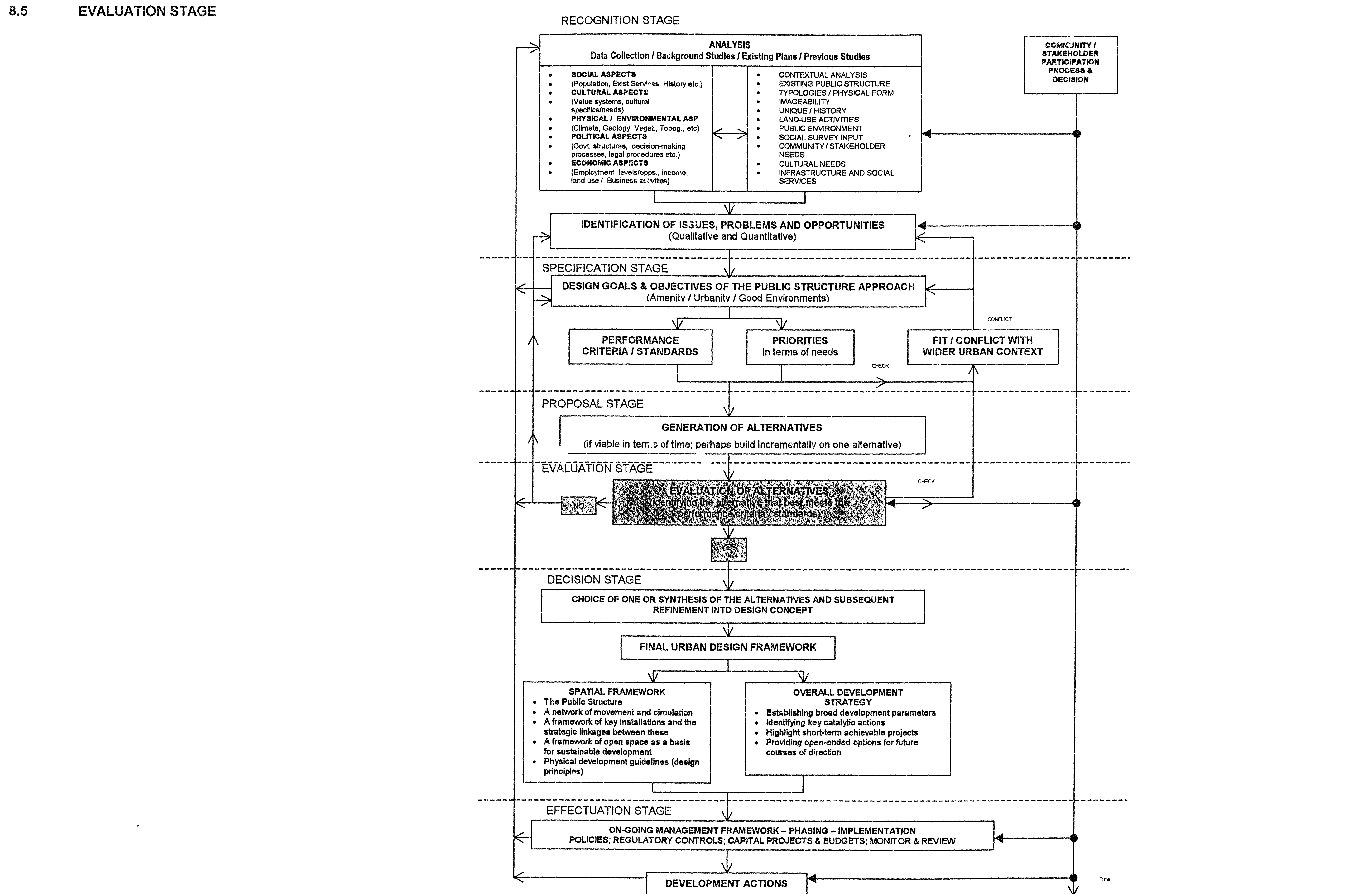
Proposal Stage

DESIGN ALTERNATIVES

ELLIS PARK URBAN DESIGN FRAMEWORK



8.5

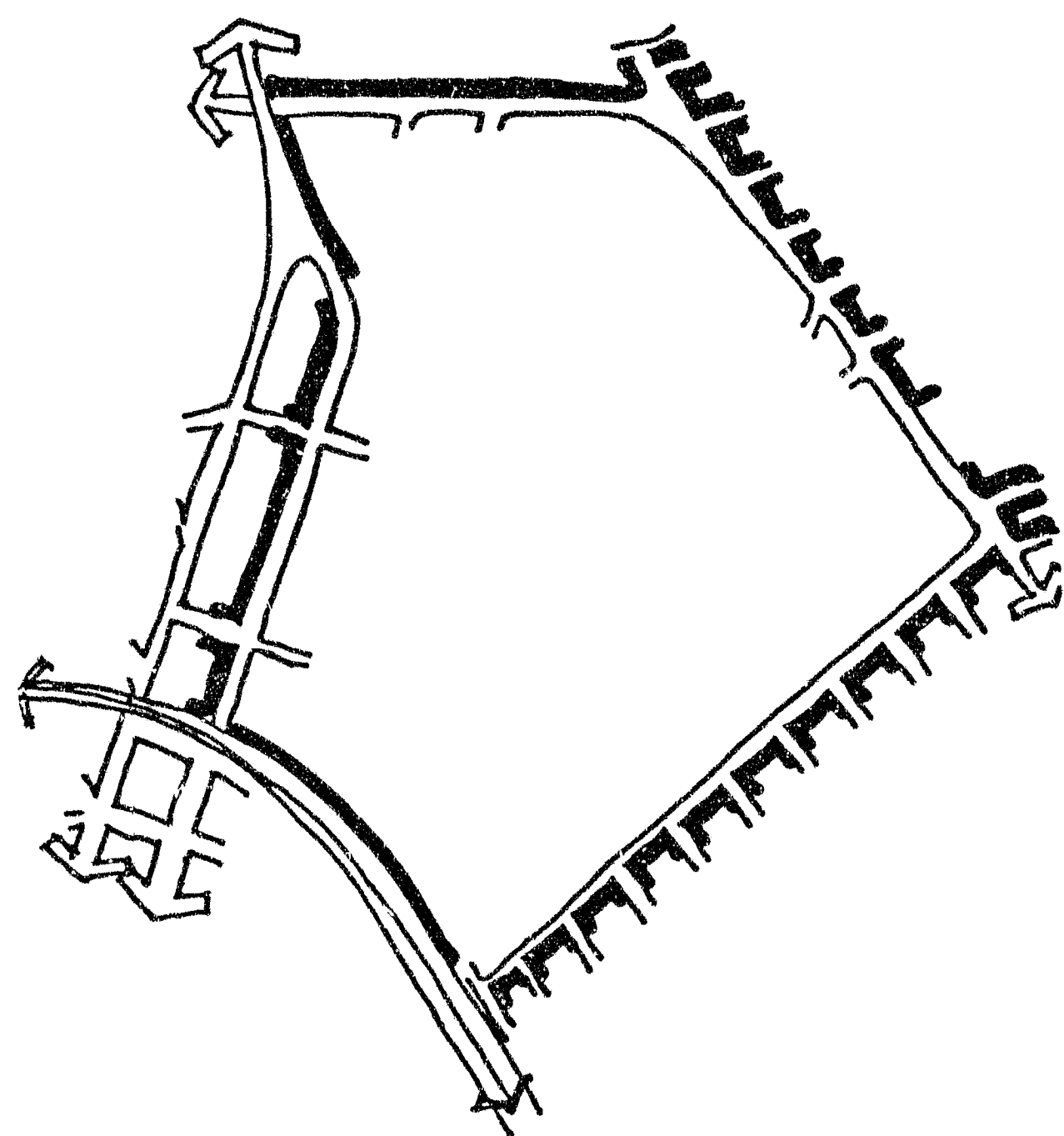


EVALUATION OF ALTERNATIVES

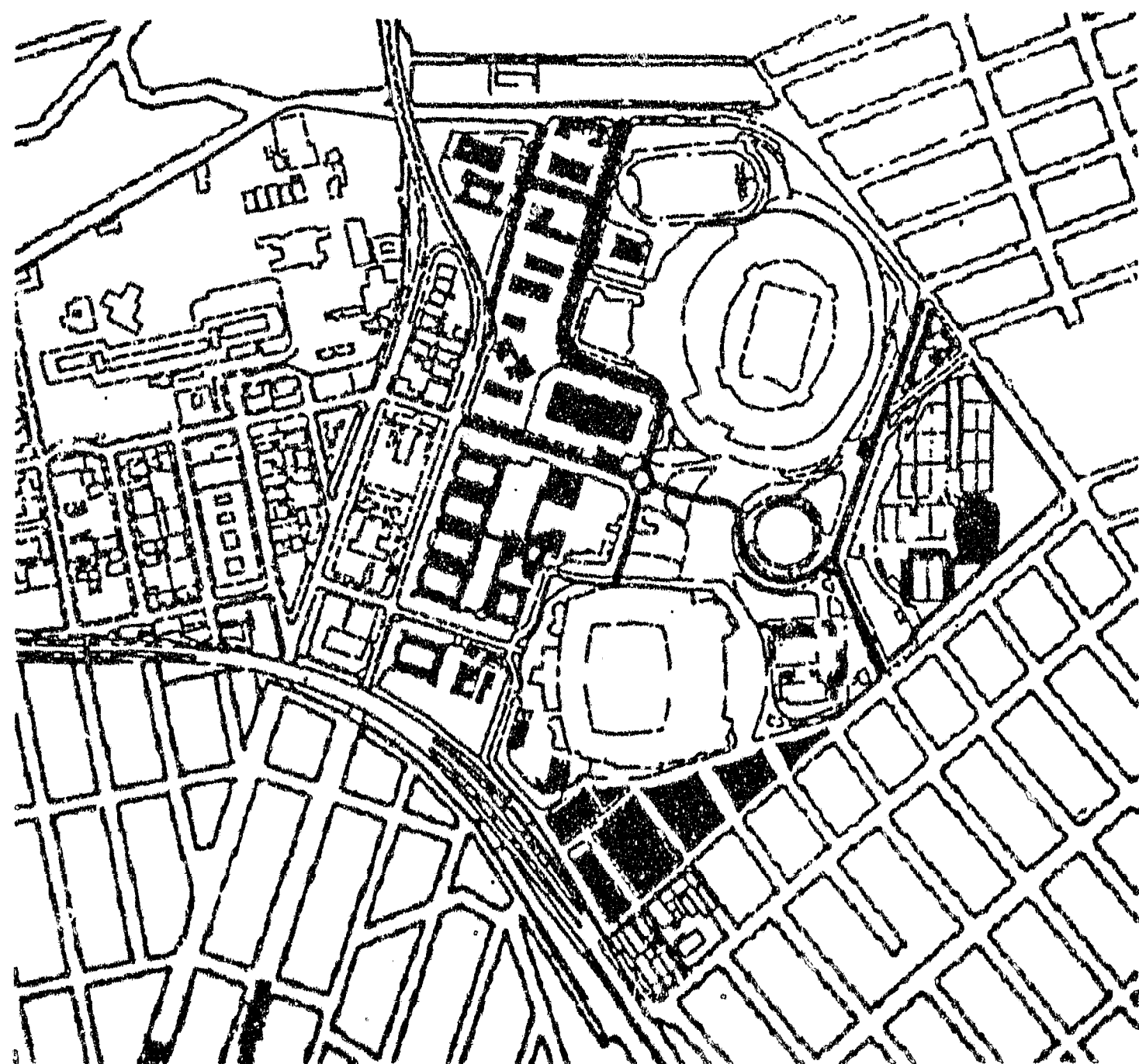
The three design alternatives each have strengths and weaknesses:

Alternative 1: It's **strength** lies in the concept of edge, requiring that a conscious effort is made to structure the relationship and design the physical edge of the Ellis Park Precinct with the adjoining districts. It provides a basis for the physical definition of Ellis Park as a district place.

The defined edge of the Ellis Park Precinct:

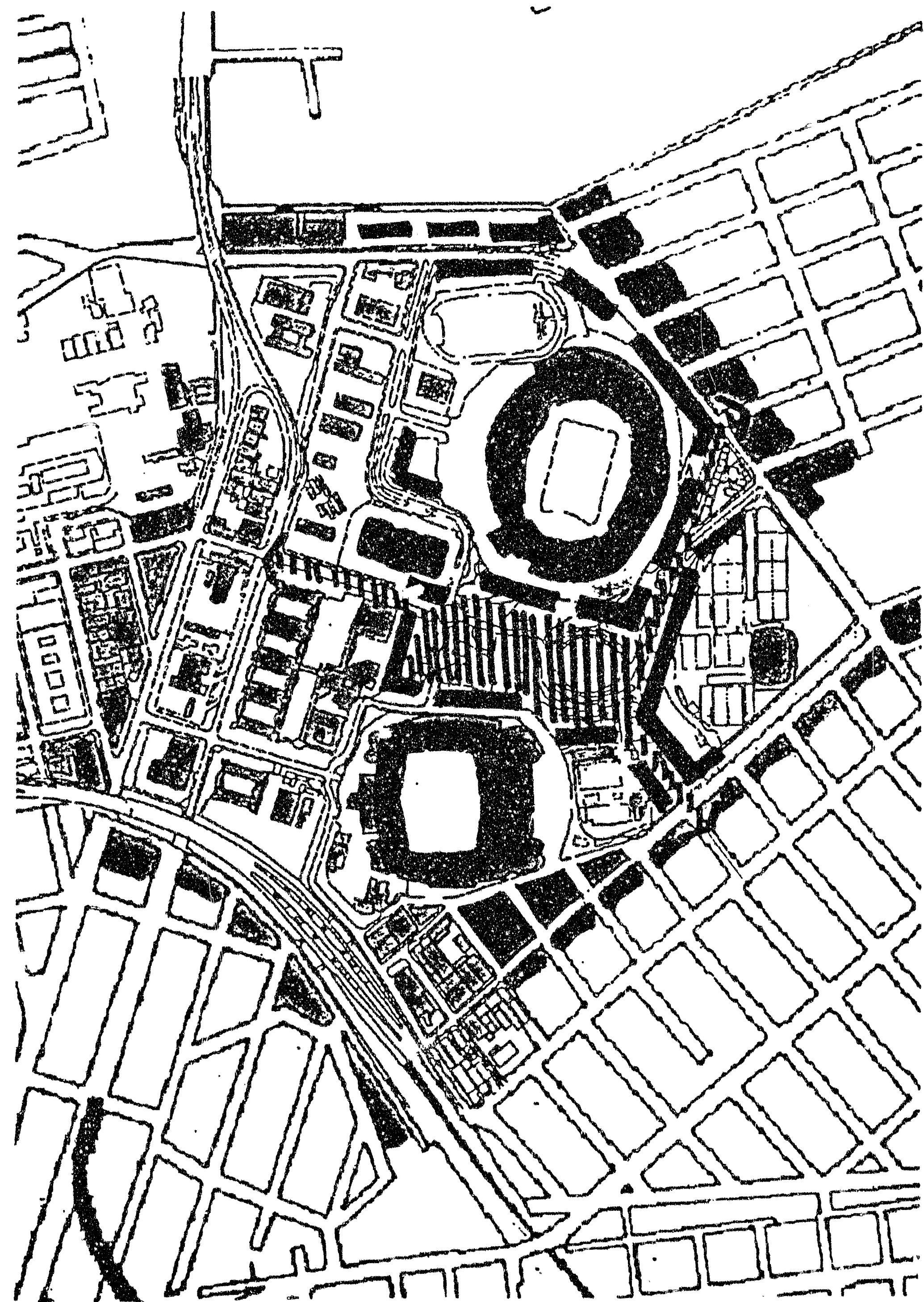


The **weakness** of Alternative 1 is the need to remove existing buildings, in order to achieve the "Central Park" effect as indicated below. This is unfeasible in the context of scarce resources and the value and quality of the infrastructure involved.



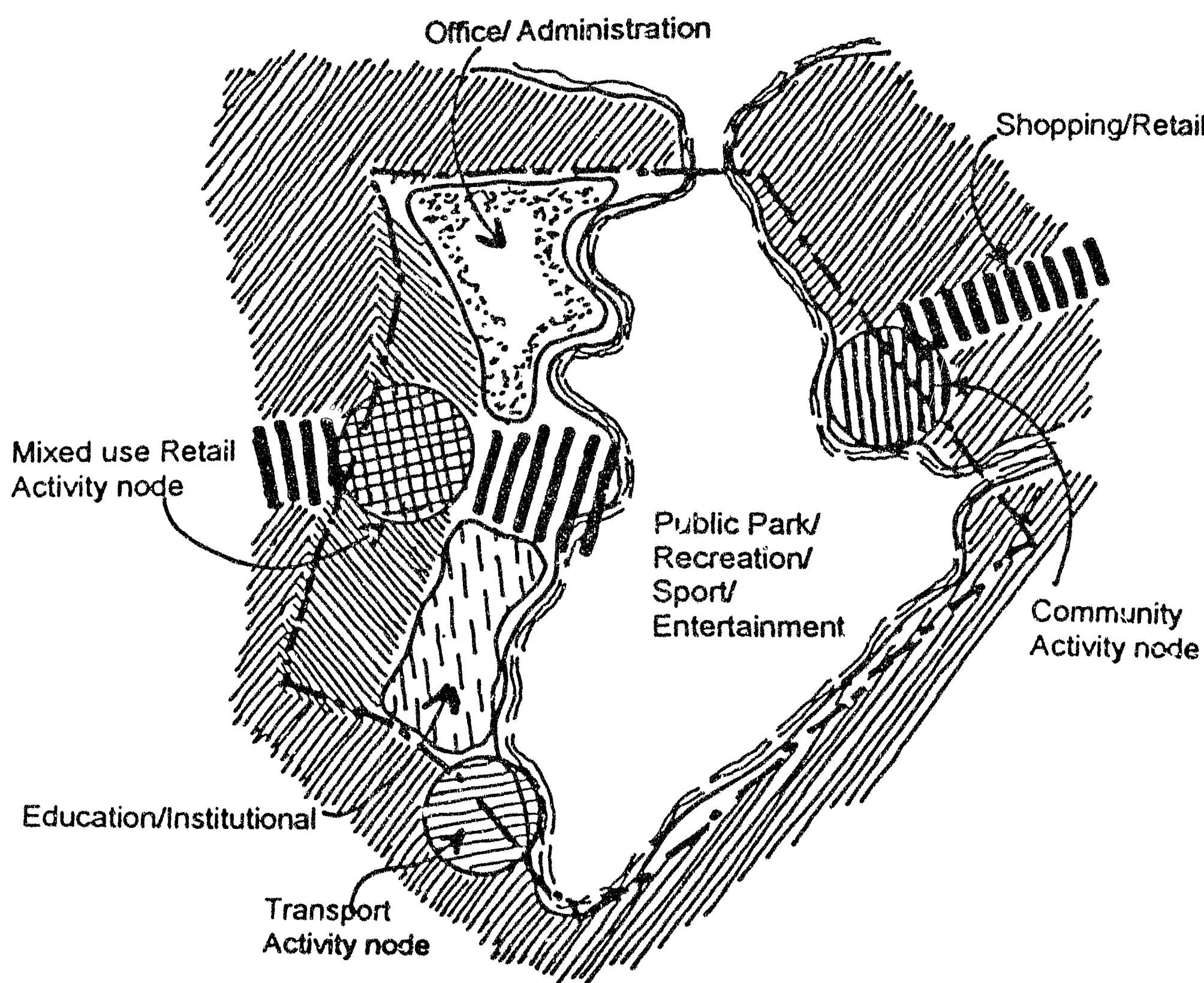
Alternative 2: It's **strength** lies in the forging of linkages between the adjoining districts and related nodes. This principle is important for the functioning of the sub-region.

The **weakness** of Alternative 2 is that it "hides" the stadia, removing their prominent status and relegating them to being just another element in a milieu of buildings. This removes the opportunity to celebrate these stadia as unique elements, both in terms of the activities they provide and as physical sculptural elements, that contributes to the physical character and multi-functional nature of the Ellis Park Precinct.



Alternative 3: It's **strength** lies in the emphasis of Ellis Park being a multi-functional resource environment, which provides for and meets the needs of adjoining residents, the workforce within and around the precinct, from local level through to metropolitan, provincial and even national level. It further emphasises that Ellis Park must be accessible if it is to function as an "oasis".

The **weakness** of Alternative 3 is that it builds on existing trends and current linkages. The latter are important in the context of enabling a greater variety of uses and activities within the Ellis Park Precinct.



Conclusions: An approach is adopted for the development of a design concept that builds on the strengths of the alternatives:

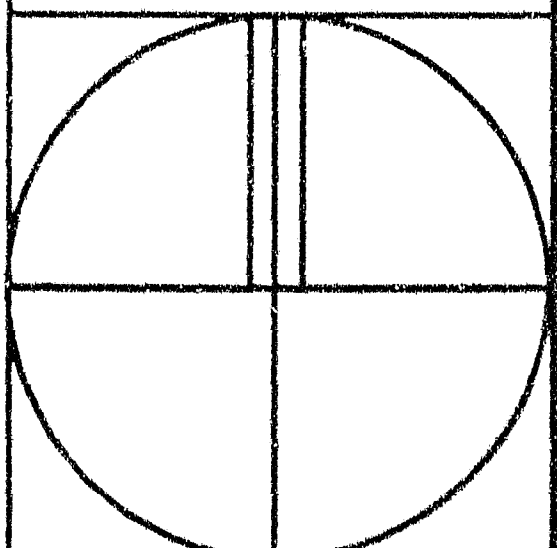
- Establishing a definite edge and the design of the interrelationship with adjoining precincts.
- Forging new and retaining existing linkages between the surrounding districts.
- Celebrating the stadia as physical elements, and maximising their utilisation.
- Build on the existing functions and activities, and introduce new ones, as assessed in the analysis.

The above are combined with the spatial principles elicited earlier.

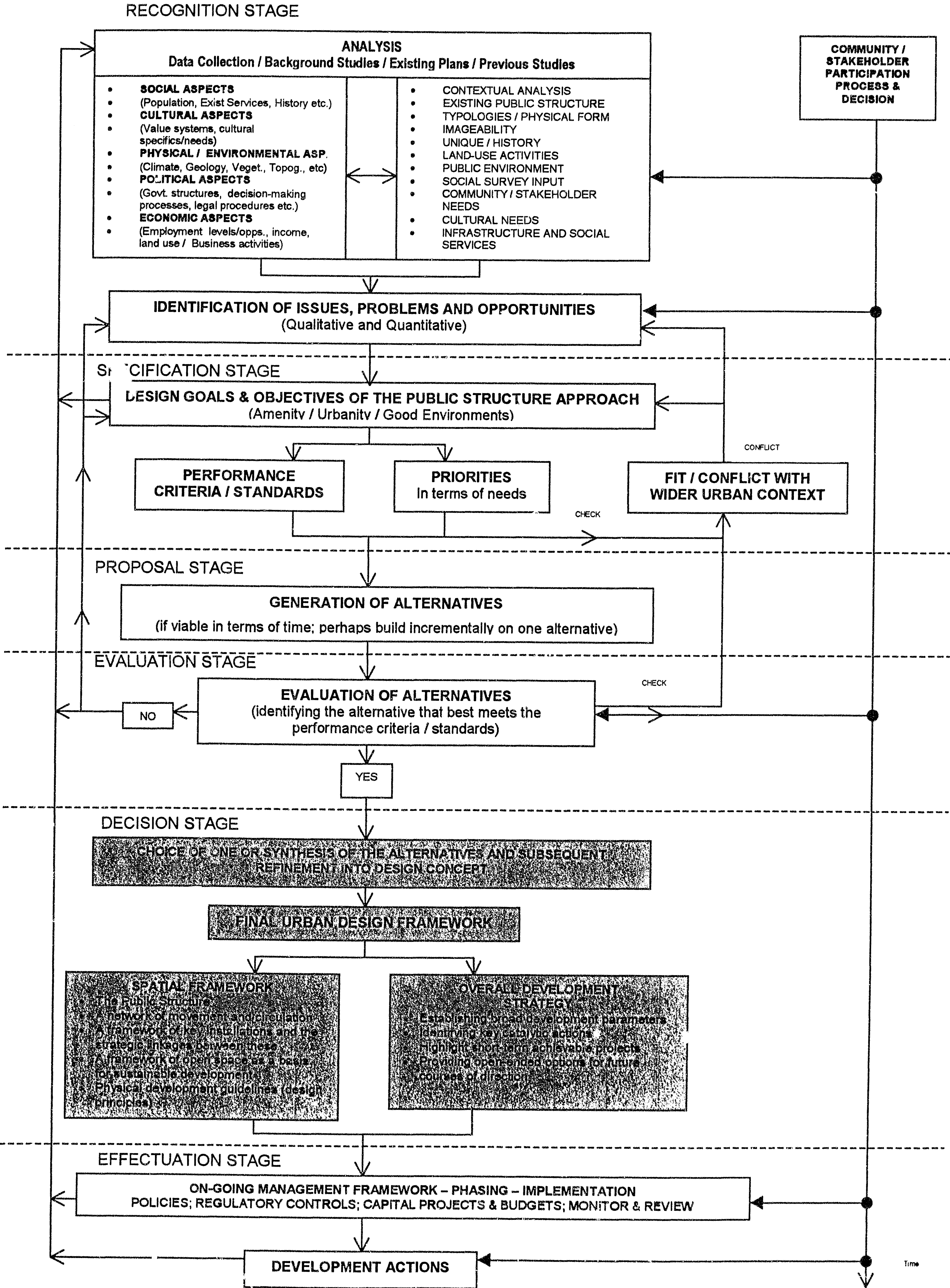
Evaluation Stage

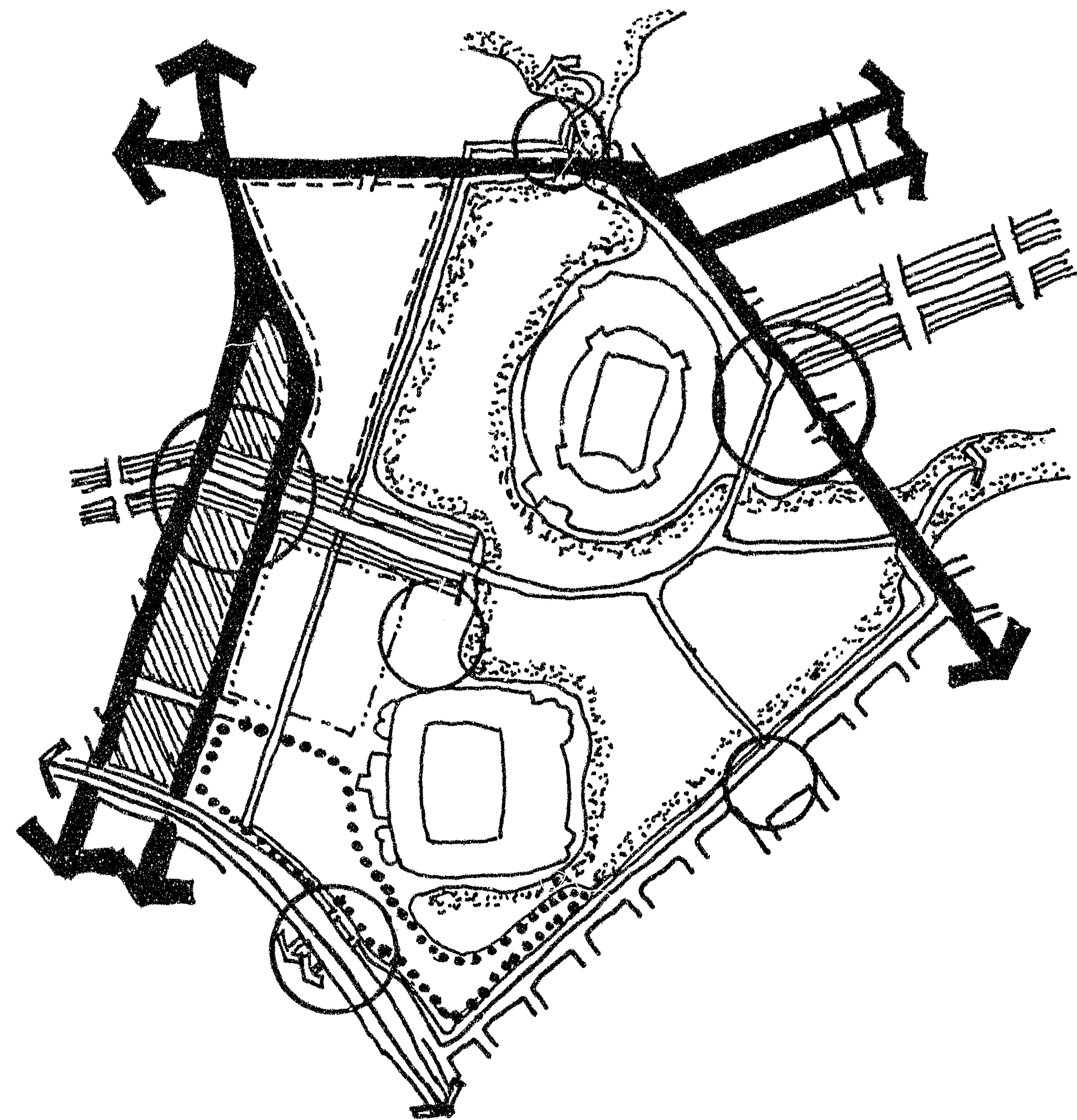
EVALUATION OF ALTERNATIVES

ELLIS PARK URBAN DESIGN FRAMEWORK

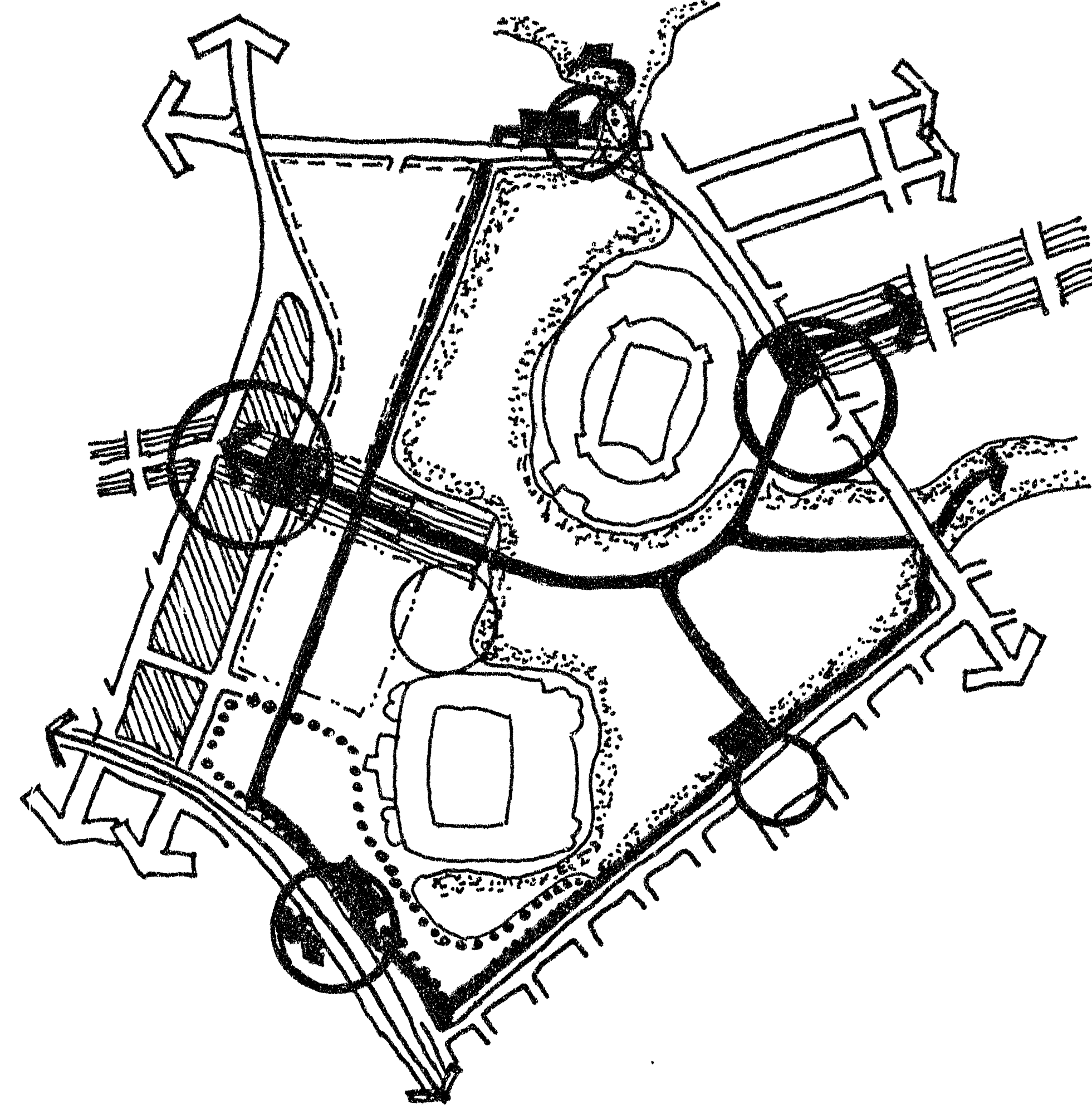


8.6 DECISION STAGE

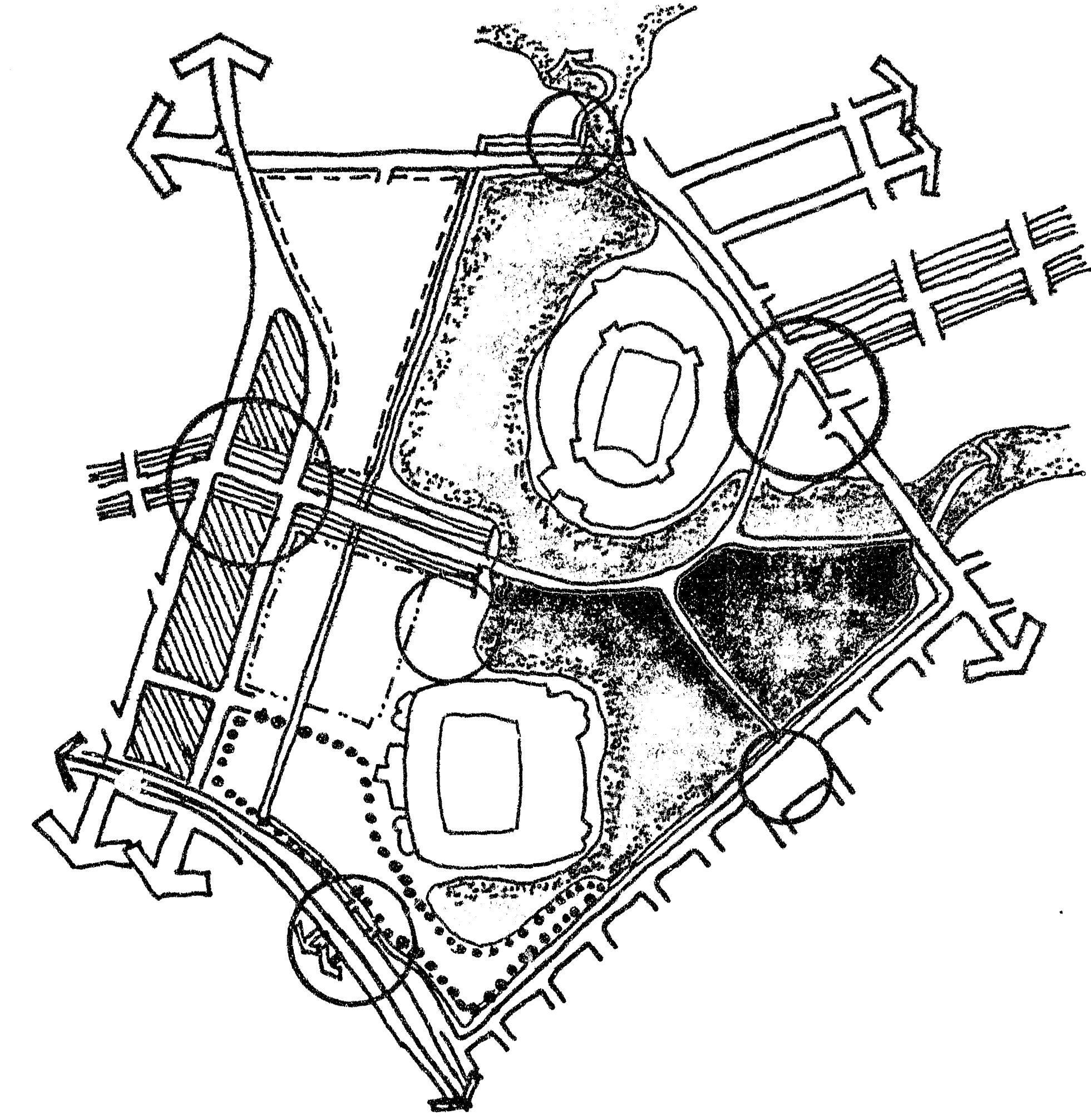




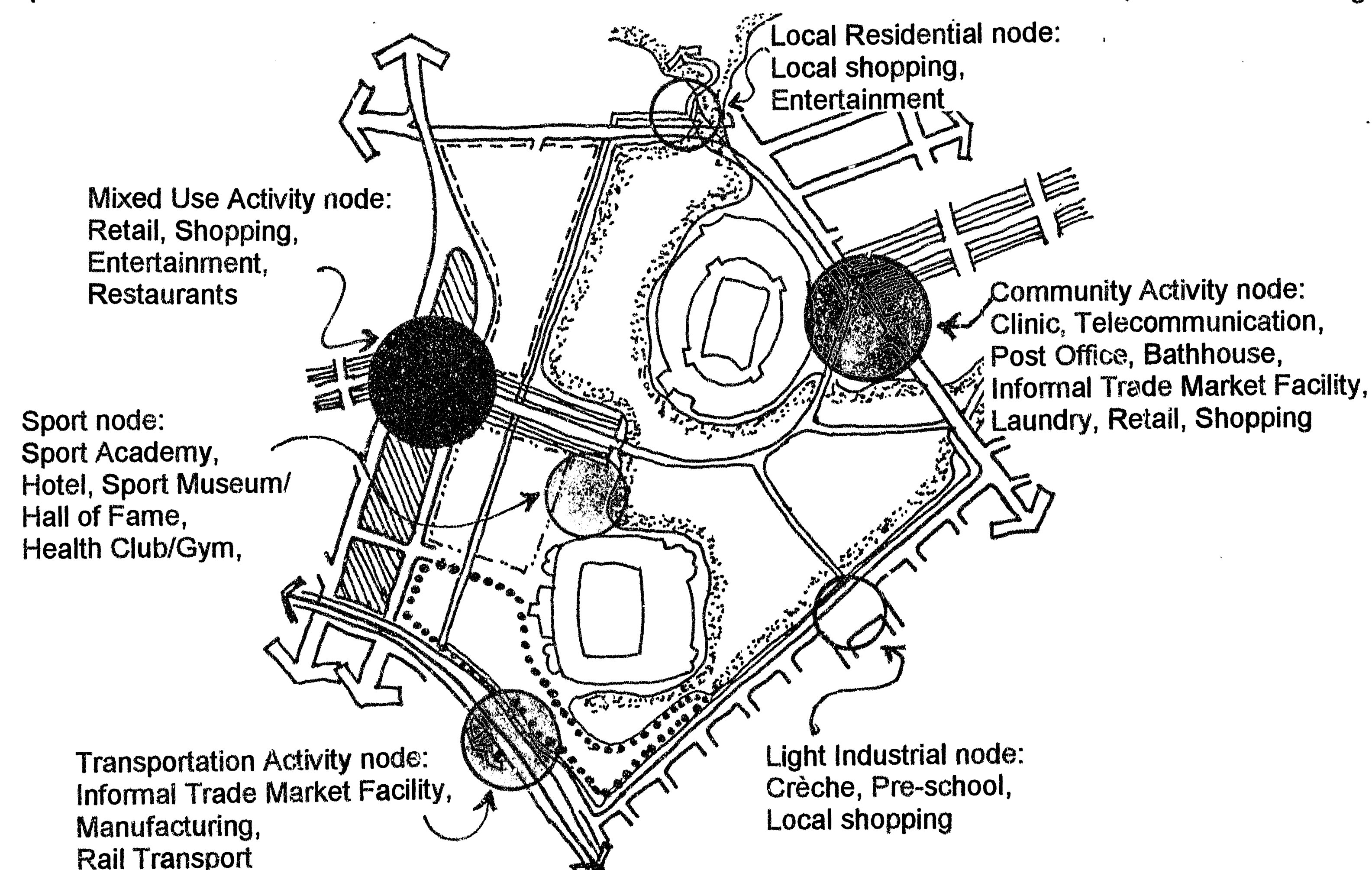
The Movement Structure: The structure of the vehicular movement system is retained, keeping it along the precinct edge. Thus metropolitan wide movement is facilitated, and simultaneously enabling access to the precinct.



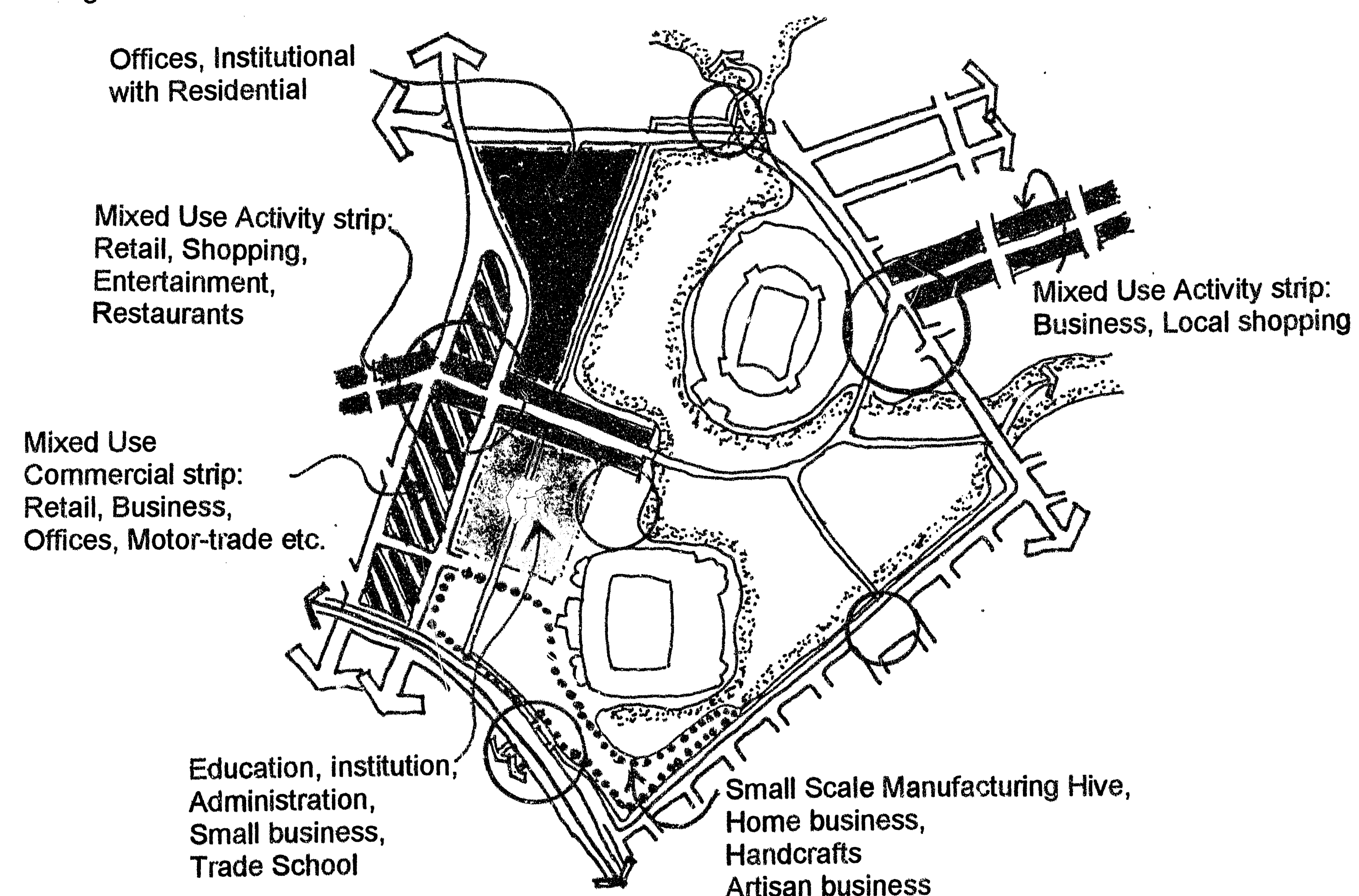
The Pedestrian and Public Space System: The proposed pedestrian paths forge linkages between the various activity nodes; interrelating the adjoining districts, and establishing public squares within each node. This meets the requirements of linkages and integration.



The Open Space System: A central park within the Ellis Park Precinct, accommodating leisure recreation, all sport activities, incorporating the existing stadia and sport facilities (tennis, swimming, rugby, athletics, soccer etc.).



A Variety of Activity Nodes: A variety of activity nodes are proposed. These build on existing activities and accommodated new uses identified from community and other needs. The nodes thus become knuckles that anchor the precinct, and facilitate the interrelationship with the adjoining districts.

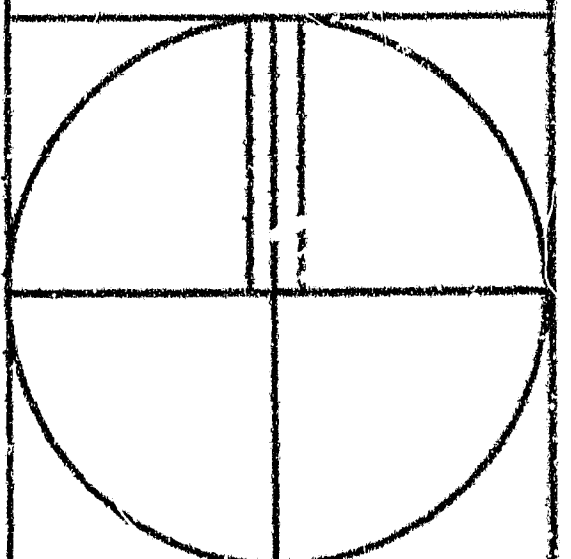


Land-use Activities: Builds on the existing pattern, opens up the technical college to a variety of users, and introduces small scale manufacturing (Small Business Development Co-operation) type of activity.

Decision Stage

THE DESIGN CONCEPT

ELLIS PARK URBAN DESIGN FRAMEWORK



Author Zimmerman M

Name of thesis Designing For Liveable Post-Apartheid Inner City Through A Multi-Functional Public Environment "The Public Environment As A Platform For Change Zimmerman M 1999

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