NPIA

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TYDSKRIF VAN DIE NATALSE PROVINSIALE INSTITUUT VAN ARGITEKTE UITGAWE 4/1988 • JAARGANG 13

HOUSING

Group Editors

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JOURNAL OF THE NATAL PROVINCIAL INSTITUTE OF ARCHITECTS • TYDSKRIF VAN DIE NATALSE PROVINSIALE INSTITUUT VAN ARGITEKTE
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EDITORIAL

TAKING STOCK

by Walter Peters

Having now served a seven year editorship, it seems an appropriate time to take stock. Looking back, a few notable events come to mind. First, the change in name from Newsletter to Journal (1983), a title which I believed better reflected both the content and editorial policy. Second, the decision to disseminate the *Journal* to a far wider audience than just to members of the architectural profession. I hope this has helped increase the standing of the NPIA, and while contributing to the general level of architectural debate, may also have influenced the climate of public opinion. It was always encouraging to receive enquiries from members of the public, besides those from other provincial or regional institutes.

At the outset, I made it clear that architecture was the proper concern of the *Journal*. I also pointed out that designs should be discussed and commented upon. It was a privilege to be entrusted the freedom of soliciting submissions on a theme of my choice and to either personally comment thereon or to elicit comments from colleagues. For their willingness to take issue on the various fields of coverage, I am most grateful, and judging from letters received, readers found the views both informative and controversial — the main idea of the *Journal*.

With voluntary membership looming, professional journals will need to be seen as a real resource to its members. They will need to enter the discussions on the art and science of architecture, and help and encourage members to create beautiful buildings, and spaces and places that enhance the lives of those who use and live in them. Perhaps the emphasis will need to shift from public promotion to professional development. Issues such as appropriateness to place and purpose besides practice advice could become the emphases of subsequent editions.

It would be remiss of me not to single out for mention Jessie Birss, whose painstaking editorial assistance was available to me; Monica Göbel, who set the sophisticated graphic design standards; and Messrs *Corobrik*, who at considerable cost, sponsored the *Journal* enabling readers to receive their issues *completely free of charge*. For myself, editorship provided me with a unique platform, and although it meant very hard work and occasional frustration, as a corpus the 28 issues are a source of some pleasure to me. For the opportunity and responsibility entrusted me, I am most grateful.

COMMENT

RESIDENTIAL ENVIRONMENTS OF QUALITY

by Errol Haarhoff

The modern world appears to be full of "problems": traffic problems, economic problems, pollution problems, and more prominently in the developing countries, "housing problems".

Durban has its fair share of all these, but given the fact that it is a city with 1,5 million people living in "informal houses", and a rapid population growth rate that will swell the population to around 5 million by the turn of the century, it is clear that the housing problems are not insubstantial. However, what is all too often overlooked is the fact a greater part of the problem is defined by the social, political and economic circumstances that set the context in which solutions are to be sought.

The economic reality is that the greater number of the city's people are those who can least afford the costs of housing. The social and political reality is that housing for these economic groups has also been linked to the discriminatory legislation that is now concretised in the physical segregation and partition of the apartheid city.

Some change to this context has of course occurred in more recent times, most significantly the scrapping of influx control that for so long disguised the reality of rapid urbanisation and the permanence of black citizens in the city.

Equally significant, although not without controversy, has been the privatisation of the greater part of the provision of housing for the lower income groups. Other impediments to the search for solutions still remain, and the Group Areas Act is an important one in the minds of many people.

Notwithstanding the reality of these impediments, the changes that have been made have enabled more innovative and creative solutions to the problem of housing for the low income groups.

The four housing projects illustrated in this issue of the *Journal* demonstrate this point. All of the projects show an increasing concern for the making of better quality residential environments and offering a wider choice, factors which were almost totally absent in the colourless, standardised and deprived world of the townships that ring all cities in this country.

The projects also draw attention to a greater involvement of architects and planners in the design of housing for the low income groups, both in private and public practice.

The kwaNdengezi project demonstrates the willingness of the public housing authorities to be creative and innovative in the housing of the poor, and to show that steep land can be usefully employed for high density low-cost housing. This is of particular significance in Durban, given the extent of steep land and the spectre of low-density sprawl.

Although designed for those who can afford to pay more, the Tongaat project shows the concern with context, the efficient use of land and the quality of the residential environment.

The Woodview project involves a non-government agency, the Urban Foundation, in the promotion and design of low-income housing. Using tight sites, a range of house choices that remain within the constraints of affordability has been provided.

The Austerville project indicates another concern within the larger housing problem: the upgrading of the townships. Although often painfully difficult, the approach of the consultants was based on user participation and the principle of ownership.

Architects are presently involved in the housing problem, but given its scope and the increasing concern to ensure residential environments of quality, this must be an area of practice that will expand.

Developing skills to respond to this challenge, both in the education sphere and in practice, will be essential.

Professor Errol Haarhoff is Head of the School of Architecture at the University of Natal. — Editor

COURTYARD HOUSING

NATALIA DEVELOPMENT BOARD DEPARTMENT OF WORKS

KWANDENGEZI

Introduction

Several innovative house types have been built at kwaNdengezi by the Natalia Development Board since its inception in 1975. During 1981, the opportunity arose to investigate high density housing and the scheme which was designed by the Board's architect is described below.

Site

The site is an elongated valley with a marshy stream running through it to the south-east. The sides are quite steep (1:5,5) and banked up to the peripheral roads so that vehicular access is limited to the upper and lower ends of the valley. Away from the marsh, the grass cover is sparse and bedrock is less than a metre from the surface, outcropping on the north-facing slopes.

Design approach

Due to the scarcity of land in kwaNdengezi it was considered important that the high density of the site should be retained at the 55 units per ha. laid down in the town planning scheme. However, traditional methods were unable to achieve this and a new approach was required.

The housing type derives from ancient Greece. In their colonizing cities, the Greeks built on hillsides by using a grid layout, where wheeled vehicles moved along the contour routes and pedestrian ways connected these. The blocks made by this grid were then sub-divided into a number of courtyard houses. In the kwaNdengezi scheme, a spine road runs along the valley floor and pedestrian routes link to the peripheral roads, forming a number of communal areas around which the houses are grouped.

House type

The courtyard house was developed using information from a study of informal housing in Malukasi carried out by the University of Natal. Thus, a spatial variety is provided, ranging from one to four habitable rooms and allowance is made in all cases for further expansion. The communal areas are under the surveillance of surrounding houses and the courtyards within the house afford both complete security and privacy. By grouping service elements of houses around the communal area, drainage and supply runs are both minimised and concentrated.

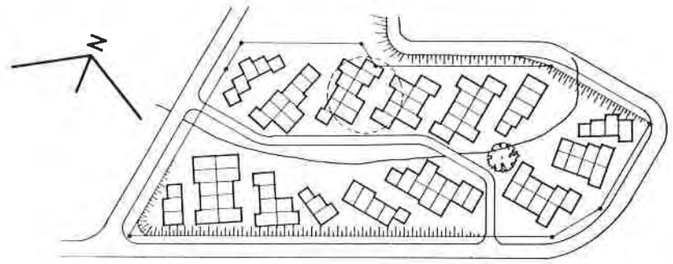
Cost

The decision was taken that the cost/unit was not to exceed the equivalent of building a standard 51/9 house. This was achieved at the average price of R9 800,00 (1983). Site works and the control of stormwater in the steep conditions added some R1 500,00 to each unit.

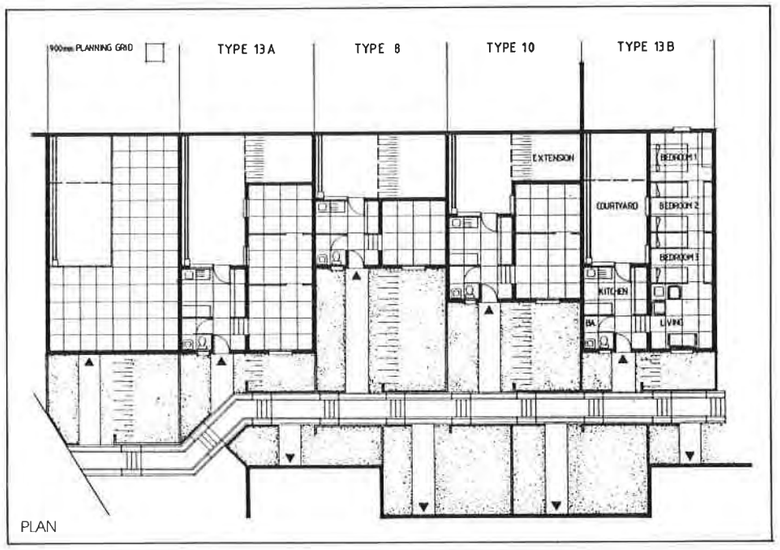
Conclusion

The availability of land in kwaNdengezi is limited and of difficult terrain. The proposed courtyard home allows a density that cannot be achieved by traditional means and therefore affords savings not only in units/hectare but also in all aspects of the secondary infrastructure.

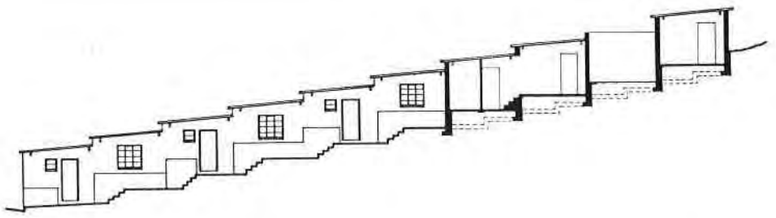
John Ferguson



SITE PLAN



PLAN



ELEVATION/SECTION

TONGAAT

THE SITE

Tongaat lies about 50 km north of Durban, and 7 km inland, on a road bounded by enormous trees and bright banks of bougainvillaea.

The town bears visible testimony to the influence of the sugar industry and particularly the Tongaat Sugar Group and its long-standing preference for the Cape Dutch Style in its building. White-walled workers' cottages with expressive gables sit comfortably with creaking giant bamboo and bright sub-tropical flowers; one is directed down farm roads by white gateposts with moulded capitals; the Tongaat Sugar Headquarters lie tastefully amongst parklike gardens like a Cape Estate; and indeed the Borough of Tongaat itself administrates beneath Neo-Cape pediments and frescoes.

The site had long been owned by the Borough of Tongaat and designated for low-income housing. Several previous proposals had for various reasons been turned down by the Town Board and there was a resistance to the creation of a potential "ghetto" so close to town.

The brief

Following negotiations for the site between the Borough and Innova, an Urban Foundation Utility company, the Architects were appointed by Innova and a brief was formulated:

1. Duplex development with units of approx. 80m² floor area.
2. Dwellings to be affordable to those qualified on the Borough housing list.
3. Concept proposals to be aesthetically acceptable to the Tongaat Town Board.
4. Private and community space to be provided for dwellers.
5. Safe play areas to be accommodated for children.
6. Car-parking (but not garages) to be provided for each dwelling.
7. Buildings to have a clean, good quality and uncluttered aspect.

The project

Sketch plans for 30 units were presented to the Town Board and they were approved. The design approach is in keeping with the now well-established "Tongaat Dutch" and essential elements are disposed in harmonious relationships. The use of C.C.P. treated timber was recommended in external use for its perceived attribute of warmth; an amount was also included in cost budgets for landscaping and trees.

Initial proposals for grouping of buildings around community spaces were compromised by the prevalent desire among first-time home owners to "park the car where I see it", failing which, open space is rapidly appropriated by motorists determined to reach the front door. A study of low-rise, medium-density housing in Denmark has indicated that where the option exists, a higher concentration of community activity will occur in driveways and in spaces adjoining them, rather than in places giving on to only pedestrian access. The "backyards", therefore, in this project, front onto secondary circulation routes, to be used as footpaths and for service functions, including all drains and conduits.

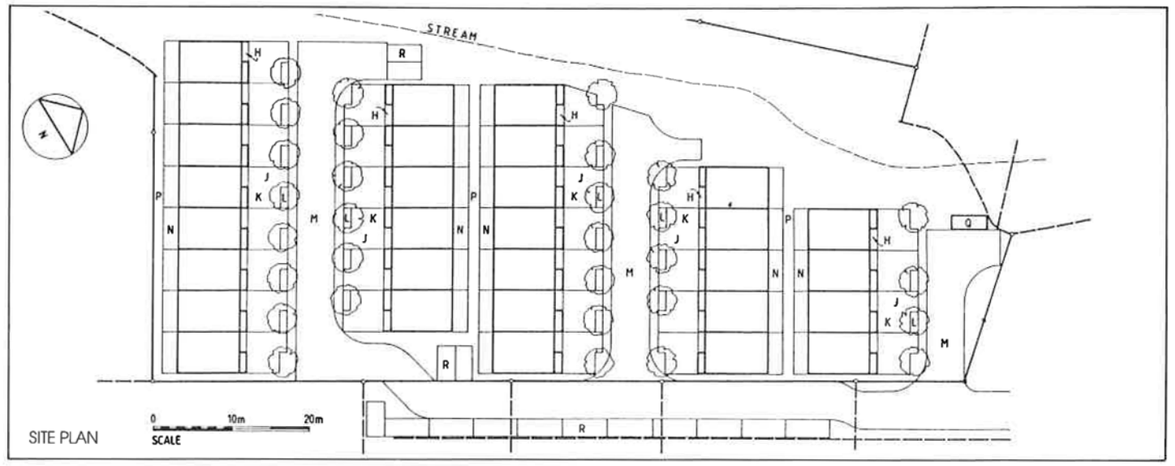
The project was completed in July 1987, seven months after site handover, and the units all sold under sectional title at an average price of R42 000. Although some demand was experienced from higher income groups, preference was given to those qualifying on the Borough waiting list.

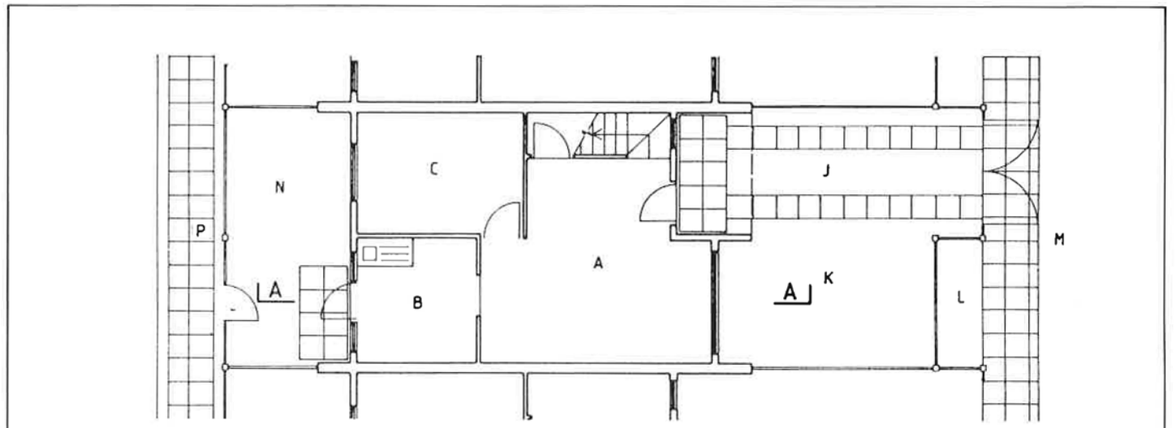
Satisfaction with this project and a continuing demand for comparable housing has led to the planning and present implementation of 250 units on nearby land. Having tuned to the key, the orchestra will play.

Mike Mullins

LEGEND
- *A Lounge/dining room*
- *B Kitchen*
- *C Bedroom 3*
- *D Bedroom 1*
- *E Bedroom 2*
- *F WC*
- *G Bathroom*
- *H Balcony*
- *J Parking*
- *K Front garden*
- *L Tree planting by specialist*
- *M Access road*
- *N Kitchen yard*
- *P Service lane*
- *Q Transformer*
- *R Visitors' parking*

TONGAAT *(CONTINUED)*





MINIMUM SITE HOUSING

URBAN FOUNDATION DEVELOPMENT OFFICE AND VAN HEERDEN WHITEHEAD

WOODVIEW

Town Planners: Simon Vines (then with Urban Foundation) and Rob Kirby (then with Durban City Engineer)
Engineers: Davies Lynn and Partners (Geotechnical and Structural)
Architects: Urban Foundation Development Office and van Heerden Whitehead (revised types and quality control)
Infrastructure: City Engineer, Durban
Contractor: Innova Homes, with Sub-Contractors

Private sector involvement in housing
In the early 1980's a shift in Government policy occurred whereby the National Housing Commission, previously the funding agency for State formal housing developments, was to provide only for the servicing of raw land, housing to be provided by the private sector.
The Durban Corporation, with NHC funding, had completed the Indian township of Chatsworth to the south of Durban and were well under way with the even larger Phoenix development to the north.

Affordable Indian housing for Durban
The Urban Foundation grasped the opportunity for a greater involvement in the financing and provision of housing by launching several housing utility companies nationwide, Innova Homes being the local agency. (The name Innova is a neologism signifying innovation).
Pilot studies were carried out on two areas already planned by the Durban Corporation, one in Phoenix and the other in Newlands West, north of the Umgeni river. These studies attempted to demonstrate the possibility of achieving equivalent densities to those proposed by Durban Corporation within a framework of freehold, fully detached houses on relatively steep land. The 240sq.m. site formed the basis of these proposals.
The studies resulted in Innova launching their first housing project at Woodview, CA22 Phoenix.
The town plan was developed jointly by the City Engineer's Town Planning Department and Innova, and the infrastructure was provided by the Durban Corporation with NHC funds. House building would be building society financed.

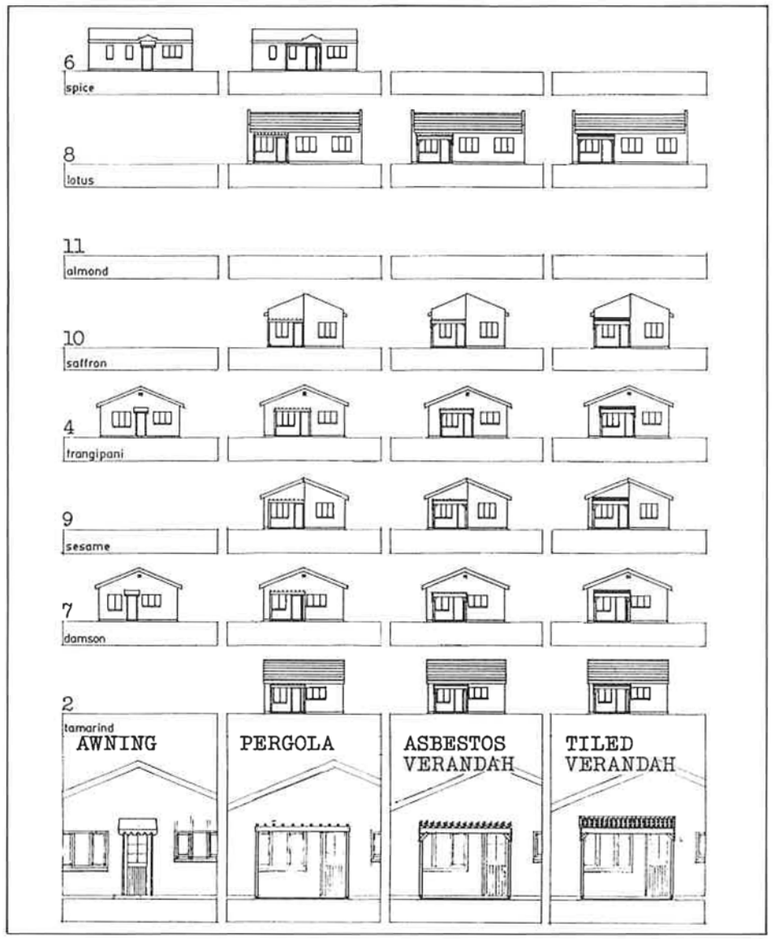
The town plan
The town plan for Woodview sets out to achieve the following:
- Medium densities with fully detached houses
- 240sq.m. sites (12 m by 20 m)
- Vehicular access to each site

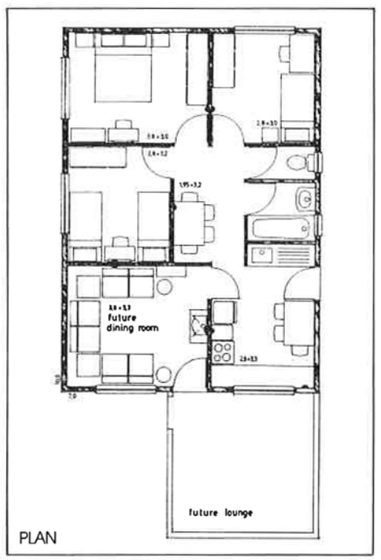
To achieve the required densities, as much public land as possible was placed in private control, thus alleviating the often costly maintenance of land left in control of the local authority.
Concessions for relaxed building lines and side spaces were granted by the City Engineer, resulting in a 3m building line and 0m and 2m side spaces.
A system of neighbourhood roads running across the contours was developed, affording vehicular access to sites and allowing expression of streetscape rather than the dismal rows of houses so common in most formal townships. This system also allows for effective surface stormwater management within the road reserve rather than in costly piped services.

House designs
The design brief set the following priorities:
- Affordability

Houses should be affordable to people earning R500 p.m.
- User Options

It was understood that even within mass housing provision, participation by the buyer was of paramount importance, and therefore options and choice were allowed.

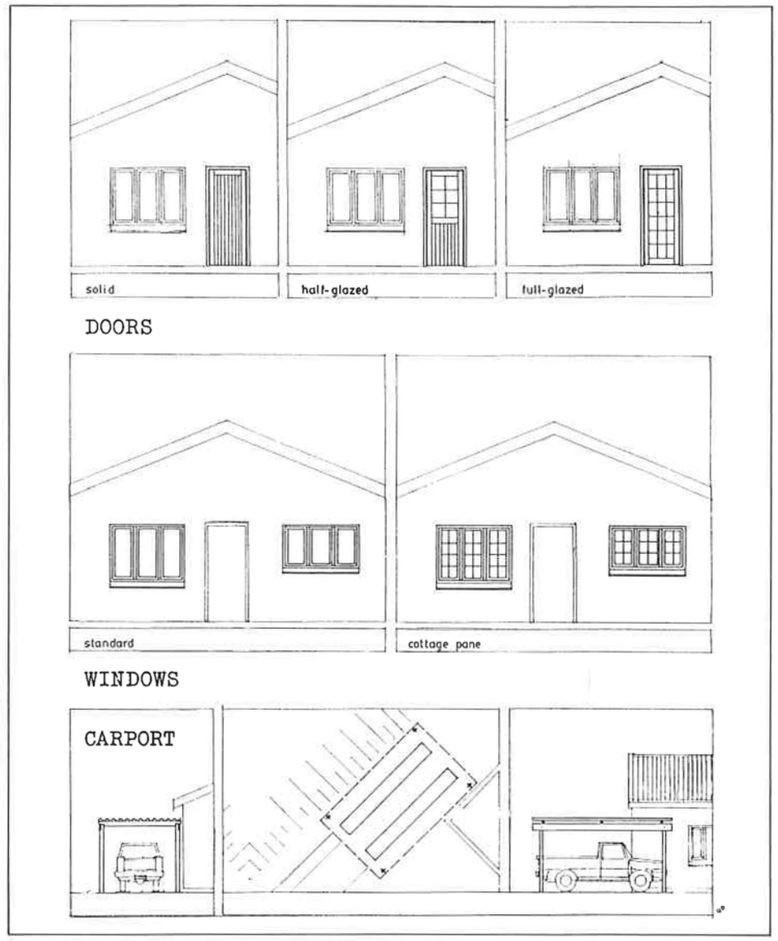




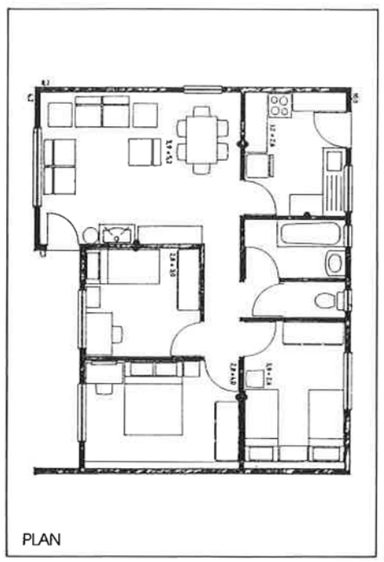
PLAN

FRANGIPANI

WOODVIEW *(CONTINUED)*



ALMOND



PLAN

- Construction Programme

It was anticipated that houses would be delivered at the rate of 60 units per month, the technology and details employed making allowance for this.
- Soil Conditions

The site consisted generally of Ecca-Shale formations with the consequent problems of expansion and in some cases unstable soil conditions.

Houses were generally conceived as efficient rectilinear "boxes" to which "components" such as verandahs and porches, pergolas and carports could be attached.
A range of 9 prototypes was developed consisting of 2 x 1 bedroom and 4 x 2 bedroom houses with extension options; and 3 x 3 bedroom houses.

Options offered to the buyer included:
- Site selection: Sites could be selected, giving the opportunity of kinship/neighbourhood groupings.
- Self help: The option of purchasing the site only; or having the house erected privately or built by Innova.
- House type: Choice of house type from the offered range.
- Siting: The position of the house on site, to accommodate future extensions.
- Roof material: Choice of concrete tiles or asbestos cement sheeting.
- Windows: Choice of large or cottage pane windows.
- Colour: Choice of range for external walls and window frames.
- Doors: Choice of range of 3 external doors.
- Finishes: Choice of range of floor finishes and colours.
- Extensions: Add-on options included tiled or sheeted verandahs, pergolas, porches, and carports.

Construction
Construction was carried out by teams of sub-contractors under direct supervision of Innova foremen and clerks of works. Final site grading and completion of the houses was carried out directly by Innova. Architects were involved primarily in quality control during the construction period.

Conclusion
It would appear in retrospect that the initial advertising campaign was not efficient in that the target group, in terms of income, was not reached. The range of types was revised to accommodate wealthier buyers. The final result is that the built fabric, consisting mainly of 3 bedroom houses, is denser than anticipated, inhibiting the long term natural expansion of the township.
The backlog in housing for the Indian sector is so large that sales of units cannot be used as an indicator of the success or otherwise of the project.
The diverse and extensive additions and alterations presently being carried out on houses could be the result of the owners acting within the spirit and intentions of the development in that "boxes" are being modified and expanded to suit individual requirements, or it could be an indication of poor interpretation of the brief on behalf of the designers. Subsequent follow-up research by the developers could provide the answer.

Derek van Heerden

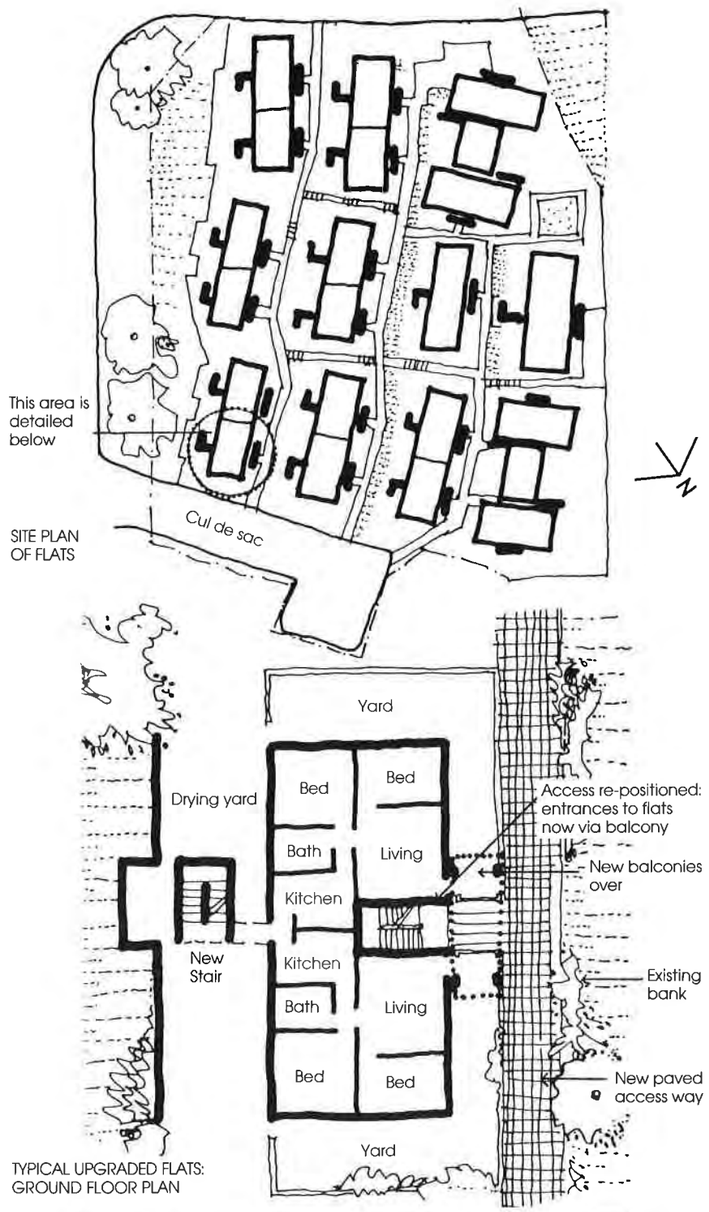
UPGRADING OF EXISTING HOMES

PAUL MIKULA ASSOCIATES

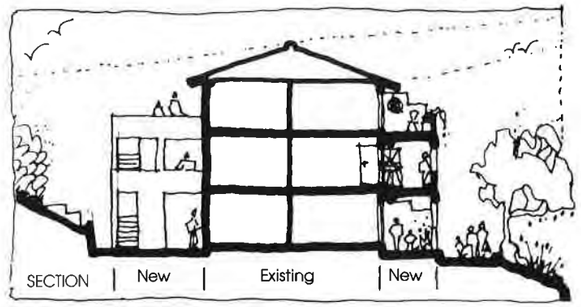
AUSTERVILLE

Introduction
Upgrading projects have an image of community involvement and decision-making, sensitive design alternatives and general upliftment. Austerville in fact makes it hard to achieve these ideals and is not, we feel, the best circumstance under which to be devoted, creative, inventive and well-balanced.
Austerville has had a history of well-intentioned but failed community development proposals. It has provided fertile ground for generations of sociologists, social workers and other "experts" to initiate community welfare projects. But nothing substantial has ever resulted. The more adventurous and prosperous have moved out, to Australia or wherever, leaving behind a community living on the failed promises of administrators and politicians. The result is that the people generally try to get maximum short term advantage out of new idealists with new ideas and promises.
Our promise is "ownership", which people seem to desire — but they also hope to get as much as they can in the process, which is protracted and painful. Their newly legitimised political muscle in the House of Representatives forces ever increasing standards and constant lowering of prices. Unfortunately all that is at the expense of other projects where action is just as, if not more, important. We are then the ogres who fight for lower standards, leaving behind a dissatisfied community, politicians, the municipality which sets engineering standards, and everybody else who views this project myopically
Background
Austerville started as a military camp during World War II, and the soldiers' barracks were converted to housing for servicemen after the war. Coloured people were resettled there during the 1960's in terms of the Group Areas Act. Most of the sub-economic flats were built during the 1970's. Austerville, next to Durban's southern industrial areas, with 10 000 still renting ex-barracks and sub-economic flats which have been poorly maintained by the State.
The Committee for the Redevelopment of Austerville (CORA)
The need for upgrading and sale of units to tenants if possible, as well as the handover of services to Durban, was agreed to by local and central government. CORA was set up and

Balconies added to existing blocks of flats.



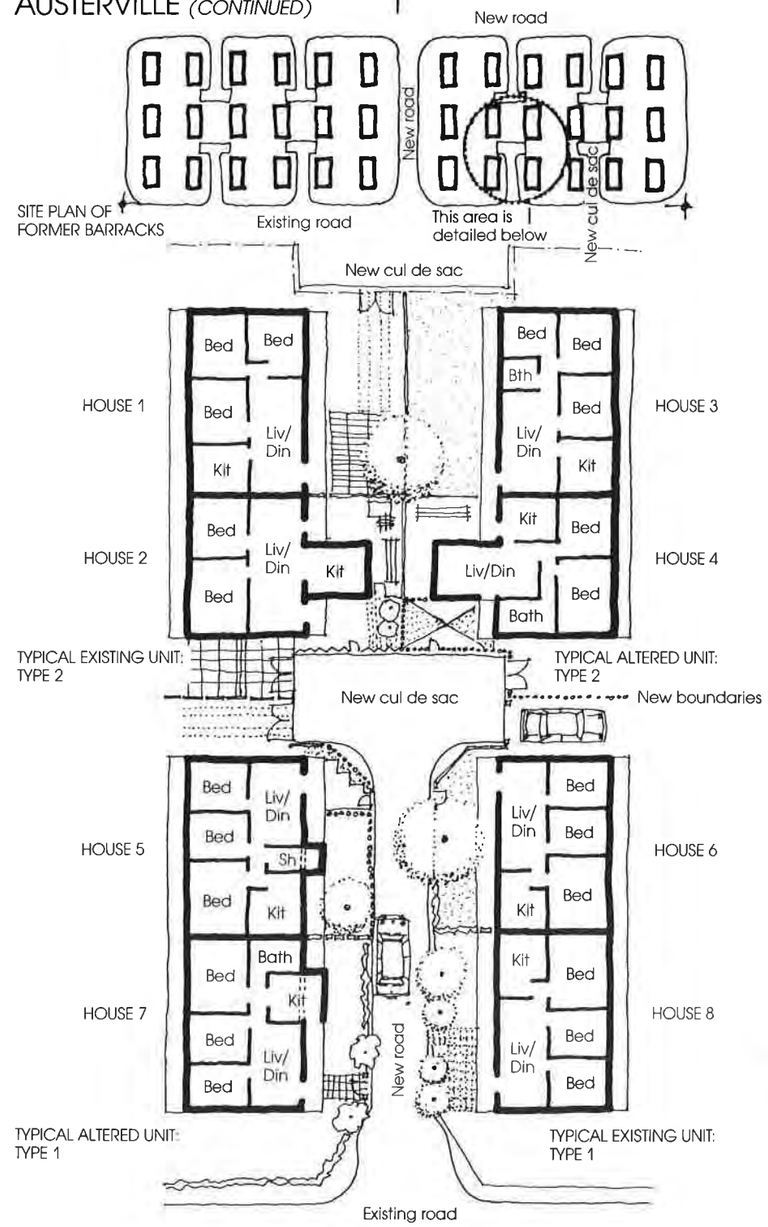
TYPICAL UPGRADED FLATS: GROUND FLOOR PLAN

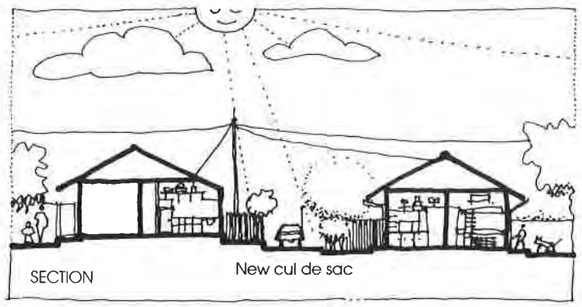


UPGRADING OF EXISTING HOMES

PAUL MIKULA ASSOCIATES

AUSTERVILLE *(CONTINUED)*





consists of the following:
- The House of Representatives.
- The Durban City Council and Corporation officials.
- Local politicians willing to participate
- Consultants, eg. land surveyors, engineers.

Goals and objectives
The overall aim is to improve the quality of life of the people and of the environment in Austerville. Goals include:
- The ownership of housing and the provision of housing options presently unavailable.
- Improving or setting up amenities such as schools and shops.
- Improving or establishing recreational facilities.
- Upgrading and extending services
- Improving the image of Austerville.

Architects and town planners
Commissioned to undertake pilot projects in both typical and most depressed areas. This process involved:
- Undertaking community liaison at local and individual level.
- Commencing field research to identify problems and establish a design brief. Problems mentioned include the lack of privacy, due to both overcrowding and poor design; the woefully inadequate maintenance of houses and the environment; and the lack of suitable new housing in Durban.

Research
Some statistics arising from field surveys:
Everyone in the barracks wanted to buy their dwellings Those in the flats were not sure.
Average household size: 5,5 people; actual sizes from 2 to 17.
Unemployment: ranging from 8% to 40% in different areas. Many people are dependant on state grants.
Incomes: Varying from averages of R225 to R670 p.m
Occupations: 40% of the workforce are artisans. The majority of artisans are in construction and this group also had the highest unemployment.
Car Ownership: ranging from 10% to 50% in different areas.

Construction management
Different jobs are broken down into different tasks, and local artisans and building contractors are given preference. Rates are fixed and there is no competitive bidding. Construction management is essential where:
- Occupants have a self-help option.
- Individual variations are possible.
- The project aims to provide local work and training

Disadvantages of construction management include the assumption of responsibilities normally handled by the main contractor, i.e. material ordering and control, supervision and payment of small contractors, and quality control.

Proposals: Barracks
The general principle is accepted that the State, as landlord, should pay for maintenance and the tenant for new work if he purchases the unit. New work consists of adding a new bathroom and kitchen to units with external ablutions. In one-

Unemployed local artisans carrying out the work.

UPGRADING OF EXISTING HOMES

AUSTERVILLE *(CONTINUED)*

bedroomed units in three-unit barracks, the middle unit is done away with to give two new three-bedroomed units. The household displaced is offered a three-bedroomed townhouse built to a similar standard as that of the barracks but with present-day materials. These are offered for purchase at R12 500.

Siteworks include new roads where necessary, the replacement of water, sewer, stormwater and electrical networks, and features such as retaining walls. Thereafter the sites will be subdivided and offered for sale to their current tenants.

Proposals: Flats

Immediate maintenance problems are attended to. Field surveys showed that people were not generally dissatisfied with the size of their units, but with the lack of definition of the external environment. New work is thus limited to adding balconies, re-orientating entrances, and a new back stair.

Site works proposed for the flats were comprehensive and included:

- new private front and back yards.
- clearly defining the pedestrian and vehicular circulation systems.
- creating playfields.

The site boundaries of each block of flats will be defined, thereby allowing them to be sold on sectional title if tenants so desire.

Simon Vines

Project Team: Paul Mikula, Simon Vines, Len Rosenberg, Gaela Naicker, Yusuf Ganie, Alf Schafer.

COROBRIK/NATAL MERCURY 1988 BRICK DESIGN AWARDS

This year's winners have been announced:

Commercial and public buildings category:
Carter-Brown & Baillon for the Stowell & Co building in Pietermaritzburg. Merit Awards in this category went to *Joubert Owens Van Niekerk Natal Inc* for the Amawele-Emlazi regional offices for the KwaZulu Government and to the *Durban City Engineer's Department* for the Havenside Sub-Station in Chatsworth.

Residential category:
Myles Pugh Sherlock Jarvis for a Beach Cottage at Umzumbe.

Stowell & Co building by Carter-Brown & Baillon.

DURBAN CITY COUNCIL CONSERVATION AWARDS, 1988

The following awards were made at a civic reception held on 23 September:

Centenary Home for Aged Men, 300 Bartle Road: for the continued maintenance of Centenary Home for Aged Men; a two-storeyed complex of institutional buildings with arcaded pavilions in the Berea style and in a garden setting.

Methodist Church, 70 Manning Road: for the care and maintenance of the Manning Road Methodist Church; a significant landmark from the Union period with a corner tower and Romanesque characteristics.

14 Caledonian Place, Sea View: for the conservation of 14 Caledonian Place, Sea View; a charming Edwardian wood and iron house with double gables and front timbered veranda.

23 Southend Avenue, Sea View: for the conservation of 23 Southend Avenue, Sea View; a significant Victorian wood and iron cottage with a front veranda in a unique setting.

734 Currie Road, "Llanberis": for the conservation of "Llanberis"; a superb set of Berea residential flats of the Union period and a signficant example of Cape Dutch Revival style.

Garlicks Departmental Store, 375 West Street: for the continued care and maintenance of Garlicks; a significant, surviving department store of the Union period with noteworthy colonnades and a corner landmark.

"Monaltrie", 59 Musgrave Road: for the restoration, recycling and integration into a major development of the original house "Monaltrie", a significant Victorian villa with Italianate characteristics.

Hindu Temple Compound, 122 Sirdar Road: for the continued survival of the important Hindu temples at 122 Sirdar Road; a unique juxtaposition of sacred trees and three colourfully decorated temples within a walled compound.

The Shree Murugar Alayam, 151 Jacobs Road: for the care and maintenance of a prominent religious and festival centre with three temple buildings of the Union period illustrating local translations of Indian temple style.

Bulwer Park Garden Centre, 151 Bulwer Road: for the recycling of 151 Bulwer Road, a prominent Berea style corner building.

475 Currie Road: for the restoration of 475 Currie Road; a Victorian Berea house with notable timber verandas.

The First Church of Christ Scientist, 43 St George's Street: for the care and continued maintenance of the First Church of Christ Scientist; a significant corner building in an urban setting with classical and Byzantine revival characteristics.

1988 BDA ARCHITECTURAL AWARD

The Brick Development Association of SA makes available an annual award for architect-designed projects which demonstrate architectural and aesthetic merit and excellence in the use of brickwork. This year, the Pietermaritzburg practice of *Carter-Brown & Baillon* received the National Award —chosen from 48 entries — for the Stowell & Co office building, 295 Pietermaritz Street, "in recognition of outstanding architecture and craftsmanship in the aesthetic use of clay brick".

PRACTICE NOTICES

- **Changes in practices**

M J Boulle's practice is styled "Boulle Architect" at 245 North Ridge Road, Durban.

M A A Dyer is now practising under the style of "Michael Dyer" — the address remains unchanged.

A J Gibb is now practising under the style of "Stucke Harrison O'Shea and Partners" at 1230 Trust Centre, 145 Church Street, Pietermaritzburg.

R R Harber is now practising under the style of "Harber Mason and Associates" and has registered an address of PO Box 50062, Musgrave 4062.

C D Kruger is now practising under the style of "Coetzee Steyn Kruger & Oosthuizen" at Meerensee Sentrum, Meerensee, Richards Bay.

M A Nakhooda is now practising under the style of "Nakhooda Associates" at the same address as previously.

E A Seiriis, F C Smith and J W Wilkins have entered into partnership under the style of "Seirlis Wilkins & Smith" at Suite 600, Union Main, 45 Old Main Road, Pinetown.

J H Royal is practising under the style of "John Royal Architect" at 250 Chelmsford Road, Durban.

P C vB Gertenbach is now practising under the style of "Pieter Gertenbach Architects" at 13 Jan Smuts Avenue, Winston Park, Gillitts.

H Förs is practising under the style of "Henrik Förs Associates" at 32 Portland Place, Durban North 4051.

K Breetzke is now practising under the style of "Brian Howard Architects" at PO Box 50115, Musgrave 4062.

- **Changes in addresses**

G J H Combrink to 88 Madeline Road, Morningside, Durban 4001.
V Coppola to 19 Lennox Road, Durban 4001.
R A W Lavine to 17 Winston Road, Kloof.
D M Thorne to 13 Roquehampton Gardens, Sugarfarm Trail, Sunningdale.
D C Boyd and G E Seitter (Seitter Boyd Architects) to 2nd Floor, Riches Printer Building, 423 Smith Street, Durban.
J A Smillie and J G Pillay to c/o Seitter Boyd, 2nd Floor, Riches Printer Building, 423 Smith Street, Durban.
J H Royal to 250 Chelmsford Road, Durban.
G F W Ockert to 31 Chester House, 388 West Street, Durban.
H J Nel (H J Nel Architects) to PO Box 448, Westville 3630.
D W Golding (Frolich & Golding) to 15 Falmouth Avenue, Durban.
R J Farren (Roy Farren Architect) to 3 Galleria, 36 Overport Drive, Durban.
L Solomon (AnT) to 6007A Overport City, 430 Ridge Road, Overport.
L A Peyton (Retired) to 107 Caister Lodge, Musgrave Road, Durban.

- **Transfers**

R A H Gerhardt to TPI.
B G Gibbon to OFSPI.
D S Hattingh (AnT) to TPI.
C L Carbutt to BPI.
A C Dold (Retired) to TPI.

- **Changes in class**

S Price — ordinary to retired.
D M Ross-Watt — ordinary to retired.
P H P F Allen — retired to ordinary.
G Balfour Cunningham — ordinary to retired.

- **New members**

Miss A J Smith (AnT), 29 Burnham Drive, La Lucia.
Miss J P Castle (AnT), 4 Lauriston, 61 Oakleigh Drive, Durban.
D B Jay (AnT), 184 Queen Elizabeth Avenue, Manor Gardens, Durban.

- **Deceased**

A J M Bonamour; G T Chalmers; D Dodds; A J B Firth; I Park-Ross; J Simpson.

CONSERVATION TECHNOLOGY

A REPORT-BACK ON THE ISAA NATAL HERITAGE COMMITTEE WORKSHOP, 23-25 SEPTEMBER '88

Prompted by an awareness of a general lack of knowledge of the techniques of restoration, the ISAA Natal Heritge Committee organised a 3-day conservation technology workshop in Durban and Pietermaritzburg, Friday to Sunday, 23-25 September.

Opening the workshop, Professor Errol Haarhoff, Head of the Natal School of Architecture, drew attention to the changing challenges of conservation: from battles to save old buildings to a situation in which the need for conservation was accepted, but the techniques and methods of repair were not generally understood. Professor Brian Kearney reinforced this conclusion, and pleaded for a pooling of skills from various disciplines, and specialised training for architects. *General practitioners should decline restoration commissions,* he said. Introducing the concept of *conservative repair* promoted by the Society for the Protection of Ancient Buildings, Dr Walter Peters emphasised the ethical challenge to architects: to render an old building sound but left looking old, and not to restore it to a point where it looked new. *Adhere to the spirit of the SPAB's approach, do as little as possible, and you will never irrevocably ruin an old building,* was his advice.

The underlying theme to the presentation by architect-engineer Michael Dyer was that old buildings are structurally flexible. Cracks caused by vertical or horizontal settlement may be relieving damaging stresses elsewhere; usually these should be allowed to act as flexible joints and simply be pointed up. **Structural repair** and underpinning should be a last resort. Robert Brusse's presentation was on **flooring,** focussing on problems such as unventilated, suspended floors, the replacement of boarding, and the re-use of encaustic tiles.

Drawing on his experiences at the Westville Museum and the Durban Railway Station, John Frost addressed the problems of **brick and stone decay.** He stressed the need for scientific research into mortar types and constituents, introduced the concept of damp proofing by the use of agricultural drains surrounding the building, and the problems incurred by mould growth and roof stains. Consulting engineer Neil Barker referred to the "peeling" brick walls at Westville which needed to be both pinned and stitched and given new horizontal and vertical expansion joints. Barry Midgley, contractor to the Station project, referred to the cleaning alternatives: chemical washing, grit aggregate or wheat germ blasting. All these methods are expensive and could inflict severe damage to the material. He reminded the audience of the lion statues at the Union Buildings which, after grit blasting, found themselves 50 mm shorter all round!

Acid-etched glass, as found in Victorian bars, is a hobby of Audie Neal. Hydrofluoric acid "eats" into glass and leaves it comparatively clear; French embossing, using white acid, would allow for two to three tones or indentations.

Cast iron could be rusted or encrusted with many layers of paint. The life of old work can be prolonged by de-scaling and treating parts with a good rust remover. Missing or damaged sections can be re-cast but such replacement is expensive and there may be a case for a cast aluminium substitute. Ian Burns of Umgeni Iron Works explained in some detail the process of manufacture, the patterning, moulds, sands used and referred to the possibilities of stitching and acetylene welding. The session was concluded with Hinton Brown of Smith & Winfield explaining **period painting** techniques such as stencilling and rag-rolling, wallpaper varieties and door furniture.

Saturday began with a bus trip to Pietermaritzburg, the most concentrated "repository" of Victorian and Voortrekker architecture in the country. Councillor Robert Haswell gave an overview of the city's involvement in conservation. Bulk transfer had been introduced as a result of the battle to save Dudgeon's Standard Bank building; some 240 buildings had been listed; street and area associations had been formed to encourage conservation participation.

Opening the afternoon session, Ken Lawson of Von Bardeleben Woodturners addressed the problems of **timber repair and replacement.** He outlined the factors causing timber deterioration, durability, and protective coatings and treatments available. This practical and scientific presentation then focussed on joinery design — joints reveal the first symptoms of decay. Paramount in the design is the elimination of water traps. The choice of appropriate timber types and sections and the use of non-rusting fixings and waterproof glues were essential.

The scientific nature of the preceding presentation was offset by Andre Pretorius' entertaining presentation on **ornamental mouldings.** Industrial plaster-of-Paris with sisal bonding, cement and fibreglass were the main components used in cornices, ceilings and other mouldings. Due to its ability to match the pressed metal gauge, fibreglass presented a viable, if combustible, alternative — moulds were of rubber, shellacked plaster, clay and plasticine.

Painting and paint formulations are the forte of Barry Midgley of T Midgley & Son. There are two basic approaches: sealing with bonding liquid or surface preparation; or by allowing surfaces to breathe with, for example, a distemper coating. Painters were often confronted with the problem of damp control. An effective solution for basement walls is a system which directs moisture, by gravity, to an outlet.

Concluding the day's formal proceedings, architect Nick Grice addressed the problem of **integrating modern services** in old buildings. Basically, there are two options: to expose or conceal the services. Fire protection is one of the greatest challenges to the conservation architect. In conserving elements such as timber flooring, an underside of gypsum plasterboard with vermiculite finish could be utilised, while the upper side may need to be covered with hardboard and a class three carpet. Intumescent paints which swelled and frothed should be used as fire-retarding agents, as should "Unitherm" varnish and chlorinated rubber paints. In addition, fire protection — smoke detectors, heat sensors, carbon dioxide or Halon extinguishing systems — need to be installed. A problem to be aware of when air-conditioning an old building, is the drying out of the timbers due to the inherent dehumidifying function of the installation.

Sunday's session began with Professor Brian Kearney's presentation of the problems of **roofing** conservation. Beginning with what he referred to as the "cast ironic" style, he pointed out the conservation alternatives, ranging from patching to replacement, emphasizing that cast iron had its own "built-in" aesthetic which should be respected. Apart from the change in character, long span substitutes were, by contrast, crude in detail and much more costly — the profession should demand correct replacements or sympathetic substitutes. When dealing with the replacement of infested roof timbers, new timbers could be inserted alongside, allowing succeeding generations to understand the original positions.

Job organisation and contractual matters took up the rest of the morning. Dr Walter Peters drew attention to rectified photography whereby the architect could use his camera to produce drawings roughly to scale. This led on to the process of **photo-documentation** where the working drawing could be a combination of photographs and specifications. An audio-visual presentation on stereo-photogrammetry concluded this session.

A joint contribution by John Frost and quantity surveyor Peter Louis, using the Durban Railway Station as a case study, followed. **Documentation** consisted essentially of one large scaled photographic elevation and a specification-cum-elemental bill of quantities which included photographs of the kinds and degrees of decay present, cross-referenced to the elevation. Another approach would be a managed cost-plus contract whereby tenders are called for on the basis of their percentage mark-up. The final message from Peter Louis: get the quantity surveyor involved early; discuss the most appropriate form of contract; insist on a high standard of documentation and, if at all possible, apply a method of selected tendering.

The closing discussion contained three proposals:

1 for further workshops on the restoration of building materials and techniques not covered;

2 for the compilation of a trade directory listing suppliers and craftsmen; and

3 for architects to issue their clients with maintenance manuals.

But what pervaded the whole of the workshop and manifested itself with increasing intensity, was the impassioned message put forward at the outset by Professor Kearney: *General Practitioners should decline restoration work!*

Walter Peters, Workshop Organiser