

### 3 PRECEDENT STUDIES.

Firstly it is valuable to evaluate the current housing trends in south Africa. Much can be learned from their achievements and shortcomings. Secondly one has to look at successful new housing solutions from abroad. In Chile Alejandro Aravena is promoting a new social housing model and other stimulation comes from Japan and Scotland. Examples of housing that becomes integrate with the environment we find inspiration from Herzog & de Meuron's 491 Rue De Suisse Housing in Paris France. Finally we look at projects with a positive social outcome because the design becomes integrated with the landscape.

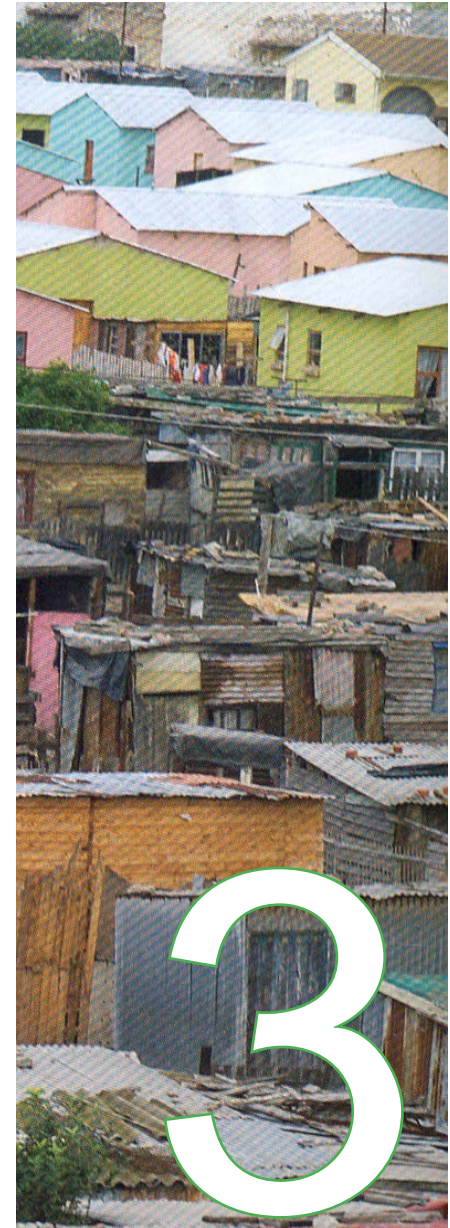


Fig 3-1 A typical South African housing scenario



Fig 3-2 Royal Maitland Streetscape



Fig 3-4 Royal Maitland playground square



Fig 3-3 Royal Maitland access to housing.



Fig 3-5 Royal Maitland covered entrances.



Fig 3-6 Royal Maitland elevation.

### 3.1 HOUSING: CURRENT TRENDS IN SOUTH AFRICA

#### 3.1.1 ROYAL MAITLAND. Cape Town.

**Architect** : JSA Architects and Urban designers

**Client** : C.

**Design** - 2003 | **Implementation** - 2005.

- The project tries to create a setting for social interaction.
- The houses are arranged along a series of street spaces and relate to the street space wither via stoeps or a gallery.
- The development intended to tie in with the existing urban fabric in order to enhance the surveillance and sociability, but the development is gated by security fence and security guards, cutting it off from the existing street.
- Big part of the landscape is covered in tarmac because the city planning department demands high parking ratios.

## 3.1.2 BRICKFIELDS HOUSING PROJECT . Newtown ,Johannesburg

**Architect :** Savage + Dodd Architects cc, Fee&Challis Architecture, Makhene& associates, ASA Architectural Designs

**Client :** Johannesburg Housing Company, JHC.

**Design - 2003 | Implementation - 2005.**

**Number of dwellings:** 53 7

**Access to public transport:** Close to Johannesburg CBD In the vicinity of the Metro Mall transport interchange.

**Parking:** Parking in the courtyard.

**Tenure:** Market related rental average R2000 per month.  
20% Social housing. Small amount of retail.

**Building types:** Walk up perimeter blocks

**Building heights:** 4 Storey walkup blocks and 9 to 10 storey tower blocks on the corners

**Unit Types:** 72 % are 2 bedroom units. 1 bedroom and 3 bedroom units

**Circulation:** Communal semi closed sky lobbies

**Communal Open space:** Collective drying yards, crèche homework room and outdoor play spaces for children.

**Private/semi-private Open space:** Main courtyard space used predominantly for parking, is harsh and un shaded



Fig 3-7 Site Plan Brickfields



Fig 3-9 Brickfields balconies



Fig 3-10 Brickfields – Four and nine storey buildings in



Fig 3-8 Brickfields internal stairwell



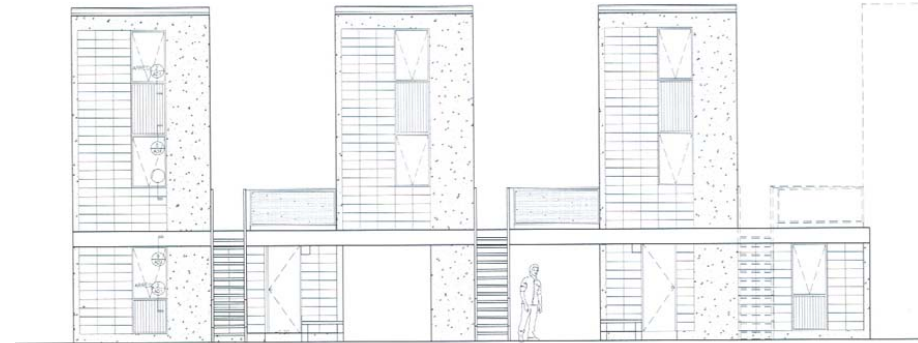
Fig 3-11 Social spaces within precinct C



Fig 3-12 Aerial photograph

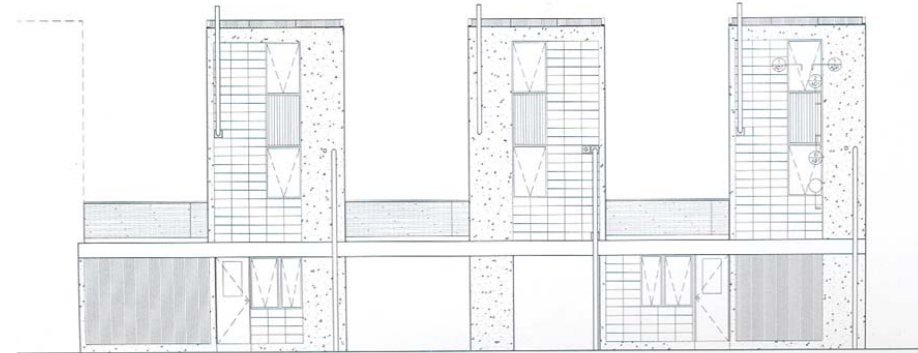


Fig 3-13 Quinta Monroy Iniquique



Prospetto frontale/Front elevation

Fig 3-14 Front Elevation



Prospetto posteriore/Back elevation

Fig 3-15 Back elevation

## 3.2 HOUSING – NEW SOLUTION GLOBALLY

## 3.2.1 BUILDING INNOVATIVE SOCIAL HOUSING. Quinta Monroy Iquique. Chile

Architect: Alejandro Aravena

Design - 2003 | Implementation – 2004

**Number of dwellings:** 93 family units**Site area:** 3500 m<sup>2</sup>,**Density:** 35 m<sup>2</sup> per family**Access to public transport:** The property is very centrally located within the Iquique's network of opportunities. Making it close to amenities and lessening the dependability on public transport.**Parking:** Parking space available next to each unit**Tenure:** Individual ownership**Building types:** House units are grouped together in a row**Building heights:** 3**Circulation:** Each unit has an internal and external staircase that can easily be altered according to the needs of the inhabitants.**Communal Open space:** The project favors the use of communal space - designed for extended families living in collective spaces, urban centrality, and the creation of public spaces.**Private/semi-private Open space:** Collective spaces work well at the scale of about twenty families.

- Making it feasible to pay for a site that is better located within the network of opportunities in the city.
- Developing an architectural type that is strategically positioned to create quality urban space.
- That architectural type also allows the easy and safe building of expansions.
- The design of every house allows 60% of each unit's volume to eventually be self-built.
- The elemental project builds an open and varied scenario that lets life unfold in all its freedom and potential, and which resists the foresighted controls of architecture.

' Given budgets 'lower than low,' he says, the design had to focus on 'the most fundamental things that housing requires'—privacy, collective space, and community.' (Rosenberg,J. 2004)



Fig 3-16 Quinta Monroy Iquique



Fig 3-17 Quinta Monroy Iquique



Fig 3-18 Quinta Monroy Iquique



Fig 3-19 Slither Housing

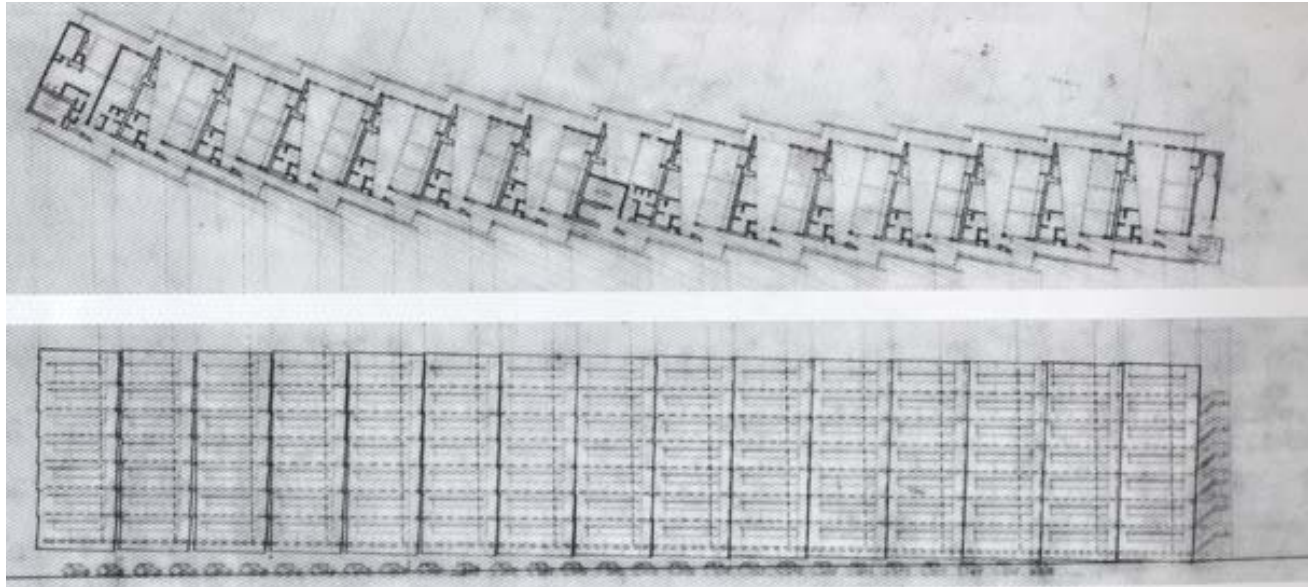


Fig 3-20 Slither Housing

'SLITHER HOUSING' Gifu, Japan, 2000

**Architect:** Diller + Scofidio

**Number of dwellings:** approximately 105 housing units

**Site area:** not available

**Parking:** On the ground floor

**Tenure:** Individual ownership

**Building heights:** 7 story's

**Unit Types:** Apartments

**Circulation:** 3 Open Staircases, one on each end of the building and one in the middle.

**Communal Open space:** Shallow curve convex to the street

**Private/semi-private** Shallow curve concave to the communal courtyard. The long elevations are faced with diaphanous overlapping 'scales' of perforated metal screening, which modulate the degree of privacy at the circulation corridor and balconies. On the north side each front door is metaphorically a private façade because each unit slips 1.4 metres in plan from the next unit. The slippage also produces a private balcony on the south side.

**Open space:** Colorfully designed Landscape in the courtyard.

- They exhibit that the economic constraints that unavailingly produce the repetition of standardization in social housing, need not lead to erasure of the individual dwelling.
- The staggered segment of the façade creates a curve that allows each apartment to have its own balcony and makes the inhabitants experience of their home more personal.
- The housing units have interior sliding walls of extruded polycarbonate panels which can be altered by tenants according to their needs. Each apartment's design can be customized according to needs by altering the panels.



Fig 3-21 Slither Housing



Fig 3-22 walkway - Slither Housing



Fig 3-23 movable partitioning Slither Housing

330 GRAHAM SQUARE HOUSING. Glasgow, Scotland UK.

**Architect:** Page & Park Architects

**Implementation** 1999

**Number of dwellings:** Approximately 105 housing units

**Site area:** 2,600m<sup>2</sup>

**Parking:** Road side

**Tenure:** Traditional tenement plan

**Building heights:** 4 story's

**Building types:** Apartment buildings.

**Unit Types:** Apartments based on a traditional tenement plan. 3 rows with 8 flats per row.

**Circulation:** Slot revealed by each fin houses the entrances to the apartments. Staircase at the back covered by expressed screens

**Private/semi-private** Bedrooms at the rear and living spaces and kitchens to the front.

- The design was expected to have an degree of flamboyancy to liven up the old neighborhood.
- The "matador" houses as they have become known is composed of seven curved, fin shaped walls which are expressed on the front elevation representing the cloak of a matador.



Fig 3-24



Fig 3-25



Fig 3-26



Fig 3-27



491 RUE DE SUISSE HOUSING Paris France.

**Architect:** Herzog & de Meuron

**Implementation:** 2000

**Number of dwellings:** approximately 105 housing units  
**Site area:** 8,419m<sup>2</sup>  
**Building heights:** 3 story's  
**Building types:** Apartment buildings.  
**Unit Types:** Apartments vary in size, layout and placement, but are all designed to take advantage of sunlight and views of the gardens.  
**Circulation:** access via a central staircase  
**Communal Open space:** each apartment overlooks the garden  
**Private/semi-private:** Horizontal strategy so that as many apartments as possible have a direct connection to the gardens.

The building has a grass roof and the concrete walls have been covered with a grid of ropes to provide a climbing base for plants while the balcony façade features curved profile roller shutter doors



Fig 3-30



Fig 3-31



Fig 3-28



Fig 3-29



Fig 3-32



Fig 3-33 Royal Maitland covered entrances.

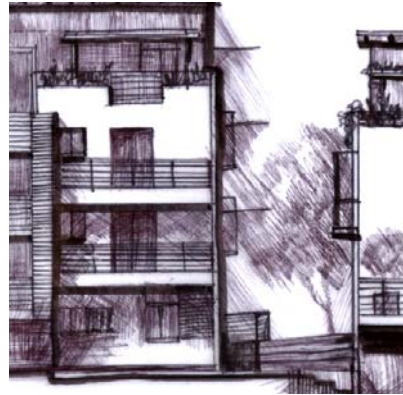


Fig 3-34 Covered entrances.



Fig 3-35 Slither housing - parking tucked underneath the building

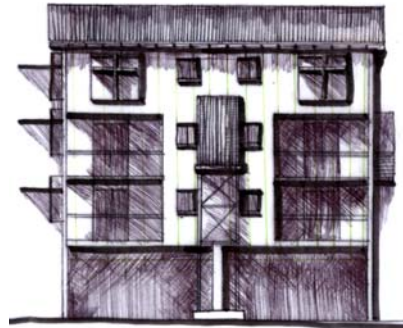


Fig 3-36 Parking underneath



Fig 3-37 Vegetation on facade



Fig 3-38 Climbers on the facade

## RESPONSE TO HOUSING PRECEDENT STUDIES.

- Royal Maitland offer good legibility – it should be easy to find your way around the development. The way people access their homes are important and people also like to be able to identify their home easily .
- Brickfields represent a harmonious whole by repeating characteristically elements, but the mass of the development make it difficult to identify individual units.
- Aravena proves that it is feasible to give the residents control over their own infill. It will be incorporated in the design of the units.
- Slither housing is an example of how the façade influence the courtyard space.
- The Slither Housing project successfully tucks the parking underneath the building and opens up the courtyard space.
- The relevance of creating an interactive relationship between the building façade and the street is evident in Graham Square housing.
- The use of shading devices and plants on the facade is inspired by 491 Rue De Suisse Housing.

### 3.3 OPENSACES IN THE CITY OF TSWANE.

#### 6.3.1 ARADIA – WALKER SPRUIT

Walker spruit is n prominent river system in Tshwane. In Arcadia it meanders through the high rise residential suburb. A walkway runs along the treelined concrete canal and occasionally a pedestrian bridge allows the public to cross the spruit. Children’s splay areas appear infrequently. The green link should serve the residents as a relief from their small flats. However the steep concrete channel makes it difficult to interact with the river and it can be dangerous for children to play around the steep edges.

#### 6.3.2 MAGNOLIA DEELL – WALKER SPRUIT

The same river system approximately 1km upstream from Arcadia . Here the spruit is not canalized but designed to be a calm and natural looking feature. The stream is dammed at the northwest end of the park lifting the water level. This allow interaction with th spruit, people can touch and smell the water. Magnolia Dell is beautifully maintained by the municipality and there is always people relaxing in the park.

#### 6.3.3 NIEUW MUCKELNEUK TRIM PARK

At the confluence of the Walker- and Muckelneuk spruit the river is allowed to roughly follow its natural course. The dams and banks are sustained by gabions and timber pedestrian bridges allows safe crossing over the stream.

#### 6.3.4 BROOKLYN COMPLEX

The Commercial office development included a scheme to upgrade the spruit. A shallow system of concrete weirs replaced the canal. Each weir dams the water and allows the water to spill over at scattered overflows. A safe walkway runs along the section

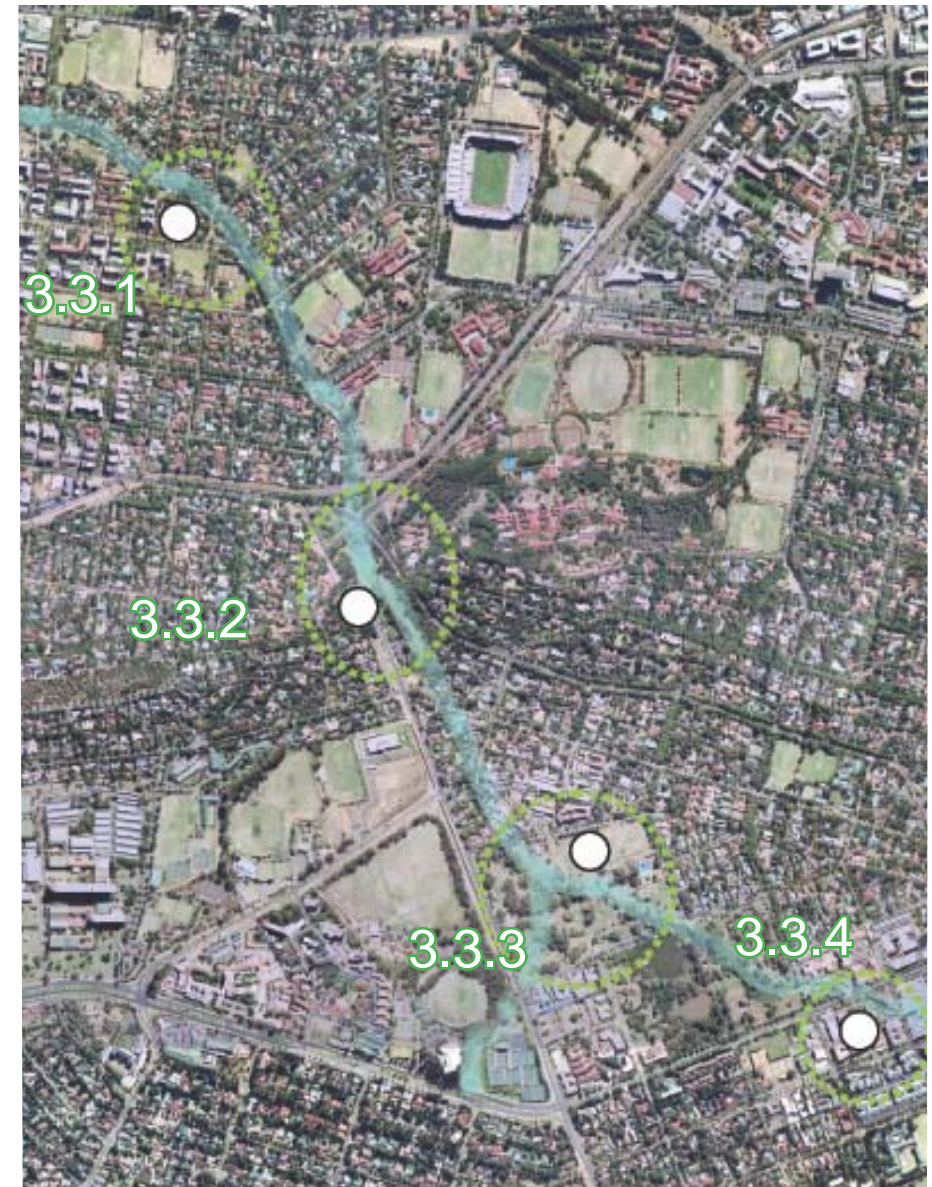


Fig 3-39 Arial photograph. Walker spruit.

3.3.1 ARCADIA - WALKER SPRUIT



Fig 3-40 Canalized Spruit



Fig 3-41 Occasional pedestrian bridge



Fig 3-42 park space next to the spruit

3.3.2 MAGNOLIA DELL - WALKER SPRUIT



Fig 3-42 Magnolia Dell information board



Fig 3-43 Pedestrian bridge and coffee shop



Fig 3-44 Playground



Fig 3-45 Natural looking spruit



Fig 3-46 Transition from canal to natural spruit.

33.3 NIEUW MUCKELNEUM TRIM PARK  
CONFLUENCE OF THE WALKER AND MUCKELNEUK SPRUIT



Fig 3-47 Walkway



Fig 3-50 Walkway



Fig 3-48 Gabion weirs



Fig 3-51 Walkway



Fig 3-49 Timber pedestrian bridge



Fig 3-52 Dam

3.3.4 BROOKLYN BUSINESS COMPLEX - WALKER SPRUIT



Fig 3-53 Concrete weir and rehabilitation of the river bank



Fig 3-54 Pedestrian walkway



Fig 3-55 Pedestrian walkway



Fig.3-56 Well maintained development



Fig 3-57



Fig 3-58



Fig 3-59

**CALTHORPE PROJECT**

Fig 3-55 Information board keeps the community informed

Fig 3-56 Colourfull seating. Children gets the opportunity to get involved with the decoration and maintenance of their park

Fig 3-57 Well designed walkways and timber screens



Fig 3-60

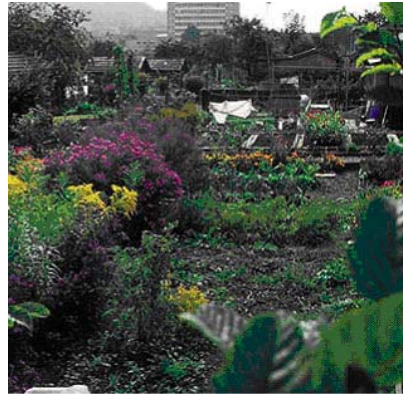


Fig 3-61

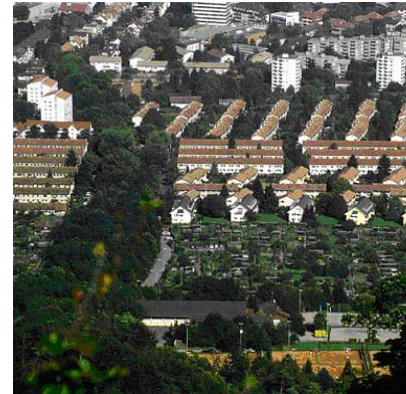


Fig 3-62

**SELF-SUFFICIENCY PLAN FOR HÖJE TAASTRUP**

Fig 3-58 Urban Agriculture: Allotment gardens next to a large shopping complex

Fig 3-59 Colourfull food garden with a high rise building in the background

Fig 3-60 Arial view over the town shows how the housing connects with the urban agriculture.



Fig 3-63



Fig 3-64



Fig 3-65

**SAN ANTONIO'S RIVER WALK.**

Fig 3-61 pedestrian walk way and bridge

Fig 3-62 Plants from a low barrier between pedestrians and the river

Fig 3-63 Development along the river.

## 3.4 INSPIRING OPEN SPACES

## CALTHORPE PROJECT Borough of Camden

Opened in September 1984

Beautiful garden in London. where many office workers and residents come to eat their lunch.

In order to fulfill in a number of different needs the garden consist of different sections:

- Quiet section with water features and seating
- A glasshouse and other areas for germinating seeds and tending seedlings
- Tennis courts for recreation
- Area expressly for those under 5 years old and additional playground for older children
- A special path running through part of the garden which is a tile mosaic created by the local community to celebrate life

## SELF-SUFFICIENCY PLAN FOR HÖJE TAASTRUP – Copenhagen.

The Environment and Energy Centre in Høje Taastrup a town to the west of Copenhagen in Denmark with a population of 45,000, has developed a realistic plan to make the region self-sufficient in food.

## REHABILITATION OF URBAN WATER WAYS

## URBAN VILLAGE CREEK. Zurich

The developer exhumed a concrete drain that was once fed into the sewer system in order for the water to be cleaned up before entering the Lake of Zurich and refurbished the creek that now percolates through the area and assists in giving the development a more natural quality

## SAN ANTONIO'S RIVER WALK. San Antonio U.S.A

This San Antonio's River Walk project, is a central city revitalization scheme and a successful early attempt in the U.S.A. at bringing some ecological thinking and greater human sensitivity into urban planning and management practices, as they relate to natural features.



Fig 3-66



Fig 3-67



Fig 3-68



Fig 3-69



Fig 3-70

### 3.5 HOUSING IN SYNERGY WITH OPEN SPACE

#### 3.5.1 HOUSING AT PARC DE BERCY

Paris France.

**Master planner:** Jean-Pierre Buffi.

**Architects:** Frank Hammoutene, Fernando Montes, Yves Lion & Chaix Morel, Dusapin & Leclercq, Christian de Portzamparc, Henri Ciriani

**Developer:** City of Paris/ SEMAEST

**Completed:** circa 1995

**Number of dwellings:** approximately 514

**Site area:** 1.5ha(including the park)

**Density:** approximately 330dph excluding the park(building area only) and 34dph including the park.

**Access to public transport:** Bercy is well served by a network of transport links – busses, metro, and trains.

**Access to amenities:** Shopping parade on Rue de Pommard and shops, schools and offices integrated into the scheme.

**Parking:** Underground parking – 1.5 spaces per dwelling on average.

**Tenure:** Mix of tenures comprising private housing, Prix Locatif Aide(social housing with help towards rent payment) and Prix Locatif Intermediare(social housing – medium price range).

**Uses:** Residential, shops schools nursery, crèches and offices.

**Building types:** Apartment buildings.

**Building heights:** Eight or nine story's.

**Unit Types:** Apartments (some duplexes)

**Circulation:** Apartments are grouped around circulation cores ( no deck access).

**Disabled access :** Lifts to all units.

**Communal Open space:** All buildings have access to courtyards within the blocks for communal use.

**Private/semi-private Open space:** All units overlooking the park, and most of the others, have balconies.

“The master plan provides synthesis between the housing and all elements of the public realm, a factor of the way the various architects’ development parcels were assigned. The housing display both coherence and variety through its collection of architects.” (Lewis.S.2005)



**SUMMARY OF SUCCESSES.**

- The housing in the new district of Bercy has a symbiotic relationship with the new park.
- The required high density also gave the park a necessary strong and defining edge.
- The concentration of the buildings against the park gives the scheme impact, status and most importantly, quality amenity space for all residents and visitors to the area.
- The master plan allowed for a mix of private and social housing without any distinction being made between the various buildings.
- A key success is the fine balance that was struck between transparency and definition of the housing blocks. Although they function very well as perimeter block making clear distinctions between public and private space they remain visually permeable, maintaining links with the park.



Fig 3-71



Fig 3-72

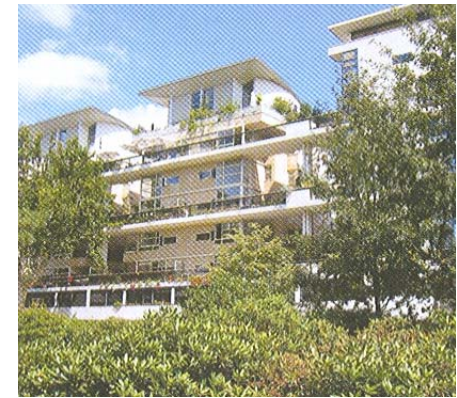


Fig 3-73

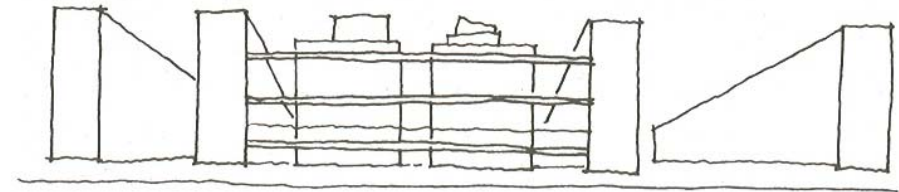


Fig 3-74



Fig 3-75



Fig 3-76 5900 CORVIALE URBAN ALOTMENTS

5900 CORVIALE URBAN ALLOTMENTS

Architect: nicole\_fvr/2A+P architettura

Completed: 2004-2005

Park Area;	17.000 m <sup>2</sup>
Cultivation area:	4.300 m <sup>2</sup>

The external strip of urban allotments that runs parallel to the building was reinterpreted as a suburban park. Aiming to understand the potential for triggering relational mechanisms between residents and the landscape. 1km of land self-managed by "pioneers of urban cultivation. By involving the community and giving it a leading role in managing green areas and their productive capacity Nicole\_fvr/2A+P transformed the allotments into a shared park, a free appropriation of the natural space as an ecological system. (MOLINARI,L 2005)



Fig 3-77



Fig 3-78



Fig 3-79

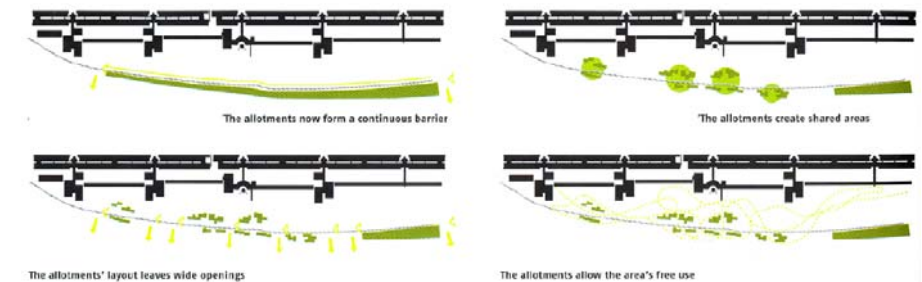


Fig 3-80



Fig 3-81 Canallized spruit



Fig 3-82 More natural looking spruit



Fig 3-83 Timber bridge

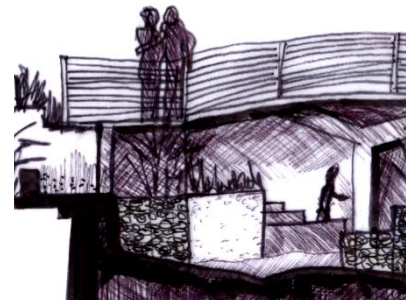


Fig 3-84 Bridge



Fig 3-85 Working in the garden



Fig 3-86 5900 CORVIALE URBAN ALOTMENTS

## RESPONSE TO OPENSOURCE PRECEDENT STUDIES.

- The analysis of walker spruit clearly shows the impact that the canal has on the perception of the water course and the surrounding open space.
- Nieuw Muckelneuk trim park is an example of how gabions and pedestrian walkways and bridges can contribute to the integration of the spruit and the park.
- Community involvement is very important in the success of the development such as the Calthorp project.
- In Housing at Park De Bercy the initial framework determined the success- It is therefore important to set clear principles and outlines for the project to guarantee that it is in balance with the development with the park,
- Gardens can help to solve social problems surrounding housing developments.



Fig 3-87 Park De Bercy - Green balconies



Fig 3-88 Green balconies