

# RESPITE (DRAFT July 2019)

Residential housing for special needs care

DRUw | Welsh School of Architecture



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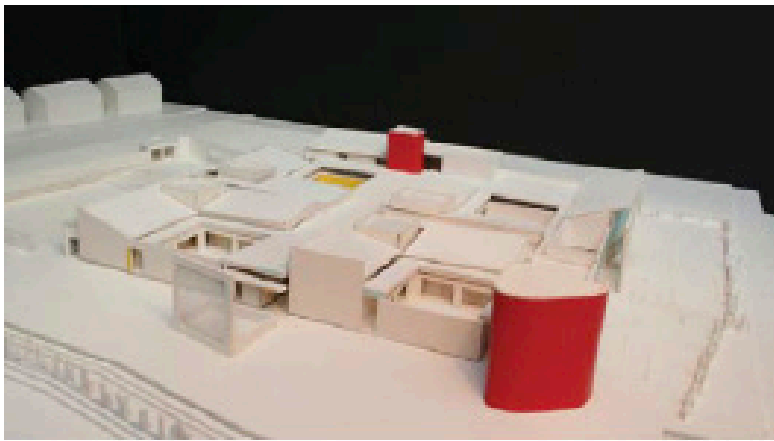
## Project Details

Title		Trem-y-Mor Respite Care Centre
Principal Investigator		Professor Wayne Forster, DRUw, Welsh School of Architecture, Cardiff University
Output No		XXXXX
Output Type		Physical output (new building)
Date of Output		2010-2014
Client		Neath Port Talbot County Borough Council
Function		Residential – respite special needs care
Location		Scarlet Avenue, Aberavon Beach, Port Talbot SA12 7PH
Funding		Local Authority, with a contract value of £4,414,445

*in collaboration with the following design team*

Project Management		Neath and Port Talbot Borough Council
Planning consultant		XXXXX
Structural consultant		Burroughs
Services consultant		Vitec Consult
Main contractor		Dawnus Construction Ltd





## STATEMENT ABOUT THE RESEARCH CONTENT AND PROCESS

### *Description*

The new facility provides planned or emergency care for predominantly young people with extremely challenging special needs, providing respite to full time domiciliary carers. It consists of 16 residential rooms plus communal living and amenities. This was originally located at Rhodes House where the existing facility failed to meet Care Standards for Wales. The ambition for the new facility was to provide a vibrant and contemporary centre that is at the forefront of respite care in Wales. The clients brief was to:-

- Create a stimulating fusion of care, home and awareness of the outside world.
- Create a flagship facility in Wales that celebrates synergy between user and carers.
- Respect the dignity and privacy of the users in a safe and secure environment.
- Be an exemplar building that promotes healthy living and lifestyles within the community.
- To respond to an essentially seaside context and to enable residents to enjoy this whilst maintaining personal privacy and security.

### *Methods*

- Literature review
- Precedent studies
- Design with spatial hierarchies at the forefront
- Design with emphasis on hand drawing and the use of physical models

### *Questions*

- How to design for those with extreme physical and/or mental needs so that qualities of dwelling, home and place override the institutional and regulatory frameworks that dominate buildings for care – expressed here as ‘nearness to needs’.
- How a spatial hierarchy may create and regulate the spatial transition from the public to the private.
- How to design for the specific character of place and to promote activity whilst creating a safe refuge.
- How to utilise a design process involving physical model-making to test out complex housing permutations and types involving a range of stakeholders, and to investigate construction technologies in order to meet the design objectives within an extremely tight budget and construction schedules.
- How to effectively disseminate all of the above.











## 1. INTRODUCTION

The new facility provides planned or emergency care for predominantly young people with extremely challenging special needs, providing respite to full time domiciliary carers.

The average length of occupation was planned for two weeks but in cases observed at the original facility, Rhodes House, in some cases this had stretched to months. Therefore, whilst respite for carers is the key objective it was evident that for some this would be home for an extended period. The local authority had engaged in a long and protracted process of site selection and brief building culminating in the selection of a site right on the sea front at Aberavon beach. This offered potentials in terms of view and outside activities but also posed questions of privacy, safety and the very real challenges of sometimes extreme coastal climate and weather conditions.





## 2. AIMS AND OBJECTIVES

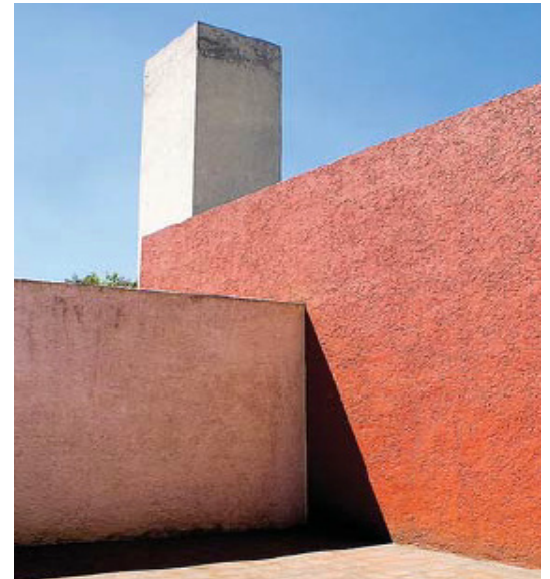
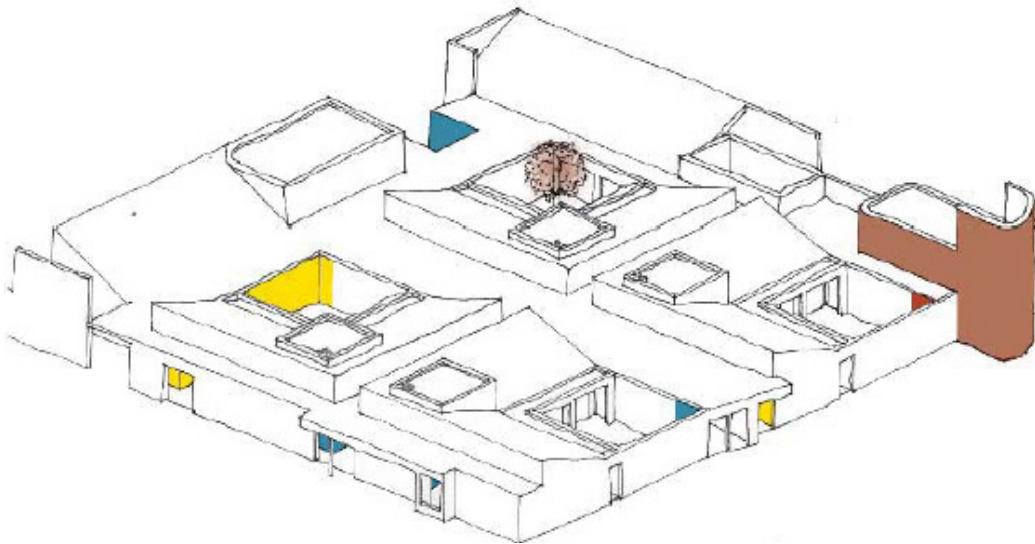
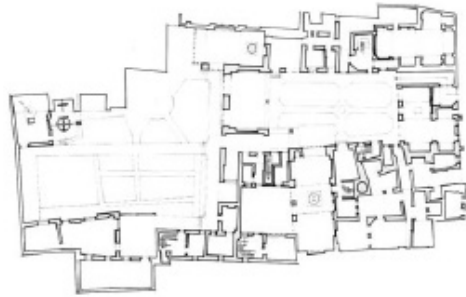
In this project we aimed to create a model for respite care that on the one hand would have to meet the regulatory requirements for space and accessibility to amenities such as bathing, but would also where possible, inculcate the character of at least a vacation, and if possible home. We embraced the opportunity to engage with the challenges of designing appropriate spaces for those who need very high levels of support and care to live and responded as architects with a design-led approach. The main challenge in designing is that the population may have various and contrasting significant difficulties and needs. One manifestation of this is that just about every occupant has the need of purpose built wheelchairs. Overall there is the need to produce calm, coherent spaces that reduce enervating distraction, aid orientation and encourage mobility. Our aim was to respond to this challenge by reconstructing from first principles an architecture that places the individual into the world and provides respite not just for the carer but also for the individual. We took the words of Bob Maguire from a commentary on his design for a group of student residences as a 'touchstone' in terms of meeting these needs.

Architecture is concerned with human need, and we place no limits on the interpretation of 'need': Maguire defines this - 'I mean every level of human need, from the most prosaic or mechanistic (like the need to circulate from one place to another) to those which are perhaps more easily felt than formulated. If the quality of an environment, for example, is seen to be one factor in the precipitation of vandalism, then that environment has failed in answering to a human need, because vandalism is an aberration of normal human behaviour. There is some starvation somewhere, to which the environment has contributed. When the corridor becomes a frequent symbol of anxiety and isolation in literature from Kafka on, it means that at least certain kinds of corridors have an insidious effect: they are an environment contemptuous of human need at a level which is no less urgent to recognise for its being difficult to define. Equally, if office workers get headaches from skylglare because to achieve adequate light the windows go right up to the 9ft ceiling, then again human need has not been met. Adequate light is easy to define, and providing it seems a matter of simple calculation. But designing for people rarely turns out to be that simple...'.

### 3. QUESTIONS

- How to design for those with extreme physical and/or mental needs so that qualities of dwelling, home and place override the institutional and regulatory frameworks that dominate buildings for care – a 'nearness to needs'.
- How a spatial hierarchy may create and regulate the spatial transition from the public to the private.
- How to design for and explore- the specifics of place and to promote activity whilst creating a safe refuge.
- How to utilise a design process involving physical model-making to test out complex housing permutations and types involving a range of stakeholders, and to investigate construction technologies in order to meet the design objectives within an extremely tight budget and construction schedules.
- How to effectively disseminate all of the above.







## 4. CONTEXT

A number of sites were appraised on behalf of the client but the favourite site was on the sea-front at Aberavon. The site is a unique collision/fusion of industrial infrastructure – notably TATA steelworks, the former BP refinery and a fading seaside resort.

Aberavon developed as a natural harbour from the 17th Century, acting as a point of transport for coal and sheep to the production of metals in the 18th Century. The steelworks followed and at peak employment in the 1960's, they were Europe's largest and the largest single employer in Wales, with a labour force of 18,000. This forms a dramatic backdrop to the scheme.

This was 'augmented' by a traditional 'bucket and spade' resort serving the south Wales Valleys and was visioned and developed between the 1940's-1960's. During the 1940's, 1950's and 1960's the seafront boasted numerous hotels and leisure facilities and a whole swathe of land parallel to the promenade was landscaped, including flower beds, sunken gardens and seating areas.

The headline of the Waterfront strategy is that *'quality of place is fundamental to delivering the sustainable, economic and social objectives of the council'*. It is essential that the proposed Respite Care home meets this commitment in providing a building which demonstrates best practice in design, and one which celebrates its unique position as the western most building along the promenade. The project must be committed to sustainability, and underpin the definition of design as set out in Planning Policy Wales described as: *'the relationship between all elements of the natural and built environment...'* and that for a sustainable development, *'design must go beyond aesthetics and include the social, environmental and economic aspects of the development, including its construction, operation and management, and its relationship to its surroundings'*.





Individual rooms at Rhodes House open directly onto double loaded corridors. Note the cramped and temporary nature of rooms



## 5. METHODS

### *Literature review*

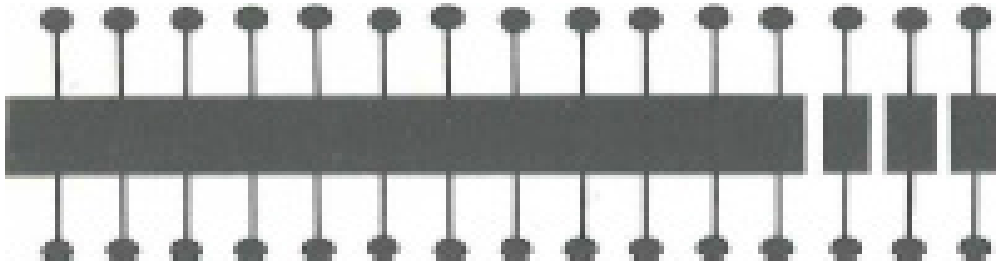
A number of design guides were referred to, but guidance focused predominantly on particular occupant characteristics – such as dementia and or provided empirical information on aspects such as mobility and accessibility. Although useful from a regulatory point of view we were interested in formulating and applying some strategies that would promote a sense of home and the de-institutionalised place.

For the purposes of this research we use the term ‘respite care’ to mean any services that enable carers to have a break from caring. These types of services are also sometimes known as ‘*replacement care*’ or ‘*short breaks*’. Typical policy usage of these terms tends to distinguish between whether the carer is an adult or a child, and - if the carer is an adult - whether the care recipient is an adult or a child:

- Adult carer of an adult: respite care
- Cared-for young person, or young carer: short break

Short breaks may mean slightly different things depending on whether the young person involved is a care recipient or is a carer. Short breaks for cared-for children tend to be viewed as services provided to the child, whereas short breaks for young carers tend to be viewed as services provided to the young carer (not to the young carer's care recipient). We use the term ‘*carer*’ to mean someone whose caring role is unpaid – generally they are caring for a relative or a friend. Such carers are also sometimes known as ‘*informal carers*’.

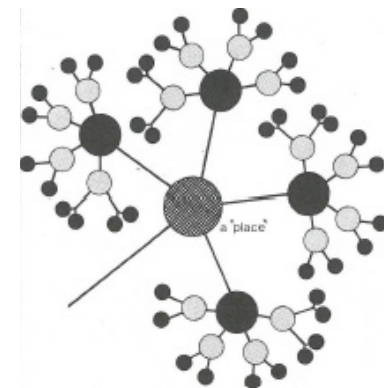
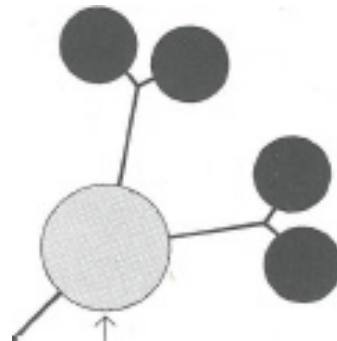
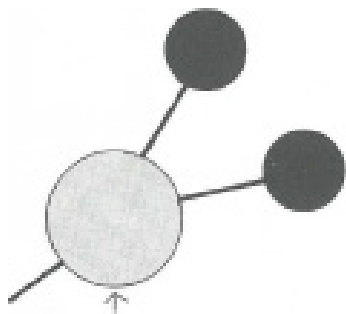
It is no innovation that the way toward some solution to the feeling of isolation and discouragement of relationships lies in groupings of some sort. We set out to discover some structure in which the sizes of groups made real sense



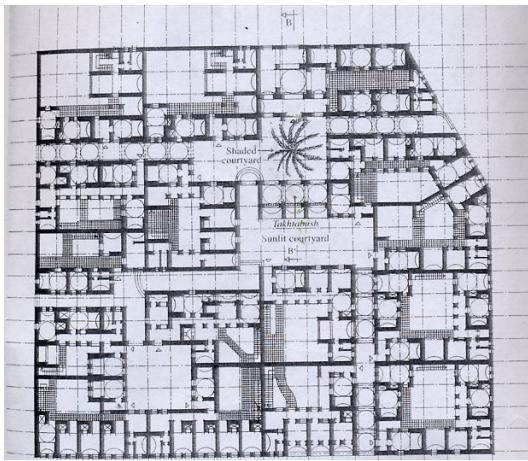
in relation to the human problems we witnessed at Rhodes House; where a series of anonymous bedrooms opened directly onto a double loaded corridor.

We referred in detail to the work of Maguire and Murray for student residences for the University of Surrey which dates from nearly 40 years ago and was published in the RIBA Journal.<sup>1</sup>

Fig I shows the group structure (if such it can be called) of a corridor residence as described by Maguire and Murray. *'Each resident is related only to the entire community en bloc. What is the identity of the band in the middle? It is the building as a whole, whose character is one of place-lessness. There is usually a common room somewhere, but people do not often form relationships in common rooms. There is usually nothing except the television (or pool table in the case of Rhodes House) to go there for.'*



<sup>1</sup> Robert Maguire, "Nearness To Need: Architects' Approach To Architecture'", RIBA Journal, X.I (1971).



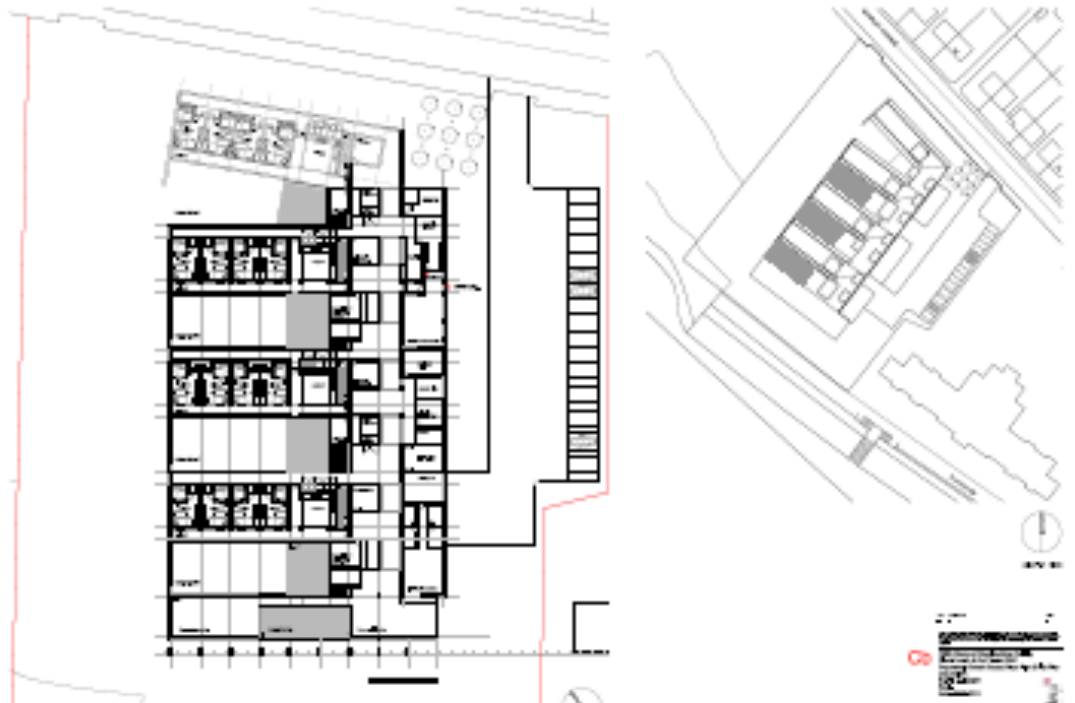
### *Precedent studies*

The relationship between all elements of the natural and built environment mean that for a sustainable development, 'design must go beyond aesthetics and include the social, environmental and economic aspects of the development, including its construction, operation and management, and it's relationship to its surroundings'. The conceptual vision for the Respite Care facility has been driven by 4 conceptual ideas, these are:-

- the walled city
- courtyard and cloister
- colour and legibility
- access to landscape (as a therapeutic aid)

We referenced a number of archetypal forms but also made reference to the idea of the seaside in these studies. As in a number of other projects the idea of the courtyard was central to the scheme and emanates from a long-standing interest in the form and how it may deal with issues of privacy and social contact. The integration of inside and outside and the addition of spatial hierarchy from public to private provided by the private court is considered of great value in the design of the dwelling. Niall McLaughlin's Dementia facility in Dublin with its connecting courtyards had just been completed and we were interested in the way in the question posed in this scheme, which although focusing on dementia, also asked broader questions about buildings for care. *'One key question for an architect is how, in this context, with limited resources, to develop a caring environment that recognises the special sensitivities of people with dementia and how to contribute useful spatial understandings to the development of this medical field'*.





Although the model of the 'walled' city and enclosed courts seemed intuitively of interest other variations on this theme were tested - notably finger plans with elongated courts.



### *Design with spatial hierarchies - nearness to need*

The design team were particularly anxious to limit those characteristics of institutional care that burdened the respite team at Rhodes House and added to residents' feelings of isolation and also lack of privacy and dignity. We and the local authority care team felt that what was appropriate was a breakdown in which small groups were formed around some shared ordinary activity, and then a cluster of these small groups would share some other facility, and so on. In our original brief we were asked to design for 24 residents and it was impressed on us by the care team that acoustic separation was also required from group to group, as some residents were prone to inadvertent shouting and exclamation which had a disturbing effect on the whole complex at Rhodes House. We were interested in the potential of chance meeting of people going about the ordinary business of their lives, which may give rise to personal relationships and also to an awareness of joint responsibility for the things shared.

There is quite a variety of such possibilities especially if the group or cluster not only have a view but access to shared outside space. In a small room, this is made very difficult if you have a built-in wardrobe and a washbasin. These two strongly impersonal objects tend to dominate the room; they freeze the space and restrict individual arrangement of furniture. We decided that they would go outside. Starting to build a new group structure (Fig 2), we chose to have single study bedrooms paired, opening off a shared lobby. If two rooms are arranged in this way, off a lobby, you still have the privacy of your own room, but it becomes extremely difficult not to strike up some sort of a relationship with the person in the other room – even over a short period of respite. Simple cooking and coffee brewing was the obvious informal centre around which to form the next size of group. The number we thought to be appropriate for this was four – two groups of two. It was based on two considerations: that the number should not be too many but also to encompass the pragmatic needs of the carers to spatially separate small-ish groups for privacy and occasionally safety.

The unit of 4 maybe on the small side but the number also forms a unit which can have an identity as a group of people and as a place. The individual can find some identity of his own and by grouping the four around an open but enclosed courtyard with access from all rooms, a further identity of each courtyard could be reinforced. Now "identity as a place' is possible only if that place can be perceived - if internally it possesses that quality of 'placeness' which the corridor (for example) denies, and if from outside it can at least be seen to exist as an entity. Only residents, invited visitors and staff inhabit this domain.



Ground floor plan 1:200



Ground floor plan 1:200







Ground floor plan 1:200



Ground floor plan 1:200



### *From private to public*

The private groups of four have routes which extend to external spaces in two ways – cloistered gardens to each cluster of 4, and then beyond the building to the main circulation routes that provide semi-private promenades to the shared facilities located all along the seafront. Beyond that, circulation routes serving the residents rooms and communal lounges are private. The public domain which engages with the seafront is designed to be opened out on fine days so that the benefits of views, outdoor activities and climate can be enjoyed by all.

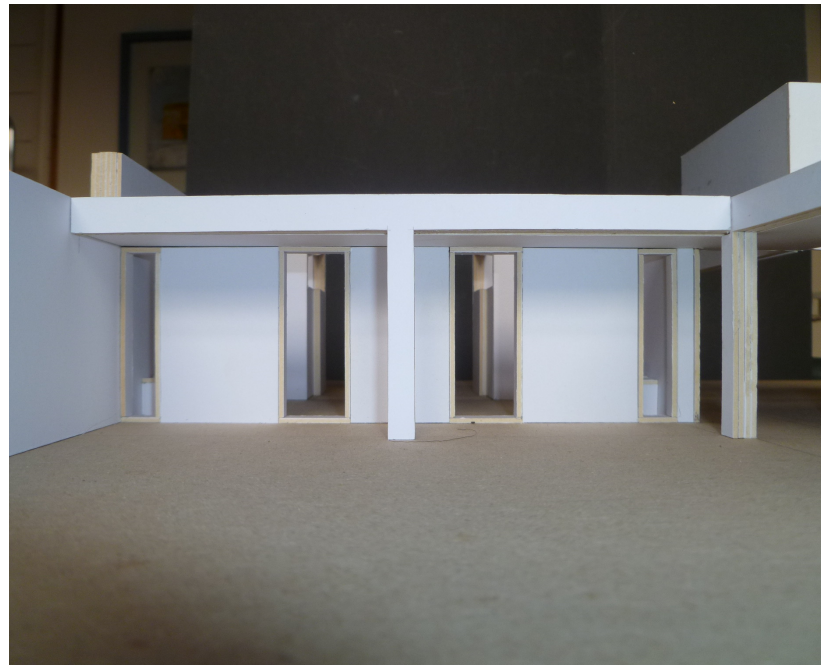
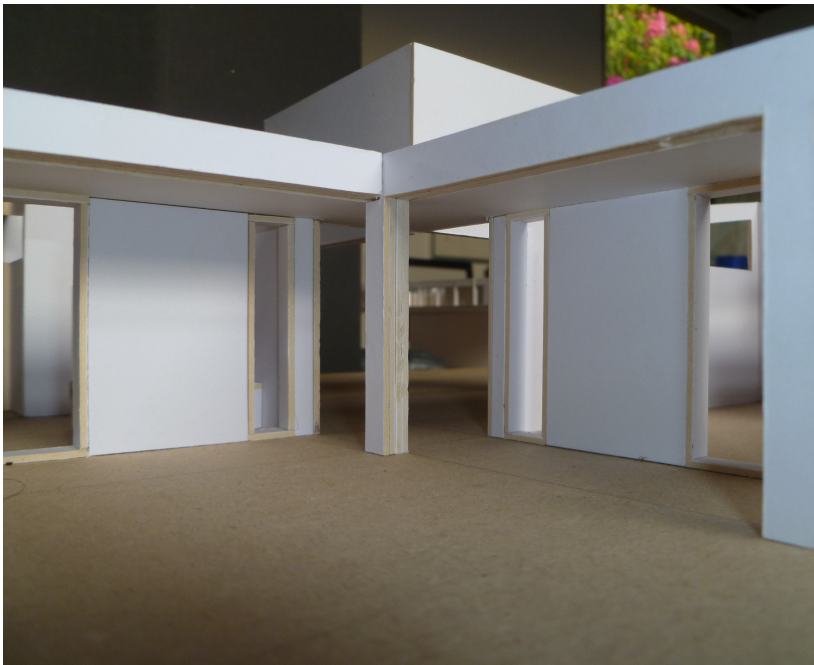
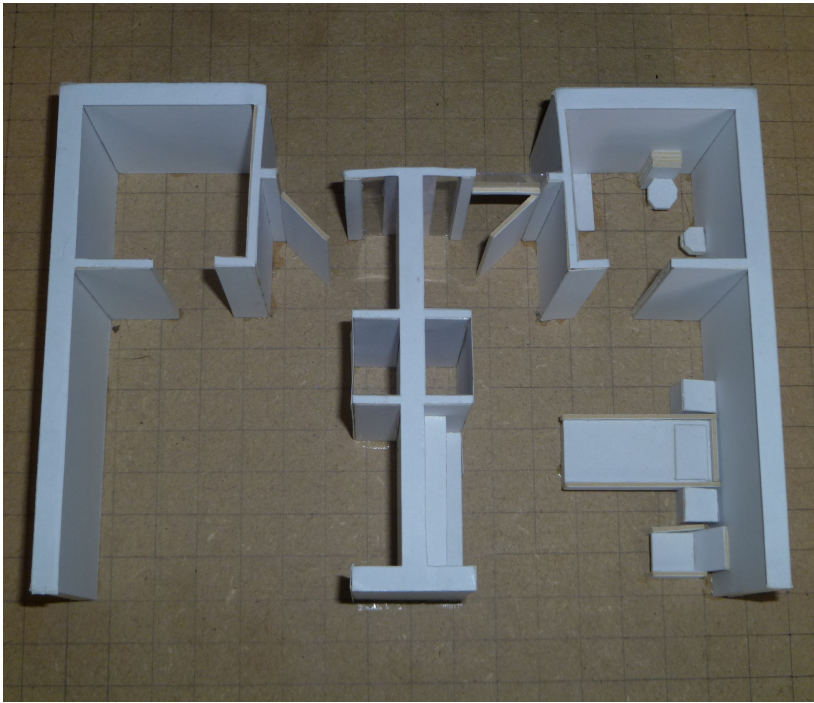
### *Drawing and modelling*

A range of models and particular drawing types were used to test out spatial relationships and to explain to a range of stakeholders, and to investigate construction technologies. For the initial design workshops site models at a scale of 1:200 were made showing the site context. These were helpful as they provided an immediacy for others in the design process, planners and the client to observe the effect of physical constraints. A 1:50 maquette of a basic room layout was used to demonstrate how the individual room could be configured and how access may be made to the shared courtyard.

These were followed by hand drawn studies of courts and gardens. These drawings, whilst three dimensionally accurate, convey impressionistic ideas of space and place without being too explicit about materials and architectural detail. These techniques were used in the first phases of design. Outdoor and semi-outdoor areas were to be easily accessible; and occupants are able to follow (the changes in) outdoor conditions in all main living areas of the house. Light and darkness, exposure to high levels of daylight is needed in the main living areas of the house during daytime, with special attention to the rooms that are mainly used in the morning, whereas the bedrooms need to

provide complete darkness at night time. Cool and warm, the room and court should provide temporal and spatial variations in the thermal environment that are logical and follow, to a certain extent, outside temperature variations.

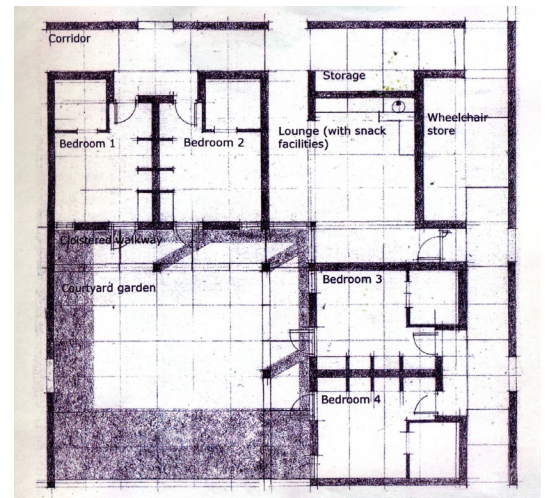
Flexibility related to the seasons, the use of outdoor and semi-outdoor spaces should be stimulated outside the heating season. The occupants should be able to control the systems that influence parameters that can be sensed, e.g. lighting level, air quality and indoor temperature. These aspects of construction were tested mainly through an iterative drawing process during which detail design workshops involving the whole construction team. The initial physical models were used to 'benchmark' changes as they arose.



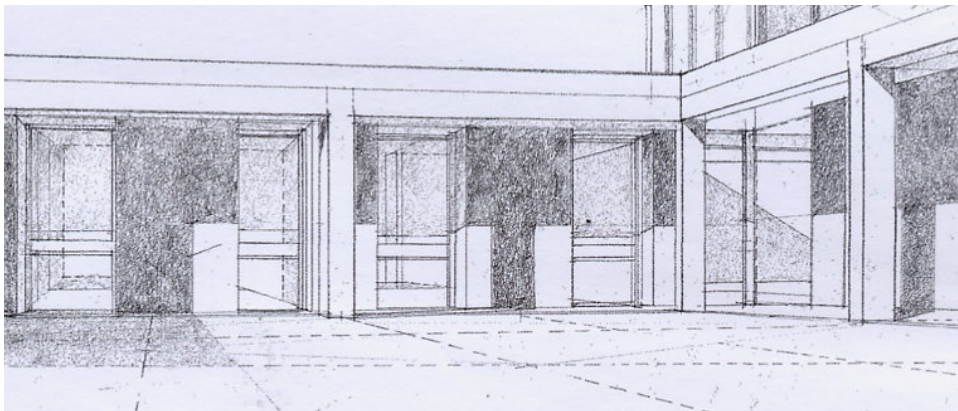
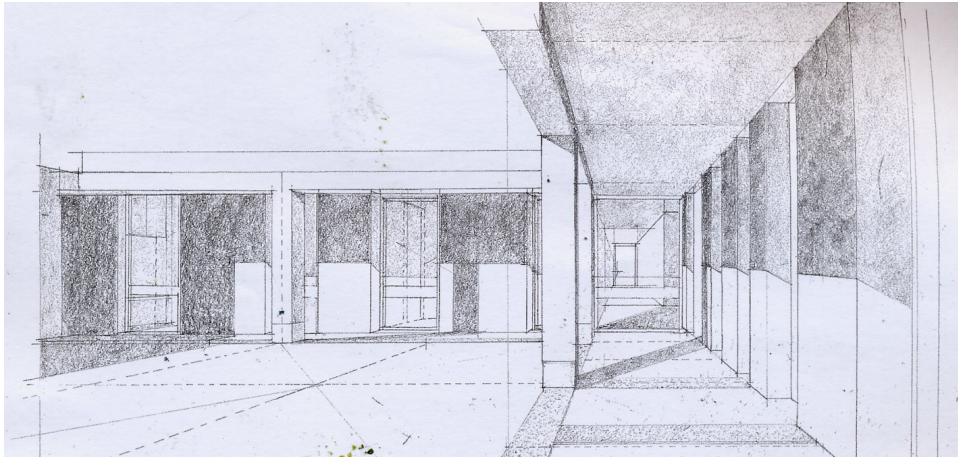
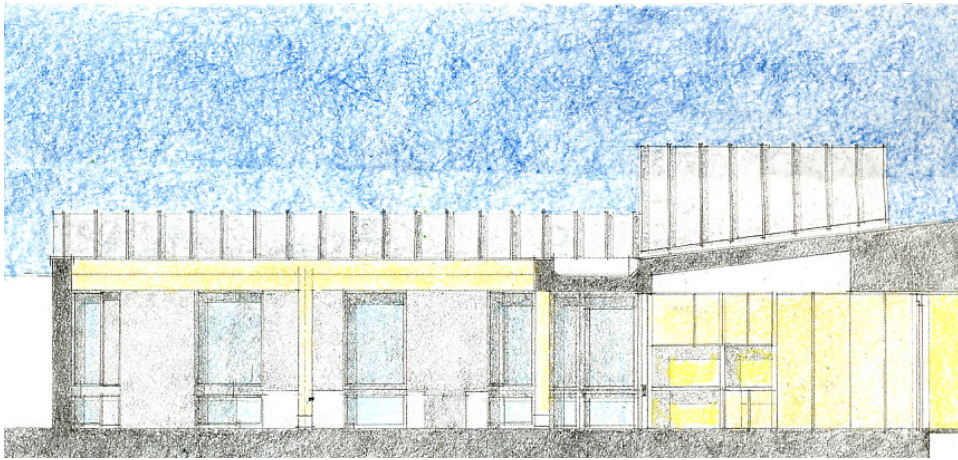










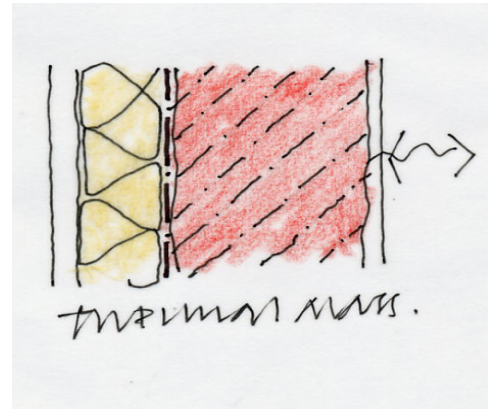
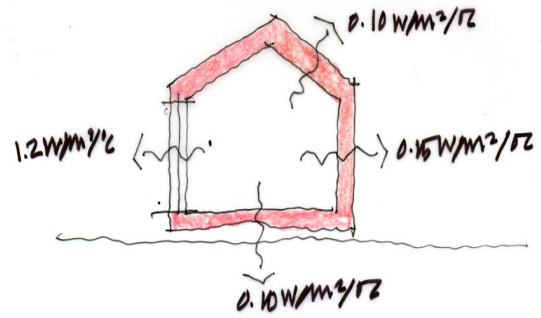
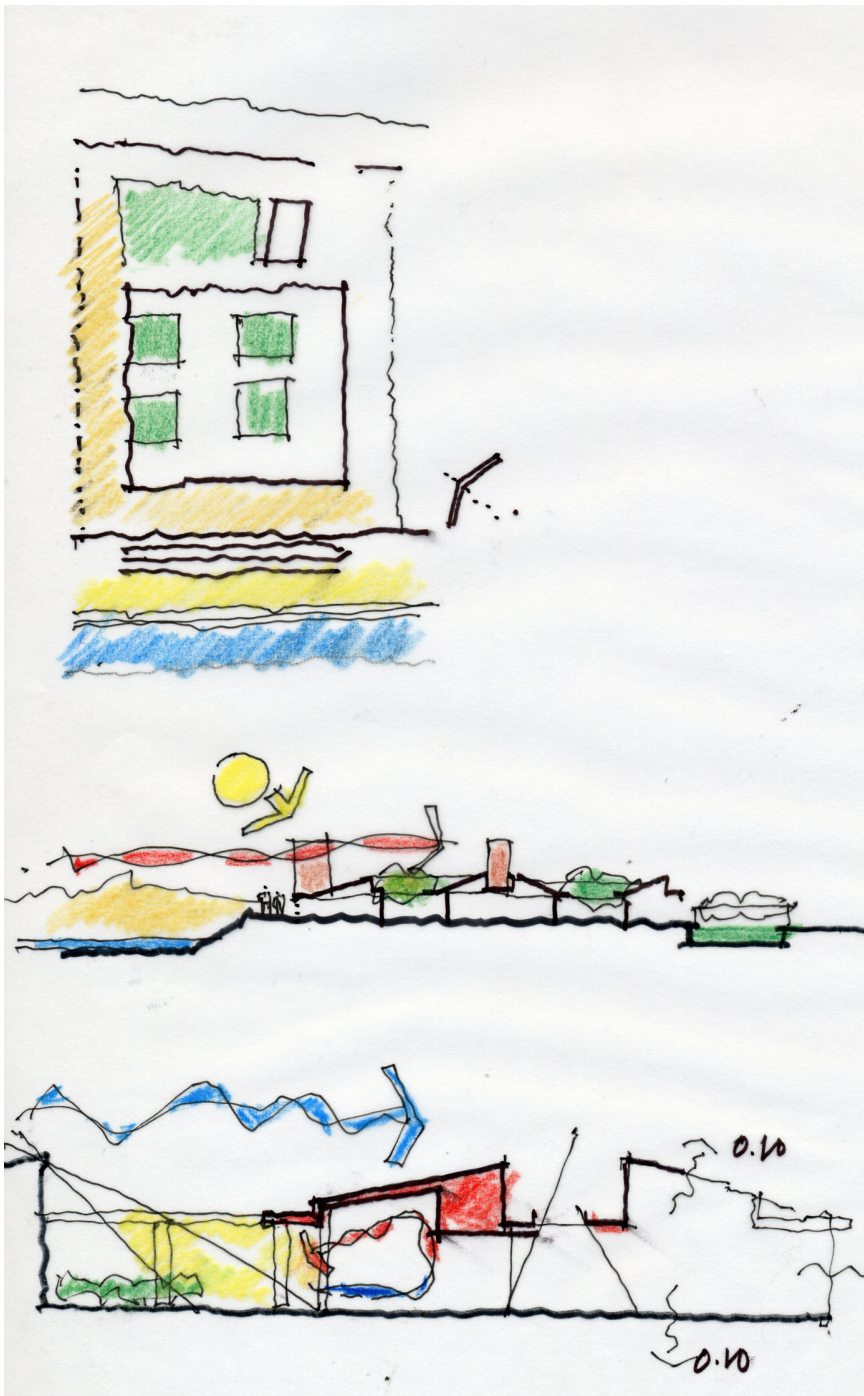


### *Energy performance and sustainability*

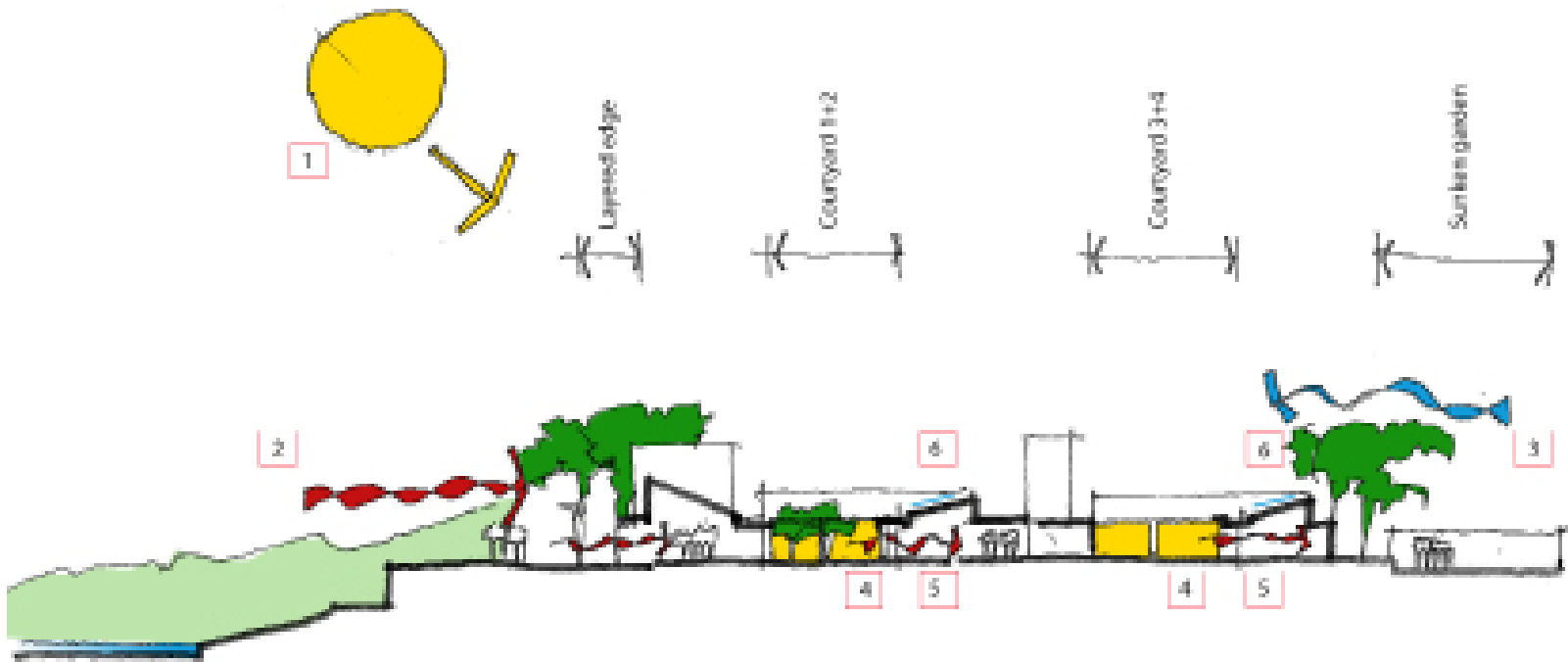
The aim is to for the building to be near zero carbon and to meet the requirements of BREEAM excellent. This will be achieved through a combination of design strategies as follows:-

- **Climate**  
The climate has been analysed and whilst exposed to coastal conditions the site is not overshadowed and benefits from near perfect solar access.
- **Siting and orientation**  
The building is sited so that the main habitable spaces can benefit from passive solar gains and the worst effects of wind on energy use are mitigated by keeping the building low.
- **Building Form**  
The building form is compact but contains sheltered courtyard gardens. All habitable spaces are based on passive design strategies - see following pages.
- **Building Fabric**  
The design strategy is one of 'Fabric First', where the building envelope makes the biggest contribution to energy saving. The building will be insulated to better than building regulations - walls, not more than 0.15, roof, not more than 0.10, floor not more than 0.10, and windows and doors not more than 1.2 w/m<sup>2</sup>/oc.
- **Mass**  
The building is designed to exploit thermal mass through masonry construction, placing the mass of the building on the warm side of the insulation.
- **System**  
The building systems can be minimised by following the above and is a high efficiency Gas CHP supplemented by solar technologies.



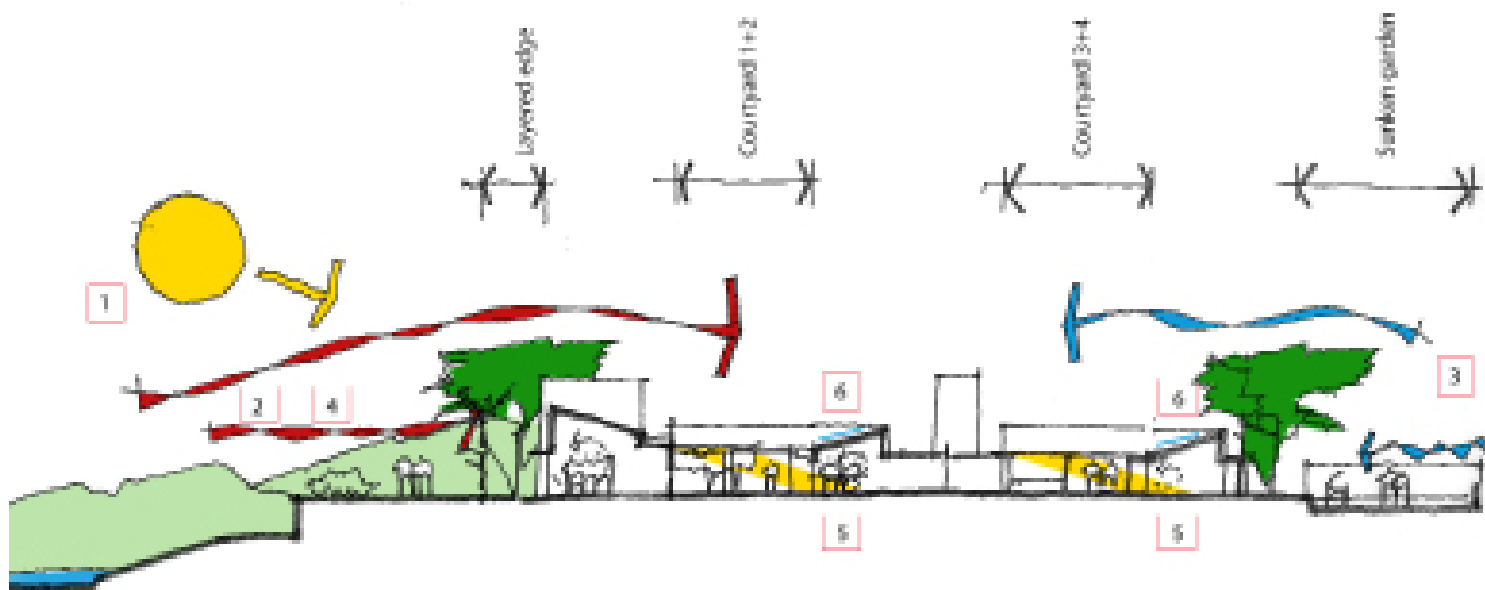


1. High summer sun penetrates courtyards and southern edge
2. Building is shielded from prevailing easterly wind from south west
3. Building turns its back on cold north easterly wind from south west
4. Cloistered courtyards shade occupants and habitable rooms
5. Rooms are opened up to cool air
6. PV's on south facing roofs



2. Building is shielded from prevailing easterly wind from south west
3. Building turns its back on cold north easterly wind from south west
4. Cloistered courtyards shade occupants and habitable rooms
5. Rooms are opened up to cool air
6. PV's on south facing roofs

1. Low winter sun penetrates habitable rooms
2. Building is shielded from gales and building 'hunkers down' for shelter
3. Building turns it's back on cold north easterly wind and has 'sunken' garden
4. Cloistered courtyards shade occupants and habitable rooms
5. Rooms are opened up to cool air
6. PV's on south facing roofs



#### Passive design - Winter

1. Low summer sun penetrates habitable rooms
2. Building is shielded from gales and building 'hunkers down' for shelter
3. Building turns it's back on cold north easterly wind and has 'sunken' garden
4. Cloistered courtyards shade occupants and habitable rooms
5. Rooms are opened up to cool air
6. PV's on south facing roofs

## 6. DISSEMINATION

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## 7. BIBLIOGRAPHY

Maguire, Robert, "Nearness To Need: Architects' Approach To Architecture", RIBA Journal, X (1971)