

Centre for Renewable and  
Sustainable Energy Studies  
DISCUSSION FORUM  
September 2007

Three Examples, Many Energy Strategies  
**arG DESIGN**  
Architects Planners Urban Designers

Alastair Rendall . Gita Goven

Outline of Presentation

1. Introduction
2. Lynedoch Community Centre
3. Africa Earth Observatory Network - UCT
4. Tsoga Environmental Centre

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# Lynedoch Village



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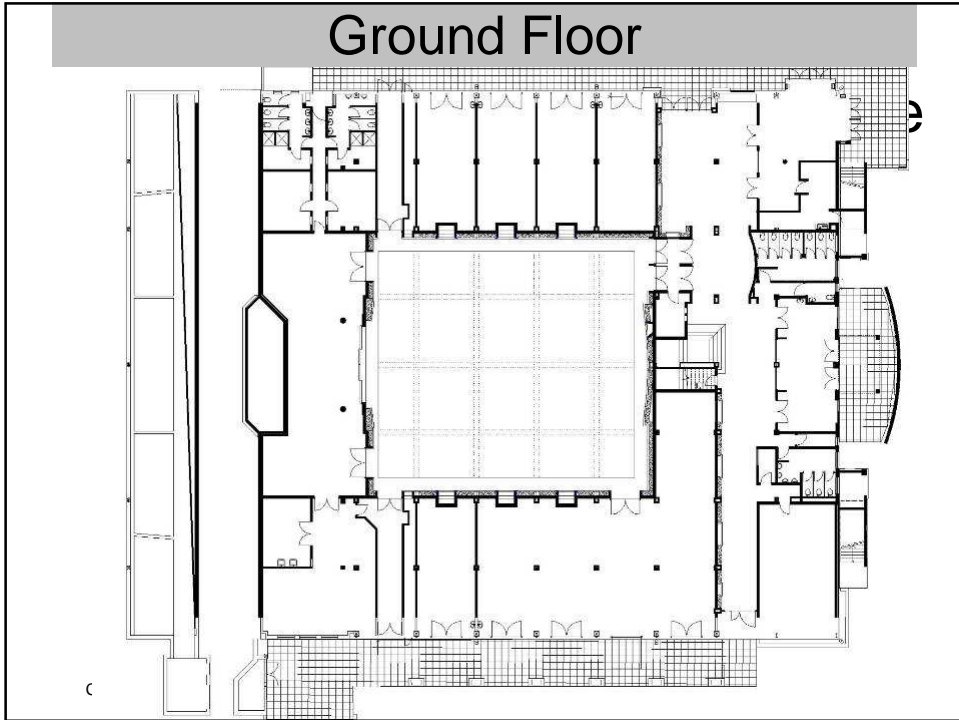
# Lynedoch Village



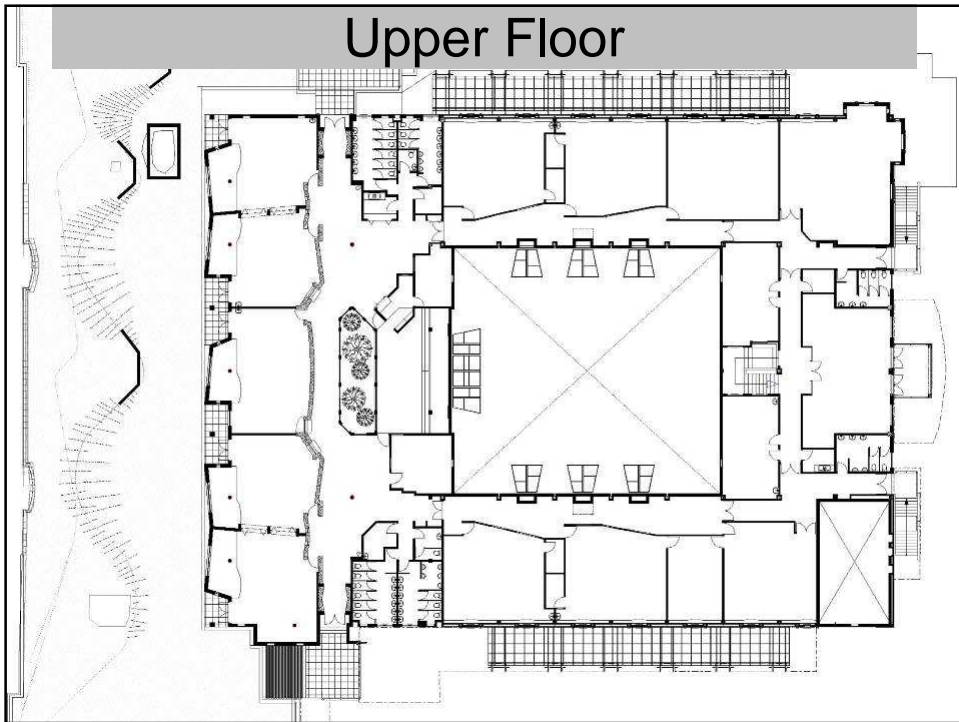
DRIE GEWELS VISION



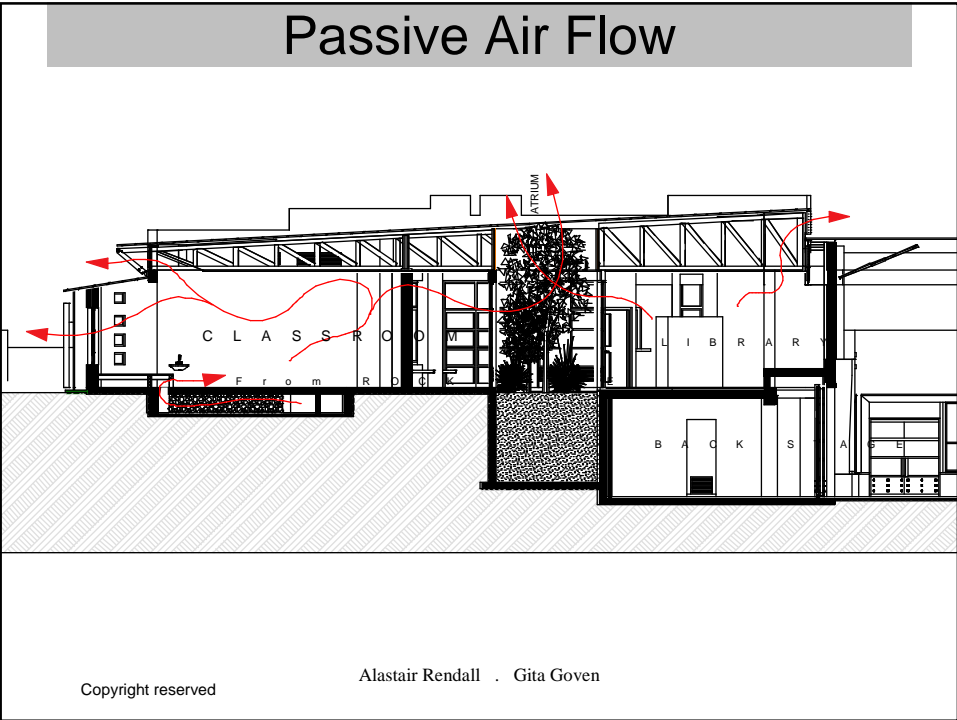
## Ground Floor



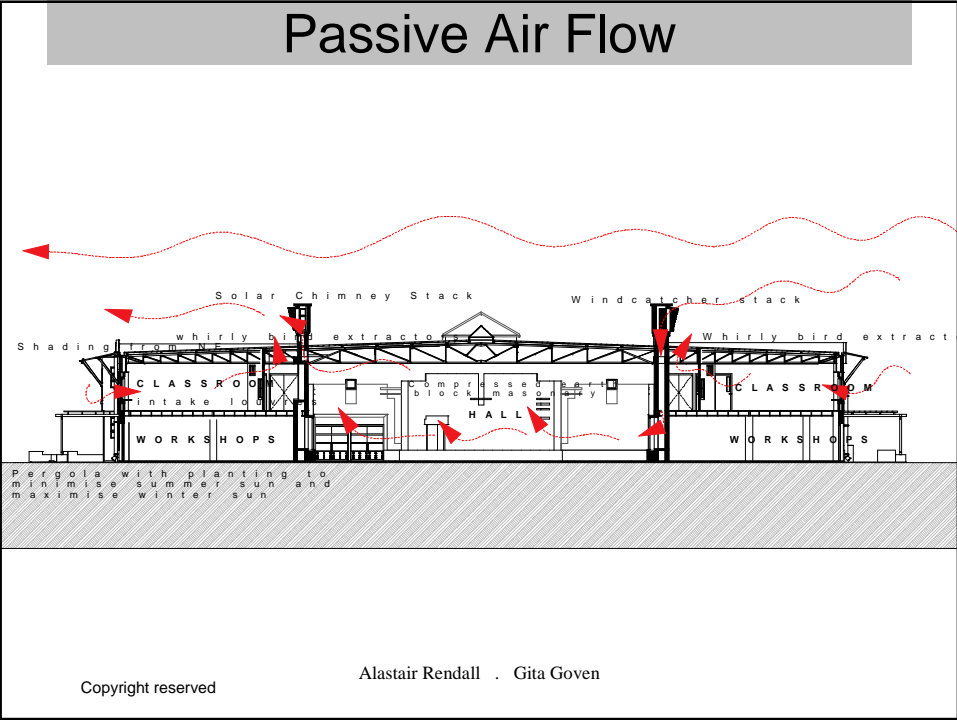
## Upper Floor



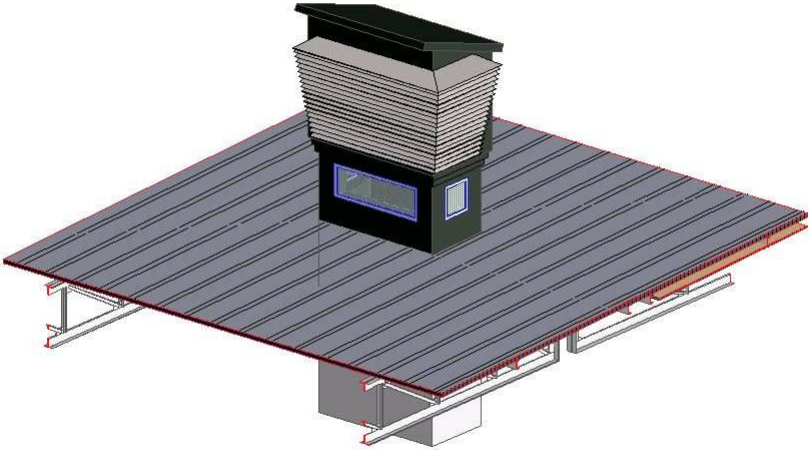
# Passive Air Flow



# Passive Air Flow



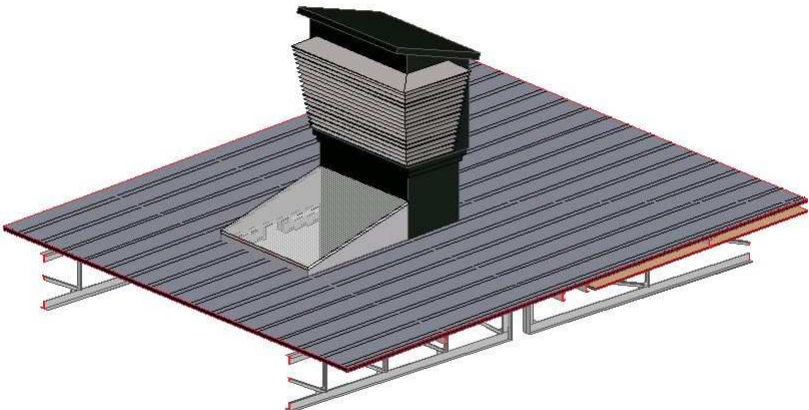
# Passive Air Flow - Intake



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# Passive Air Flow - Exhaust



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# Day Lighting







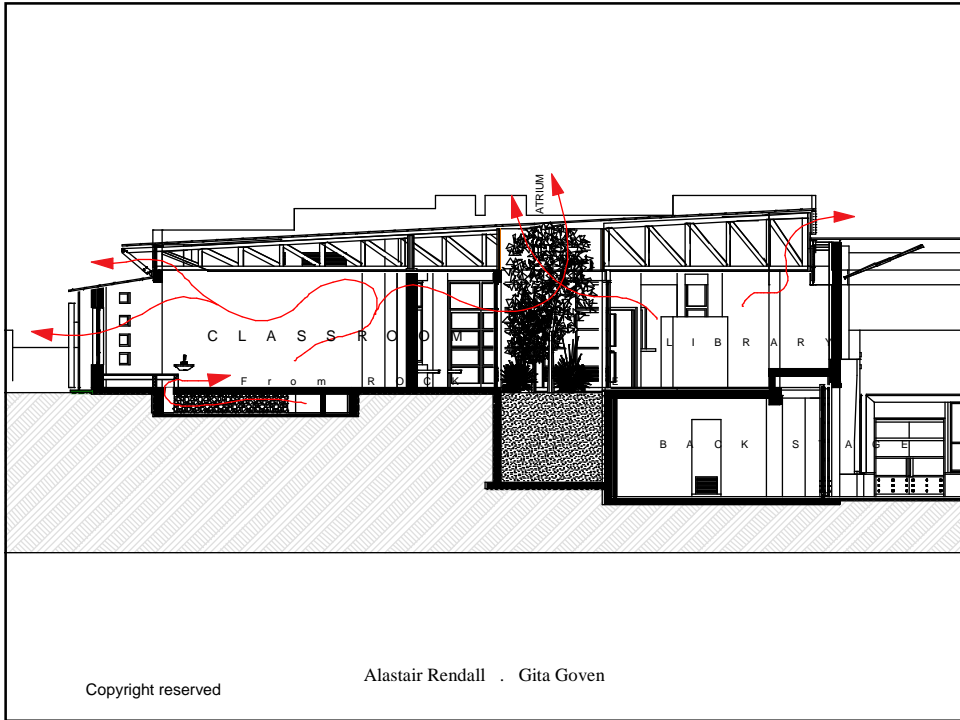


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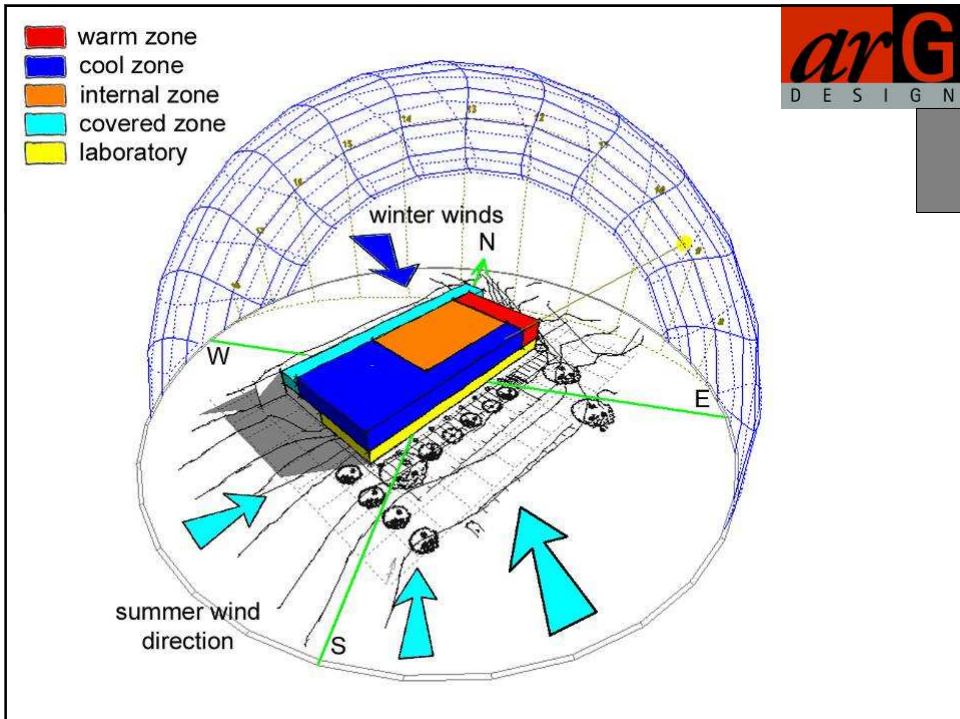


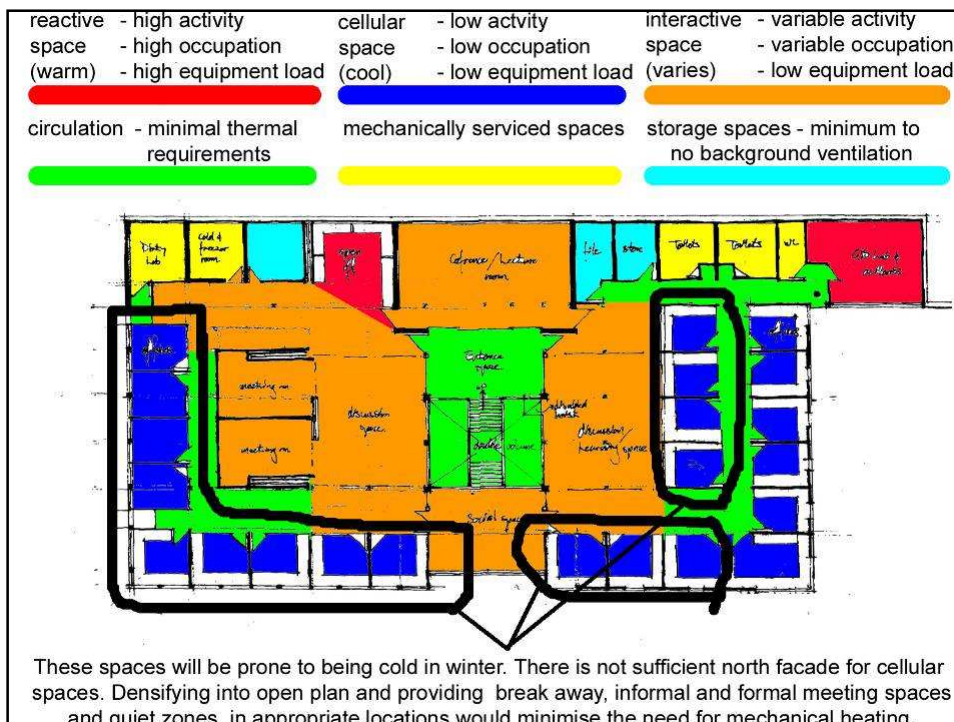
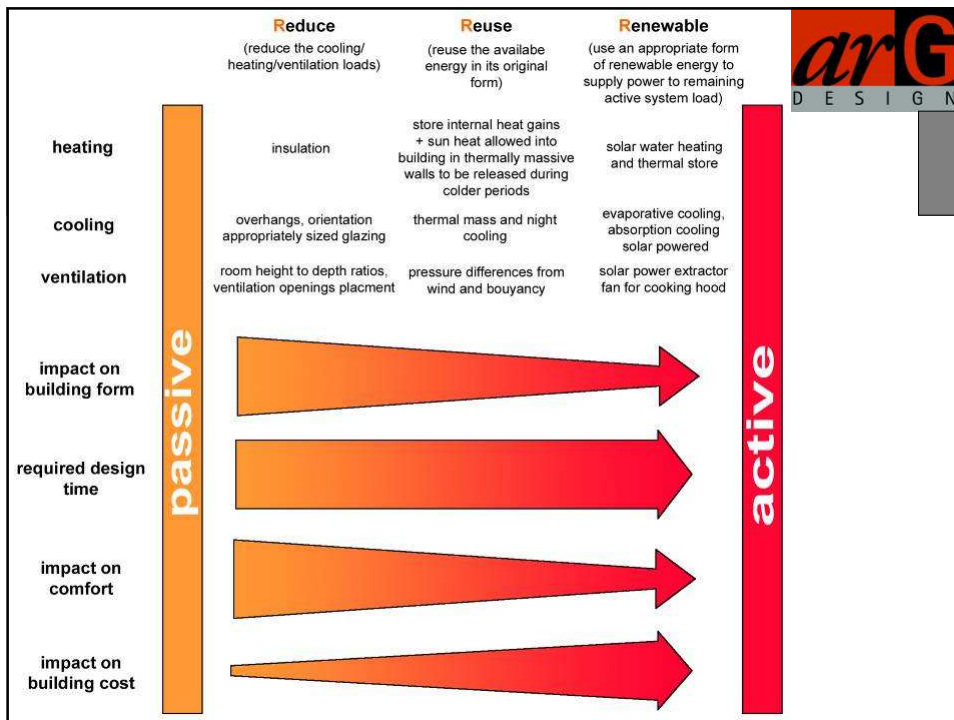
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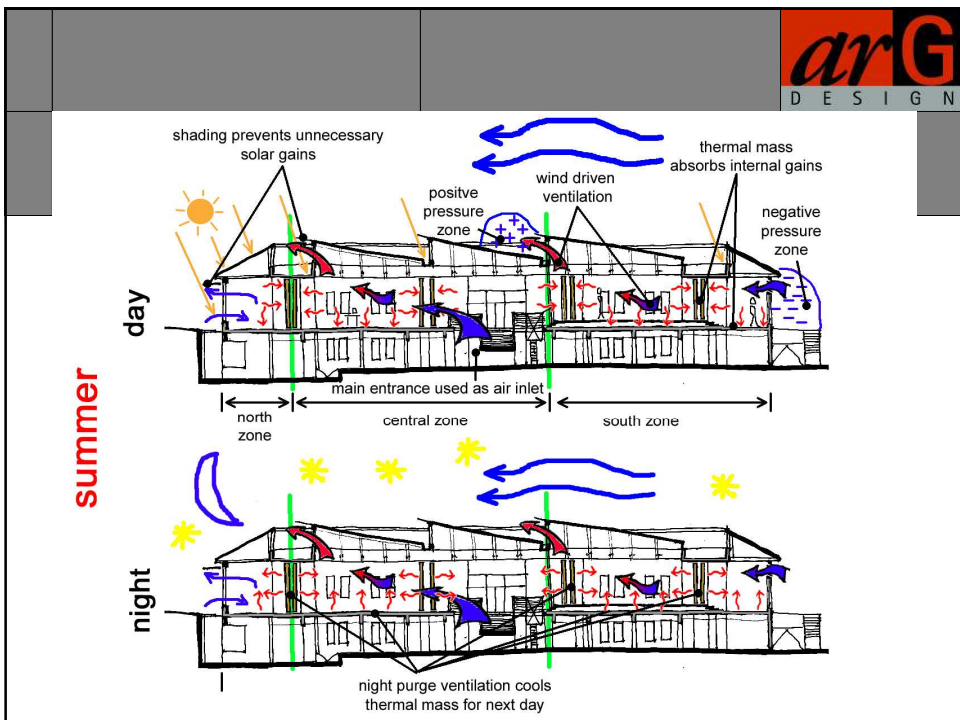
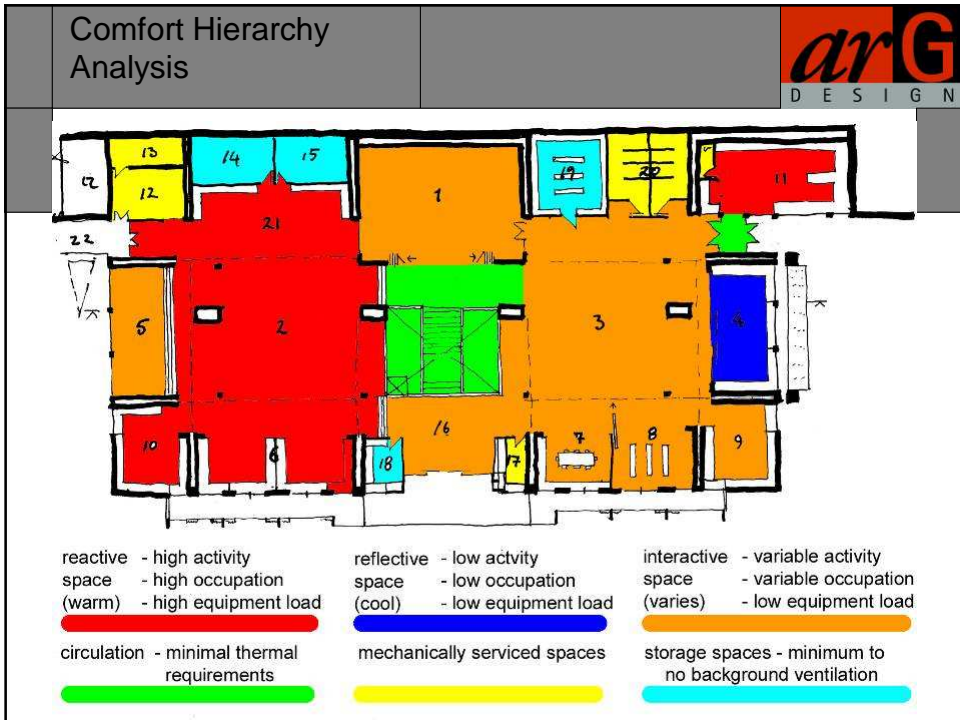


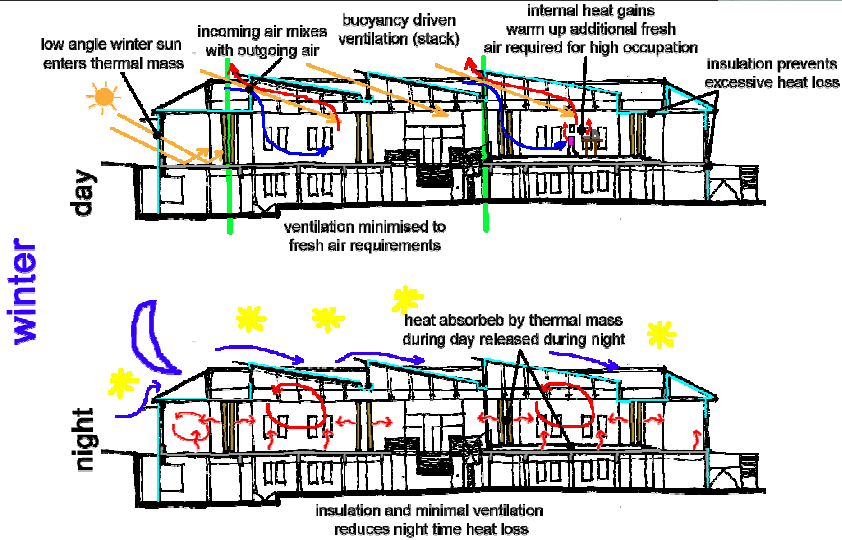




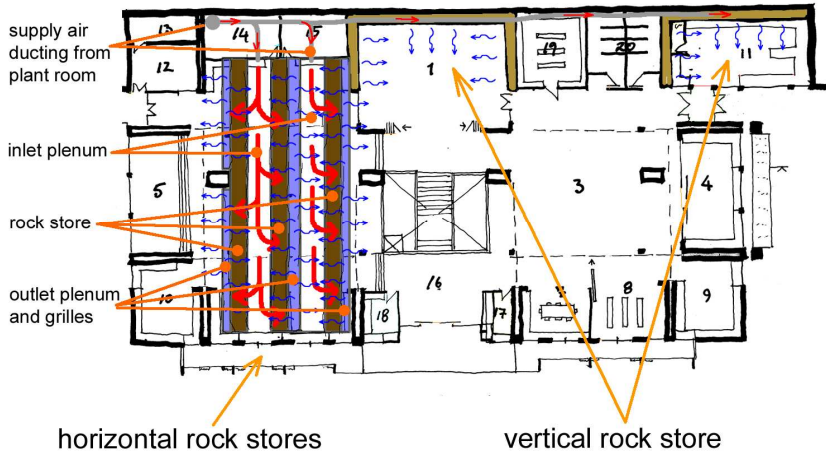








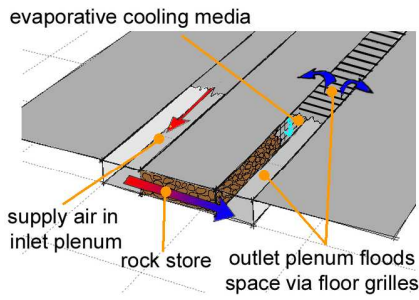
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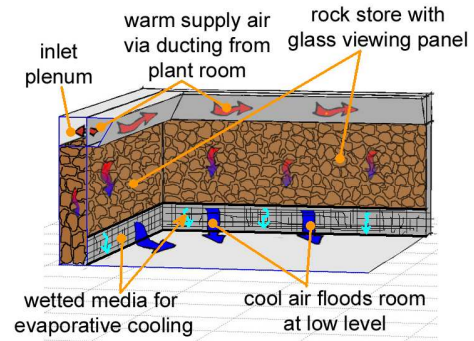
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### horizontal rock stores



### vertical rock store



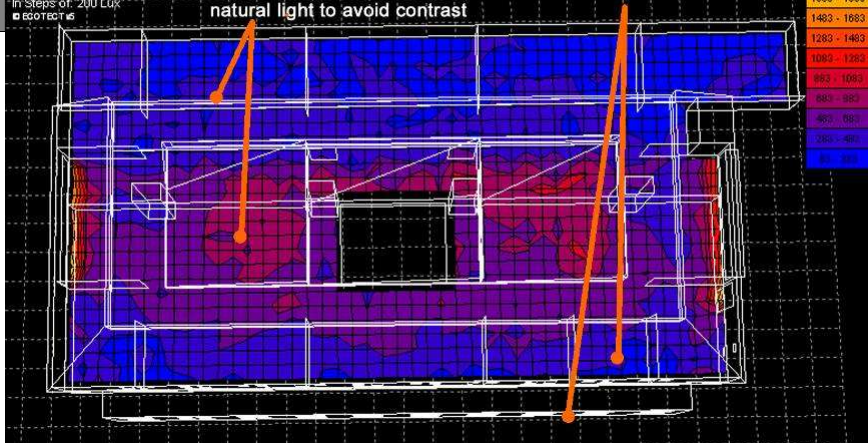
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### Lighting Analysis

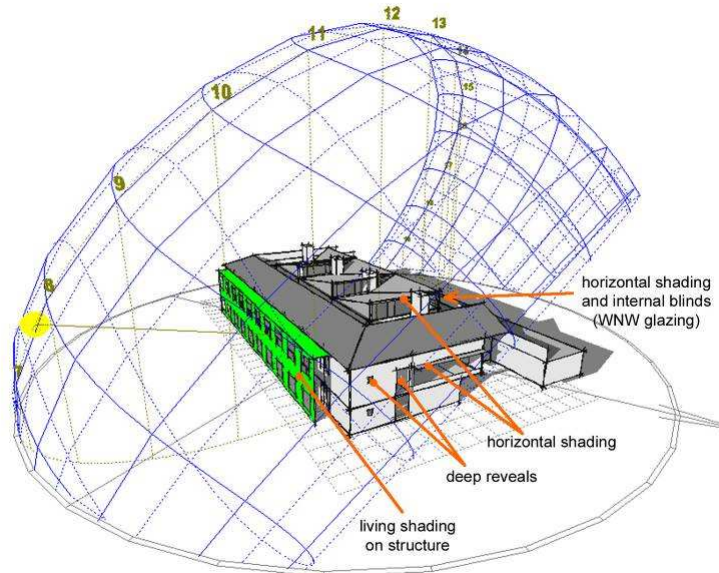
Daylighting Levels  
Contour Range: 83 - 2083 Lux  
In Steps of: 200 Lux  
© ECOTECH

artificial lighting needs to balance natural light to avoid contrast

shading needs attention to avoid overshadowing



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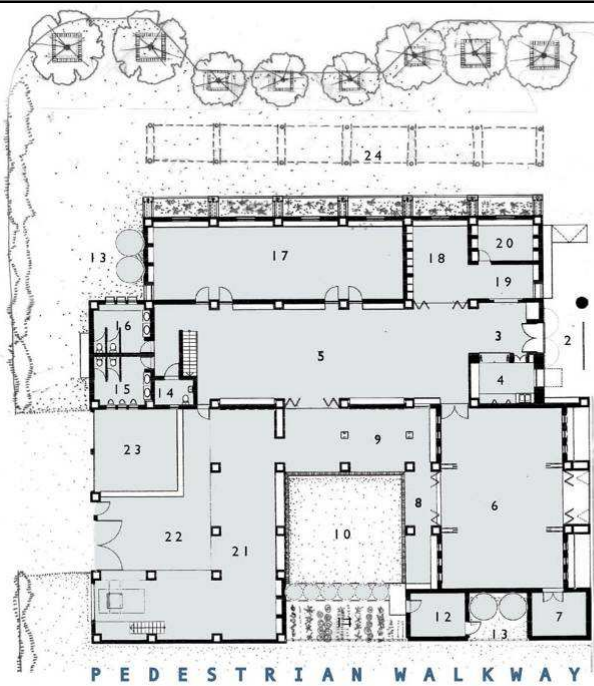


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# TSOGA ENVIRONMENTAL CENTRE



Oliver Tambo Drive Samora Machel

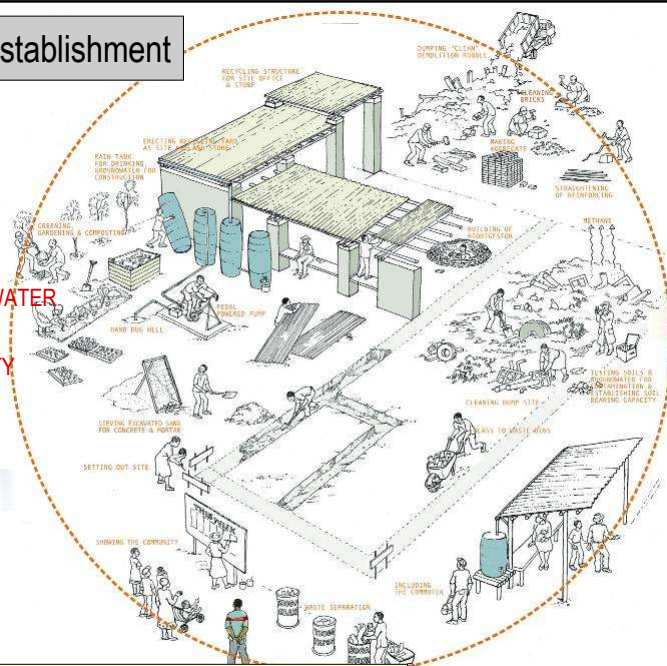


- 1 OLIVER TAMBO SQUARE
- 2 COVERED ENTRANCE
- 3 ENTRANCE FOYER
- 4 KITCHEN
- 5 DOUBLE VOLUME GALLERY WITH MEZZANINE LEVEL
- 6 HALL
- 7 STORE
- 8 EXTERNAL WALKWAY
- 9 WATER STORAGE ABOVE VERANDAH
- 10 COURTYARD
- 11 VEGETABLE GARDEN
- 12 STORE
- 13 WATER STORAGE TANKS
- 14 PARAPLEGIC TOILET
- 15 MALE TOILETS
- 16 FEMALE TOILETS
- 17 WORKSHOPS
- 18 OPEN PLAN OFFICE
- 19 RECEPTION
- 20 OFFICE
- 21 COVERED RECYCLING YARD
- 22 RECYCLING YARD
- 23 PARKING
- 24 MARKET PERGOLA

PEDESTRIAN WALKWAY

## First Phase: Site Establishment

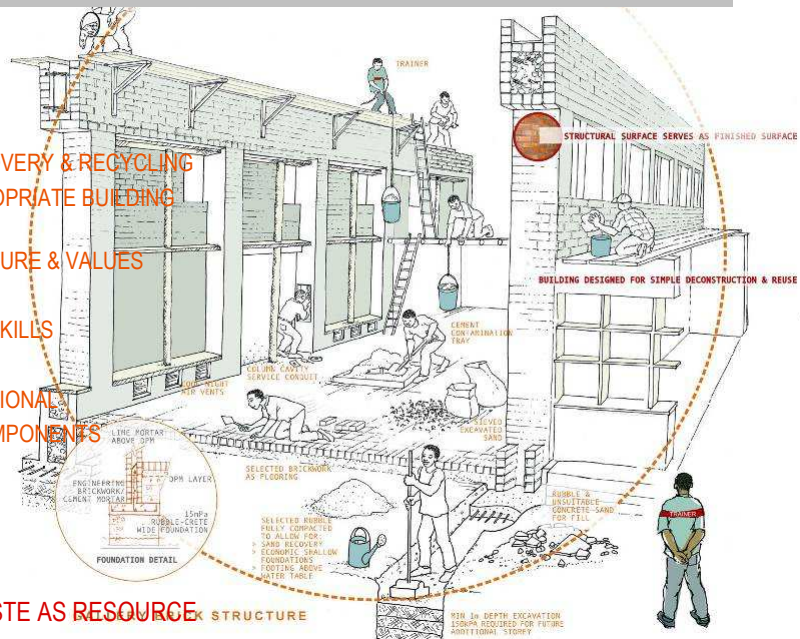
- RECYCLING WATER
- REDUCING WASTE
- WORKING WITH GROUND WATER
- CREATING EMPLOYMENT
- INCLUDING THE COMMUNITY



OPTIMISING LOCAL RESOURCES & BENEFITS

## 2ND Phase: Foundations & Masonry Structure

- WASTE RECOVERY & RECYCLING
- USING APPROPRIATE BUILDING TECHNOLOGY = LOCAL CULTURE & VALUES
- TRAINING & SKILLS
- MULTI FUNCTIONAL BUILDING COMPONENTS



USING WASTE AS RESOURCE IN CONSTRUCTION





