

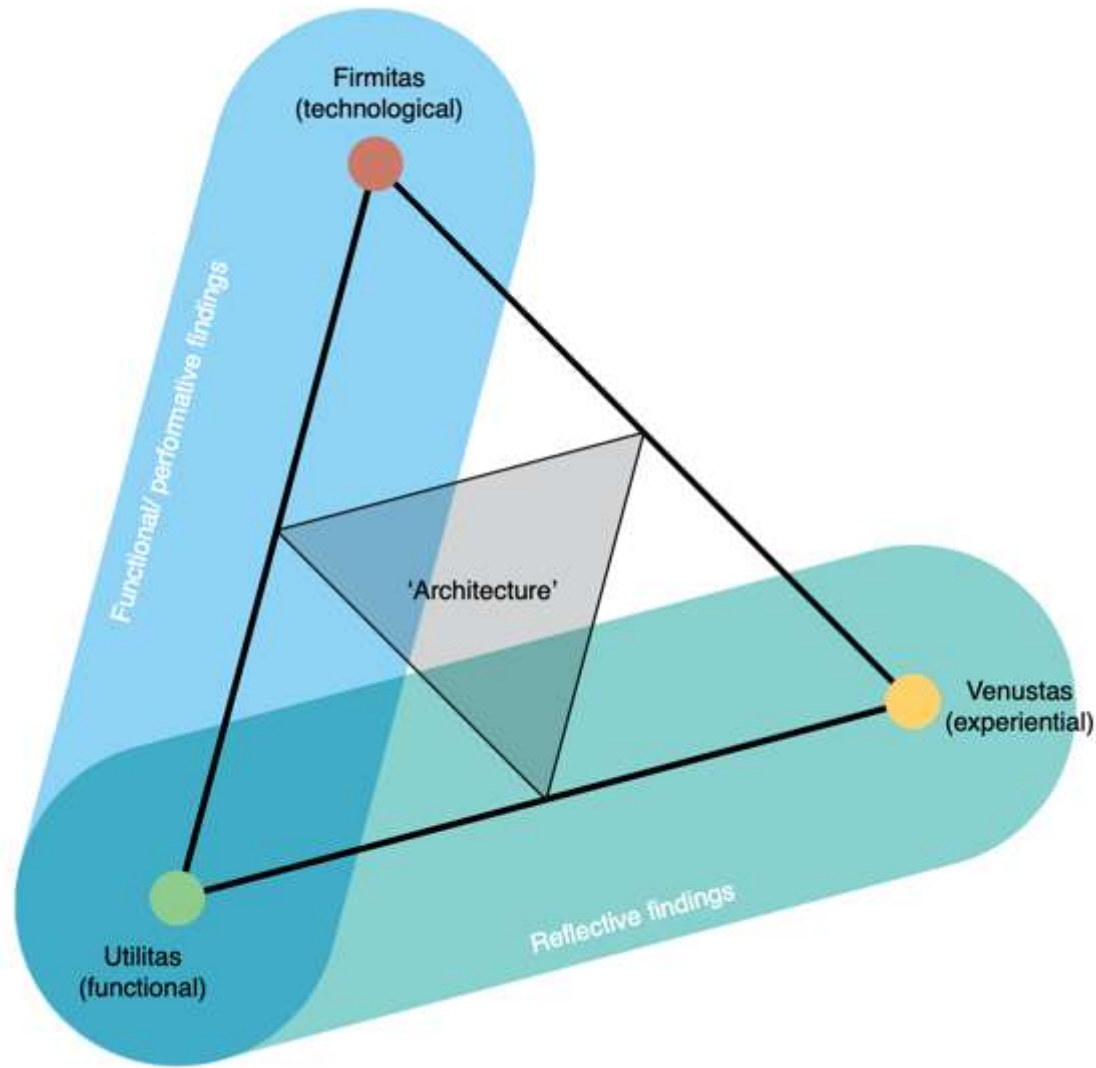
OUR APPROACH

As articulated in
the Design Brief

-
1. To deliver a new Cancer Campus that respects the site's landscape and protects and enhances its biodiversity and the natural environment.
 2. To enable patients, staff and the community to experience the therapeutic benefits of the natural landscape.
 3. To create a building that is an exemplar of low-carbon construction, using natural materials and renewable energy technologies, sourced through local supply chains, wherever available.
 4. To deliver a Cancer Hospital that will be a 'centre of excellence' at a European level, enabling our staff to provide world-class care for our patients.
 5. To use a 'fabric first' approach and environmental design techniques, to optimise the use of energy and be zero carbon.
 6. Engage with our Patients, Staff and the local Community to help us delivery on our promises.

The design choices we make now, will have an enormous impact on our ability to meet these aims.

THE UNDERLAYING PRINCIPLES



Utilitas (or functional) - prototypes that focus on the function and spatial arrangement of the intended building;

Venustas (or experiential) - prototypes that focus on the experiential aspects of architecture such as proportion, scale, light, texture, culture, context, form

Firmitas (or technological) - prototypes addressing the physical materials, details, construction techniques of the structure and envelope that support and enclose the intended building.

These principles are consistently followed through in the Design Brief as :

1. Delight

- a) Patient and Visitor Experience
- b) Staff Experience
- c) Public Experience

2. Commodity

- a) Efficient Design
- b) Flexible Design
- c) Digital Excellence
- d) Supporting The Velindre Family

3. Firmness

- a) Technical Soundness
- b) Green Design
- c) Practicality

LOW CARBON NON-TOXIC MATERIALS

Choose natural, low impact, non-toxic materials and a structure low in embodied carbon, that can be pre-fabricated off site to reduce its impact on nature and improve its quality.



THE ENTERPRISE CENTRE, UNIVERSITY OF EAST ANGLIA AND THE ADAPT LOW CARBON GROUP ~ USING TRADITIONAL THATCH IN NEW WAYS.



LOW CARBON TIMBER STRUCTURES



Tamdeia HQ, Zurich, Switzerland, 2013



GSK Carbon Neutral Laboratory for Sustainable Chemistry Laboratory, University of Nottingham
Architects ~ Fairhursts Design Group, Photo Courtesy of Fairhurst Design Group, to illustrate timber structure.

BIOCLIMATIC ARCHITECTURE

— FABRIC FIRST.....



BIOCLIMATIC ARCHITECTURE ~ USING SOLAR DESIGN TECHNIQUES

- **Lighting**
- Daylight
- Design for Daylight
- Glare
- Artificial Lighting
- **Daylighting Systems**
- Reflective Systems
- Light Shelves
- Prismatic Glazing
- Light Pipes
- Holographic Glazing
- **Atria**
- Atria Thermal Conditions
- Air Flow



- Direct Gain
- Indirect Gain
- Sunspaces
- Passive Design
- Control



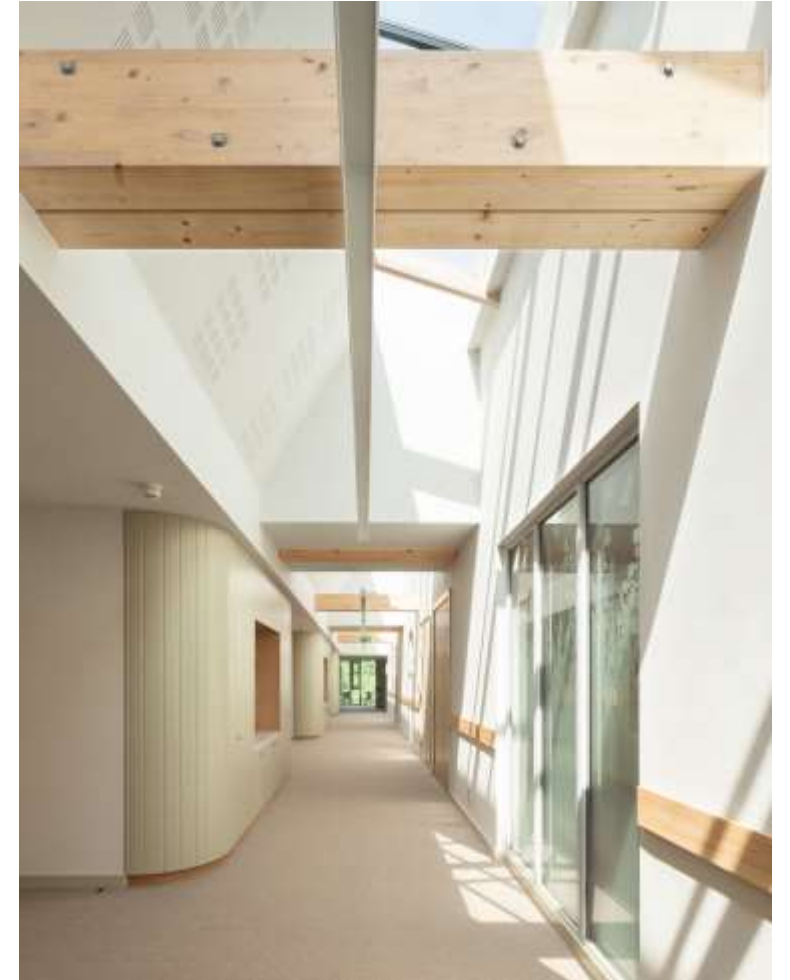
NATURAL LIGHT ~ NATURAL MATERIALS.



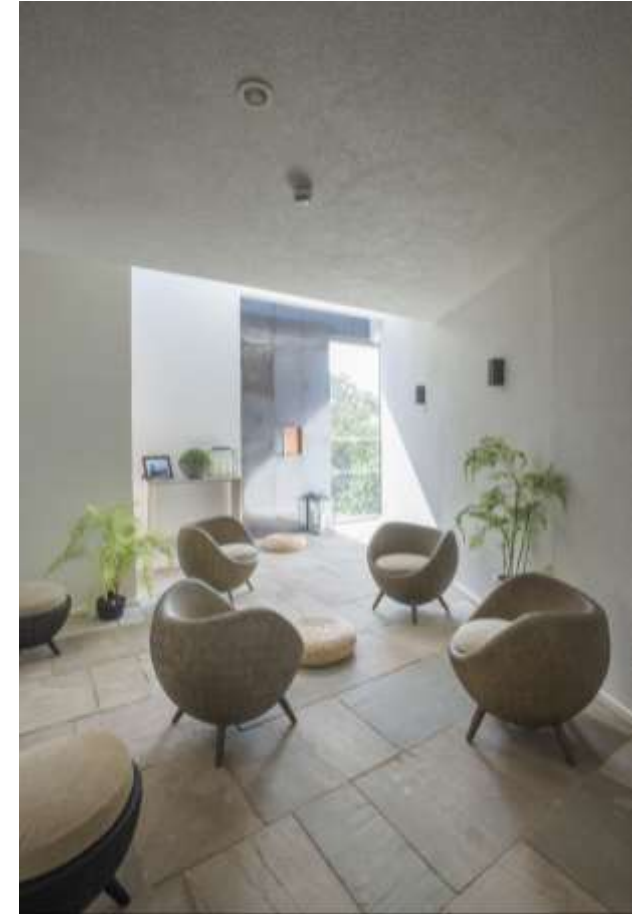
Architects ~ 'Architype'.

Highly insulated timber framed buildings built of clay plasters and paints, timber, linoleum, with access to daylight without overheating or glare.

INTERIOR QUALITIES ~ NATURAL LIGHT, AIR, NON-TOXIC MATERIALS
AND CONNECTIVITY TO NATURE



ACCESS TO NATURE AND NATURAL LIGHT



EVAPORATIVE COOLING & BETTER AIR QUALITY IN A HEALING LANDSCAPE



MAGGIE'S, LEEDS.

These buildings have used the landscape as an integral part of the building's architecture and to create a cool, clean fresh environment.

THOMAS HEATHERWICK STUDIO ~ ARCHITECTS



Bispebjerg-Psykiatri Hospital, Denmark.
henning-Larsen ~ architects

EXTERIOR QUALITIES ~ NATURAL LIGHT, AIR, AND CONNECTIVITY TO NATURE



KKE ARCHITECTS
St David's Hospice, Newport

EXTERIOR QUALITIES ~ NATURAL LIGHT, AIR, & CONNECTIVITY TO NATURE & DIRECT ACCESS TO THE LANDSCAPE.



DIRECT ACCESS TO THE LANDSCAPE



PROTECT & ENHANCE BIODIVERSITY

Protect and enhance the nature and biodiversity of the site, using principles of Biophilic architecture and a design that sits the building 'in the landscape'.

GREEN WALLS & GREEN AND BLUE ROOFS



BUILDINGS BLENDING INTO THE LANDSCAPE



Inventive ways of building car parks.



THE THERAPUTIC QUALITIES OF NATURE ~ MAGGIES LEEDS



Architecture ~ Thomas Heatherwick Studios

ENHANCING BIODIVERSITY AND NATURAL LANDSCAPING

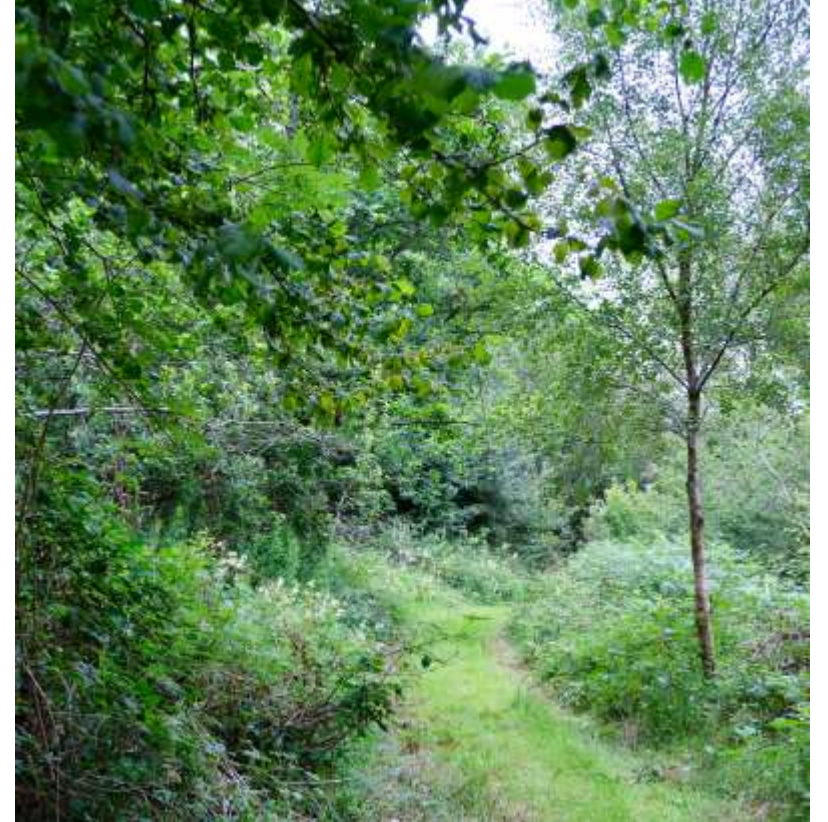


Former Charcoal Works. ~ Designer Huw Denman

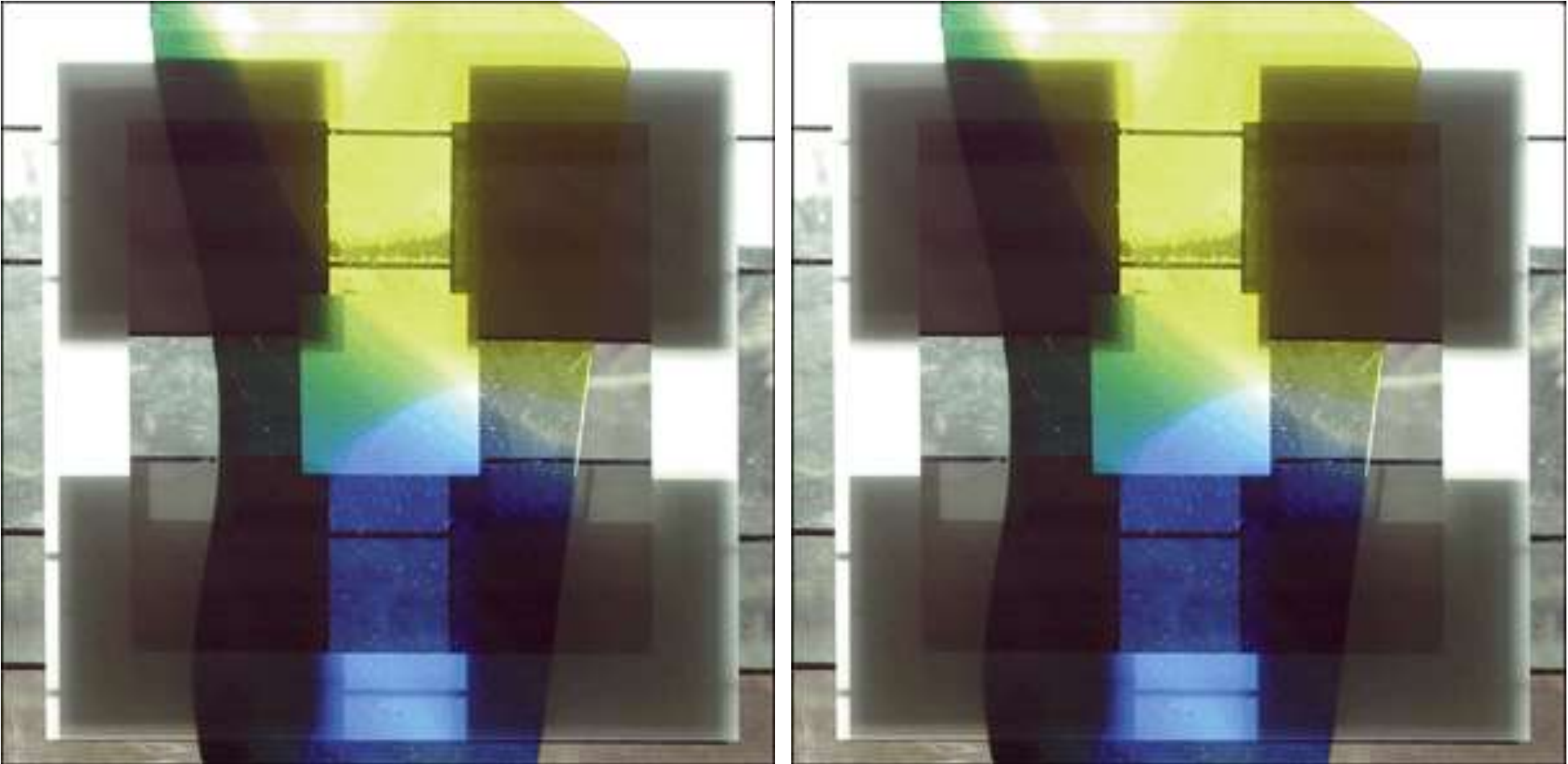


Meadow Grasses on Flat Roof ~ Chris Loyn Architects

NATURAL LANDSCAPING



THE POTENTIAL FOR ART IN THE ARCHITECTURE



The combination of solar cells, available in different colours, in glass designs can be both aesthetic and ecological.

AIR QUALITY & TOXICITY

Control air quality both in and around the new Cancer Centre, by choosing materials that are non-toxic in installation and use, and renewable heating and lighting technologies with zero carbon credentials.

BUILDINGS CAN BE ~ “Toxic Boxes of Pollution.”

Studies have shown that air pollution contributes to the large global burden of respiratory and allergic diseases, which include asthma, chronic obstructive pulmonary disease, pneumonia and possibly tuberculosis.

More than half of the air we breathe in our lifetime is inhaled inside the home – another large percentage in the workplace.

Air Pollution is estimated to be 2-5 times higher indoors than outdoors. A recent study released by the National Air Quality Testing Services described homes in the UK as ‘Toxic Boxes of Pollution.’ <https://airqualitynews.com/2019/05/15/uk-homes-toxic-boxes-due-to-indoor-air-pollution/>



LOW CARBON, NON-TOXIC BREATHABLE MATERIALS

We will work with our MIM partners to undertake studies of the most appropriate locally sourced and environmentally friendly building and landscaping materials.

The process of competitive dialogue will enable bidders to understand our aims.



**therma
fleece**
COSYWOOL

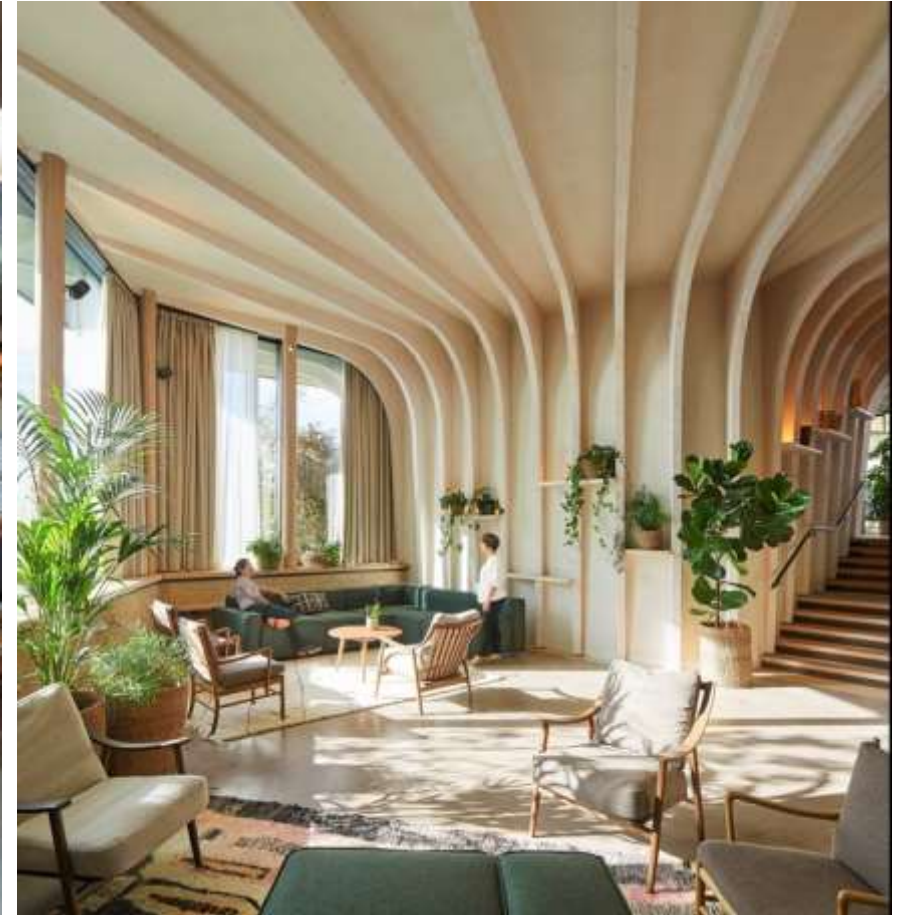




MORE OF MAGGIE'S INFORMALITY AND ENGAGEMENT,
LESS OF THE TYPICAL NHS ~ IN FACT A NEW PARADIME!

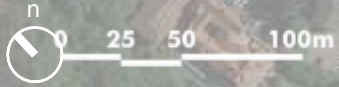


MAGGIE'S OXFORD



MAGGIE'S LEEDS

LANDSCAPE FRAMEWORK



Asda

hollyBush est Ate

A4054

Whitchurch-
heAth cricKet
cluB

- ① Wildlife underpasses
- ② Woodland approach
- ③ green roof with meadow grasses transplanted locally
- ④ maggies centre
- ⑤ Woodland gardens
- ⑥ Kitchen garden
- ⑦ therapeutic garden with cancer treatment plants
- ⑧ suds pond
- ⑨ orchard garden
- ⑩ hedgerow - dormouse habitat
- ⑪ roof terraces - green gardens

SOUTHERN BOUNDARY

View from the southern loop path with the buffer zone to the right and the path to the left leading up to the main building entrance and Maggie's Centre.



SOUTH EASTERN WET WOODLAND

View of the ecological zone, just within the south-east entrance with the pond and bird hide to the right and the building and orchard in the background.



