

# Eclipse Leisure Centre

Staines-upon-Thames








“The largest of its kind and the first 50:50 wet & dry leisure centre to be designed to passivhaus standards, Eclipse exemplifies excellence in sustainable, community-orientated design.”



## Eclipse Leisure Centre

**LOCATION:** Staines-upon-Thames  
**CLIENT:** Spelthorne Borough Council  
**VALUE:** £43.5M  
**SKILL:**  Consultancy  
 Architecture  
 Interiors

### DESIGN & BUILD TEAM:



## The Team



Mark Gowdridge  
PROJECT DIRECTOR



David Richardson  
PROJECT LEAD



Jade Betts  
PROJECT ARCHITECT



Josh Wardle  
PROJECT TECHNOLOGIST,  
PASSIVHAUS CONSULTANT,  
BUILDING BIOLOGIST



Kieran Harvey  
PROJECT TECH SUPPORT



## The Vision

In 2017, Spelthorne's major leisure centre had reached end-of-life and needed considerable capital investment to refurbish. Feasibility and option studies concluded that a new centre would be far more cost effective, energy efficient, and provide Spelthorne residents with an exciting new destination.

Ahead of any design work, **GT3 Consultancy** were tasked with understanding local ambitions, needs and challenges. Working closely with Spelthorne Council, our engagement specialists drew on a range of tools to articulate and understand the needs of all users, residents and stakeholders.

*Examples include:* Vision Workshops, Physical and Digital Questionnaires, Community Engagement Events, Feedback Forms and Public Consultations.



CONSULTED GROUPS AND ORGANISATIONS



“To improve the wellbeing of our community through increased participation in sport & physical activity.”

COUNCIL AMBITION

### Spelthorne Spoke, We Listened..

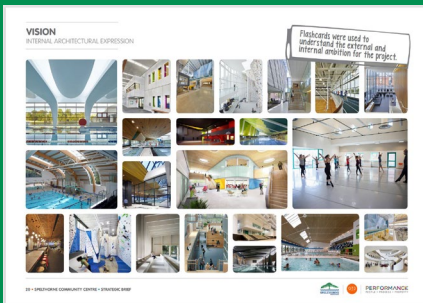
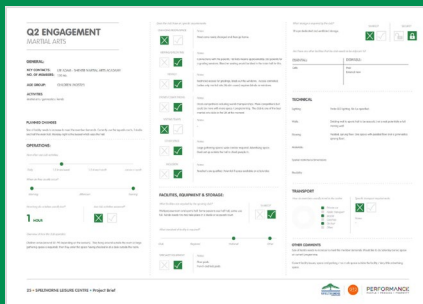
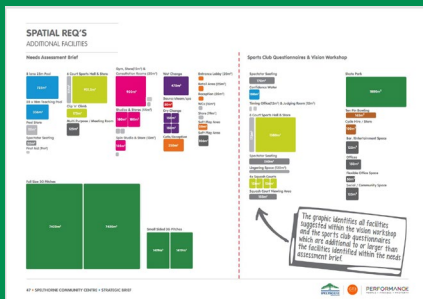
**Location:** There was concern about the original parkland location. The resulting design now sits to the north of the park boundary; Staines Park would remain unchanged.

**Artificial Grass Sports Pitches:** There was concern about the location of pitches and impact on access routes, biodiversity and flooding. 4 small artificial grass sports pitches are now proposed at roof level within the footprint of the building.

**Facility Mix:** Pool facilities were a priority during the last consultation. Enhanced facilities such as a 25m 8 lane pool, learner pool, splash zone, steam room and sauna have been incorporated.

**Access:** There was concern about access routes. The new leisure centre is proposed adjacent to the existing facility therefore access routes will remain with better visual connections formed with Staines Park.

SAMPLE OF KEY CONCERNS &amp; REQUIREMENTS



SAMPLE ENGAGEMENT DOCUMENTS

## Understanding Stakeholder Priorities

### TIER 01

- Champion Inclusion/ Accessibility
- Improve Health & Well-being
- Financially Sustainable



### TIER 02

- Affordability
- Encourage Community Cohesion
- Reduce Environmental Impact



### TIER 03

- Support Sporting Excellence
- Stimulate Regeneration



GRAPHIC OUTPUT: UNDERSTANDING & PRIORITISING SPELTHORNE'S AMBITIONS



SITE ANALYSIS



Our visionary work and well articulated brief created the groundwork for a united approach, transforming key stakeholders into active and engaged project champions.

Our resulting facility mix recognised key community and club requirements, adding much-needed contextual understanding to existing needs assessment and usage surveys.

Key amendments included a new site location, prioritised access routes and accessibility, contemporary wet-leisure facilities, and the inclusion of 3G pitches.

## Facility Mix

### Wet Side

- 1 Pool Hall
- 2 Wet Change
- 3 Spectator Seating

### Dry Side

- 4 Sports Hall
- 5 Multi-Use Room
- 6 Squash Courts
- 7 Dry Change

### Commercial

- 8 Cafe
- 9 Reception/Servery
- 10 Interactive Climbing Wall
- 11 Soft Play
- 12 Retail

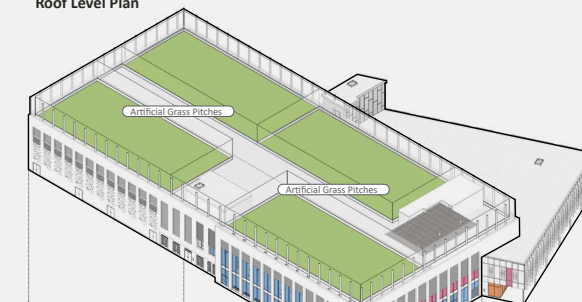
### Health & Fitness

- 13 Fitness Suite
- 14 Studios
- 15 Changing Rooms
- 16 Physio Rooms

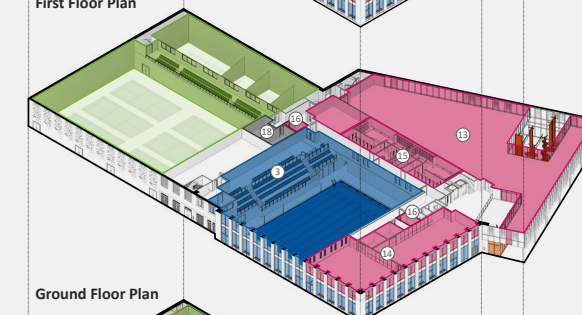
### Support

- 17 Admin/Kitchen
- 18 Staff Room/Offices

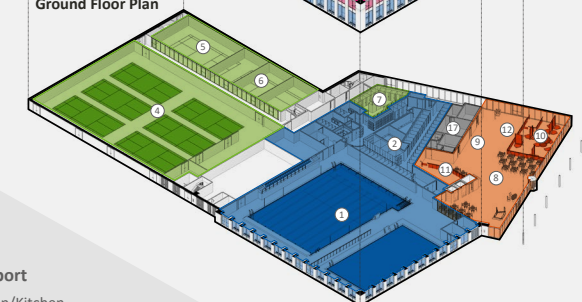
## Roof Level Plan



## First Floor Plan



## Ground Floor Plan



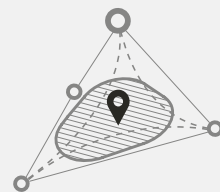
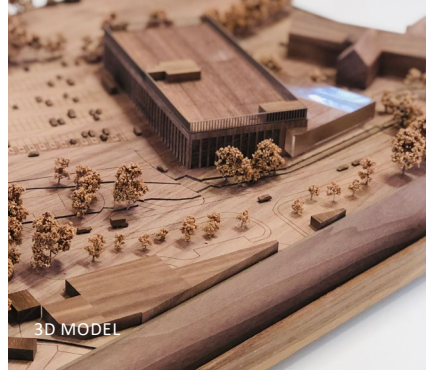
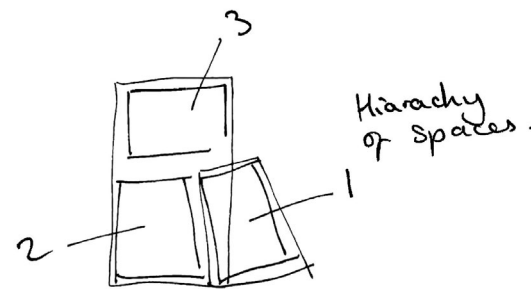
PROPOSED FACILITY MIX



# The Design

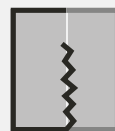
With a comprehensive brief in hand, GT3 Architects started developing a clear design concept for the new centre.

Rooted across four key themes and six subsequent strategic moves, our concept considered local form, colour, structure and materiality. A modular, stacked approach was adopted to maximise the available 9,000 sqm. An interiors overlay was included to ensure consistency.



## 1. Creating A Destination

Working with the fabric of the surroundings  
A new cultural and leisure landmark to complement existing features. A place that brings people together for a variety of purposes  
The building should provide a destination for the whole community to enjoy.



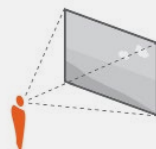
## 2. Spatial Flexibility

Spatial flexibility to allow for multiple uses to be catered for. Flexible facilities ensures the centre may grow and adapt to the changing needs of the population. Facilities are able to adapt for either sporting or community use.



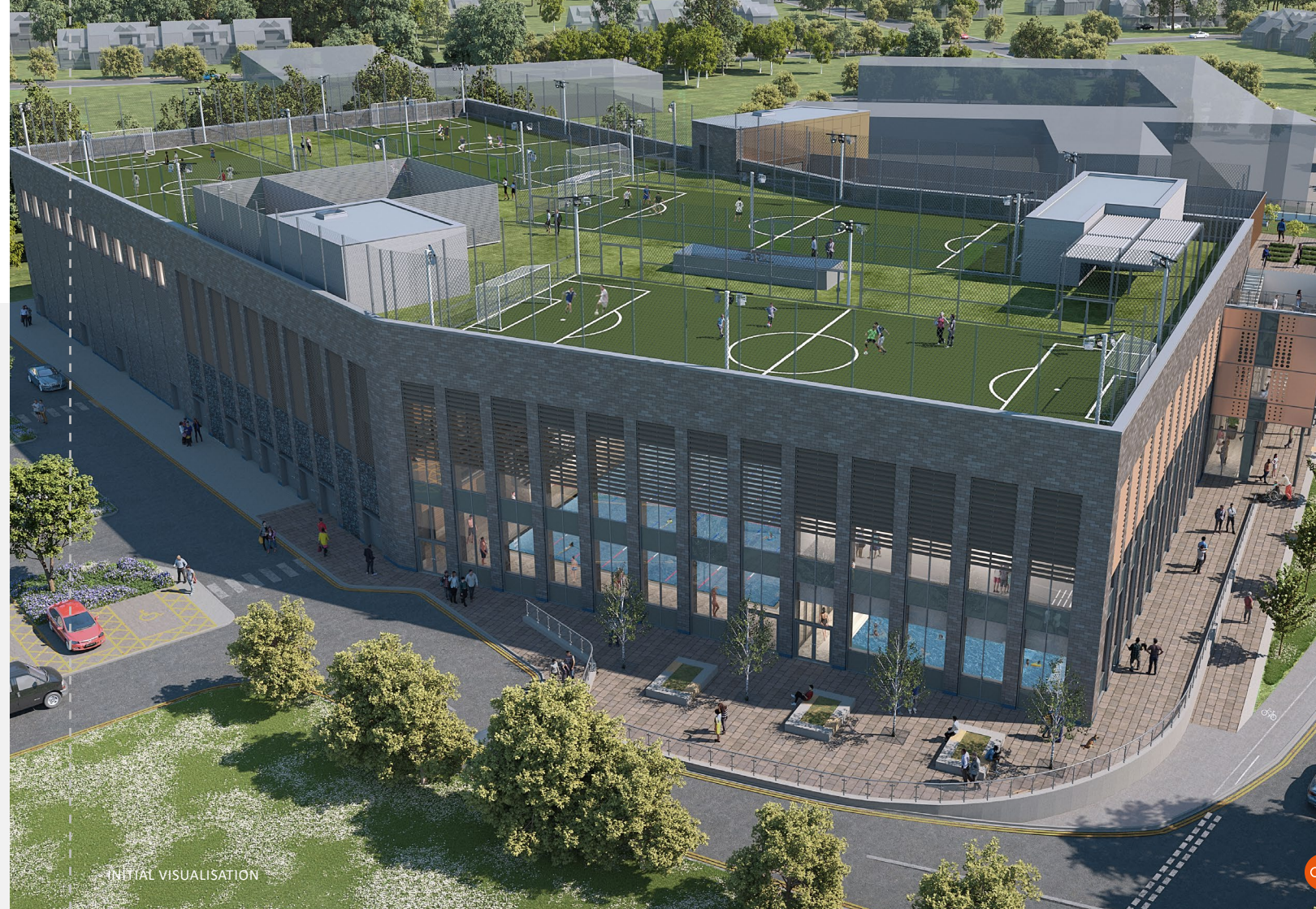
## 3. Park Connection

A development that allows clear and visible pedestrian routes to Staines Park. Creating an easily accessible development from all directions of travel.

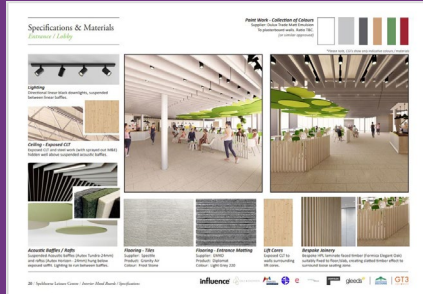
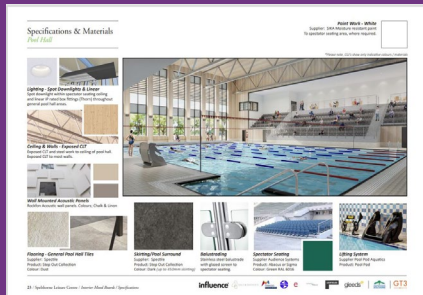


## 4. Aspect & Views

The location of the site adjacent to Staines Park provides opportunities to capture views of the green spaces.







Spanning four stories on a highly constrained site, our design draws on cultural, historic and rural cues to deliver an exciting community destination.



## An Evolving Design

In the wake of 2020's Climate Emergency declaration, a huge ambition to support the council's sustainability targets became clear.

GT3 worked closely with Gale & Snowden and the wider design team to ensure our final design not only offered the residents of Spelthorne an exciting and inclusive destination; it also met the rigorous tests required for passivhaus accreditation.

“The design and technical work behind Eclipse has paved the way for a new wave of leisure facilities within the UK.”



INITIAL VISUALISATIONS



## Passivhaus

Leisure centre plant rooms operate 24-hours a day, 365-days a year, powering warm, cool, wet and dry environments, often within a single floorplate.

Our challenge was to map rigorous Passivhaus standards and low-carbon design principles onto this extremely energy-hungry typology.

Working closely with Gale & Snowden, our passivhaus consultants and technical designers focused on five core passivhaus principles:

1. Temperature Zones
2. Air Tightness
3. Glazing & Shading
4. U-Values
5. Thermal Bridging.

CO<sub>2</sub> (tonnes / yr)



SPELTHORNE PHI OPTIMISED CARBON ANALYSIS AGAINST THREE COMPARATIVE EXISTING LEISURE FACILITIES AND THE BASE DESIGN



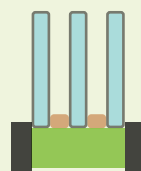
### Temperature Zones

Carefully curated layouts to minimise environmental changes.



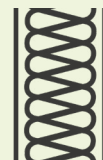
### Air Tightness

Minimise unintentional air leakage through building envelope. Eclipse has recorded one of the lowest comparable air tightness scores in the world.



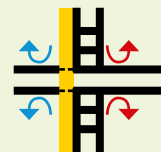
### Glazing & Shading

Glass positioning to improve thermal insulation, solar gains, natural lighting and noise reduction.



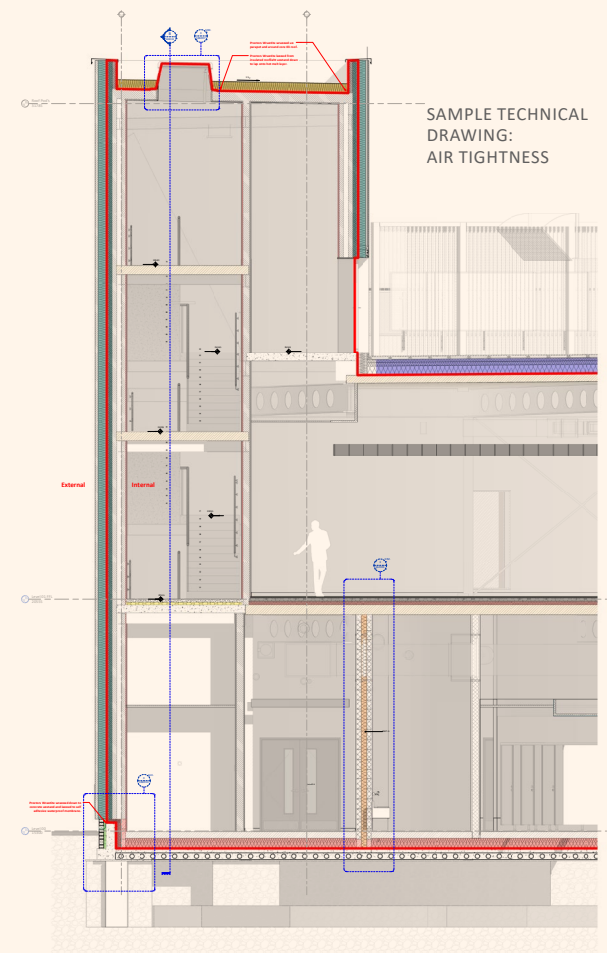
### U-Values

Improved thermal resistance; the rate at which heat flows through walls, roof, windows and doors.

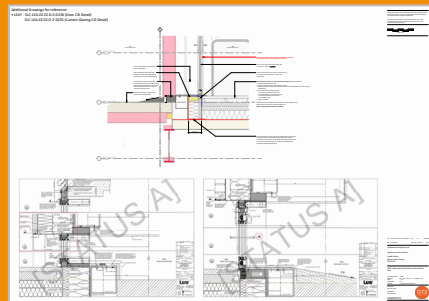
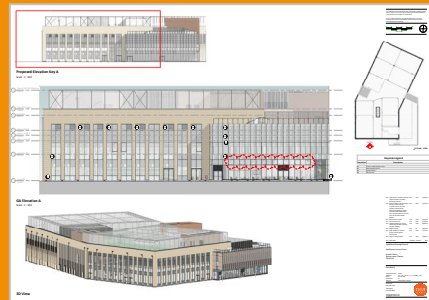
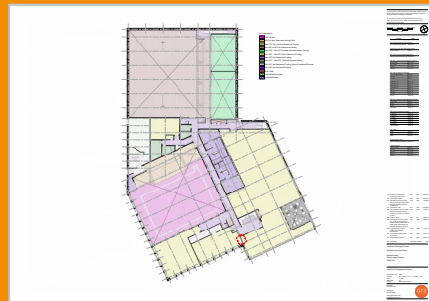


### Thermal Bridging

Improved insulation, design and materiality to support thermal conductivity.







SAMPLE TECHNICAL DRAWINGS: TEMPERATURE ZONES, GLAZING & SHADING, THERMAL BRIDGING



CONSTRUCTION PHOTOS COURTESY OF BOWMER & KIRKLAND



PLANT ROOM

The complexities of this project dictated an extremely high level of detail, specificity and communication.

Highly detailed designs were produced, moderated and tested, new methods of construction were developed, and highly specialist low-energy usage products and materials were sourced from across the globe.



“Architect, contractor and wider supply chain worked as a united team, ensuring intricate design and product requirements were mapped exactly and in their entirety.”



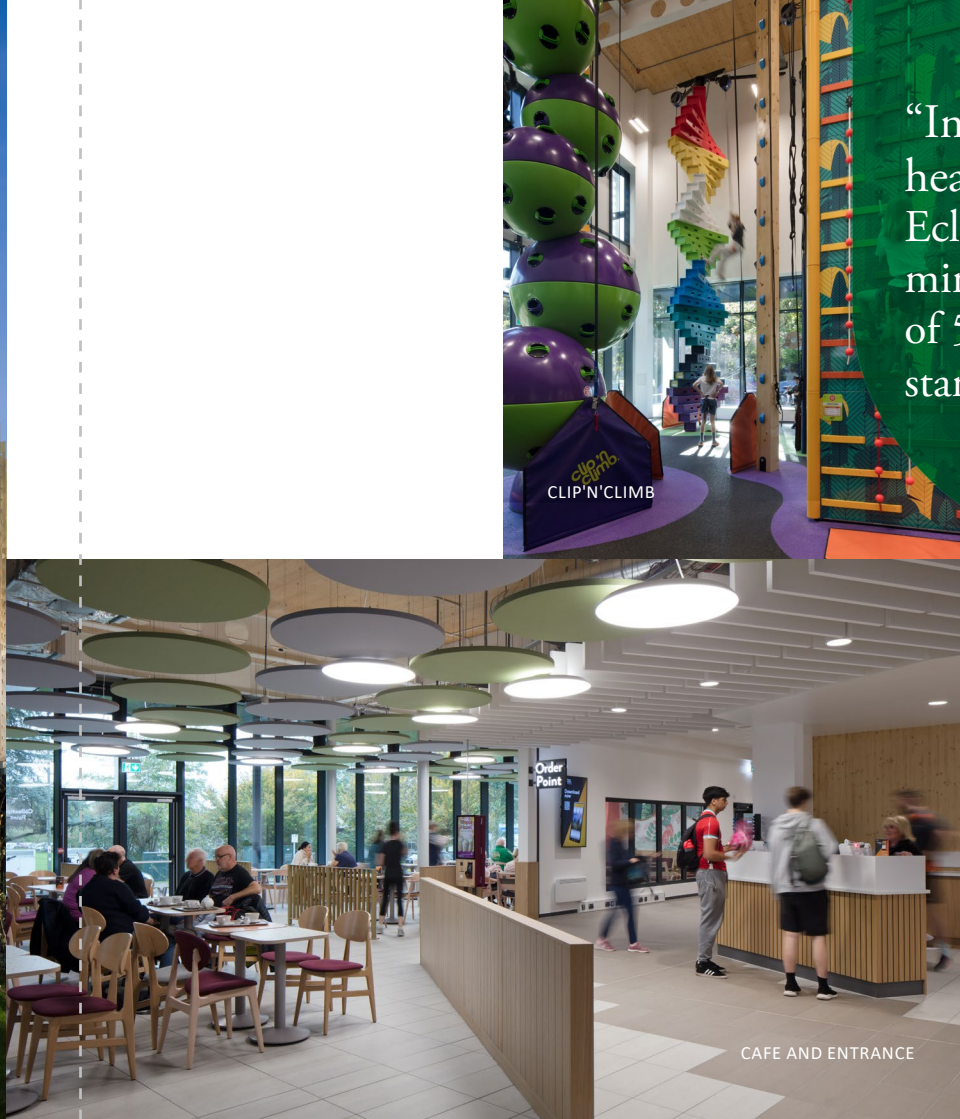


## The Result

Representing a clear commitment to environmental, social and economic sustainability, Eclipse Leisure Centre has become the model for modern leisure centres.



ROOFTOP 3G PITCHES



“In addition to improved health & wellbeing, Eclipse Leisure offers a minimum energy saving of 50-60%, compared to standard leisure facilities”



VIDEO FLYOVER

CAFE AND ENTRANCE





POOL AND SPECTATORS AREA

## The Figures

1. The new centre offers a minimum saving of 50-60% in operational energy, compared to a typical leisure centre.
2. Water consumption has reduced by 40-50%.
3. A 30% improvement on total embodied carbon, based on LETI standard guidance.
4. One of the highest performing air tightness scores in the world - 90% improvement on standard regulations.
5. Significant improvements in air quality, circulation and building fabric insulation.

Led Sport England Guidance on 'Passivhaus in Wet and Dry Leisure Centres' and awaiting certification from Passivhaus Trust.



“A paragon of what's possible in today's leisure market, Eclipse epitomises environmental responsibility, community-led design and tangible social value.”



# Work with us



## **Newcastle**

John Dobson House  
49 New Bridge St West  
Newcastle upon Tyne  
NE1 8AN

## **Nottingham**

The Wallis Building  
Plumtre Place  
Nottingham  
NG1 1LW

## **London**

55 Whitfield St  
Fitzrovia  
London  
W1T4AH

## **Belfast**

Clockwise, River House  
48-60 High St  
Belfast  
BT1 2BE

## **General Enquiries**

t: 0191 281 7700  
info@gt3architects.com

## **Press & Media Enquiries**

kforrest@gt3architects.com

[www.gt3architects.com](http://www.gt3architects.com)

