



Post-war buildings: Lessons learned and pathways forward

Speakers



Jon Wright

Heritage Consultant
Purcell



Clare Cole

Assistant Director of Estates
University of East Anglia



Alasdair Jones

Associate Partner
Purcell

Heritage value

Historical Value

Value deriving from the ways in which past people, events and aspects of life can be connected through a place to the present

Aesthetic Value

Value derived from the ways in which people draw sensory and intellectual stimulation from a place

Evidential Value

Value deriving from the potential of a place to yield evidence about past human activity

Communal Value

Value derived from the meaning of a place for the people who relate to it, or for whom it figures in their collective experience or memory

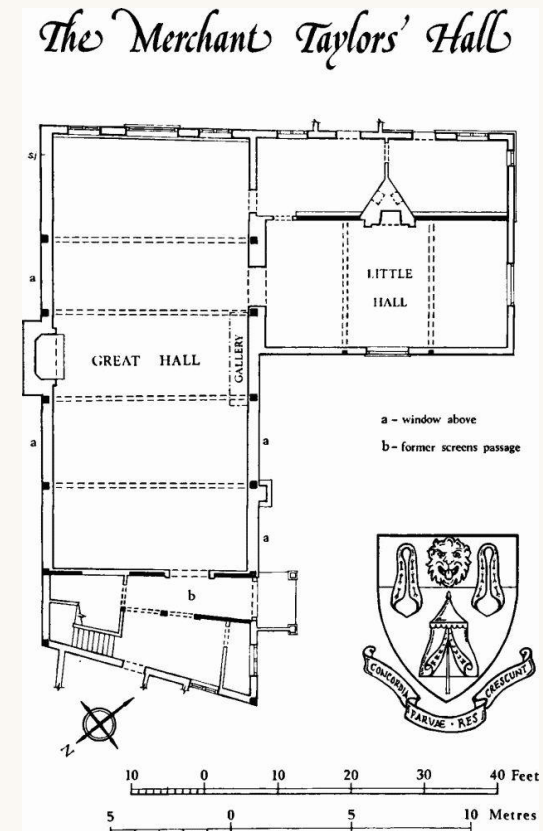
Post-war buildings



Starting with knowledge

- Context and situation
- Beyond the boundary
- Significance and building history
- Use and patterns of occupation
- Form and condition
- Services and energy use
- Regulatory context
- Available resources
- Financial context

Post-war buildings



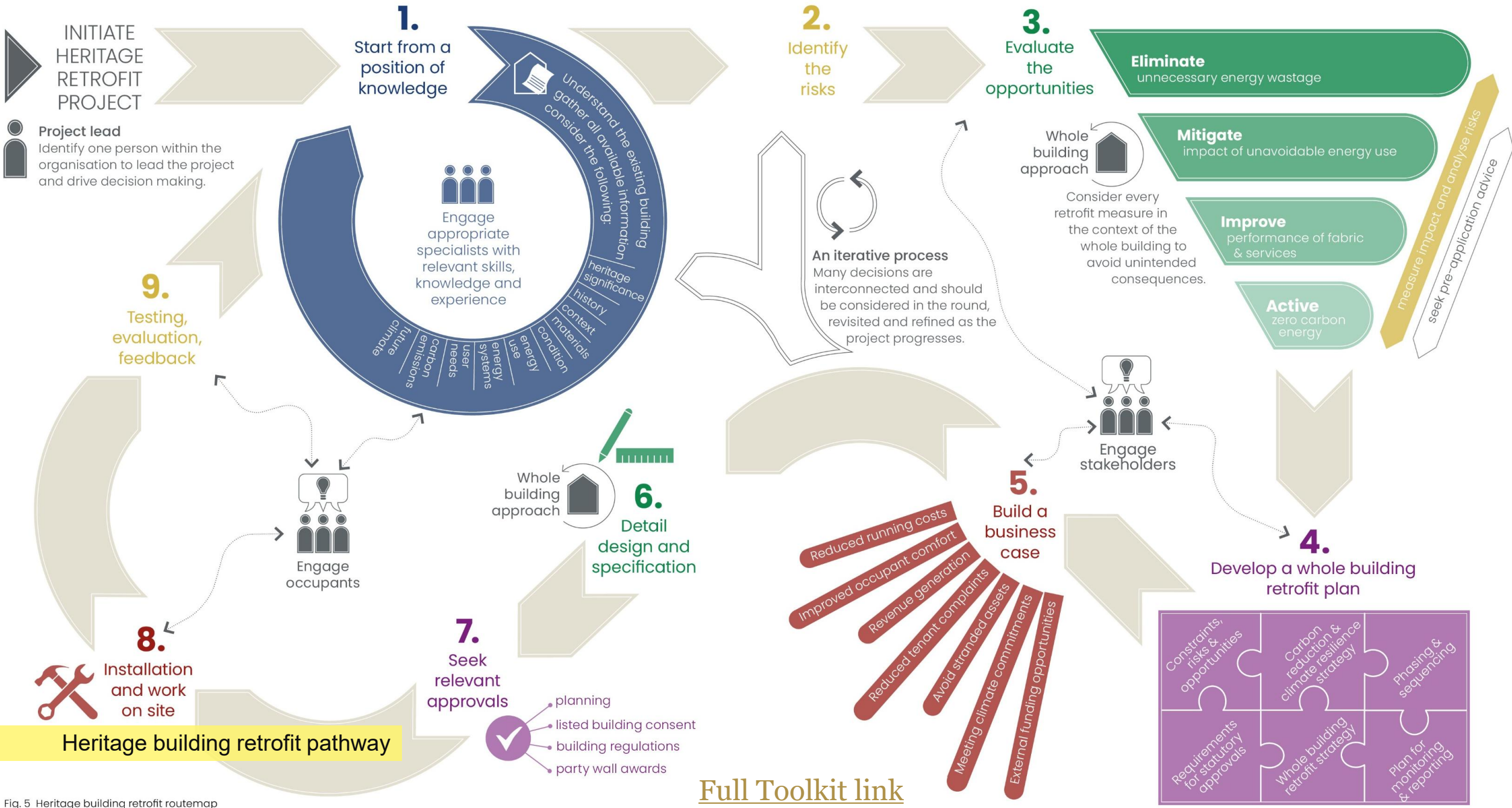
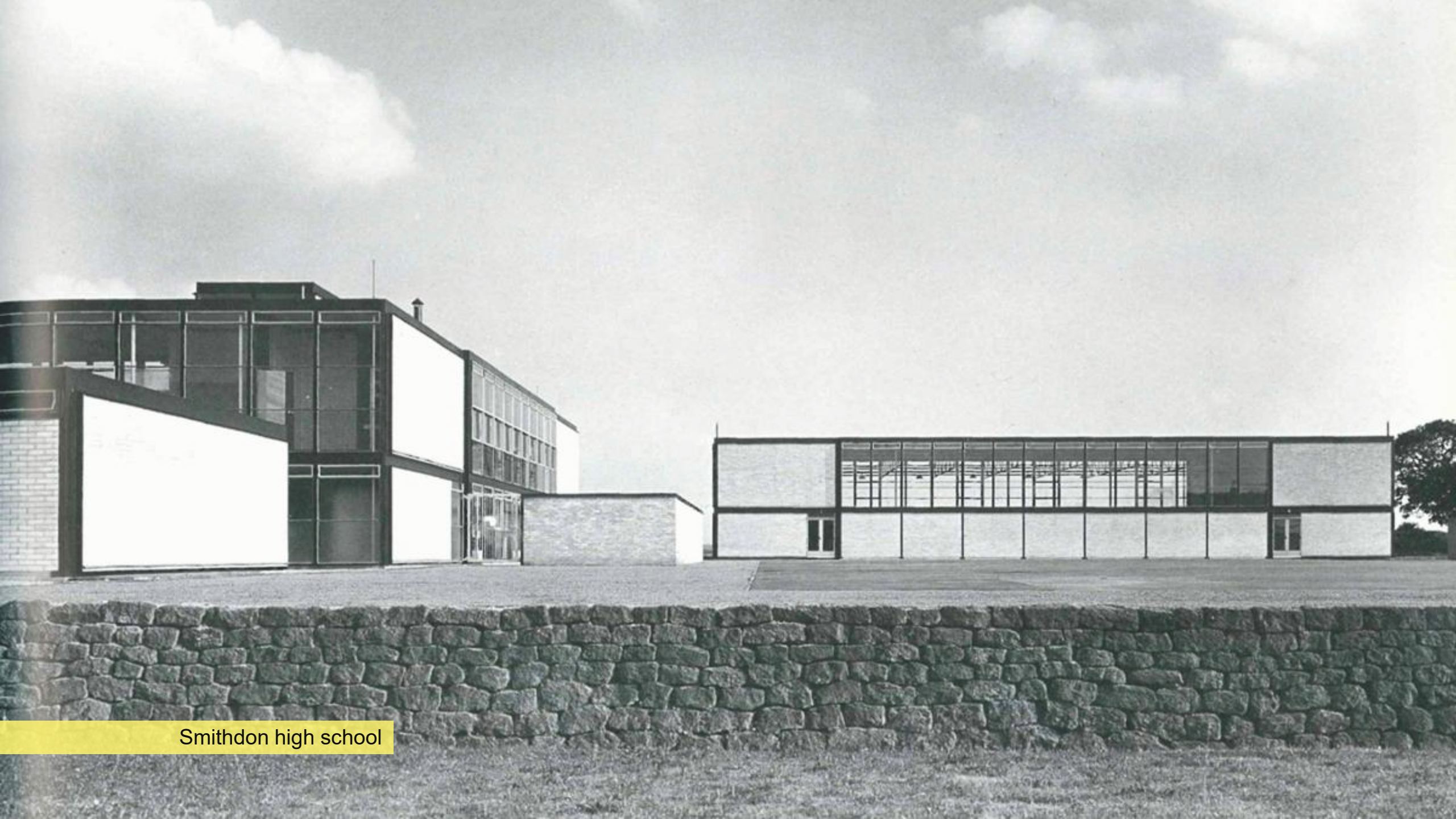


Fig. 5 Heritage building retrofit routemap

Navigating change



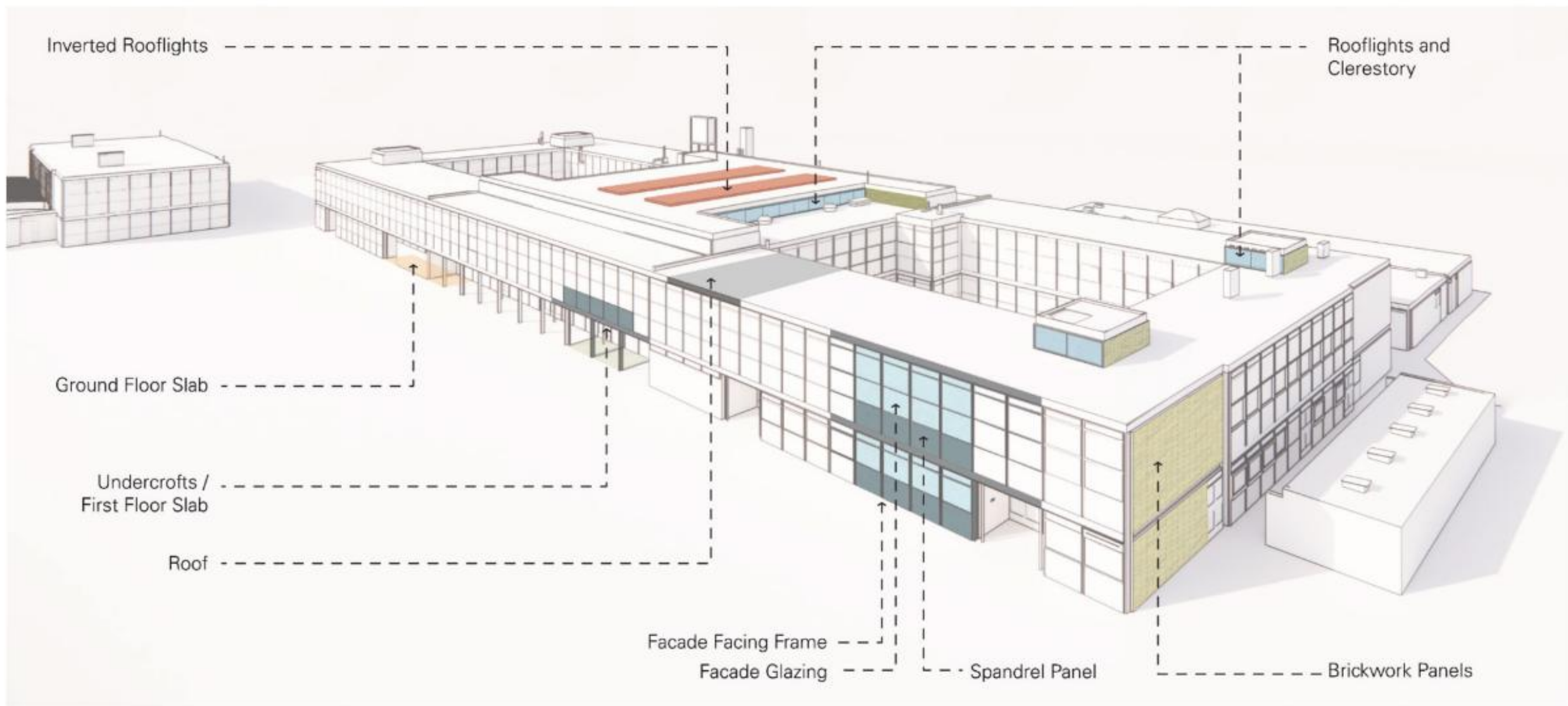
Smithdon high school



Smithdon high school

Significance summary

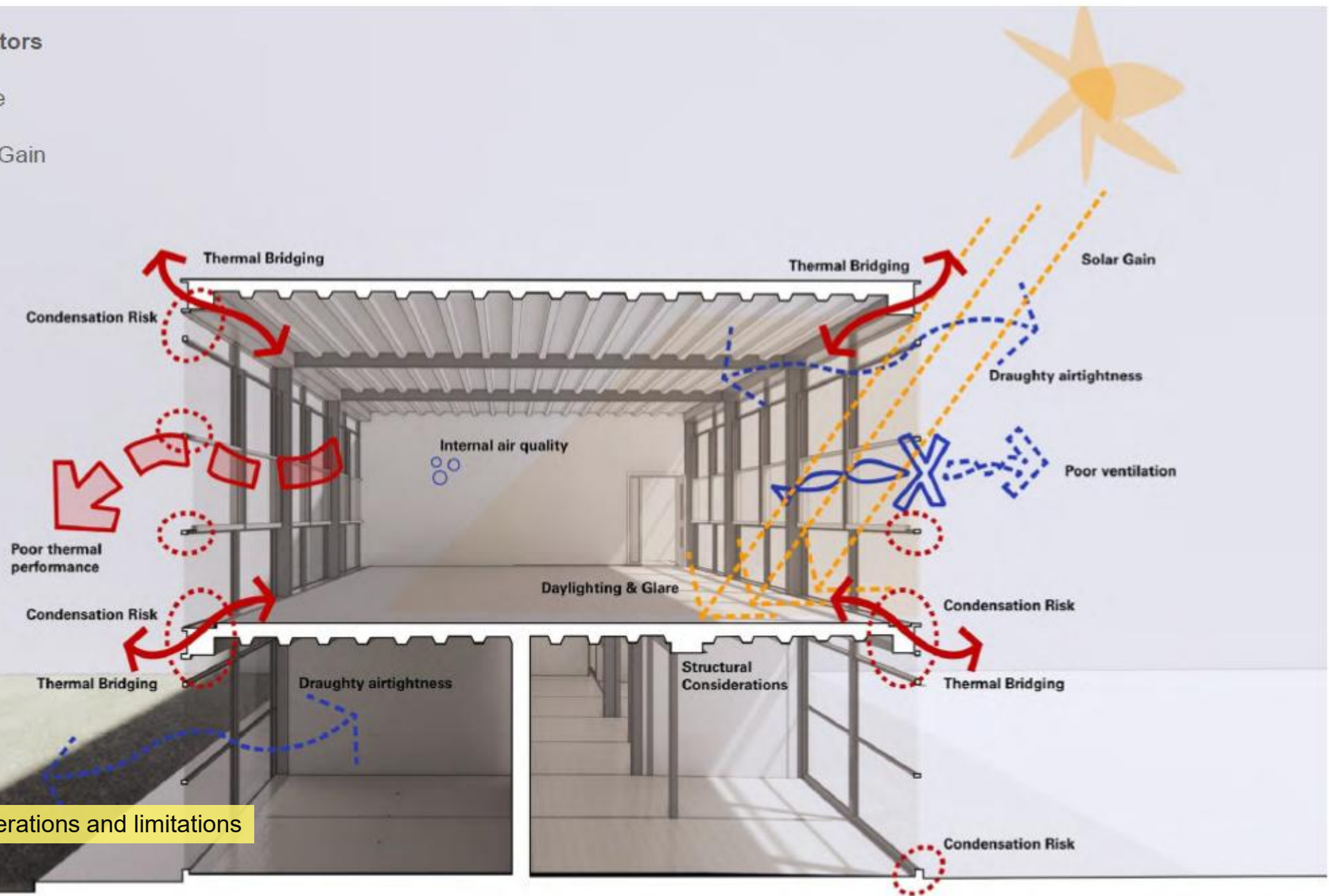
- Grade II* listed buildings are seminal early works of Alison and Peter Smithson, central to development of British modernism in post war period. Valued internationally
- First British building constructed according to the tenants of New Brutalism. Brutalism's meaning has expanded and evolved since 1950's but core tenets of the style are crystalised for the first time at Smithdon high school
- Expresses the plastic theory as a structural typography and was a collaboration with Ove Arup & Partners
- As a set of two separately Grade II* Post-War buildings that have continued as their original purpose, a state school
- As an expression of influence of pioneering German modernist Mies van der Rohe – primary structural and aesthetic qualities of the building are derived
- Both building and landscape have been impacted by change due to fundamental issues with construction detail or adaptation required for a working school



Whole building approach – external envelope

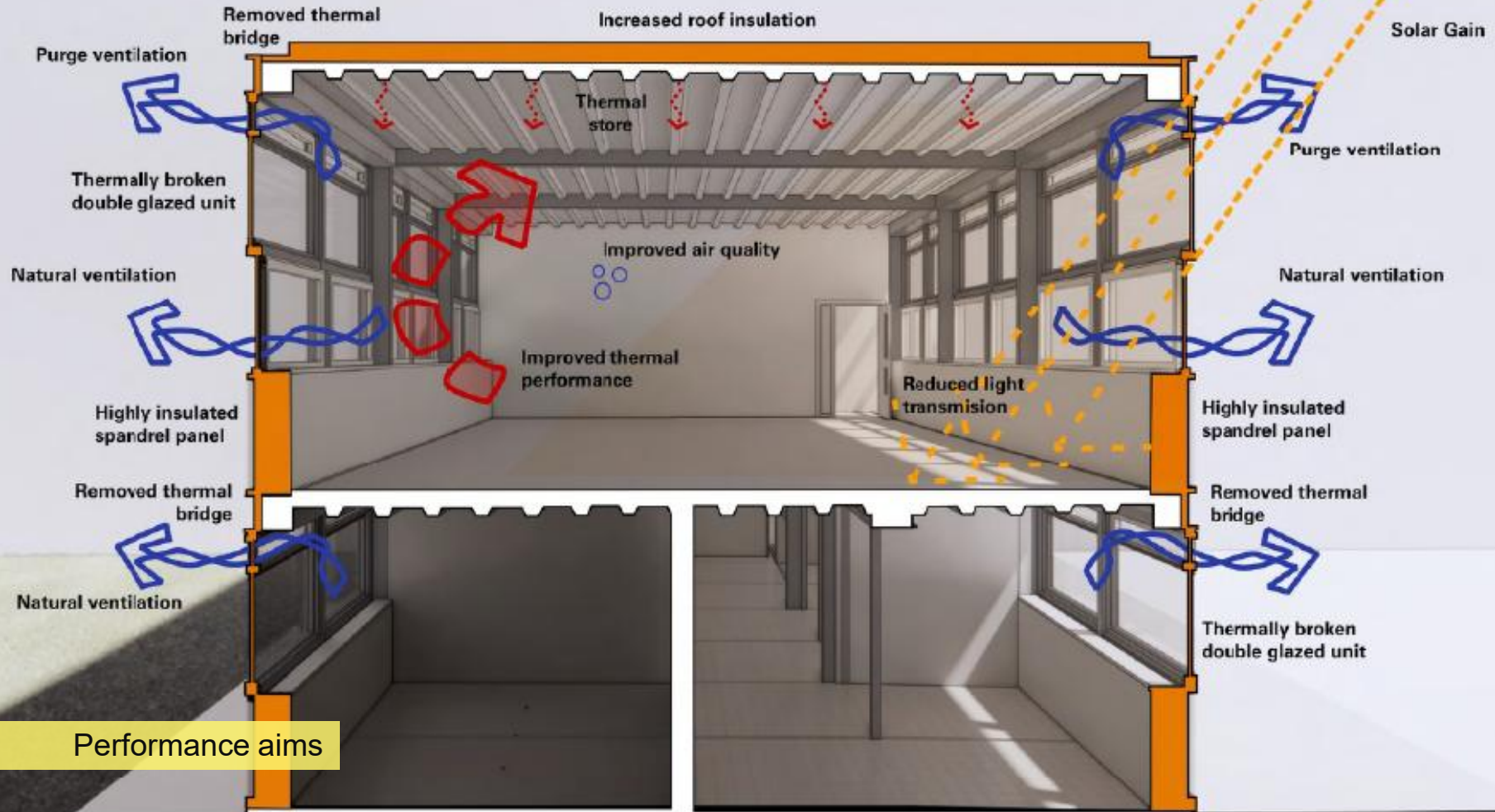
Key Environmental Factors

1. Thermal Performance
2. Overheating & Solar Gain
3. Ventilation
4. Daylighting & Glare



Key Environmental Factors

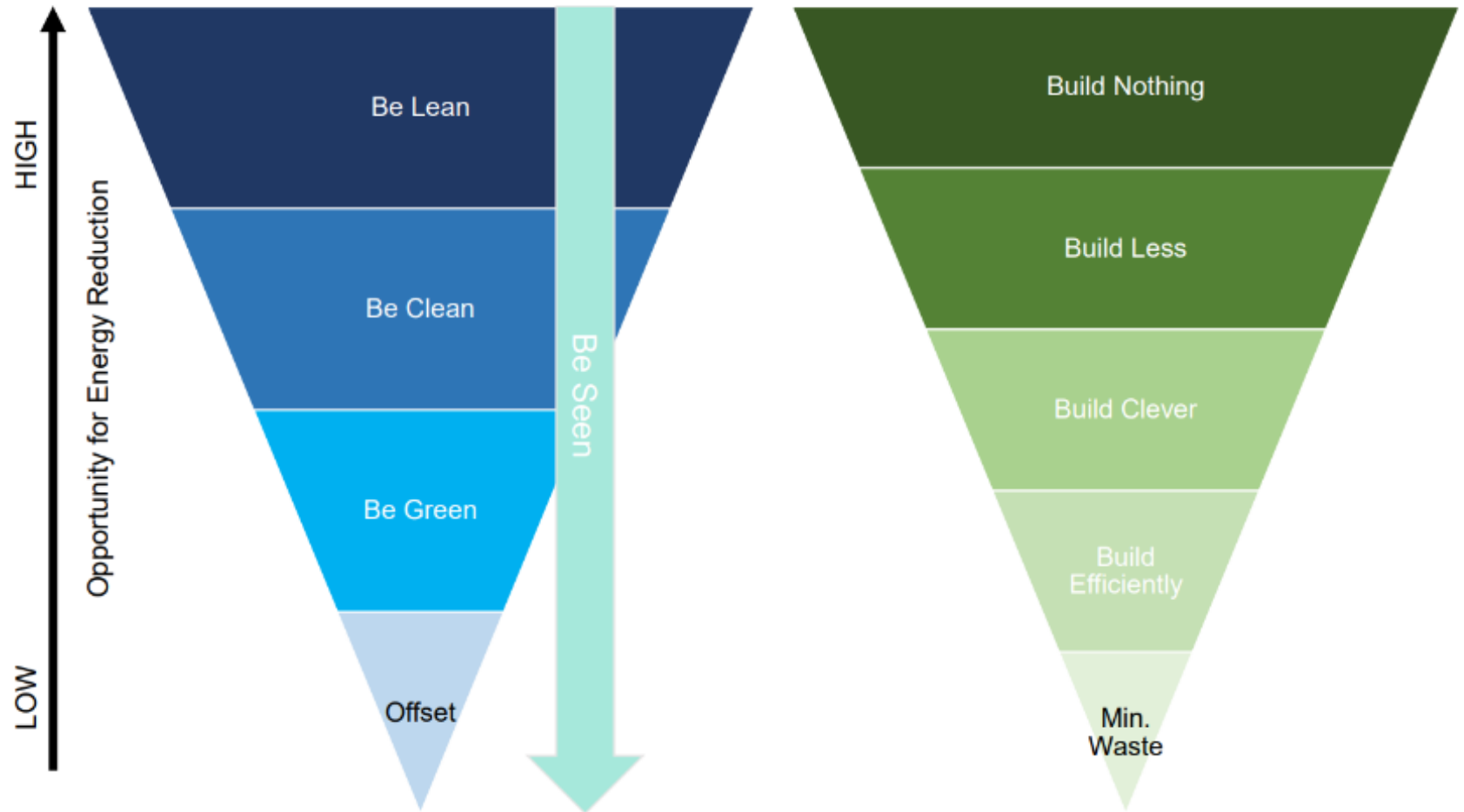
1. Thermal Performance
2. Overheating & Solar Gain
3. Ventilation
4. Daylighting & Glare



To reduce carbon, the following hierarchy will be followed to reduce energy and carbon, across the life cycle of the building.

Looking to reuse the existing building is a key impactful measure to reduce carbon, compared to a new build.

The hierarchy is rooted within industry guidance (Greater London Authority, UKGBC Framework and World Green Building Council) and Smithdon school should follow this for a robust methodology of reducing energy and impacting carbon.



Whole Life Net Zero Carbon

Façade glazing – 1954 original



Closed



A close-up of a building

Description automatically
generated

Open

Façade glazing – visualisation of existing



Closed



Open

Façade glazing – visualisation of proposed



Closed



Open

Newly listed & climate challenges



Robinson College, Cambridge

FIRST FLOOR HISTORIC DEVELOPMENT PLAN

- 1977-81
- 1989
- 21st Century
- 2001
- 2016
- 2022
- Mix of original, 1990s and 21st century fittings

- Timber floor replaced in 2005.
- New bridge over the Bin Brook.
- Terrace in front of restaurant remodelled 2016.
- Seating replaced in recent years.
- New staircase up to gallery added 2001.
- Later suspended ceiling to lobby area.
- High Court rebuilt in 2003, presumably involving rebuilding of the deck and repaving following water penetration to the Umney Theatre.
- Sick bay converted into IT suite in recent years.
- Repair works to Auditorium roof in 2020, including replacement of all paving and replacement of some brick parapets.
- Walls between sets and to former kitchen and bathroom removed in this location when accommodation was converted into office use.
- Wall removed.
- Wall relocated and kitchen converted into teapoint and corridor, with new doorway into adjacent set.

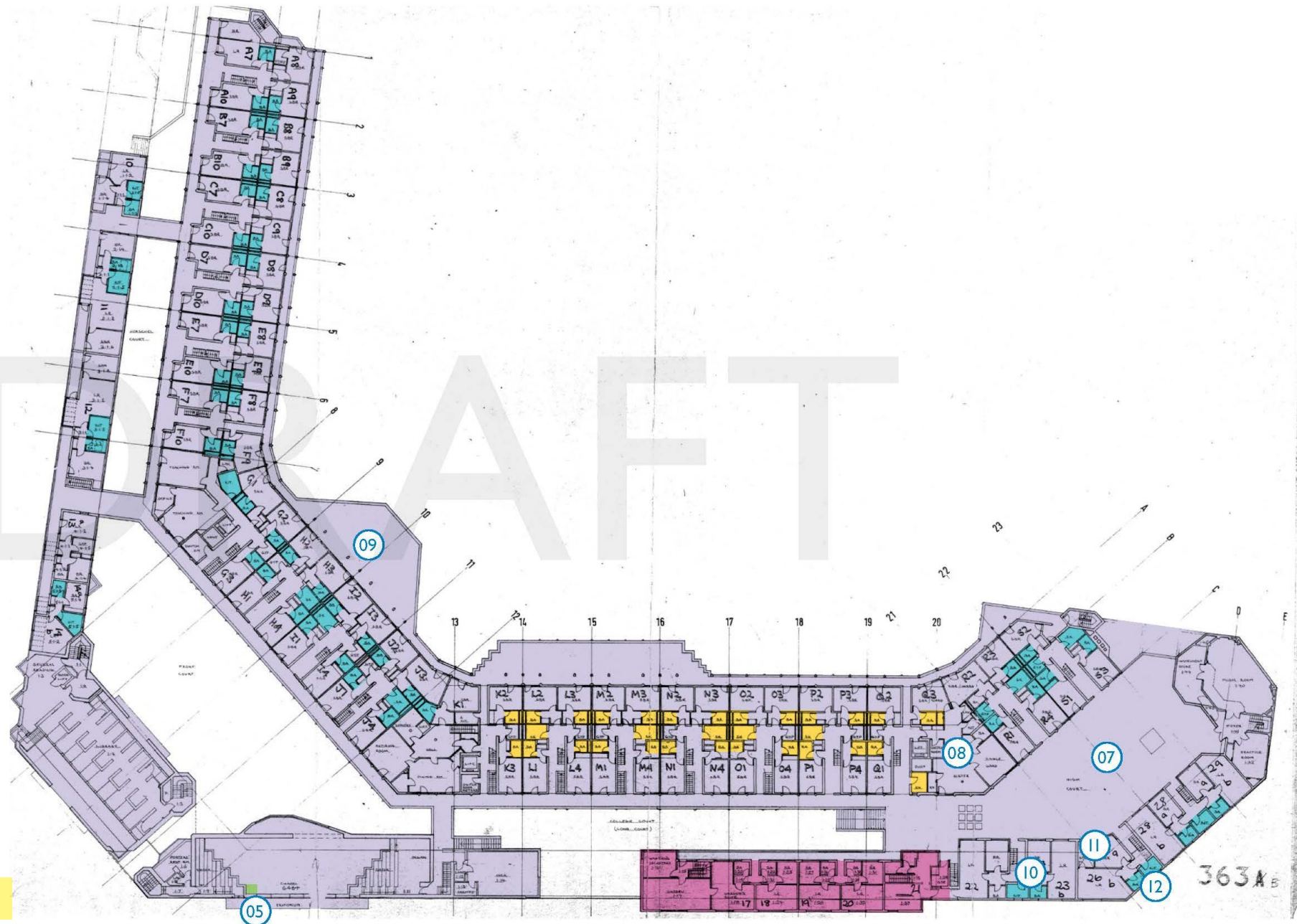
Notes:

- Staircases and other internal spaces originally open to the exterior enclosed soon after completion by additional glazing/doors. Some have been replaced like-for-like again in more recent years.
- These plans show the dating of rooms as far as it has been possible to establish during the course of this study. However, it was not possible to inspect

all internal
some variations

Historic development plan

This plan is not to scale



FIRST FLOOR SIGNIFICANCE PLAN

- High
- Medium
- Low
- Neutral
- Detrimental

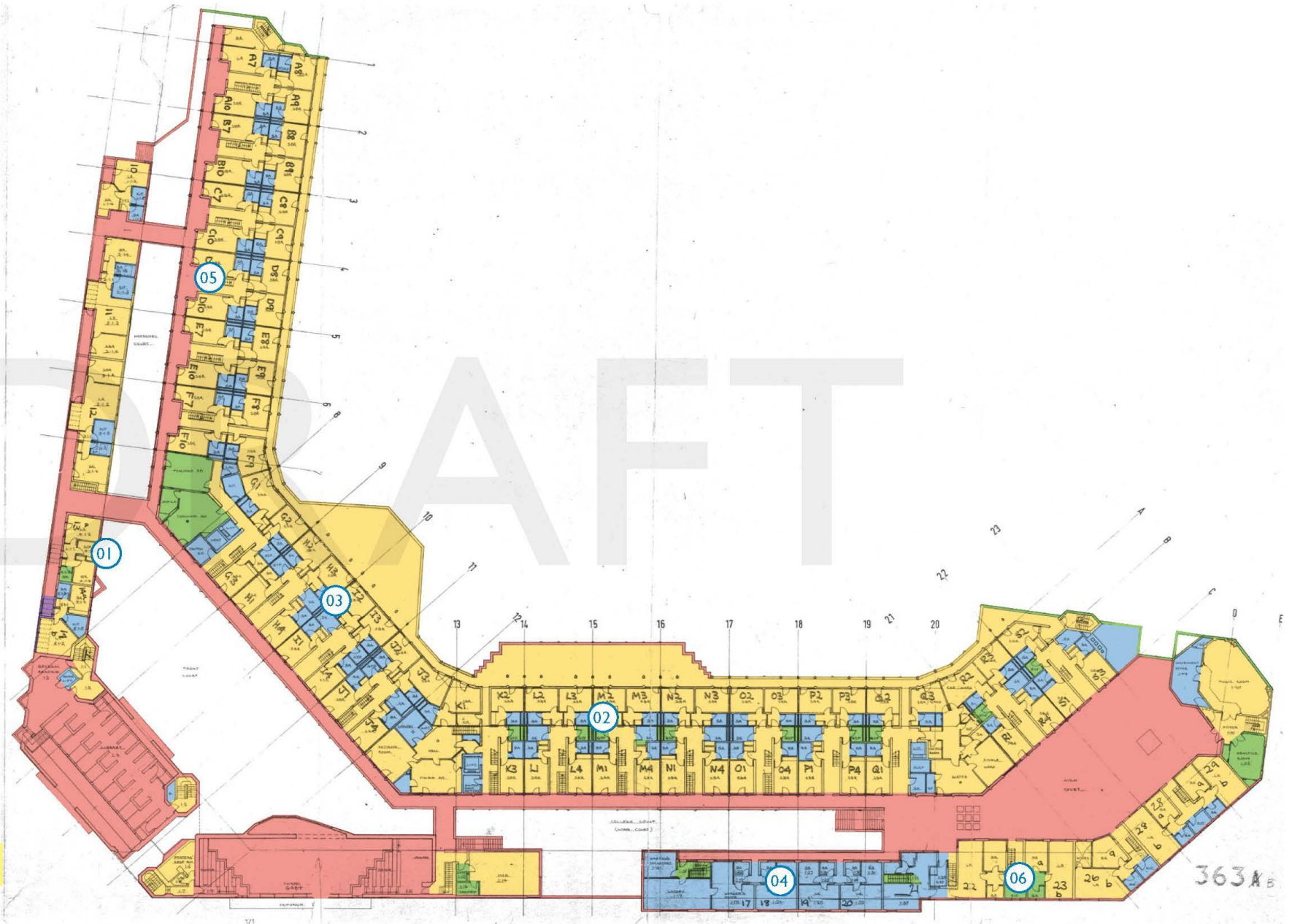
- 01 Original kitchens and bathrooms, like this example, retain orange cupboards and are of medium significance.
- 02 Gyp rooms, like these examples, retain original tall orange cupboards and are therefore of low significance.
- 03 Bathrooms and kitchens, such as these examples, which have been competently re-fitted with modern fittings are of neutral value.
- 04 Accommodation converted to office use with much redecoration, reordering of partitions and loss of original fixtures and fittings, therefore of neutral value.
- 05 Original bedrooms and circulation spaces, like these examples, generally retain their original character and fittings, therefore being of medium value.
- 06 Rearrangement of original partitions in this area has reduced its significance to low.

General Note

- These plans show the significance of rooms as far as it has been possible to establish during the course of this study. However, it was not possible to inspect all internal spaces and therefore there may be some variations to significance upon visual inspection.

This plan is not to scale

Significance plan





A proliferation of modern lighting in the Auditorium foyer



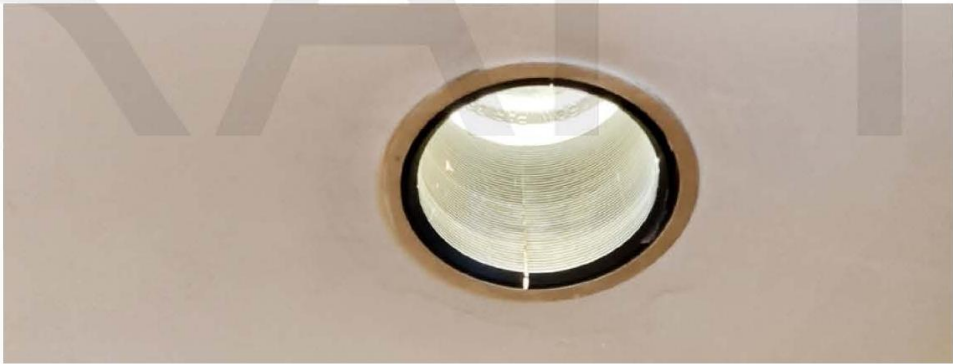
Circular light fittings which are likely to be original, with additional fluorescent tube lighting added



Non-original external globe lights which are similar in form to the originals



Original globe lighting similar to the current versions though simpler in form



Example of an inset original light fitting

Research detail



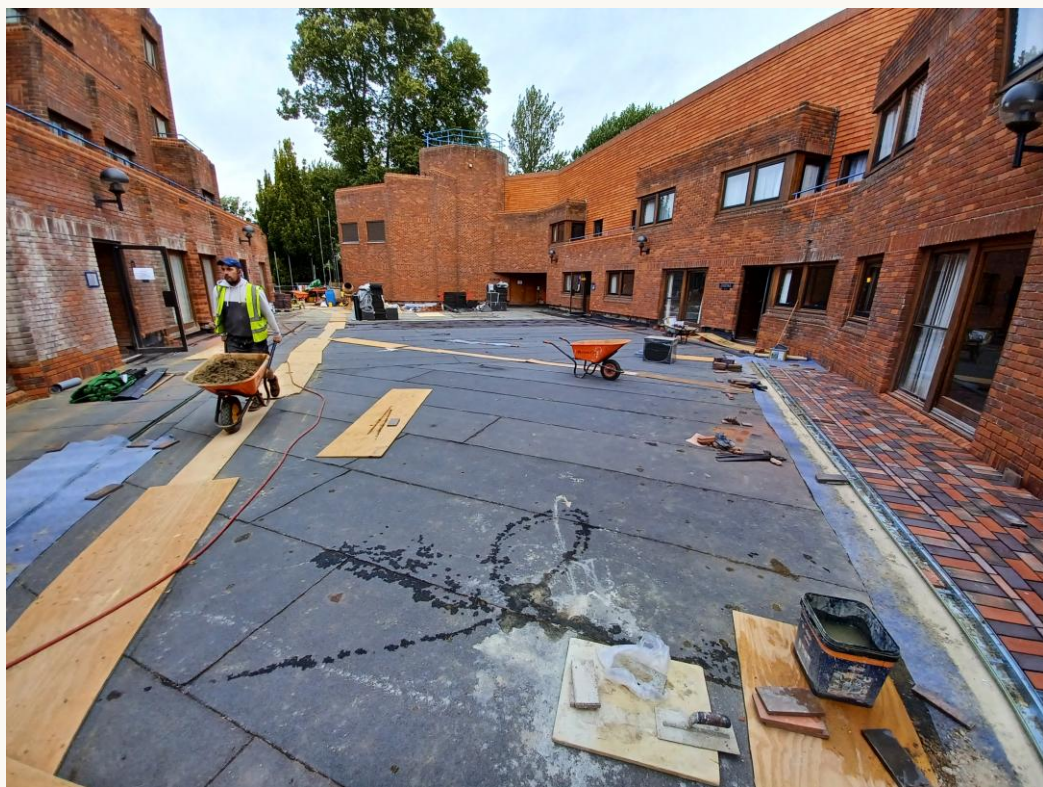
Example of original projecting rectangular diffuser light



Example of rectangular wall mounted diffuser light with replacement flat diffuser panel



Original pendant lights in the Library



Climate challenges

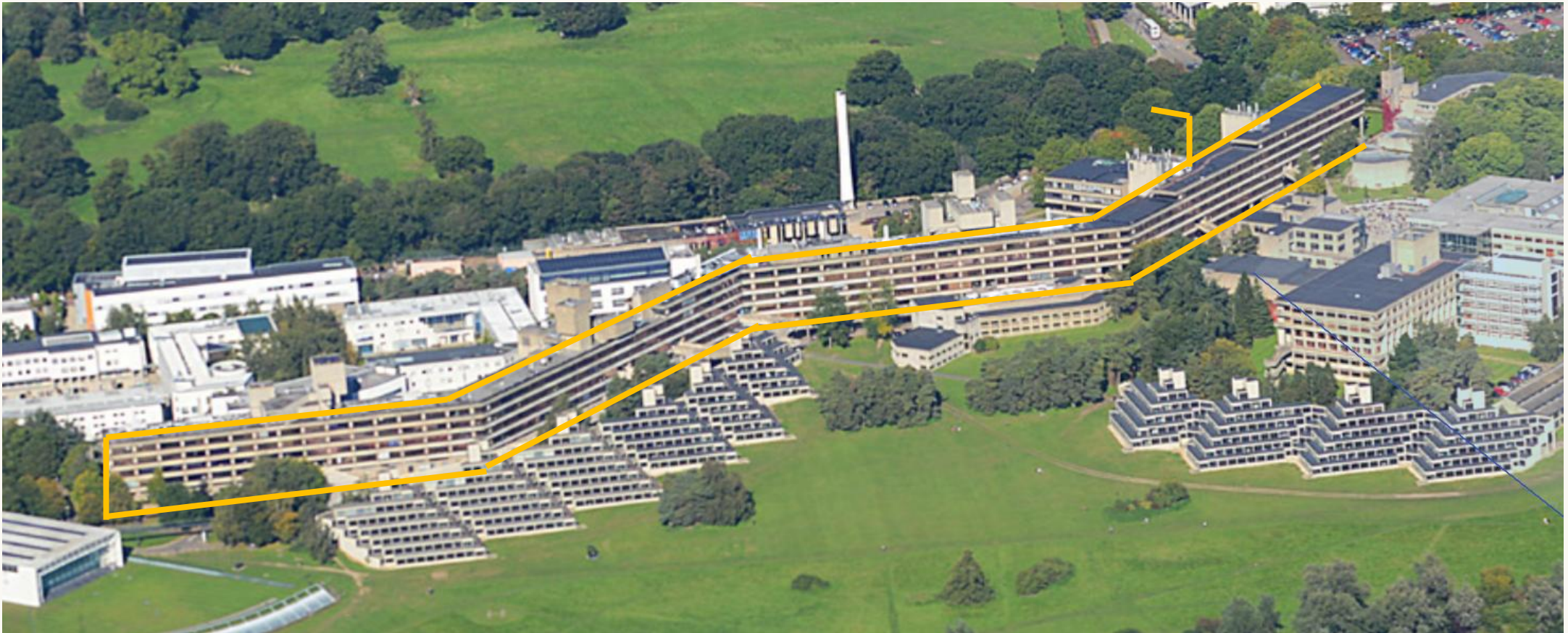


Managing back log maintenance



- University of East Anglia, Norwich

Lasdun Wall (Teaching Wall)

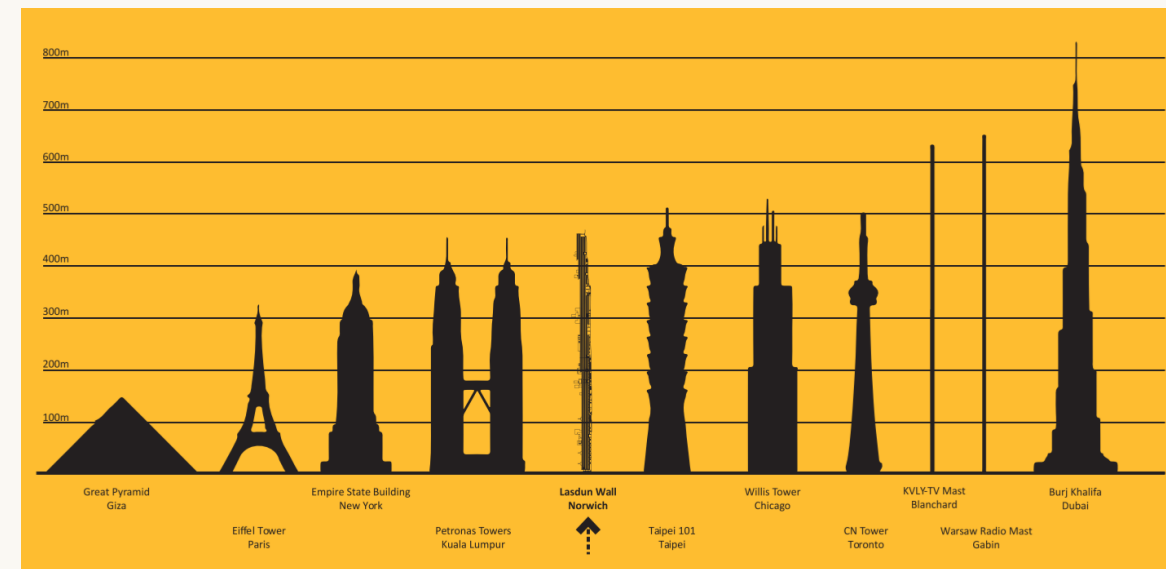
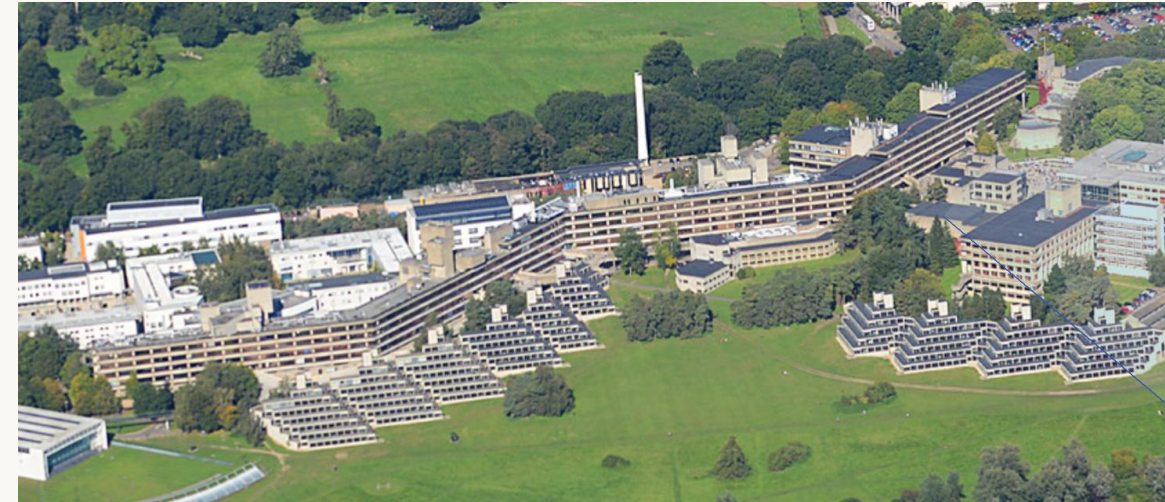


Post-war buildings

UEA University of East Anglia

- Lasdun Wall is a quarter of a mile long
- If it were a skyscraper it would be taller than the Empire State Building
- Constructed in four phases between 1966 and 1974
- Listed in 2003 – Grade II
- Windows fit poorly and are single glazed
- Its services are life expired
- Due to its size and position, and the services that connect through the building, 48% of the campus built estate is at risk from services or building failures in the Lasdun Wall

Post-war buildings



Lasdun Wall = Condition D

- *Building inoperable, or likely to become inoperable, due to statutory compliance issues or condition representing a health and safety risk or breach*
- *Possible structural, building envelope or building services problems coupled with compliance issues*

17 failure risks identified in the 2015 Lasdun Wall Study - nearly all the risks have occurred to some degree, one of which cost £8.5m to address – disruptive works which only provided a temporary solution



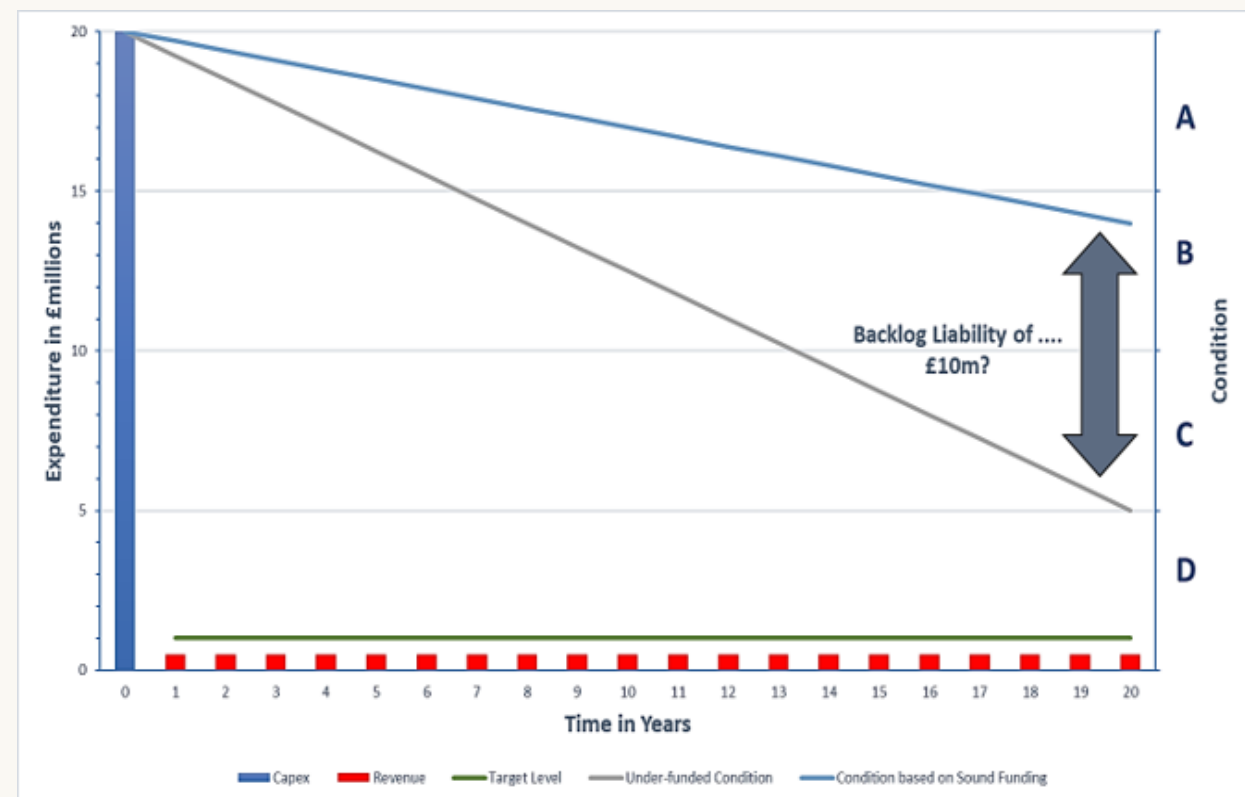
What contributed to the backlog maintenance?

Evidence suggests that universities in general rarely invest adequately in maintaining buildings from the time they are constructed.

An under-funded maintenance programme will erode building condition, generate a backlog and undermine asset values.

Cash is not reserved for maintenance, it is spent on other things, resulting in a 20+ year shock when the gap between available funds and backlog maintenance issues becomes apparent.

Post-war buildings





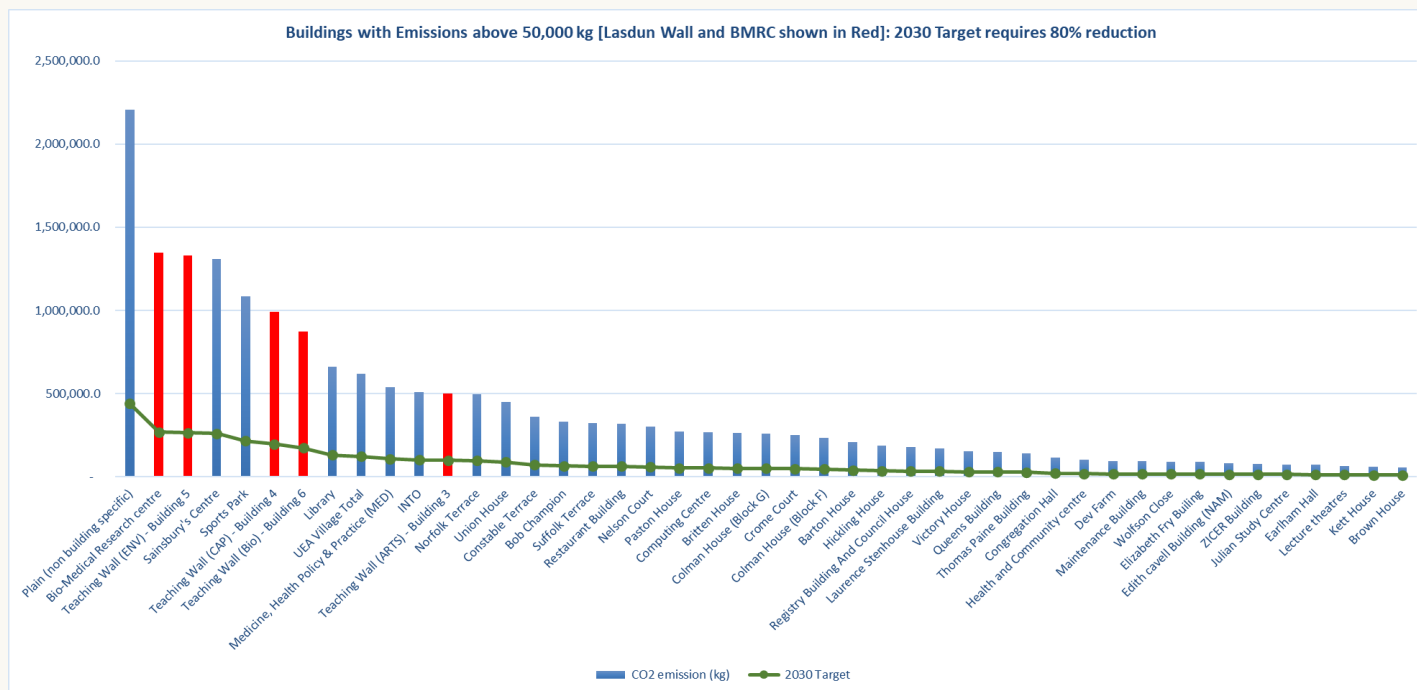
Reports on the building condition achieved limited traction because the issues were:

- Too technical
- Not sufficiently urgent; or
- Perceived to be of a lesser priority than other institutional requirements

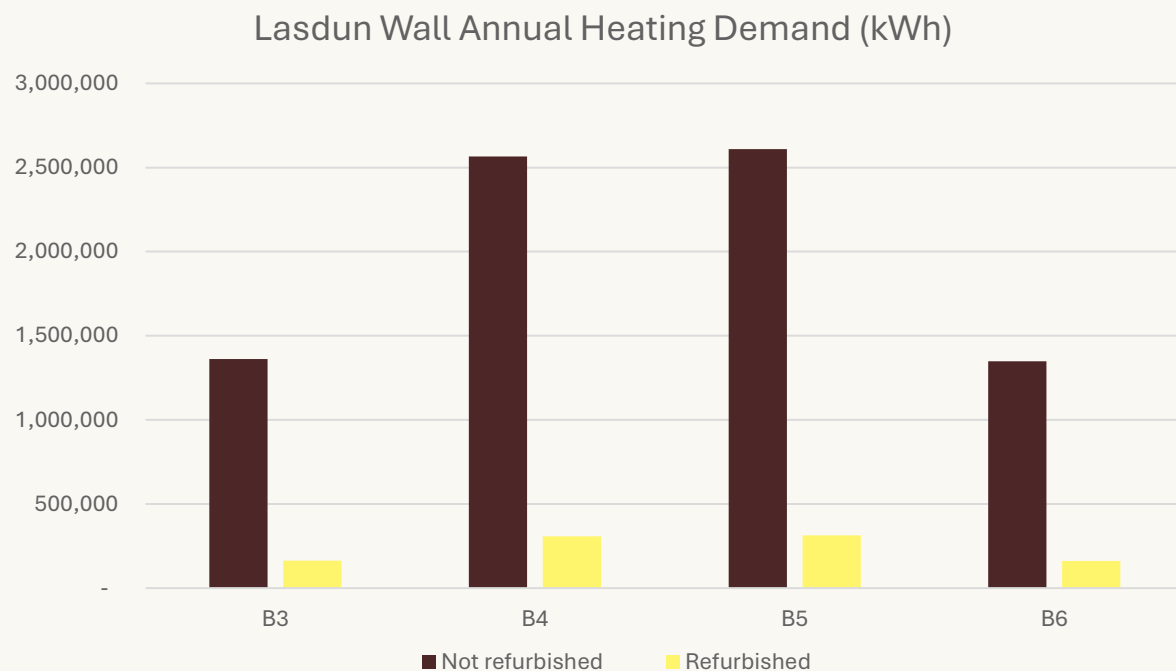
Estate not perceived to be in poor condition therefore investment not provided.

Shortcomings in the Lasdun Wall appeared to have a limited impact on teaching and research - better quality buildings were available and new buildings were being built. The UEA campus appeared to be in good shape.

Thermally inefficient – the 4 buildings that make up the Lasdun Wall are responsible for 20% of the entire campus emissions, mostly due to heat lost from single glazed windows and thermally inefficient façade



On completion of the current project, the refurbished section of the Lasdun Wall will be as thermally efficient as the new-build extensions



Post-war buildings



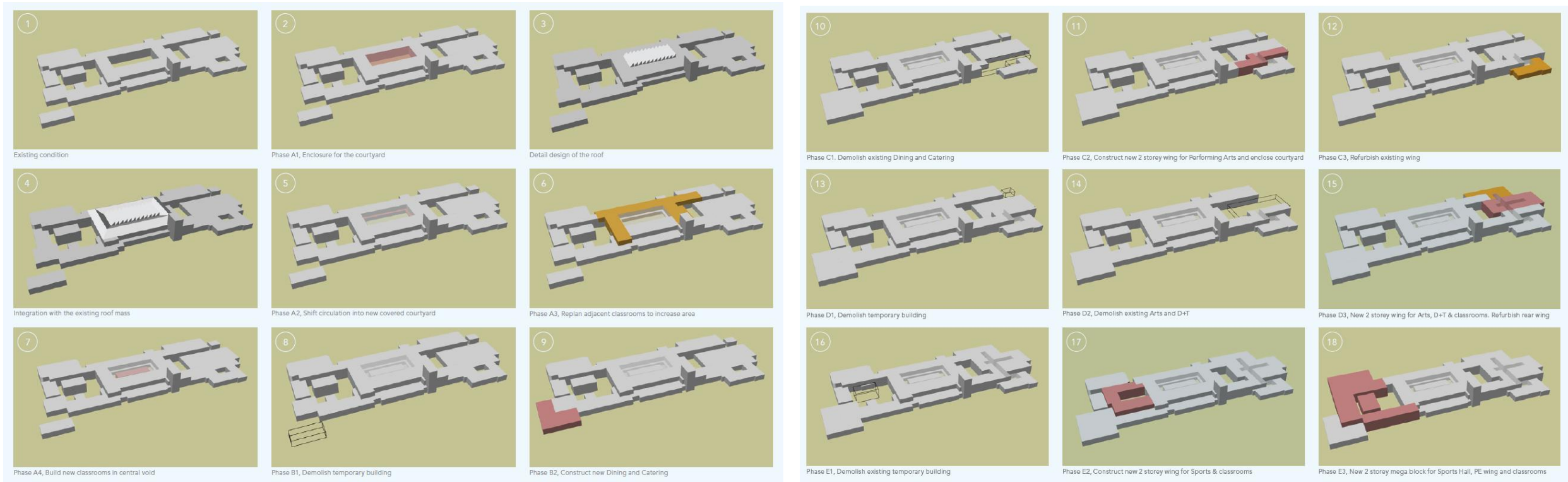
Retrofit can be best

Euan Ferguson and Catherine Ramsden

Useful studio
part of the Useful Simple Trust



A custodian



Public money, no waste, create a road map

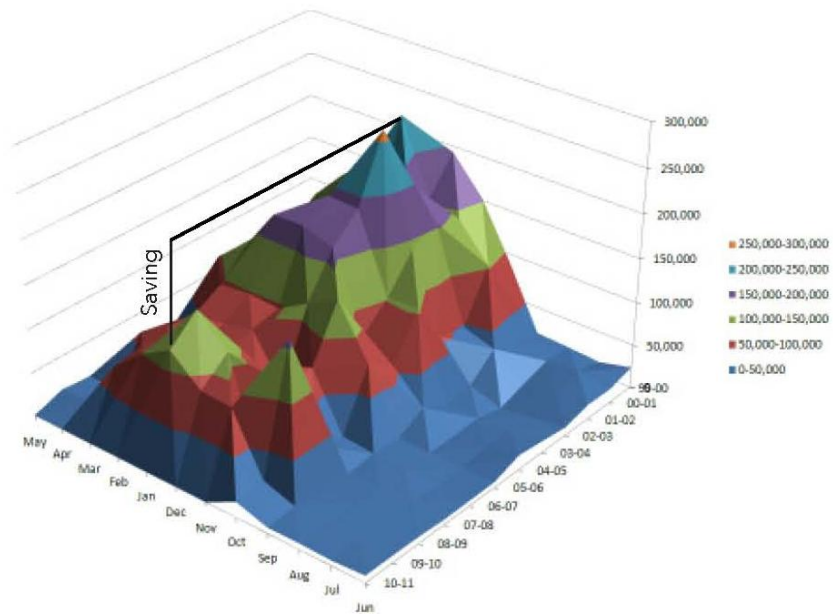


Figure 2.1 - Main Gas Consumption, kWh by Year and Month

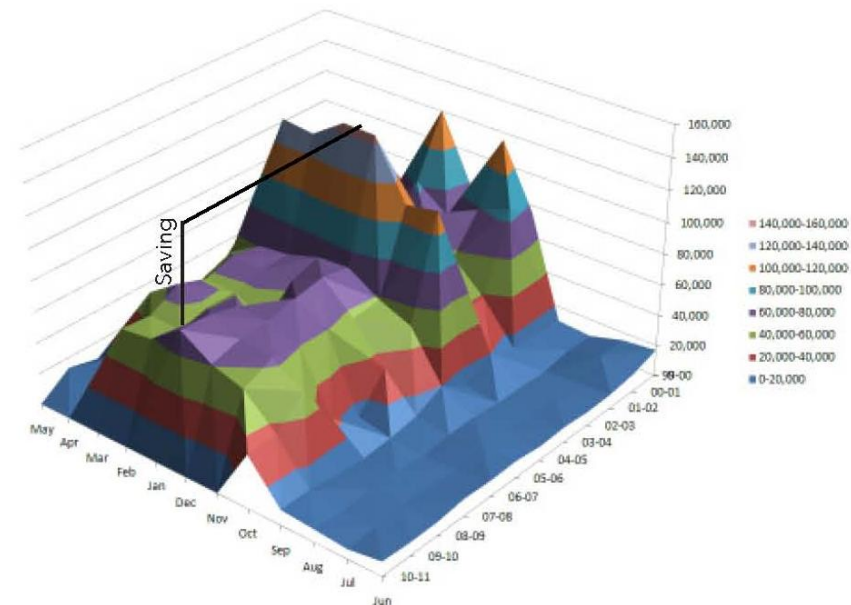


Figure 2.2 Kitchen Consumption, kWh by Year and Month

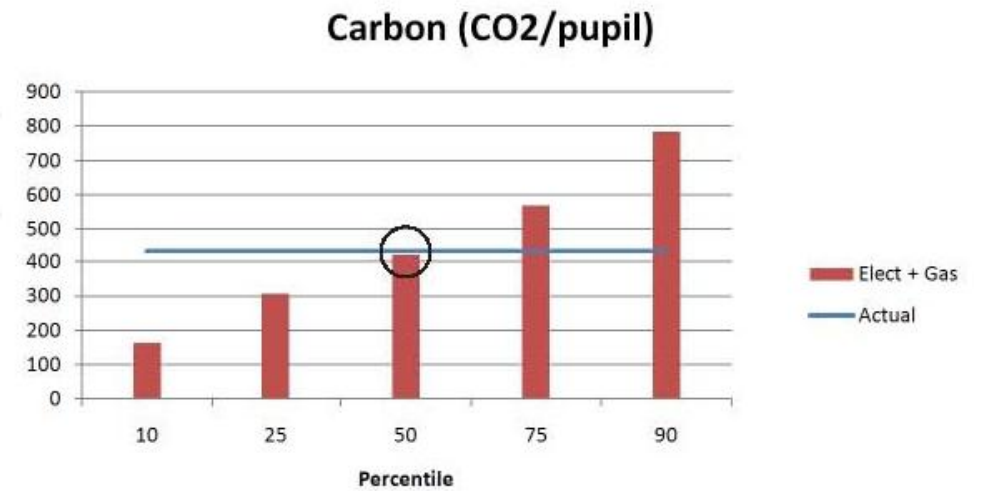
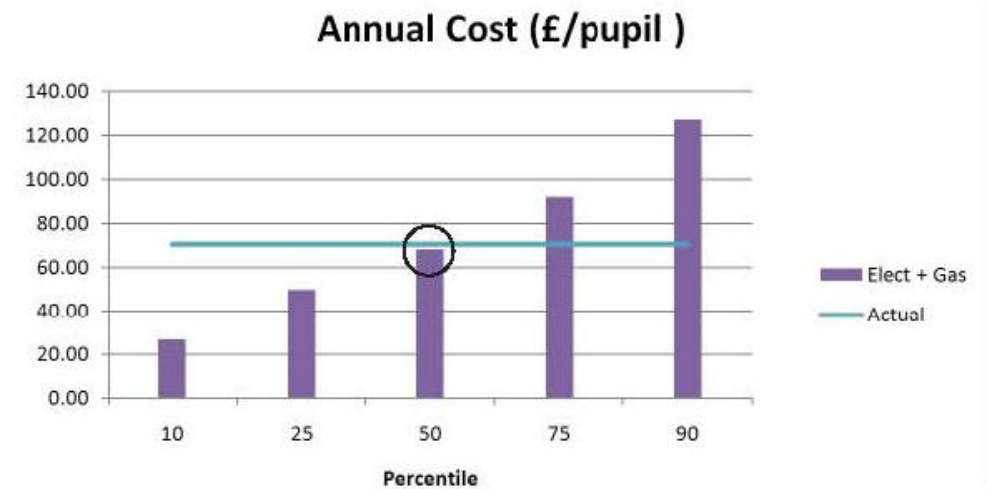
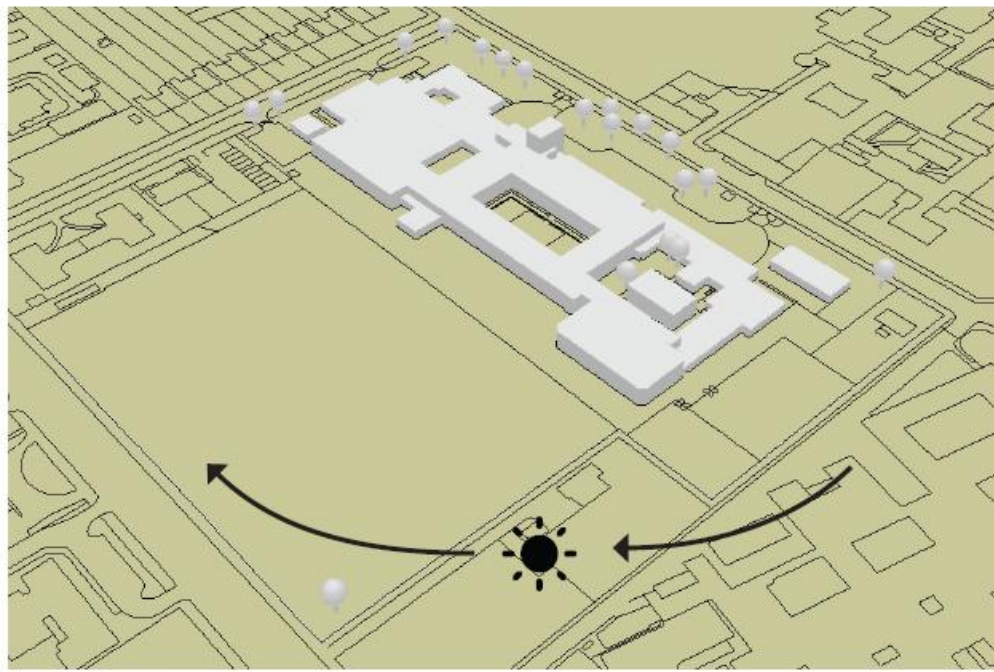


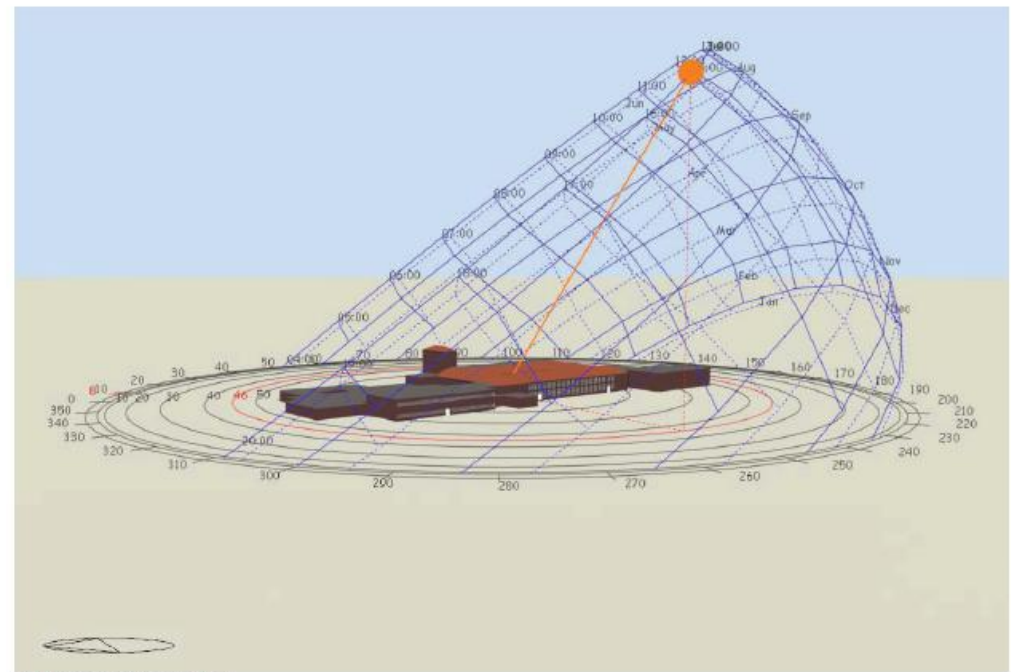
Figure 2.7 - In terms of CO2, the school is almost exactly at the median class.



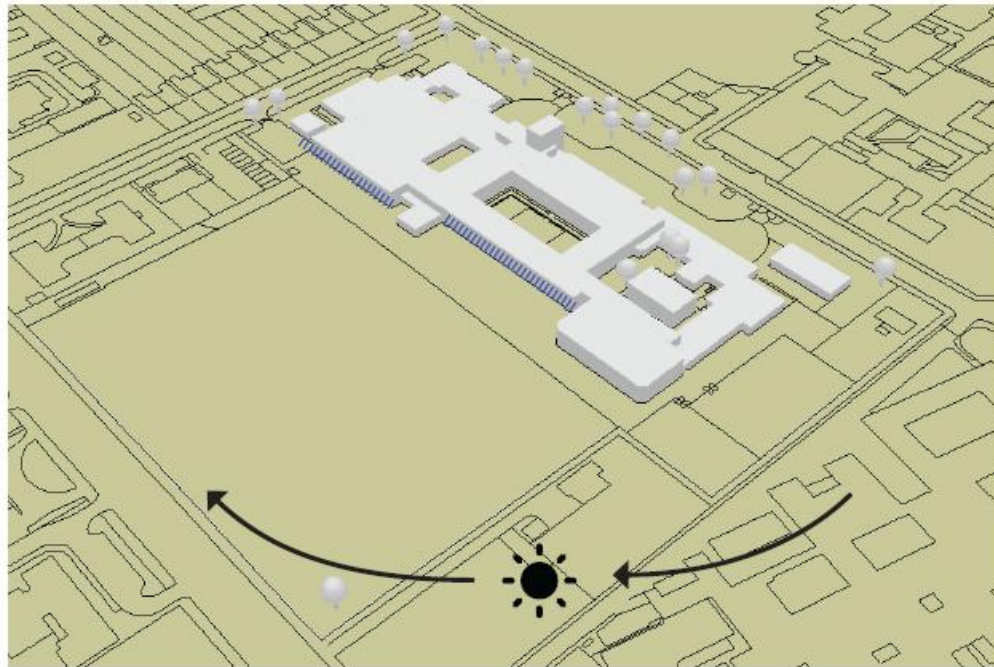
Fabric first and efficient 'wins'



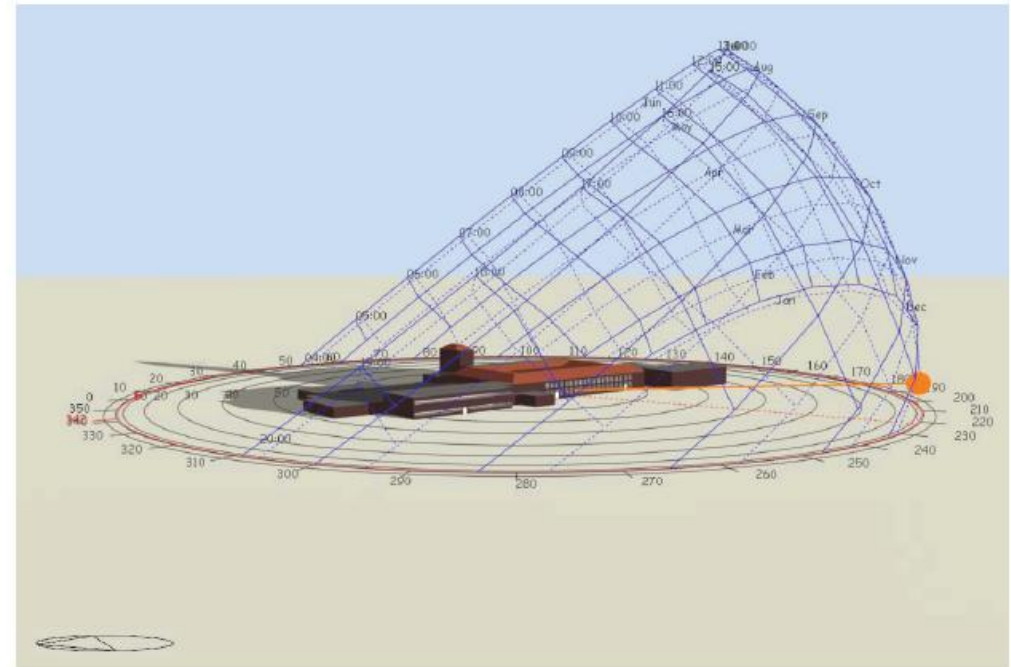
Sun path diagram



Sun path diagram, summer



Proposed position for external shading



Sun path diagram, winter



Get it right first time, listen



Be part of a community

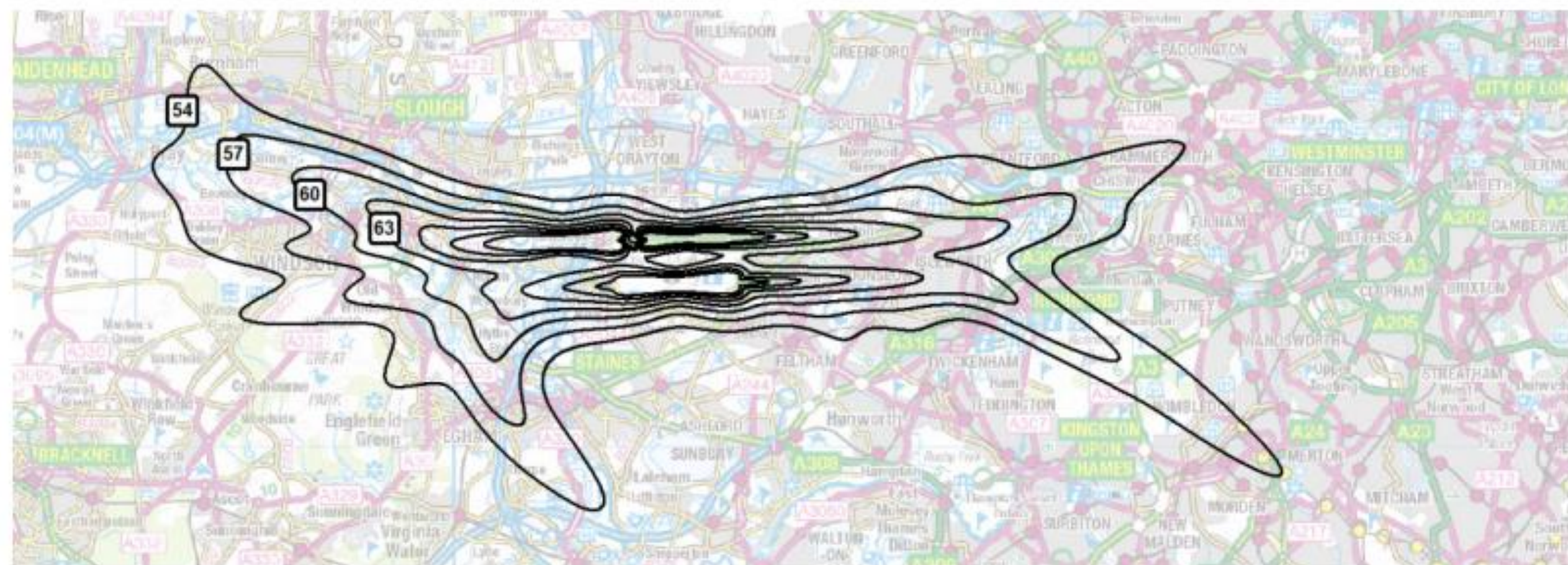








Definitely not a vanity project















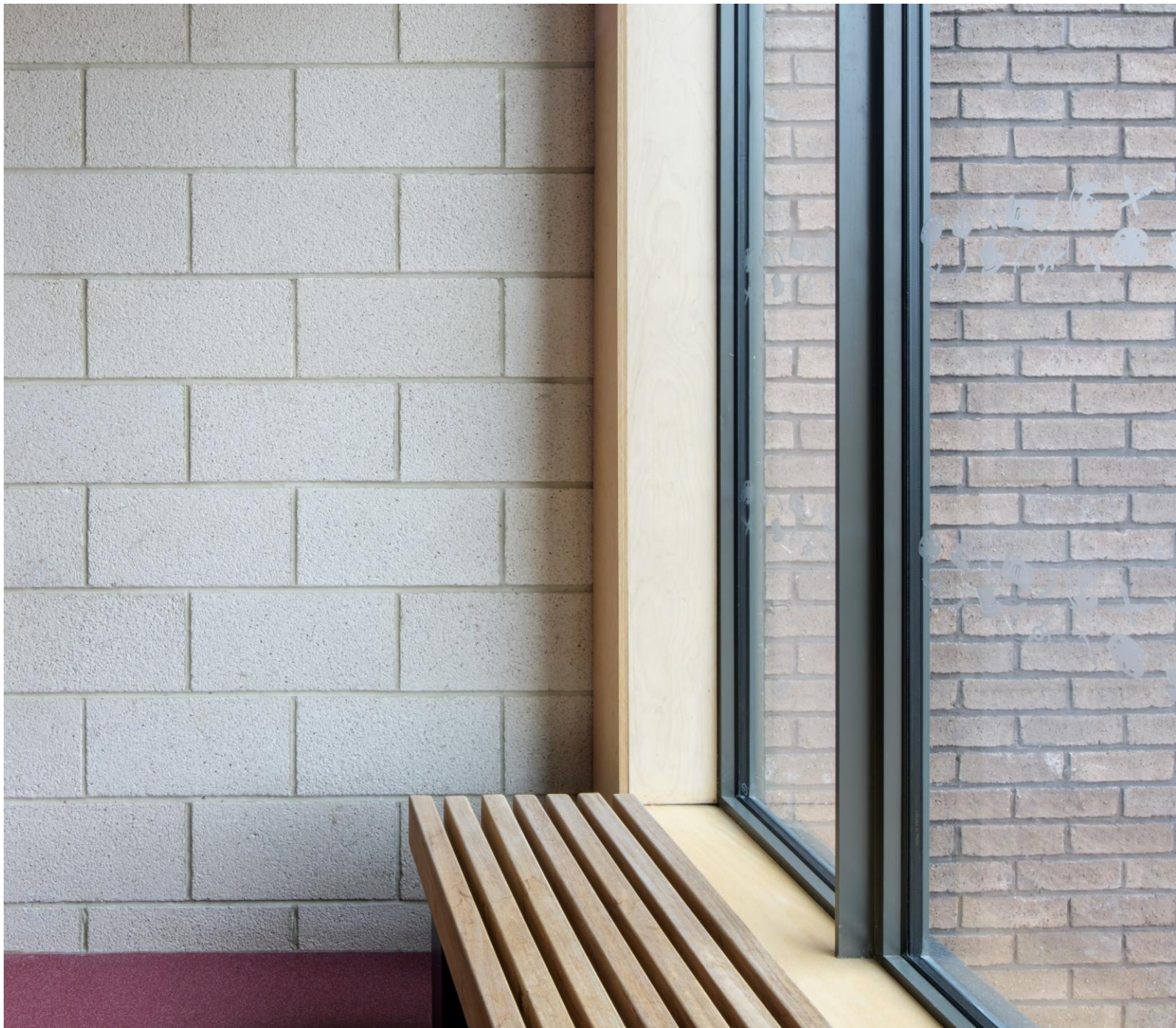










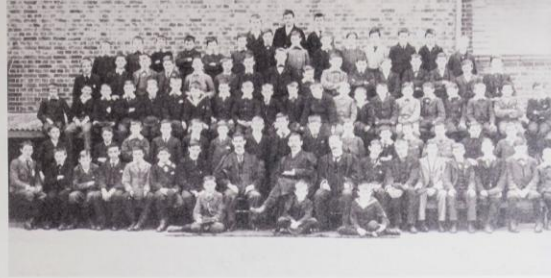


1898

THE AIMS AND IDEOLOGIES OF THE SCHOOL WERE STRONGLY LINKED TO THE

NATIONAL IDENTITY

WITH THE SCHOOL CONCEIVED AS A METHOD OF FURTHERING THE COUNTRY'S COMMERCIAL AND INDUSTRIAL INTERESTS, PROPER PROVISIONS WERE GIVEN FOR SCIENCE AND LANGUAGES, WITH LITTLE CONCERN GIVEN TO THE CLASSICS. A CHANGE OF NAME IN MAY 1898, TO THE 'COUNTY HIGH SCHOOL', WAS DESIGNED TO GIVE A CLEARER SENSE OF THE SCHOOL'S CHARACTER.



1895

IN THE EARLY 1890S, THE SECONDARY SCHOOLS' TOOK SHAPE. THIS LED TO THE DIVISION OF THE UPPER DEPARTMENT INTO THE NEW COUNTY HIGH SCHOOL

ISLEWORTH UPPER DEPARTMENT 1895

IT WAS THE ORIGINAL SECONDARY SCHOOL IN THE BOROUGH OF HOUNSLOW.

THE TOWN HOUSE

1840

WAS SO DILAPIDATED THAT A COMPLETE REBUILD WAS REQUIRED COSTING

£1,605

A PSEUDO-LATE-GOTHIC CASTELLATED STYLE

POPULAR AT THE TIME WAS ADOPTED FOR THE BUILDING, WHICH ONLY HAD TWO LARGE ROOMS: ONE FOR BOYS & ONE FOR GIRLS

1844

THE SCHOOL IS INCREASINGLY KNOWN AS:



THE BLUE SCHOOL

1630

FOUNDING DATE

OF THE SCHOOL IS UNCLEAR, BUT IT CAN BE PLACED IN ABOUT 1630. WHAT ISLEWORTH & SYON BEGAN AS AN ESTABLISHMENT FOR GIRLS, CALLED

DAME ELIZABETH HILLS' CHARITY SCHOOL

IT WAS LOCATED IN A HOUSE IN ISLEWORTH

1715

SOME LEADING RESIDENTS PROVIDED RESOURCES IN 'ISLEWORTH COUNTY HIGH SCHOOL', WHICH

& 20 GIRLS

THE BASIC SOCIAL PRINCIPLES

WERE TAUGHT TO READ, WRITE, SING PSALMS AND RECITE PRAYERS, WHILE THE GIRLS LEARNED READING AND ANY OTHER SUBJECTS THE SCHOOL'S CURRICULUM WAS OF A MORE SUITABLE. STUDENTS LEFT SCHOOL AGED FIFTEEN

1890

IN MAY, THE SCHOOL WAS OFFICIALLY OPENED. THE DOORS OF ITS NEW BUILDING

LOCATED ON NORTH ROAD

THE BUILDING WAS TAKEN COMPLETELY

AND COST £4,000. THE SCHOOL'S ROLL IN 1890 WAS OVER 200

1883

A NEW SCHEME PROVIDED FOR BOYS ONLY, SO THE UPPER DEPARTMENT MOVED TO A SECOND BUILDING ON NORTH ROAD

GRANTS WERE PROVIDED FOR BOYS ONLY, SO THE UPPER DEPARTMENT MOVED TO A SECOND BUILDING ON NORTH ROAD

BY 1855 THE BLUE SCHOOL UPPER DEPARTMENT

WAS OFFICIALLY OPENED

AS OF 1890, THE SCHOOL HAD SIXTY-TWO BOYS

1813

THE SCHOOL WAS FOUNDED IN 1813. THE CURRICULUM WAS OF A MORE SUITABLE. STUDENTS LEFT SCHOOL AGED FIFTEEN

THE SCHOOL WAS FOUNDED IN 1813. THE CURRICULUM WAS OF A MORE SUITABLE. STUDENTS LEFT SCHOOL AGED FIFTEEN

THE SCHOOL WAS FOUNDED IN 1813. THE CURRICULUM WAS OF A MORE SUITABLE. STUDENTS LEFT SCHOOL AGED FIFTEEN

THE SCHOOL WAS FOUNDED IN 1813. THE CURRICULUM WAS OF A MORE SUITABLE. STUDENTS LEFT SCHOOL AGED FIFTEEN

THE SCHOOL WAS FOUNDED IN 1813. THE CURRICULUM WAS OF A MORE SUITABLE. STUDENTS LEFT SCHOOL AGED FIFTEEN

THE SCHOOL WAS FOUNDED IN 1813. THE CURRICULUM WAS OF A MORE SUITABLE. STUDENTS LEFT SCHOOL AGED FIFTEEN

THE SCHOOL WAS FOUNDED IN 1813. THE CURRICULUM WAS OF A MORE SUITABLE. STUDENTS LEFT SCHOOL AGED FIFTEEN

THE SCHOOL WAS FOUNDED IN 1813. THE CURRICULUM WAS OF A MORE SUITABLE. STUDENTS LEFT SCHOOL AGED FIFTEEN

THE SCHOOL WAS FOUNDED IN 1813. THE CURRICULUM WAS OF A MORE SUITABLE. STUDENTS LEFT SCHOOL AGED FIFTEEN

ISLEWORTH & SYON SCHOOL

BRAND IDENTITY GUIDELINES



OUTSTANDING
IN EVERY
RESPECT.
THIS BRANDGUIDE
WILL HELP
YOU TO
COMMUNICATE
THE SCHOOL
ETHOS
SUCCESSFULLY.

POSITIONING

POSITIONING (LEFT-HAND SIDE)



POSITIONING (CENTRED)



There is freedom positioning the crest in any appropriate position. However, it is recommended that the crest is placed on the left-hand side of a visual plain, aligned with any accompanying text or image.

It is important to be positioned correctly by making the distance from the edge equal on both sides.

The crest and name could also be centred in the composition.









141

“ I am opposed to the laying down of
rules or conditions to be observed in the

CONSTRUCTION OF BRIDGES

lest the progress of improvements tomorrow
might be embarrassed or shackled
by recording or registering as law the

PREJUDICES OR
ERRORS OF TODAY.

Isambard Kingdom Brunel
1806 – 1859

Fortitude. Justice. Charity.

Once a week sport participation (1x30), APS6 (2011/2012): LA London - Hounslow



Catchment area:
London - Hounslow

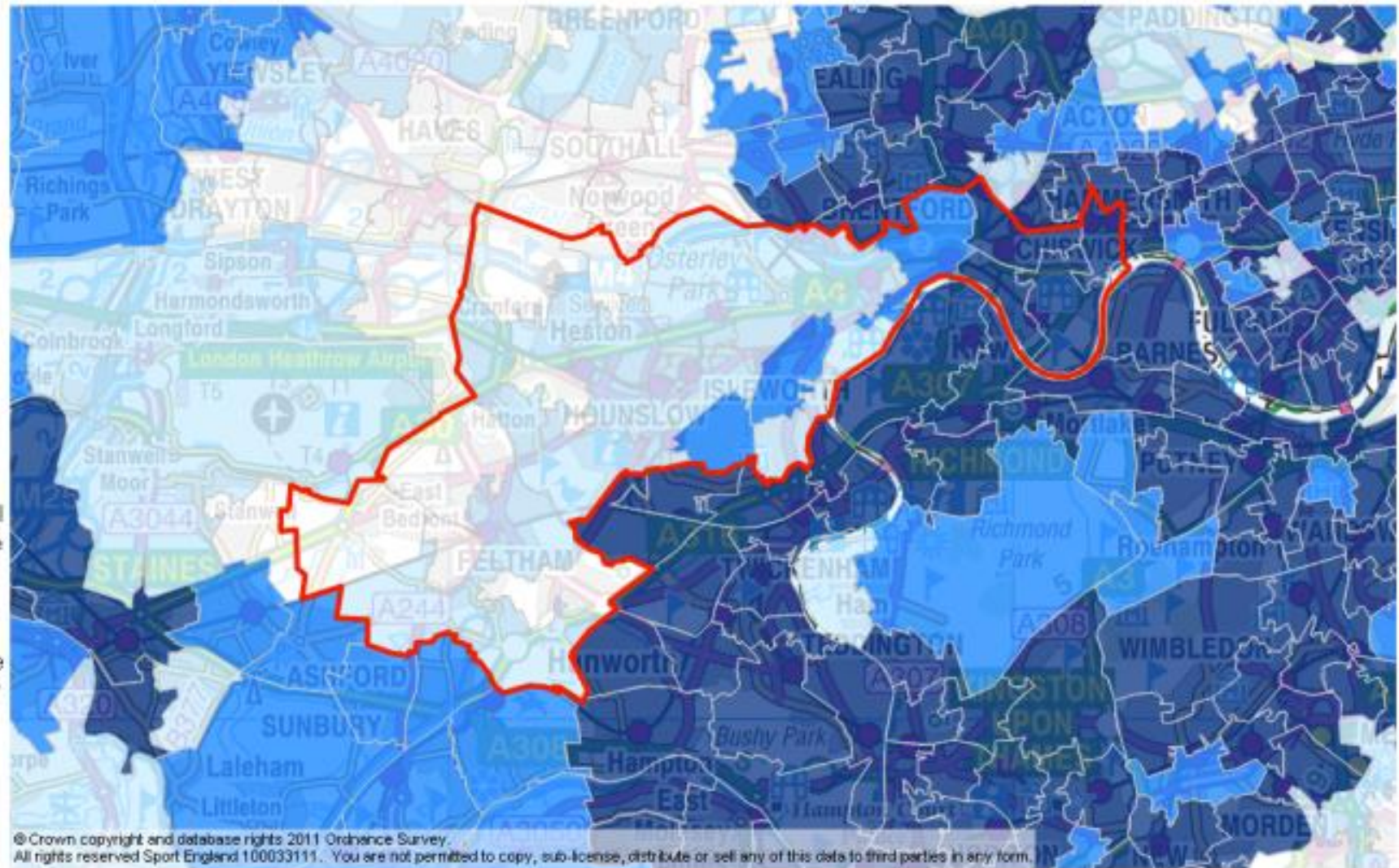
Participation estimates 2011-12
Quartile classification*

- 20.6% - 33.0% (low)
- 33.1% - 37.0% (low-middle)
- 37.1% - 40.8% (middle-high)
- 40.9% - 57.8% (high)

— Catchment area

The sports participation indicator measures the percentage of people (age 16+) participating in at least 30 minutes of sport at moderate intensity at least once a week. This includes all recreational cycling. It does not include recreational walking but includes more intense/strenuous walking activities such as power walking, hill trekking, cliff walking and gorge walking. Please note this data was updated in October 2015.

* Quartile classification: Each class contains an equal number of records. With four classes each contains roughly 25% of all records.



Asset Management Group, 87 Schools













Thank you

Useful studio

part of the Useful Simple Trust



INVESTORS IN PEOPLE®
We invest in people Gold



Social Enterprise UK
Certified Member



**Proudly
employee
owned.**

