Sustainable Refurbishment of Older Buildings

May 2009

THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

NEW ACADEMIC BUILDING : 54 Lincoln's Inn Fields

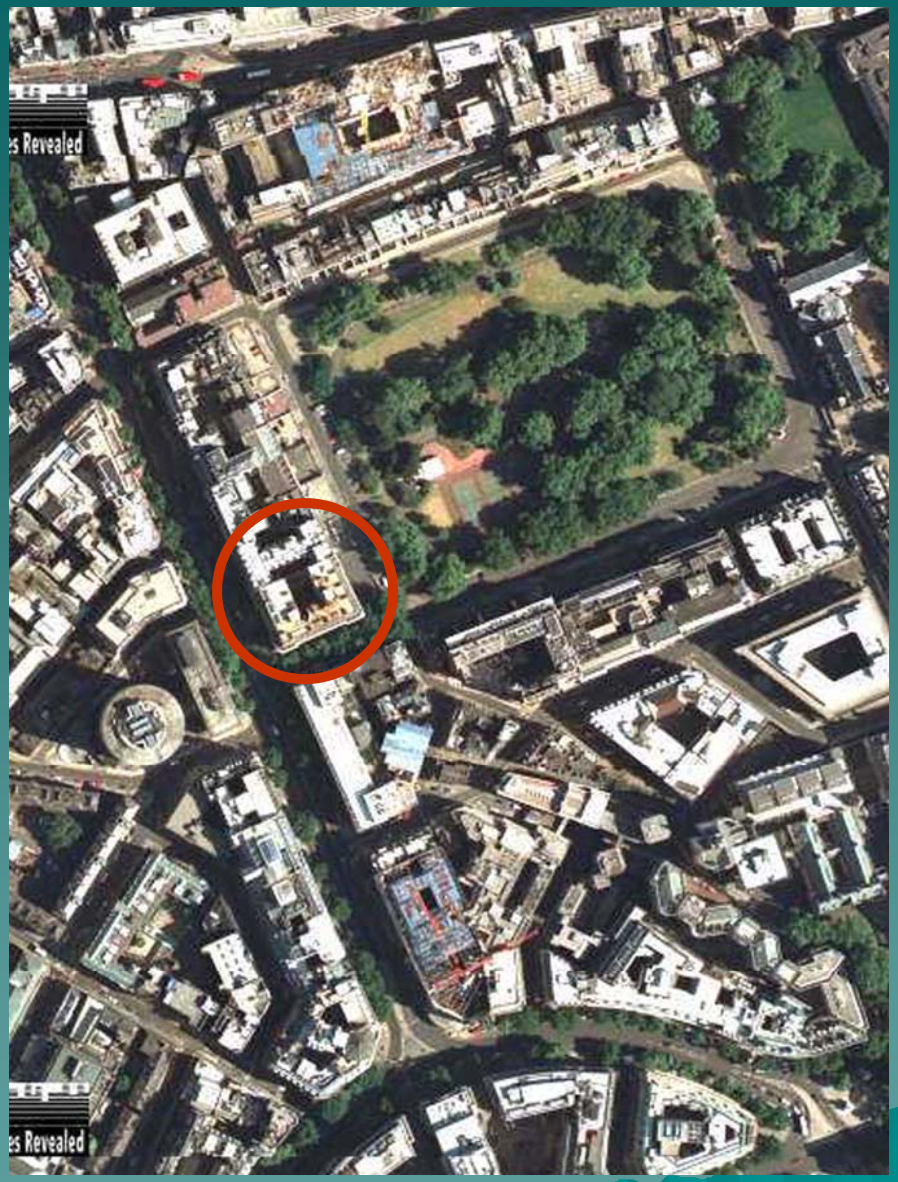
Julian Robinson

Presentation Structure

1. Project Key Facts and Features
2. LSE Objectives - Why we did it?
3. Sustainability Features
4. Summary of building's performance
5. Things to Do
6. Lessons Learnt

Project Key Features and Facts

Location	54 Lincoln's Inn Fields, London, WC2A
Size	12,670m² gross internal
Building Use	Mixed academic-teaching/research and social
Cost	£46m (Project Value) £30.5m (Contract Sum)
Programme	Project Start Dec 04 Completion Sep 08
Environmental	Minimum BREEAM rating of 'Very Good' with target of 'Excellent'
Funding	c.£10m Central Government (Hefce) remainder LSE borrowing and alumni donation
Procurement	GC Works 1 (Single Stage) Design and Build



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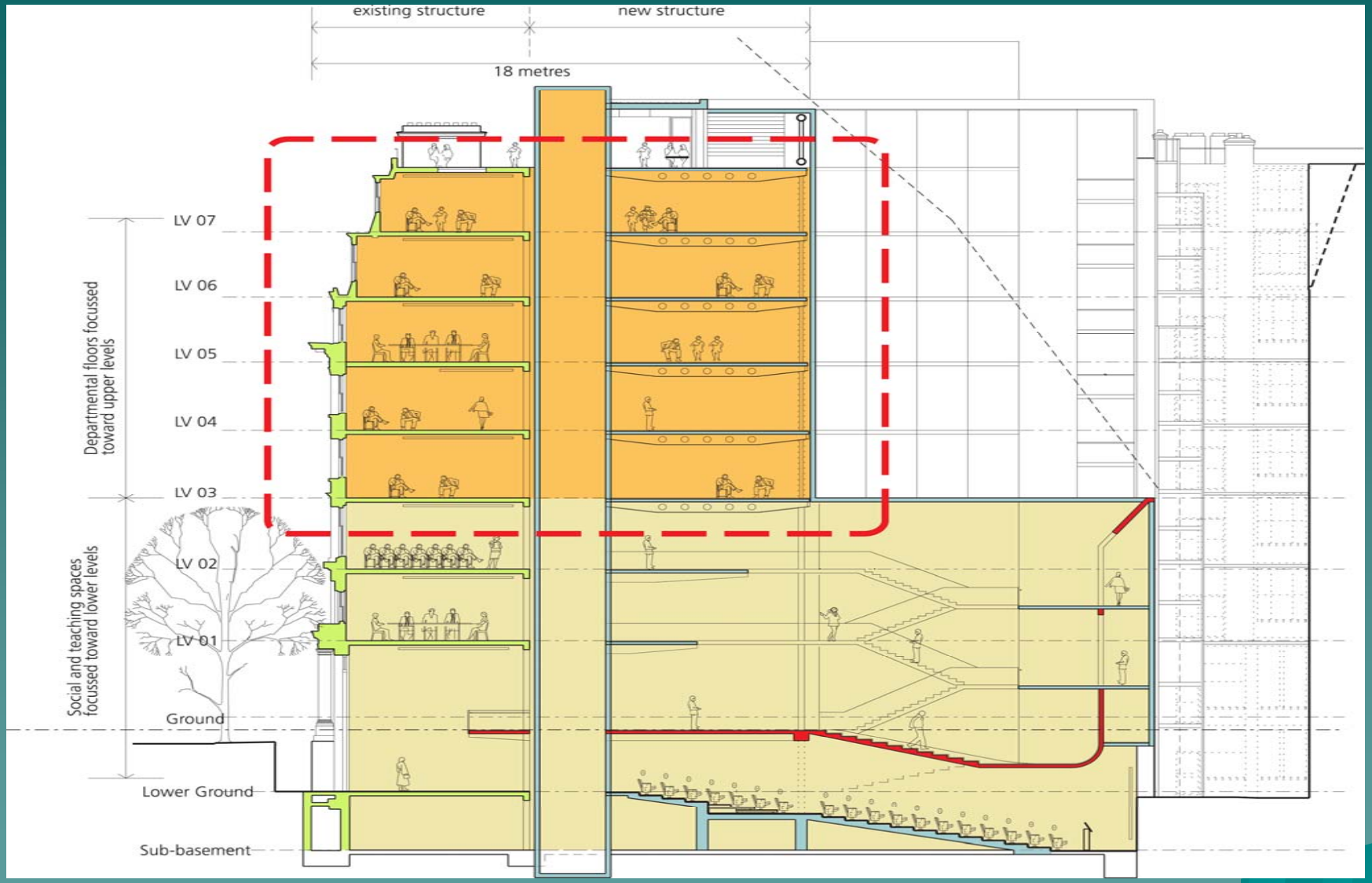
Why we did it ?

- School needs to expand and compete in an international market and needs facilities commensurate with its status
- c.57% of current building stock is in need of significant redevelopment/refurbishment
- The completion of NAB allows other LSE buildings to be decanted and redeveloped
- 2 key departments Law and Management occupy the academic space - it will give them modern facilities and room for further growth.
- NAB will be a 'flagship' building and signal the LSE's commitment to improving the quality of the learning and teaching experience and environmental sustainability.
- NAB will act as a benchmark for excellence in design, procurement and construction for other LSE new build and refurbishment projects

What We Did ?

- Redeveloping 24 Kingsway an ex-government building constructed in 1915 and purchased by LSE in 2004
- Facades will be retained but insides demolished and replanned
- New accommodation includes:
  - 4x Lecture Theatres including a 400 seater
  - 16x Seminar Rooms and 2x PC teaching rooms
  - Central atrium café and retail space
  - Student social interaction space
  - Internet café and quiet study areas
  - 5 floors of academic office accommodation
  - Roof top pavilion with café, executive meeting rooms and terrace
- M&E Services were totally renewed, including 6 new lifts, HVAC, new sub-station, standby generator and cooling and solar water heating
- The roof and all windows will be replaced and the internal lightwell will have a brand new glazed façade
- Existing stonework will be repointed and cleaned



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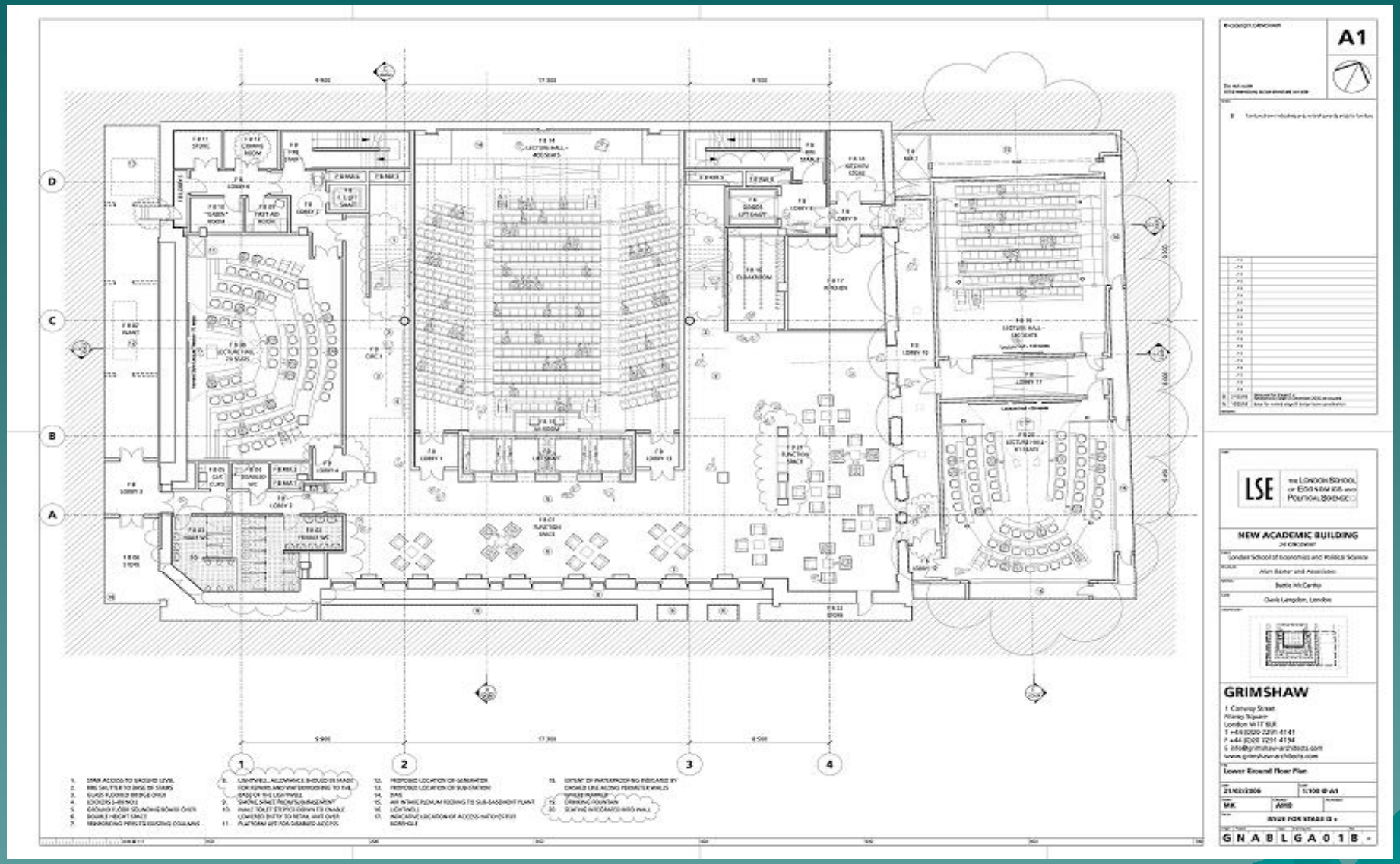

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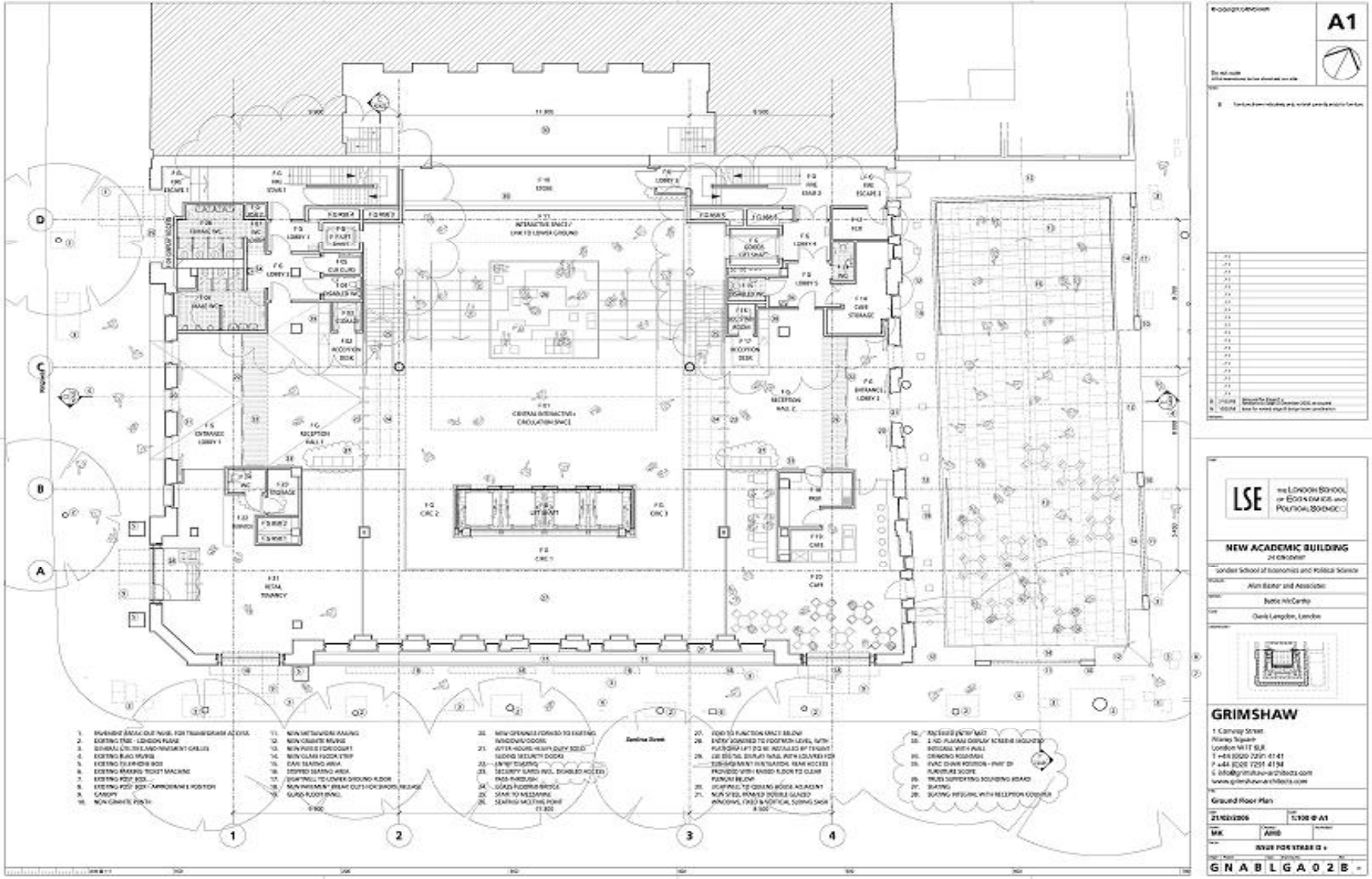

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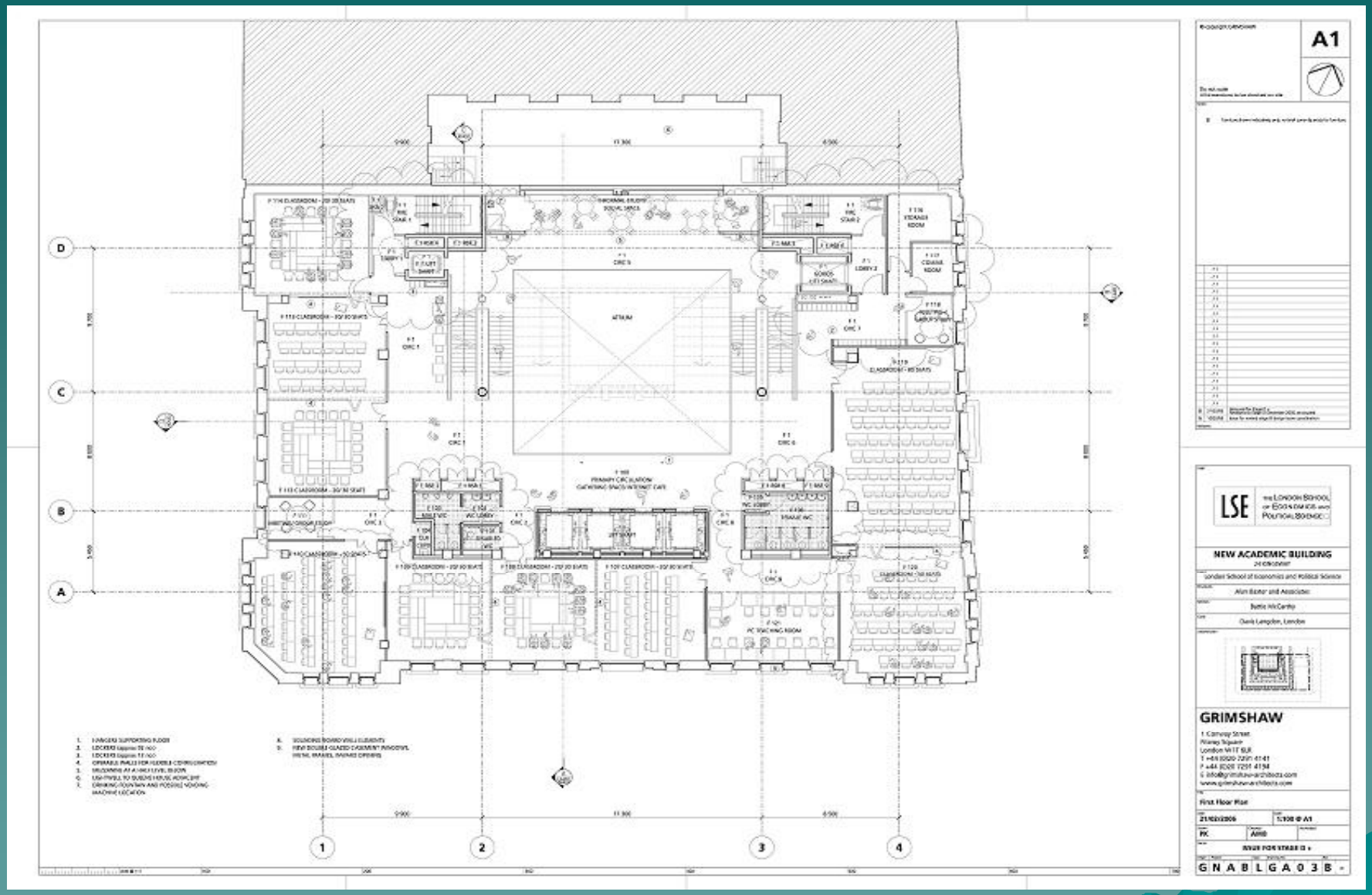

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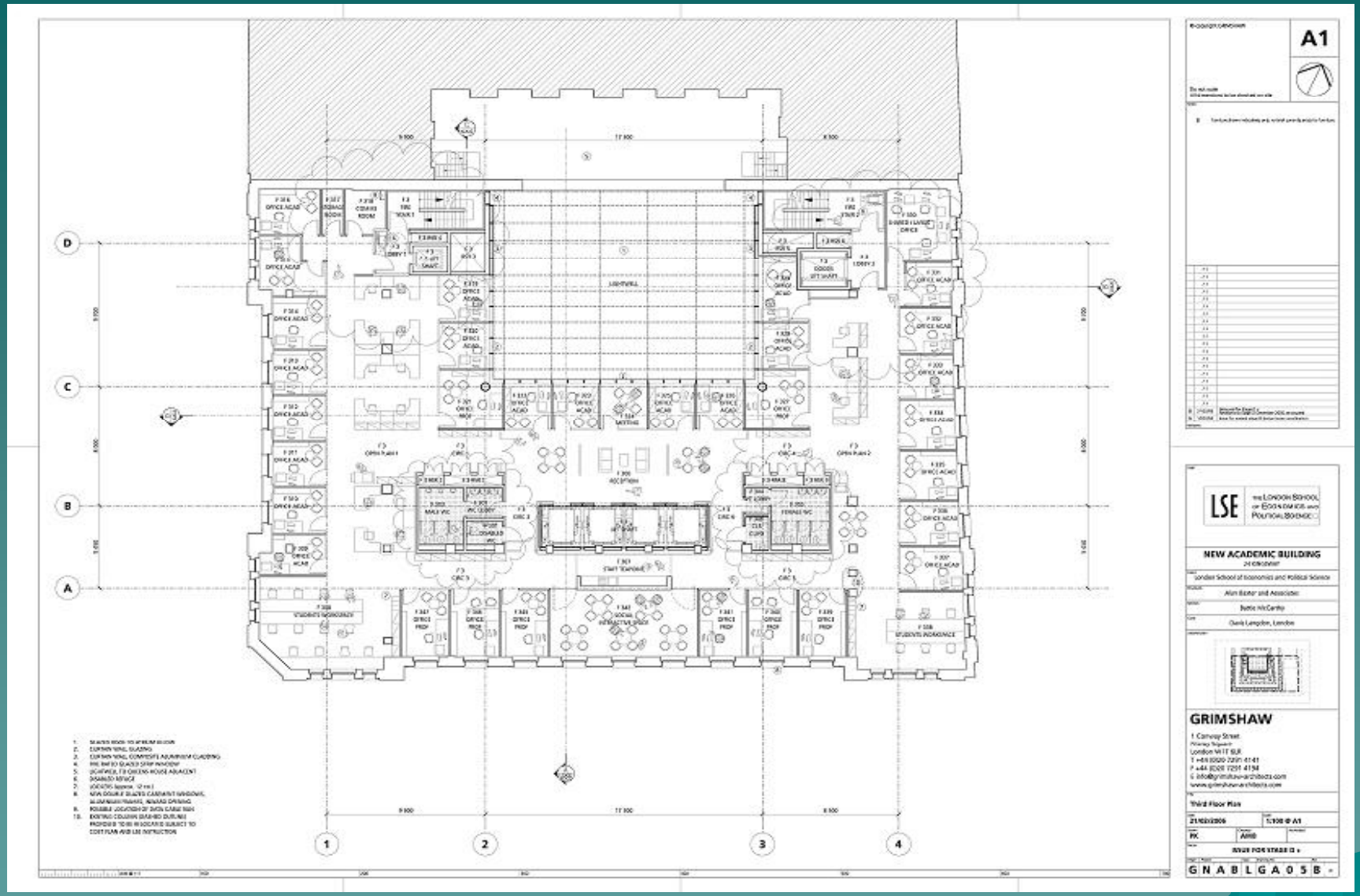

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Lincoln's Inn Fields Entrance

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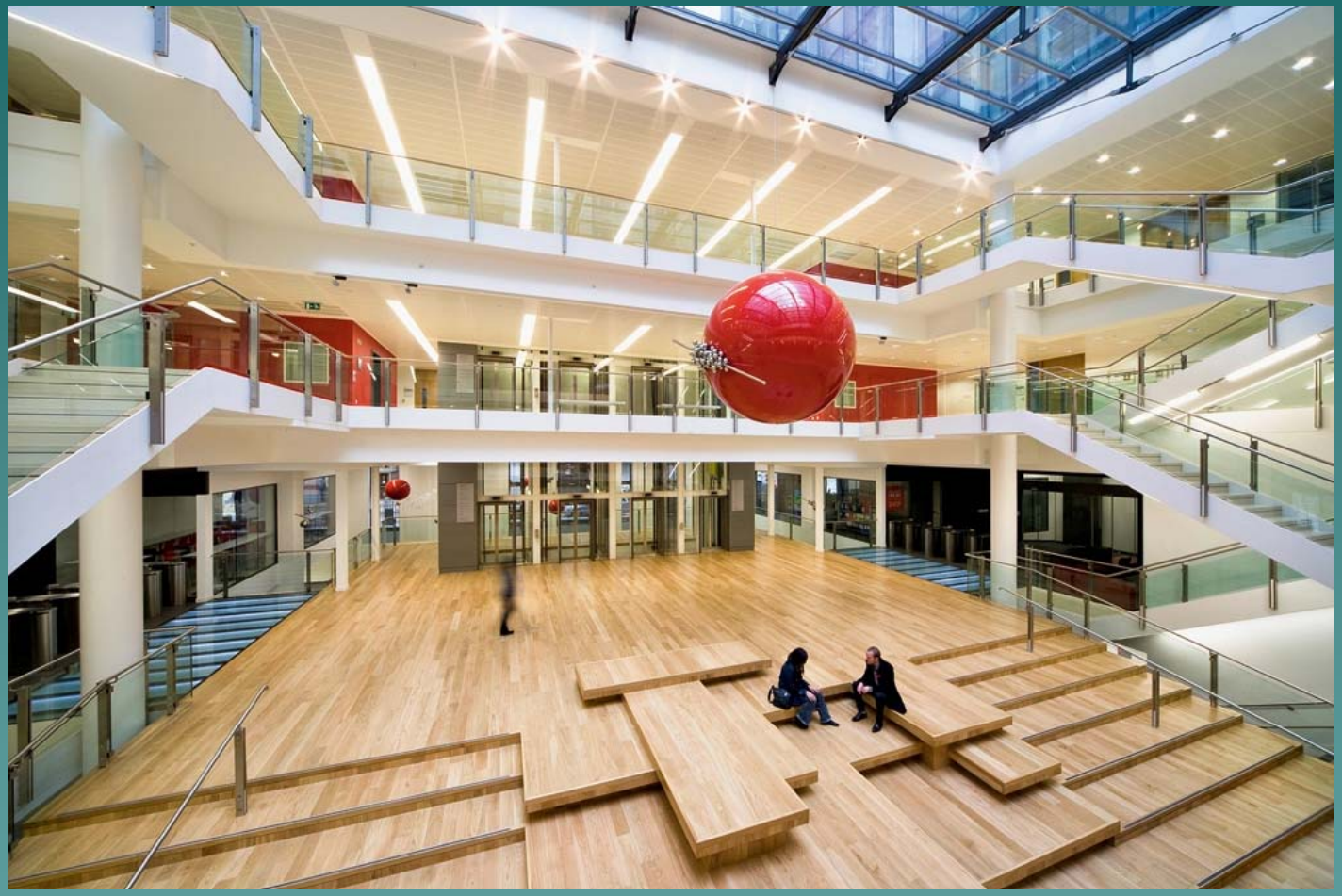
Central Atrium



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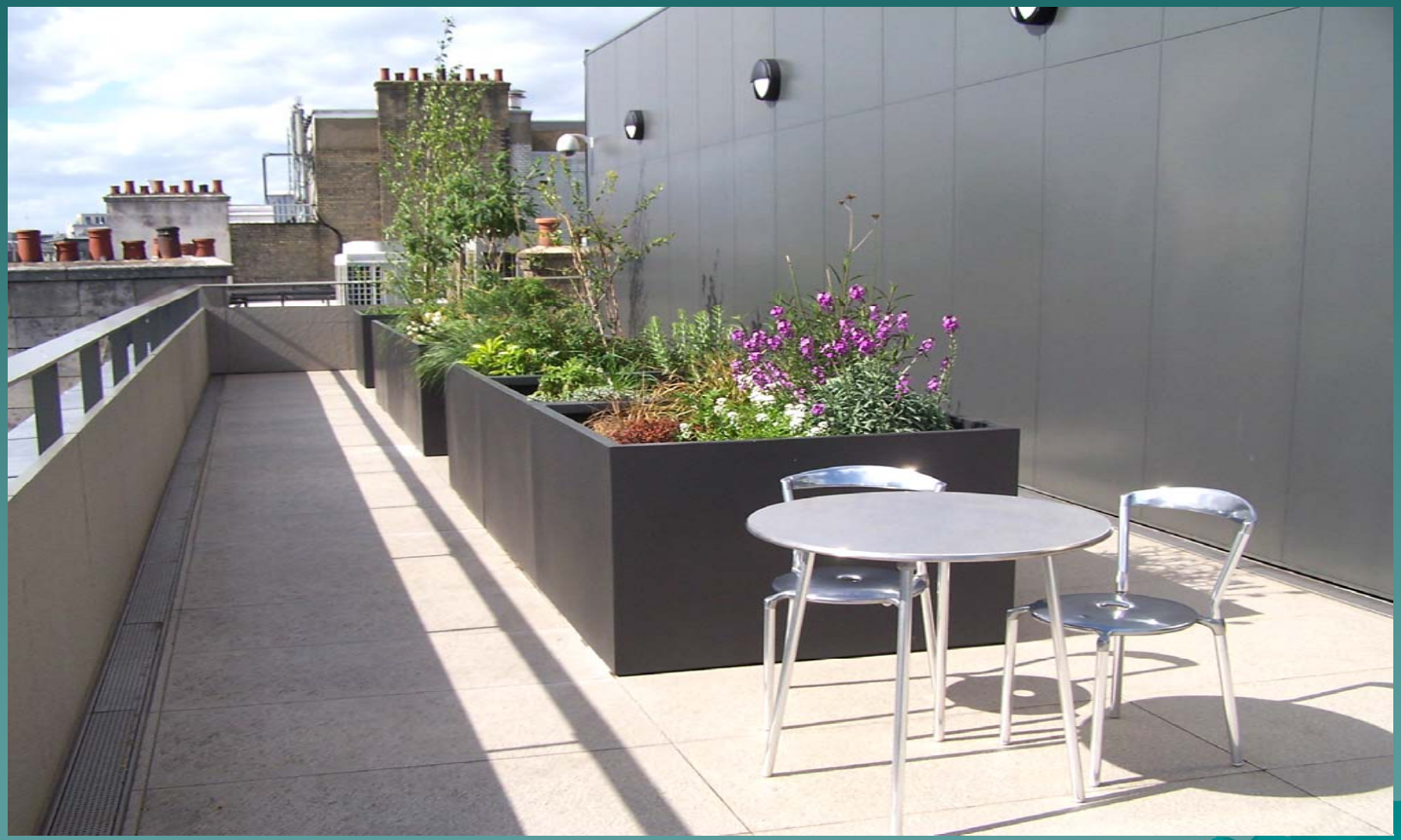
Increasing Bio-diversity – make more use of your roofscapes



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Solar Water Heating – If only we had more

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Zero Landfill was a later objective

The very expensive borehole – currently unloved and unused

Summary of Building Performance - BREEAM

ISSUE CATEGORY	*SECTION SCORE*
Management	82.41%
Health & Wellbeing	79.41%
Energy	50.00%
Transport	100.00%
Energy & Transport	71.05%
Water	75.00%
Materials	68.75%
Land Use & Ecology	63.64%
Pollution	53.85%
TOTAL SCORE	*70.86%* *phew just made it!*

Sustainability - Things To Do

- Include a clear requirement in your design brief
- Make it a contractural requirement in consultants and contractors contracts
- Undertake a desktop Pre-BREEAM assessment
- Ensure sustainability runs through Project Governance at all levels.
- Appoint a Sustainability Champion(s)
- Properly assess the risks and payback periods for different features
- Pick low hanging fruit first
- Undertake a post occupancy Performance Review

Lessons Learnt

- It's harder than you think! – Do a Pre-BREEAM assessment
- Watch out for source of timber used in temporary works/hoardings!
- Get an additional peer review on any borehole proposals!
- recognise the change management issues involved with the sustainability agenda
- Employ an independent and suitably qualified sustainability champion throughout the project
- audit the designers' proposals for sustainability common sense
- expect to pay more!
- Ensue that BREEAM 'easy wins' are achieved.