UK PASSIVHAUS AWARDS 2012

Mayville Community Centre

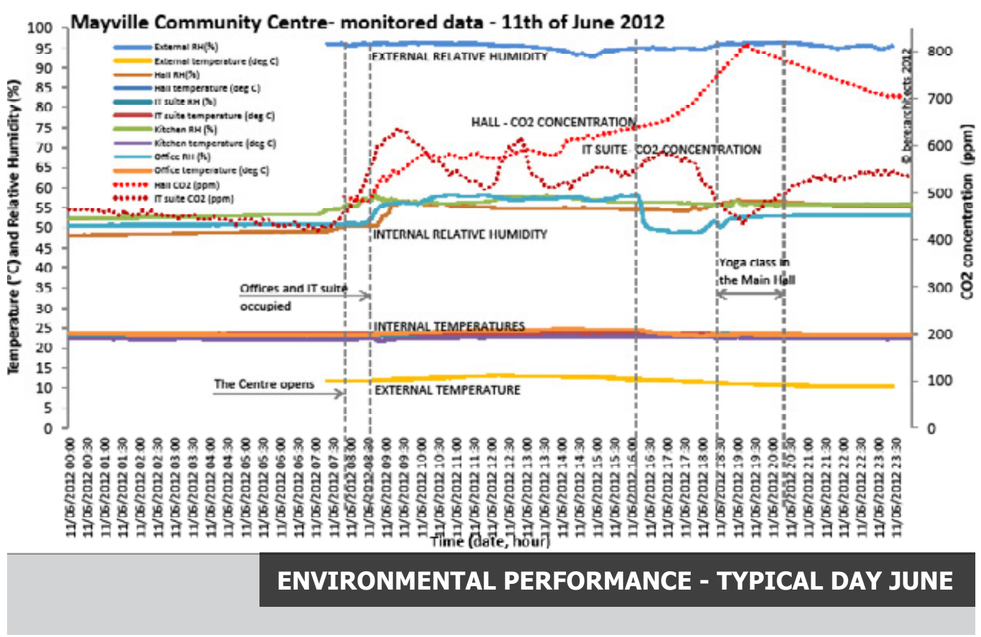
bere:architects

SOUTH ELEVATION AND GARDENS AFTER RETROFIT - JUNE 2012

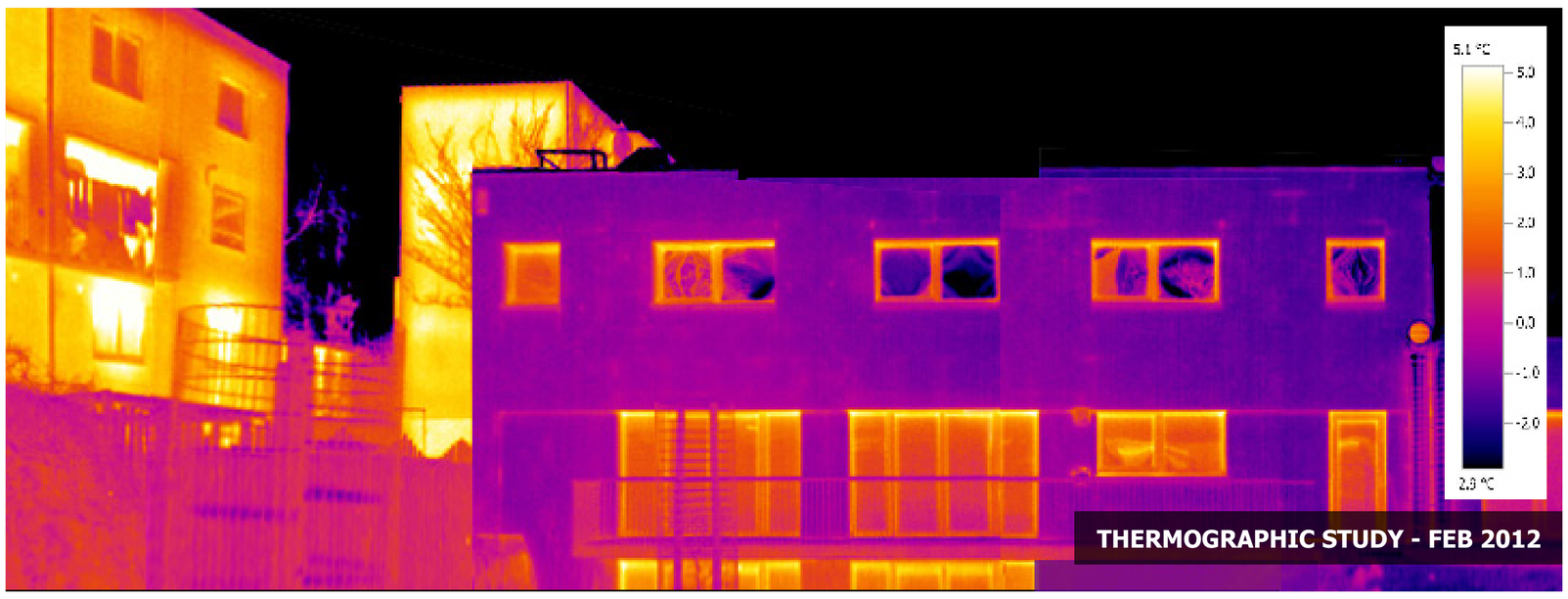
The Mayville Community Centre is an innovative and model project not only greatly improving the original building but demonstrating how this common building typology, a medium sized Victorian solid masonry building, can be transformed to achieve energy consumption reductions to exceed current UK building regulation standards, the lesser Passivhaus Enerphit standard and even the UK's 2019 targets for non-domestic buildings, demonstrating how refurbishment rather than demolition is a viable and replicable solution.

Mayville Community Centre provides an excellent example of performance of fabric and services, resulting in lower fuel bills and carbon footprint. The preliminary POE has found that the building is operating better than predicted and furthermore, it offers great comfort to its users.

MAIN HALL - MAY 2012



ENVIRONMENTAL PERFORMANCE - TYPICAL DAY JUNE



THERMOGRAPHIC STUDY - FEB 2012

UK PASSIVHAUS AWARDS 2012 RETROFIT CATEGORY

Project Overview
Name: Mayville Community Centre
Location: North London
Building Type: Community Centre
Construction type: Deep retrofit with external insulation.
Completed in: July 2011
Occupancy status: Occupied as of July 2011
Construction Cost: £1979/sqm, including prelims, overhead & profit

Sustainability features
Primary Energy Demand: 120kWh/(m^2a)
Heating Load: 11W/m^2 Cooling Load: 8W/m^2
Heating and Cooling Demand: 13kWh/(m^2a)
Ventilation strategy winter: Supply to offices and main hall, extract from main hall (high level), kitchen and bathrooms. $C0_2$ sensors in hall open motorized dampers, increasing supply from constant pressure Paul Maxi 2000.
Ventilation strategy summer: Background supply to offices in daytime, high level tilt windows and secure ventilation grills for natural night time purge cooling.

Heating strategy: 8.4kW GSHP with low temperature radiator circuit, decoupled from ventilation system.

Shading strategy: External automatic blinds

U values:
Lower ground wall 0.15W/(m^2K),
Above ground wall 0.12W/(m^2K),
Roof 0.11W/(m^2K),
Floor 0.25W/(m^2K),
Windows 0.78W/(m^2K), Doors 0.80W/(m^2K)

Other features: Green roof wildflower meadow, rainwater harvesting for WC flushing and garden, low energy dimmable lighting with PIR and lux sensors, 35% increase in useable floor area.

Measured Performance
95% Energy reduction after refurbishment, using actual monitored data.
Analysis of actual energy use: 26kWh/(m^2a) TFA in use
Total Primary 70kWh/(m^2a) TFA (all electric building)
Air pressure result: 0.43 ach @50Pa

Occupant Feedback:
Roderic Bunn, BSRIA during POE interview:
Q: "Have you got what you expected to get?"
- Teena Phillips, Centre Manager MCP: "More than!"

TEAM CREDITS

Client: Mildmay CP	Architect: bere:architects
Consultants: Alan Clarke	Contractor: Buxton
Certifier: BRE	QS: e-Griffin Consulting

Retrofit award sponsored by