



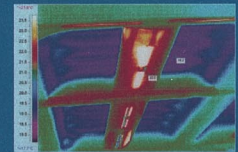
The building is designed to maintain internal temperatures at between 21-25°C using a mixed-mode system. During most of the year natural ventilation is provided through permanent and adjustable trickle vents and openable windows on the external facade linked to the BMS with occupant override. Air is drawn through the offices and into the internal street and exhausted via BMS-controlled openable vents using a stack effect aided by the glazed street roof and solar heat gain.

Where conditions dictate that insufficient fresh air is entering the office either for cooling or air quality mechanically assisted air from the roof plant via supply tubes in the street and 300mm floor voids provides displacement ventilation to the offices. Finally, at peak periods in the summer a chilled slab system provides up to 65W/m² of cooling. The exposed concrete slabs with curved coffers to maximise ceiling surface are cooled by pipework embedded in the concrete through which water is circulated from the adjacent lake.

The lake not only provides a natural cooling source for at least nine months of the year with chillers only required at peak periods but also a significant landscape amenity to the development.

Thermal insulation values are high with a roof 'u'-value of 0.25W/m²K. Lighting is controlled by dimmers with presence detectors and light meters to maintain an average of 350 lux in office areas. Small power loading is 25W/m² with a 15W/m² provision for future upgrade.

The surrounding environment has been landscaped to boost bio-diversity and reduce wind nuisance at ground level. Car and cycle parking is provided on-grade and in a stacked car park structure.

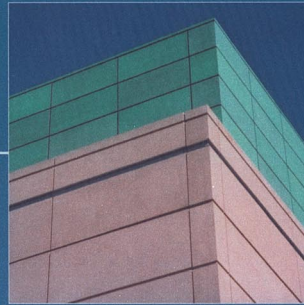
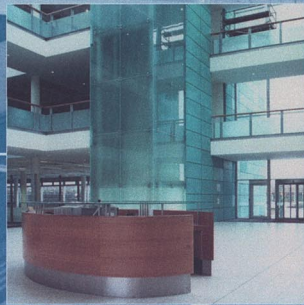
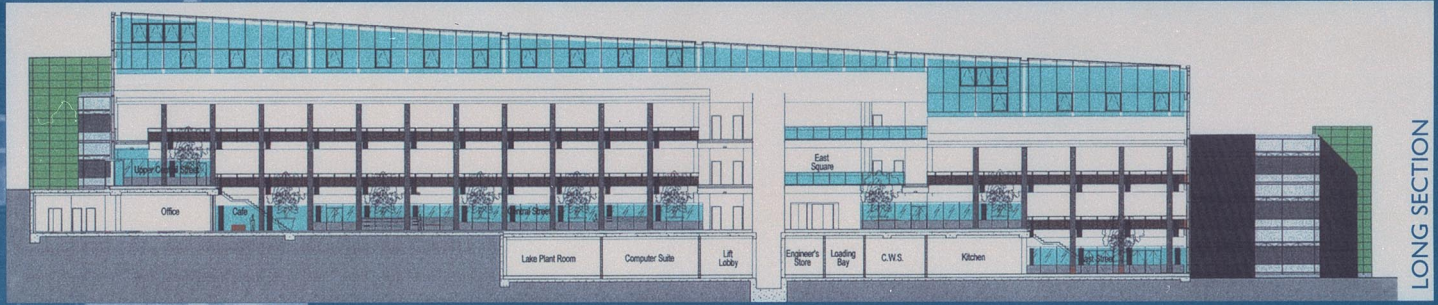


Careful selection of materials reduces the building impact on the environment, both globally and locally, and includes zero CFC's and HCFC's, timber sourced from temperate hardwoods and softwoods, uncontaminated demolition/reclaimed materials are included in hardcore and industrial waste or pulverised ash included in blockwork.

The building operating normally with 900 people, excluding power, requires only an annual operating energy of 300MJ/m². Annual CO₂ emissions will be 8.37kg carbon/m² (30kg CO₂/m²) and annual water consumption will be less than 10Kl/m².

The building has achieved an 'Excellent' rating under the Building Research Establishment Assessment Method (BREEM), version 1/93, scoring 36 out of a possible 42 points.

Construction of the development began in February 1998 with site enabling works and was completed in December 1999 at a total cost of approximately £24m.



Client: Barclays Group Property Services
 Project manager: PDCM
 Architect: Fitzroy Robinson
 Service engineer: Troup Bywater and Anders
 Structural engineer: WSP Consulting Engineers
 Quantity surveyor: RLF Harr Gilmore Associates
 Landscape architect: Whitlaw Turkington
 Contractor: Tibbary Douglas Construction