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Buildings: Critique

Beauty and the beast

A beautiful timber diagrid roof encloses the World Wildlife Fund's highly sustainable Living Planet Centre – but you have to vanquish an ugly car park and obstructions to the anticipated view before you get to it

Words: Eleanor Young

Photographs: Morley Von Sternberg

From many angles this is a most inspiring building, the curves and cowls of its gently arching timber diagrid roof visible from Woking town centre, rising gracefully between canal and site of special scientific interest, a light filled office in the canopy for one of the most significant environmental campaigning charities of our time.

If you want to see it in that light don't make the mistake of walking around the building first. At ground level you are faced with a car park. This is no relation to Herzog & de Meuron's spatially dramatic Lincoln Road car park in Miami, or Wilkinson Eyre's beautifully screened and lit version in Liverpool's Paradise Street. No, it's the bare minimum: tarmac, lines – and columns, because above it is the building. A yew hedge goes a little way to soften its dull bald edges. It is a shame it was decided not to spend money making this pre-existing town car park better.

Then again, it shows a great ingenuity even to take on such a site, one of several the WWF looked at when planning its move from rented offices in a Godalming business park. London looked too pricey but from Woking staff can be up lobbying MPs in parliament in less than half an hour on the train – which also offers more sustainable options for the journey to work. Although the car park has detached the building uncomfortably from the ground plane it is a reminder that the simplest approaches to densification can work – and in doing so create new life and a sense of place as well as answering an organisation's needs.

And so up into the building, but not before negotiating a convoluted set of railings over and around a canal bridge. Now, at last, you can stand on the upper deck, a hovering concrete raft, and look into the WWF offices. But you don't need to peer through the glass – the public are invited in to find out more about the charity's mission in the WWF Experience. Don't get too excited: this is four timbered cones at the entrance. It has some fascinating information and fun interactives but is not a major visitors' attraction. A class of 30 school children could while away half an hour pressing buttons and watching films. The cones, by Jason Bruges Studio, nicely pick up on Hopkins' louvres externally while the CNC-cut plywood conjures up little worlds in silhouettes – rivers, ocean, forest and wildlife. Step inside and you set something off, touch the bronze turtle and the screens all start to change.

After this the route into the building is more cluttered and muddled, although visitors are likely to be shepherded to their next destination. Entrance desk, staircase, lift and low ceilinged lobby jostle for central space between first floor and mezzanine. This is where I would most want to see into the building – given that the WWF is touting it as the Living Planet Centre, and that the best bit, the office floors and break out



areas – are behind this pair of longitudinal cores. On the mezzanine, with conference centre in the middle and meeting rooms running along the sides, the sense of wanting to see prevails. Perhaps these blocked views are inevitable when putting a working building under one beautiful roof that longs to be seen as a whole.

So what of the roof? Its smooth curve runs the length of the whole building, adding delight without calling attention to itself. Hopkins has used timber diagrids at Portcullis House in London and Alnwick Castle Visitor's Centre in Northumberland, but here it is well-behaved rather than expressive, calm rather than exuberant. Joints are muted, set in and behind the timber. Air vents to the wind cowls read as sun bursts. And the members are made passive, mostly flattened by timber cladding panels set between them. This fits the WWF's ambition to provide a model for future offices and an investment that can easily be let, if necessary. So a more polite iteration is perhaps a sensible model.

The roof panels hide another story too. In the quest for a light building with thermal mass, phase change material Energain has been installed as a thin layer behind the panels. PCMs are still a relatively new technology – a waxy-like substance that can store and release heat by changing state. Importantly they are also incredibly lightweight combined with timber – compared to concrete and steel. However, a concrete platform and exposed concrete mezzanines here supply plenty more traditional thermal mass.

Practising what it preaches is the WWF mantra. So this energy-efficient sustainable architecture had to reach BREEAM Outstanding as well as British Council of Offices compliance. Having worked on the pioneering Kroon Hall School of Forestry at Yale University meant the Hopkins-Atelier Ten team had rehearsed many of the sustainable moves before – though in a US context. Mike Taylor of Hopkins describes the biggest move as shrinking the building itself, not only from an earlier consent for a far taller project on the site (a rare boast) but more importantly in the way the number of desks has been reduced with a humane hot desking policy and a generous introduction of alternative spaces to work for quiet calls and creative discussions. Touch-down spaces are created almost entirely by carefully considered furniture. There is a great sense of air and light: a breeze. That comes not just from mixed mode ventilation and extensive skylights, but the openness between first floor and mezzanine in the offices, the trees inside and out and the beautiful staff balconies around the edges. The effect of concrete earth ducts and boreholes is less obvious, but Atelier Ten's Patrick Bellew points out there are no big chillers and only very small boilers.

Even so, when contractor Willmott Dixon Construction came on board the score for BREEAM Outstanding was not secure – though it had to be delivered as part of their contract. The drive to reduce all energy use, including embodied energy, entailed a review of 271 elements and resulted in changing in the type of cement and a rejection of triple glazing and its energy-hungry aluminium framing. The result is a 42% reduction in embodied energy on Stage D estimates.

So maybe this building is a magic carpet, as it was conceived; carrying a green and future office reality above a rather more mundane bit of south east England. •

Keeping carbon at zero

Patrick Bellew, Atelier Ten

For the zero carbon strategy, part of the One Planet brief, we optimised daylight throughout the building while managing solar gains with high performance glass. Side lighting and the extensive overhead skylights, with internal shades, provide a high degree of daylight autonomy with more than 90% of areas exceeding a 2% daylight factor. All the lighting has automated daylight dimming. The installed lighting load is less than 7W/m².

Mixed mode ventilation has mechanical ventilation operating in cold weather, when heat recovery is beneficial to energy demand, and in the warmest weather when some pre-cooling is required (using six 60m long earth ducts). Natural ventilation is preferred for most of the year and building occupants are advised what to do by small LEDs on the windows (which are manually operated) and the intranet system. A relatively small field of twenty 100m-long closed loop boreholes meets the heating and cooling need via a pair of heat pumps.

The mezzanine floor is exposed in situ concrete and the thermal mass is activated using a mechanical night cooling strategy; above is the phase change material which, when properly managed, gives a thermal mass equivalent to 5-7cm of concrete as a diurnal heat store. •

In numbers

£20m

approx total cost (including consultant fees)

3600m²

gross internal floor area

£3580/m²

approx excluding bridge and car park

36.65kg

CO₂/m²/year (including small power)

12.37kg



CO₂/m²/year (excluding small power)

Credits

Architect Hopkins Architects
 Construction Willmott Dixon Construction
 Structural engineering Expedition Engineering
 Environmental design consultant Atelier Ten
 The WWF Experience Jason Bruges Studio
 Carbon profile consultant Sturgis Carbon Profiling
 Landscape architecture Grant Associates
 Project management JEB Project Management and Doherty
 Baines

Suppliers

Facade: Kawneer
 aluminium roof Rigidal
 Concrete superstructure Lafarge
 Glass curtain walling / rooflights Pilkington
 Wind cowls Fläkt Woods Vision FreeFlow
 PVs SunPower
 Ground source heat pumps Groenholand
 External lighting iGuzzini
 Balustrade lighting Aether Lighting
 Glass partitions Planet Partitions
 Drylining British Gypsum
 Toilet cubicles Formwise
 Fixed furniture Specialist Joinery
 Architectural steel work Baileys Fabrication
 Carpet InterfaceFLOR
 Terrazzo flooring Strata
 Entrance carpet Matwell
 Toilets sinks Armitage Shanks
 Lightweight thermal mass – Ceiling DuPont, Energain
 Insulation Knauf
 Fibreboard Knauf GIFAfloor
 Carpark kerbs Marshalls Kerbs
 Rubber flooring Nora
 Fire wall Forster
 Internal security gates Gunnebo
 Revolving door Boon Edam
 Task lamps Artemide
 Blinds and blackout blinds Levulux
 Acoustic fabric (ceilings and walls) Kvadrat



WWF Living Planet Centre
 See Supporting diagram here





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