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# Greenbuild

SUSTAINABLE REFURBISHMENT AND BUILDING MAGAZINE

## Natural living

Inside the WWF's new 'Outstanding'  
HQ - The Living Planet Centre



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# Wild at heart

Greenbuild finds out about the design and construction of the new UK HQ of the World Wildlife Foundation, with a particular focus on the raised access floor system.

**T**he Living Planet Centre is the new UK HQ for the World Wildlife Foundation (WWF) situated in Woking. Designed by the world renown Hopkins Architects the brief was inextricably linked to the ethos and aspirations of the client. One of the aims was to achieving the highest possible BREEAM 'Outstanding' rating. Additionally, sustainability was at the forefront of every decision, not only in the

design but also the whole procurement process.

Particular attention was paid to the sourcing of the materials and as timber was used in abundance within the building. To help ensure this, strict criteria with regards to Full Stewardship Council (FSC) certification was required within the Main Contractor's Supply Chain.

The Raised Access Flooring System was an integral part of the design, not only with regard to its

'Green' credentials, but also in meeting a host of challenges posed by the proposed site conditions. The system from MERO-SCHMIDLIN (UK) was the only Raised Access Flooring System under consideration which met all of the strict criteria with regards to the procurement brief and also contained a high element of recycled content in its boards, pedestals and in many cases the eventual floor covering itself.

The Living Planet Centre is rated BREEAM Outstanding



### THE TOWN CENTRE SITE

The planning consent for the project was for it to be sited in Woking town centre, enabling staff to use the most sustainable modes of transport to reach the premises. The challenge to the designers was that the existing municipal car park on the site needed to be retained and any building would need to be constructed to 'bridge' the car park. Whilst this has been achieved very successfully from an aesthetic perspective it required a high degree of specialist design input from the MERO-SCHMIDLIN UK design team, the consultants and architects in addition to the Main Contractor's Willmott Dixon.

### COLD BRIDGING

With a fair faced concrete plinth being formed around the car park it enabled very cool air to lay beneath the building and as such 'cold-bridging' was an obvious concern that had to be addressed within the floor package design. One of the benefits of a quality raised access floor system is that it creates a very adaptable void which can hide a multiple of building service equipment whilst allowing vital components to be attended to with a minimum of disruption for servicing or repair.

The Cold Bridging was particularly important as the void beneath the floor was also being used as part of a natural air distribution and ventilation system. Having carried out the necessary thermal loss calculations, a bespoke insulation build up was integrated into the raised access flooring system taking into account its position within the building and its eventual floor covering.

The Concrete Floor Slab was covered with a waterproof membrane over which a rigid insulation slab was added further topped by a vapour barrier and finished off with a cementitious board system robust enough to take the weight of the mechanically fixed

recycled steel pedestals supporting the floor surface.

As Neil Burrows sales Manager of MERO-SCHMIDLIN (UK) Raised Access Floor Division explains, having a car park beneath the building presented several challenges: "The void presented several thermal insulation issues and the use of calcium sulphate hollow floorboard laid onto the insulation as part of the Raised Access Flooring System offered the best solution."

Neil Burrows continued, "The possibility of cold bridging from the car park beneath was addressed by the architects with 100mm high density insulation being fitted by MERO-SCHMIDLIN. The insulation however must not be compressed by any flexing (deflection) of the sub-floor and [the company] carried out extensive levels of testing on this issue. In order to avoid any installation, product performance conflicts with regard to warranty, the main contractors were very keen for one company to complete the whole



Natural light and ventilation feature throughout the building

package and [we] were very happy to be able to meet the challenge."

### VENTILATION

Having dealt with the cold-bridging, the void beneath the flooring was again implemented as a substantial component of the BREEAM aspirations. With modern building design the trend has long been against the use of air conditioning with a preference in using Natural Ventilation. This development makes full use of the many benefits



Recycled steel pedestals support the floor surface

### RATED BREEAM OUTSTANDING

Karen Gravestock, Director of People & Place and coordinator of the LPC Project said: "We are really thrilled to have reached the highest level in the BREEAM certification process. We set out to exceed the 85% pass mark for "Outstanding" so to achieve a score of over 90% is simply brilliant. The LPC is an inspiring building; it's great place to work and to visit. I would like to thank all our partners who have worked with us to achieve this award, in particular Hopkins Architects and Willmott Dixon."



The mezzanine floor features the Mero Raised Access Floor System

provided by the raised access flooring but does involve a high level of monitoring during the design and installation of the flooring. Parts of the floor void are used to provide a Plenum through which the air is passed before re-entering the structure through strategically placed floor vents.

It is of course vitally important that both the system itself and the floor panels are airtight so they were fitted with neoprene seals to minimise any air leakage which might compromise the ventilation performance. The system is subject to pressure testing at various stages in construction but it is also paramount that the supports are strategically placed and the boards above them do not flex. Any movement could damage the seals within the support boards or indeed the flooring finish itself.

As part of the sustainability focussed design the WWF HQ uses

cowls within the roof system to draw in air and the flooring system to re-distribute it.

#### ACOUSTIC INSULATION

The Living Planet Centre has a mezzanine floor around the edge of the building leaving the central section clear which allows the roof-lights to illuminate both the mezzanine and the ground floor. The mezzanine floor also features the Mero Raised Access Floor System with a similar void for services and ventilation. This was designed to counteract both vibration and any sound which may pass through the structure. In both cases the steel pedestals support a steel framed floor panel system keeping the structure rigid to avoid compromising the acoustics, thermal insulation or the ventilation.

#### SUSTAINABILITY

Working with an organisation such as the WWF, the brief was always going to be sustainability lead. The flooring system met, or indeed exceeded, the brief both in its component sourcing in addition to some of the floor coverings used as part of the flooring package.

The adjustable support pedestals contain a percentage of recycled

content within the components and the two types of floor panels were chipboard or calcium sulphate, both of which feature high levels of recycled content within their composite construction.

All of the timber content was sourced by MERO-SCHMIDLIN via a fully certified Forest Stewardship Council supplier under FSC Guidelines and a full FSC Chain of Custody certification provided. This was a pre-requisite at tender stage and was monitored by Willmott Dixon during the whole construction process.

The building has a variety of floor coverings to suit the needs of particular areas and much of the reception zone has a Strata Italian Merazzo composite ceramic type tile which has very high levels of recycled material and was factory applied by MERO-SCHMIDLIN.

*The WWF has been very cooperative in helping promote their new HQ in the hope that readers will go onto their website to see the fantastic work they carry out all over the world. Please visit the WWF website to see how you can help.*

🌐 [www.wwf.org](http://www.wwf.org)

🌐 [www.mero-schmidlin.com](http://www.mero-schmidlin.com)

🌐 [www.hopkins.co.uk](http://www.hopkins.co.uk)

🌐 [www.willmottdixongroup.co.uk](http://www.willmottdixongroup.co.uk)



Learn more about the WWF and its work at [www.wwf.org](http://www.wwf.org)

#### SUSTAINABLE SOURCES

The commitment by WWF was to ensure resources used in the building came from sustainable sources resulting in Willmott Dixon issuing the following statistics:

- 80% of aggregates by volume throughout the construction were recycled
- 98.9% of building elements classed as being responsibly sourced by the BRE
- 99% of construction waste diverted from landfill
- 42% reduction in embodied carbon of materials through design and procurement choices