



**Visitor Reception
and
Guide Facility
at
Knowth, Co Meath, Ireland.**

This small building is located in the immediate approach to the ancient Tumuli.

These tumuli have a complex history: they now speak, in abstract terms, to an ancient sense of landscape and Nature quite different to the mainstream sensibility of the early the 21st century.

In approaching the design the Architect, Paul Leech wanted to avoid archaeological mimesis; to set the building lightly on the ground as a contrasting welcoming point for the visitor and as a working shelter for the guides. In this sense it stands on the ground like an insect or a bird or other 'animal' sentinel, and aware of its relatively short life in the context of the archaeological time.



As the new millennium marks mankind's challenged search for sustainable ways to continue living on the earth, this small building seeks to explore and demonstrate in practical terms how that may be possible with regard to design and construction techniques; apart from an abstract aesthetic resonance with the ancient forms the following specific devices are within that ethos:



1. The building stands on the footings of a previously existing obsolete prefabricated asbestos panelled building; no new built footprint was used up from the green field: no new foundations were cut: no new concrete laid. Simple beams of timber span across the old footings, thereby recycling them in situ. Doing least is often the most sustainable approach.



2. The Building including frame, floor, walls and even roof is almost entirely made from sustainable renewable timber. This material, if carefully detailed and used, is the most sustainable of all. Even the floor finish is made from cork and linseed oil. Metal is used strategically only where functionally essential. The concept is to have the least energy used in the making of the building as well as minimising energy in later ongoing use. [Building is responsible for about half of the 'Global Warming' effect, as well as many other negative environmental impacts.]
3. The walls and roof of the building can 'breathe': this enhances air quality in the building during the heating season when ventilation rates will be low: the insulation is of 'Homatherm' recycled jute and paper, thereby avoiding petrochemicals and high embodied energy and toxic off-gassing: the vapour-protection layer is 'sisalcraft' impregnated paper rather than conventional polythene behind the timber sheeting lining the interior.
4. Glass is used carefully to an appropriate degree in each of the four facades for visitor welcome /shelter and exchange and good working conditions for the guides; for winter spring autumn solar gains to the South, East and West: they have a restful view looking North over the landscape. The overhanging eaves shades excessive gains in high summer avoiding overheating and provides rain shelter for waiting visitors: the relatively generous East glazing helps to warm up the building in the morning and the deliberately restricted West glazing avoids excessive gains from late sunlight at low angles. The glass specification exceeds building regulations standards and is 'K' glass equivalent to triple glazing.

The heating / cooling system is by Dunstar heat-pump: (a reverse 'fridge' mechanism which can heat the internal air by chilling the external air or vice versa) with a delivered efficiency of greater than 100% (due to latent heat transfer: this compares with a delivered efficiency for electric heating of circa 30% !)

5. The flooring and some surfaces are finished in cork and linseed oil based 'marmoleum' from sustainable sources. Synthetics and petrochemicals are avoided to the greatest possible degree. Natural water based timbers seals are used internally to avoid toxic off-gassing.
6. Service connections to the old building have been reused in the new.
7. The timber decking around the building is an aesthetic punctuation point in the transitional walk onto the site; providing a moment to pause and reflect on long disappeared timber structures from different periods which at one time stood on the site, now abstractly evoked by the new building.



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