Forestry Commission



Wyre Community Discovery Centre

Wyre Forest at Callow Hill, Kidderminster, is an historic woodland of ancient oaks in the Severn valley. It is one of the largest remaining ancient woodlands in Britain and spans an area of over 2500 hectares with much of the area designated as a Site of Scientific Special Interest (SSSI). The forest is a popular natural attraction and 250,000 visitors per year come to walk the ancient paths, cycle the family and mountain bike trails, swing through the trees on the Go-Ape course or participate in learning activities at the Discovery Centre. A local initiative to ensure long-term social, environmental and economic sustainability in the area saw the development of a landscape and heritage project, leading to Forestry Commission involvement in the Wyre Forest Landscape Partnership scheme. Funding from the Heritage Lottery Fund enabled work to commence on the restoration of the ancient Wyre forest landscape and associated woodland habitats, and the construction of a brand new Discovery Centre. The £664,000 Centre will provide a base for the community to learn more about the local landscape, promote the area's unique biodiversity to a wider audience, and offer training and skills courses designed to equip people with traditional and practical land management skills. The Discovery Centre will officially open to the public in October 2010.



Wyre Community Discovery Centre is an excellent example of low-carbon construction techniques and the use of sustainable materials

The Discovery Centre features an innovative and sustainable timber structure which is eye-catching while at the same time sympathetically blending with the surrounding woodland setting. The Centre has two large education rooms and an archive centre designed for research and to record the Wyre landscape's natural heritage. Additional facilities include a disabled shower and toilets, cloakroom, kitchen, office and a timber-decked undercover seating area. Wood has been used throughout the 565m² building with the european oak support posts sourced from the Wyre forest itself. The building has been constructed using traditional timber frame techniques, using certified European redwood for the structural elements and feather edged western red cedar for all weatherboarding to external walls and window frames. The majority of the western red cedar was sourced through a certified sawmill from Forestry Commission woodlands in the Forest of Dean. Western red cedar 'Royale' shingle roofing covers the administration section of the building. The exterior areas feature timber decking with non-slip rubber tread.

Wood fuel

A state-of-the-art 35 kilowatt wood chip boiler provides heating and hot water to the Discovery Centre. The boiler is fuelled using local wood chips from Wyre Forest. The Forestry Commission has provided a facility for an approved contractor to chip and store locally-sourced timber. Hot water from the boiler is stored in an accumulator tank, which feeds to an underfloor heating system. Thermostatically-controlled underfloor heating is an efficient and economic way to distribute heat around the building and requires a lower temperature (approximately 50°) than conventional radiator systems.

Green roof

Pre-grown sedum blankets have been laid over a water-proof membrane on the roof of the education rooms as part of the water management system at the Discovery Centre. The green roof absorbs and retains rainwater, insulates the building, and acts as a habitat for wildlife. Excess rainwater from the sedum roof is channeled to a rainwater recovery system.

Water management

Rainwater from the sedum roof falls into rainwater recovery system and is pumped to a storage tank in the roof void to provide water for the toilets. The shape of the building helps the water to be collected more efficiently. A biodisc sewage treatment system treats effluent by bacterial digestion. The toilets are fitted with water-efficient ES4 toilets, with 4 litre flush, and a waterless air-flush urinal system. Although the biodisc system provides good quality outflow, a secondary reed bed system has also been installed.

Insulation and ventilation

The building has been well insulated with mineral wool and heat-reflecting membrane to minimise heat loss. This also provides the vapour barrier in the walls and ceiling. All the windows are double glazed. A heat recovery ventilation system is used in the toilet and classroom areas, recovering heat that would normally be wasted when a typical extraction system is used.

External

Sensory gardens have been created along the entrance path together with timber seating for disabled visitors.

Our advice

The complicated connection between the biomass boiler and the building must be carefully considered. Ideally have an all-year-round need to balance use of the equipment.

Achievements

- The Wyre forest now as a purpose built Community and Educational building, ideally situated to take full advantage of the natural resource surrounding it.
- The construction of the building has been fairly straight forward, demonstrating that sustainably produced materials can be utilised to provide comfortable easily maintainable accommodation.

Contact for further information: Bob Griffiths (bob.d.griffiths@forestry.gsi.gov.uk)

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