

THE WOODLAND SCHOOL

CASE STUDY

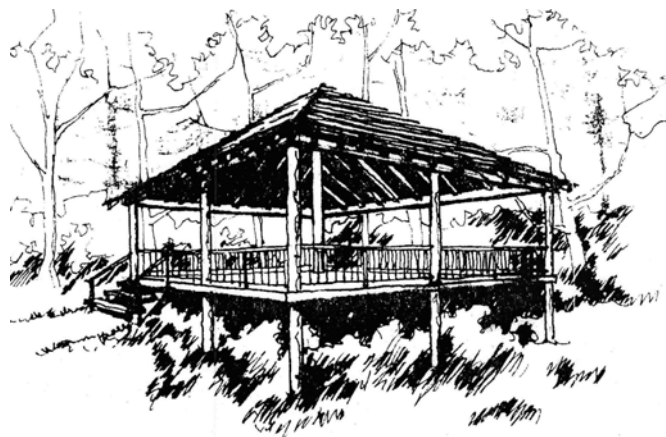
SGOIL NA COILLE, SALEN, ARDNAMURCHAN

A building that fits organically into its setting is aesthetically satisfying. In a woodland of tall straight trees, the use of roundwood posts gives the impression that the structure is at one with the trees, a platform floating over the forest floor. Combined with timber sourced from the local forest, the building can appear discrete as it blends in with its surroundings.

Sgoil na Coille (Gaelic for *School of the Wood*) is the result of an initiative to establish a base within the oakwoods of Loch Sunart for woodland related education and training. The building is now a focus for a wide range of activities, particularly involving children, which seek to educate people about the woodland habitat, its management and the use of its products. The Sgoil hosts craft workshops, Halloween events, Easter egg hunts, ceilidhs and meetings, with up to 70 people standing inside the building on one occasion and more outside.

The Building

The building is an open structure built from local larch timber using round pole construction techniques, with sawn timber used for roofing and decking. All the timber used was felled on or adjacent to the site, with any conversion required carried out nearby using a mobile bandsaw.



It is not intended - nor anticipated - that the building will be completely watertight, but in the future removable wall panels may be installed to provide some additional protection.

The building is approximately 6 metres square and 4 metres at the apex. The building is made from approximately 10 ton of timber, in lengths up to 5 metres. An early conceptual drawing can be seen on this page, along with photographs of the end result.

The impact of the structure on the forest floor is minimised by using localised concrete block foundations to which the upright posts of the building are attached. This also removed the need to level any of the site.

Project management

The project was led by Acharacle Community Company who own Sgoil na Coille, built on a site leased from the Forestry Commission. A local co-ordinator, Alasdair Carmichael from Glenuig, was engaged to take the building from concept, through design and planning approval, to completion in consultation with the community. Funding for the building came from local agency partners of the Sunart Oakwoods Initiative.

Construction

The construction of Sgoil na Coille was carried out through a combination of voluntary effort and local contractors over the winter 2002/3. As part of the project a new purpose-built access onto the public road was required.

Initially the timber for the building was felled and de-barked on the site. Removing the bark will significantly increase the posts' longevity. Holes for the foundations were dug by hand and concrete for them barrowed onto the site, poured into sections of plastic culvert pipe. Into these were set galvanised steel plates to which the timber uprights were attached, using a winch and pulleys on the surrounding trees to raise them into place. The largest timber, the apex post, is 17 feet long and weighed about one tonne. At no point of construction did large machinery enter the wood, thus the project provides a model for low-impact construction on other sensitive sites.



Fig 1. The Atlantic oakwood setting for the Sgoil (photo: Sunart Oakwoods Initiative)



Fig 2. Detail of the galvanised steel plates supporting the uprights and reducing the opportunity for water to contact the end grain (photo: Sunart Oakwoods Initiative)



Fig 3. A large space for events, workshop and ceilidhs (photo: Sunart Oakwoods Initiative)

Once the foundation blocks were in place, the frame was assembled. At an early stage the floor was installed which facilitated subsequent construction as scaffolding was erected on top of it to allow access to the roof.

The roof is simple lapped planking which although not 100% watertight has proved to be surprisingly effective. And thanks to funding from the Highlands & Islands Community Energy Company, solar panels installed in an adjacent clearing provide electric lighting for the building to be used in the evenings.



Fig 4. Opening event at Sgoil na Coille (photo: Sunart Oakwoods Initiative)

Impact in the Community

Following their involvement with the build, contractors Richard Livett, Liam Livett and Jim Jackson have built on their experience, delivering further innovative builds such as a timber drying shed at Ardslnish, a woodchip drying shed and a community compost scheme in Salen, and a composting toilet at the Sgoil na Coille site.

The use of local timber in its natural, untreated state has inspired visitors to consider sourcing local timber for their building projects, with a number of Douglas Fir and Larch clad buildings constructed in the past 5 years. It has also been used by Sunart Oakwoods Initiative staff to challenge an explicit assumption in the land management grants system that timber structures can only use treated wood to qualify for grant aid.

The simple, open design of the Sgoil inspired community group Morvern Community Woodlands in the nearby Morvern peninsula to construct a woodland shelter using Norway Spruce felled on the site where the building would be constructed (see The Norway Shelter case study for more information).

Contact

Jamie McIntyre
c/o Woodland Resource Centre
Strontian
Argyll
PH36 4JA

Telephone: 01967402332
Email: jamie.mcintyre@forestry.gsi.gov.uk

Sheila Nairn
Director
Acharacle Community Company
Community Office
Post Office Building

Acharacle
Argyll
PH36 4JL

Telephone: 01967431508
Email: accprojects@btconnect.com

Appendix I. Dimensions and timber cutting schedule (A. Carmichael)

Dimensions	
Overall	6.0 x 6.0 m
Floor area	5.4 x 5.4 m (29 m ²)
Floor height	1.0 m average off ground level
Eaves height	2.2 m off floor level
Apex height	4.3 m off floor level

Cutting schedule						
Section	Dimensions	No	Fitted length (m)	Required length (m)	Volume (m ³)	Weight (t) @ 1.5 m ³ /t
Main support posts	150mm tip diameter	8	3.1	4.0	6.40	4.3
Apex post	200mm tip diameter	1	5.2	6.0	1.80	1.2
Perimeter floor beams	150mm tip diameter	12	3.0	3.5	0.42	0.3
Eaves rafter supports	150mm tip diameter	12	3.0	3.5	0.42	0.3
Bracing	100mm tip diameter	8	4.0	4.5	0.27	0.2
Handrails	75mm tip diameter	8	3.0	3.2	0.19	0.1
Hips	300 x 50mm	4	4.5	5.0	0.30	0.2
Principal rafters @ 500 mm c/s	200 x 50mm	32	3.5	4.0	1.28	0.9
Floor joists @ 500 mm c/s & 3m span	150x50mm	28	3.0	3.5	0.74	0.5
Flooring	150x36mm	80	3.0	3.2	1.46	1.0
Roofing	150x22mm	120	4.0	4.2	1.66	1.1
Balusters	75x50mm	160	0.9	1.0	6.00	4.0
TOTALS					14.9	9.9