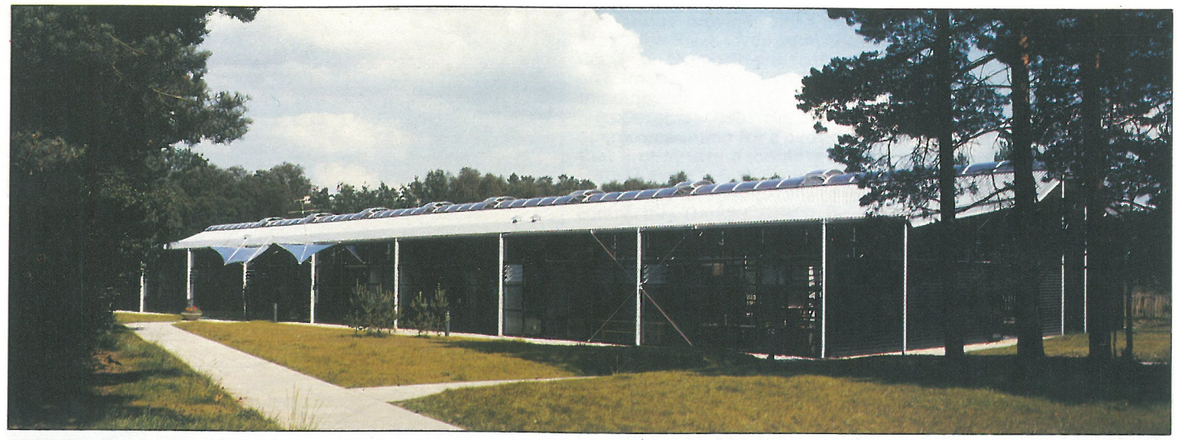

AWARD

Fleet Velmead Infant School

For Hampshire County Council
(Education Department)

The school was commissioned by Hampshire County Council to replace the existing Victorian building in the centre of Fleet, relocating the school to the outskirts of the town on a site adjacent to the Junior School.

The brief, which was closely adhered to, was based on Hampshire County Council's standard brief, closely involving both the local education committee and the Head Teacher and her staff.

The site is situated in an area of wet heathland of some ecological interest. As a result the building is some 50 metres further north from the position originally proposed by the Council in order to preserve the land as an area to be used for nature study by both schools.

The site layout was arranged to minimise disruption to the rural environment, the new school using the base of an existing car park whilst the playground utilised the old concrete slab and car park area of buildings previously on the site. This had the dual purpose of cleaning up the site and allowing substantial economies by providing a firm base for the new school building and playground.

The single storey building was conceived to maximise the natural advantages of the site, orientated to allow all of the classrooms to face south. The external wall of each classroom is full glazed allowing extensive views out across the retained natural landscape. External canopies minimise heat gain and solar glare, and provide an external covered play area with direct access to the heathland. The school is generally open plan, with 2.4m high free-standing partitions being used to screen teaching areas and to form enclosed class "bases".

In its simple rectangular barn shape, the building has rural derivations, whilst the ratio of external walling to plan area provides a very economical building form. The eaves height of 3.2m is the minimum required for the main hall, the pitched roof itself being opened up along its length to provide natural daylight, by means of a continuous rooflight, into the heart of the building. The roof is propped to reduce its span, and at this point the pitch of the roof is increased to soften the light entering the building, thereby reducing the possibility of glare.

The planning grid is based on bays formed by rafters at 6 metre centres and spanning 10 metres – one bay accommodates one classroom, and the building is effectively nine classrooms long. This planning grid works effectively for the other large areas, forming a hall of two bays, a music and drama area of one bay and a resource and entrance area of two bays.

The structure has been designed with great care to be light, graceful and minimal. Fabricated in steel, primarily from circular hollow sections to be as visually unobtrusive as possible, the resulting building has a light, open and airy atmosphere. The cranked rafters at 6 metre centres are supported on dumbell columns at the external walls and on 2 metre wide, 5 metre high frames in the centre of the building.

These frames are held both vertically and longitudinally by additional 2 metre deep cross-bracing members at right angles, reducing the effective height of the central columns and similarly reducing the size of the section used. At the eaves, a 90mm deep steel channel spans between the dumbells as a structural gutter, with the inner 76mm diameter CHS of the dumbell acting as the downpipe.

The roof construction uses colour-coated profiled steel sheeting, the profiling giving rigidity and improved spanning properties, placed on the T section of the rafter and spanning onto 150mm steel purlins which run between the rafters at 2 metre centres. The depth of the purlins is filled with an insulating quilt, the thermal performance of which is twice the minimum standard called for, laid onto a continuous polythene sheet vapour barrier. Profiled steel sheeting is fixed to the underside of the purlins to form the ceiling, perforated to improve sound absorbtion.

The colour-coated proprietary glazing system uses rolled steel sections, with increased structural properties over an aluminium alternative, to form 2 metre wide frames 3.2 metres high. Three frame types were fabricated to provide the different opening conditions and the same glazing system was used internally with single instead of double-glazing.

The building is fairly highly serviced, although every effort has been made to keep the services simple and unobtrusive. The building is naturally ventilated, apart from the kitchen and toilet areas, whilst underfloor heating is provided by low temperature hot water running in a high strength nylon continuous coil embedded in screed which is laid on polystyrene insulation. This results in a comfortable temperature gradient radiating from the floor and circulating by convection into the volume of the building; furthermore, the heat source is at occupants level, and, covering a large surface area, it can be run at a lower, more comfortable temperature. During summer months, the build-up of warm air can be vented through opening lights in the central continuous roof lights.

Approximate cost of the project £650,000.

JUDGES' COMMENTS:

An outstandingly successful example of modern design which takes advantage of a fine wooded site and, together with the quality of its detail and manufacture, provides not only good value, but also delight for the occupants.

ARCHITECTS
Michael Hopkins and Partners Limited

STRUCTURAL ENGINEERS
Buro Happold

STEELWORK CONTRACTOR
Tubeworkers Limited

MAIN CONTRACTOR
Wates Construction (Southern) Limited