



Project Fact Sheet

Kellystown School, Blanchardstown, Dublin 15.



PROJECT: Kellystown School, Porterstown Road, Blanchardstown, Dublin 15.

Projects	Kellystown School
Value	5.469 million
Client	Department of Education & Science
Stage	Complete
Completion Date	Kellystown School (Aug 08)
Description	Design & build of new school including extensive external works.

FACTFILE

The design and build consortium planned a fast-track on-site construction duration of 20 weeks. With an area of 2,200 sqm and 16 no. classrooms, this was one of three school new-build contracts awarded to ABM by the Department of Education and Science.

PROJECT DETAILS

Schools in rapidly developing areas

In July 2007, the Department of Education and Science prioritised funding to facilitate the construction of schools in rapidly developing areas such as Athy, Co. Kildare. The programme was tendered on a design and build basis with contracts awarded to the successful candidates. It was intended that the school would be operational by the start of the school term in September 2009. The design and build consortium had three weeks, from the tender award, to produce planning drawings and lodge a planning application with Kildare County Council. This timescale was designed to allow an



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appropriate period in which a planning decision could be made while facilitating a proposed commencement date of January 2009. Severe delays with the planning process delayed the commencement of Kellystown until April 2008, although construction of the school was completed within a 20-week programme.

The project consisted of the construction of a Primary School Building comprising of 1 No. 16 Classroom, two storey building, support teaching spaces and ancillary accommodation on a site of C. 0.97 Hectares. The site works to the school grounds consisted of the provision of cycle storage, bin stores, ball courts, project gardens, landscaping and boundary treatment and all other associated site development works. The works to the remainder of the site consisted of the provision of 32 car parking spaces, drop-off and pick-up facilities and new temporary access road approximately 50m long from the Porterstown Road.

In order to achieve completion by August 2008, ABM Design and Build procured a system build solution which enabled 'fast-track' construction. The school was constructed with a high emphasis on build quality and durability and the solution to this was Fusion, an off-site manufactured steel framed building system which is IBA certified. This system build solution consisted of a unique pre-insulated light gauge steel external wall system, which was combined with internal load bearing walls to provide low carbon structures. The application of this particular system has recently been approved, by the Royal Institute of Architects of Ireland, as a Continuing Professional Development (CPD) course.

The ground works commenced simultaneously with the off-site fabrication of the steel frame system. After week four, the ground works and off-site fabrication period was complete. The steel frame system which is highly efficient in terms of transport utilisation was delivered to site from Co. Cork and craned into position just after installation of the precast concrete stairs.

Externally, the façade comprised a combination of Aquapanel cement board render, dark textured fibre cement panels and polycarbonate panels which had a screen printed decorative detail. The polycarbonate sheet served a number of purposes. It was used to allow light to pass through the void over the entrance door and to provide light to the meeting room and corridor. By allowing sunlight through, solar heat gain was increased within the building. Aesthetically, the polycarbonate sheeting retained the symmetrical lines of the cement panels.

Once the windows and roof system were complete, the building was 'watertight' allowing internal finishes to begin at week 10. Wherever possible, off-site fabrication of the internal components were used such as pre-hung door sets, internal wall partitions, kitchens, cubicles, and heating pipe work runs.

All civil works were carried out in accordance with The National Roads Authorities guidelines and parameters.



Image 1- Internal View



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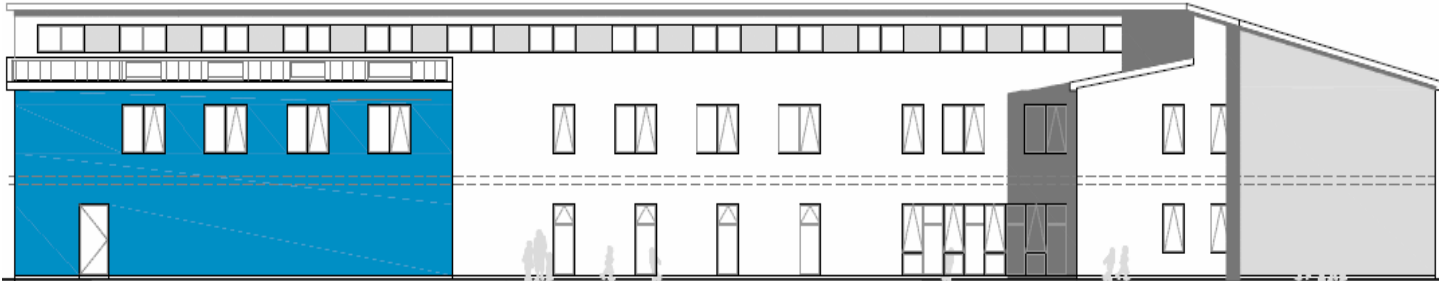


Image 2 - North Elevation



Image 3 - South Elevation



Image 4 - West Elevation

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Sustainability

In accordance with the Department of Education and Science school specification, the building was constructed to facilitate a passive environment entailing light sensitive light fittings, excellent natural daylight, natural ventilation, air infiltration and water efficiency.

The requirements set out in the Department's TGD documents for air-tightness required an air loss of $5\text{m}^3/\text{h}/\text{m}^2$ at a test pressure of 50Pa. The actual results from the test at Kellystown surpassed the minimum requirements. This was down to the quality of installation and construction of all building elements. A Tyvek breather membrane was installed throughout to give the building excellent air-tightness. Energy conservation was conveyed through thermal performance & air tightness requirements which when constructed surpassed part L requirements.

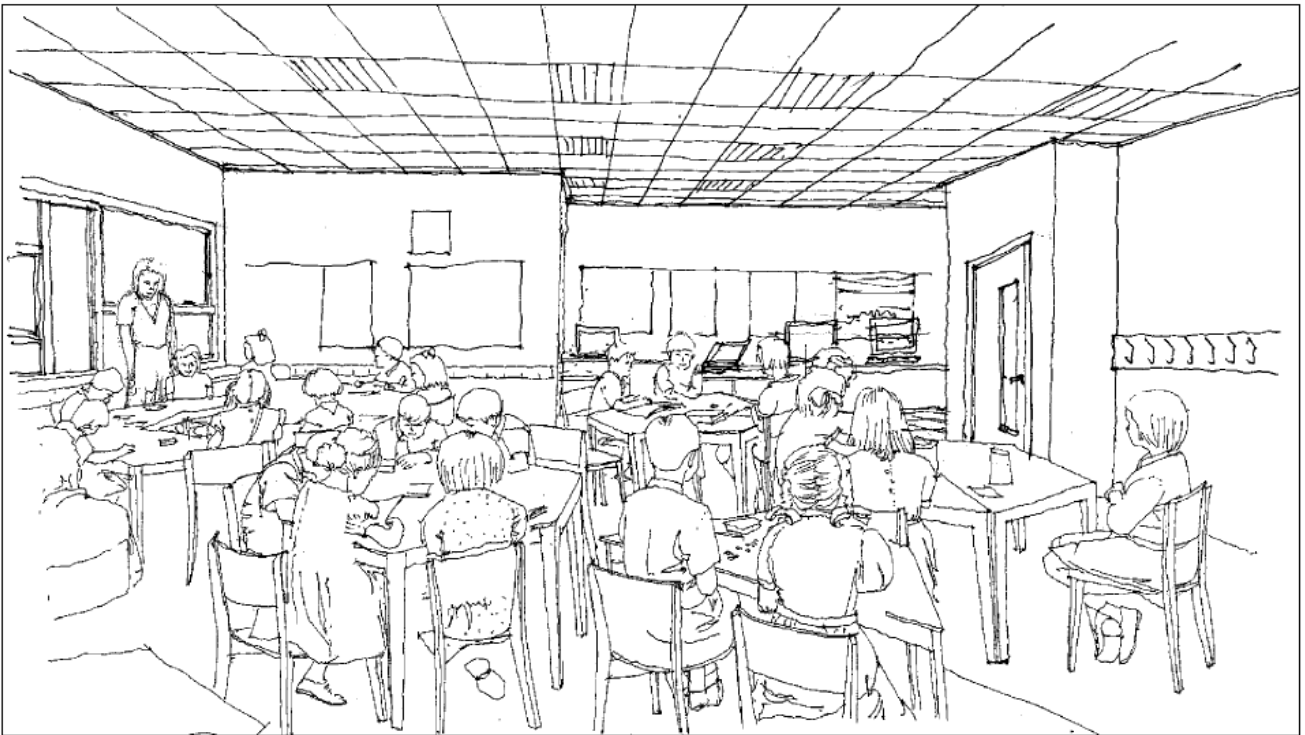


Image 5 - Internal classroom sketch view

Other sustainable technology incorporated into the design was a rainwater water harvesting system. Installed to collect rainwater at roof level, the water is then fed by gravity, through a dedicated system of underground medium density polyethylene (MDPE) pipe work to a leaf filter. Leaves and other debris are passed through the storm water system and the "filtered" rainwater is passed by gravity to an underground glass rainwater holding tank. This water is then re-used throughout the building.

Kellystown School was completed in November 2008.



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Image 6 - Main Entrance

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