



Project Fact Sheet

Tullamore Educate Together National School



PROJECT: Tullamore ETNS

Project: Tullamore Educate Together National School

Value: €2.6m

Client: Department of Education & Skills

Stage: Completed

Completion Date: February 2016

Description: Design & Build school extension to existing school consisting 4 additional classrooms, GP Hall, Library/Resource room and ancillary accommodation. The build also included 2 unit special needs extension to existing activity space, multi-sensory & para education SNU including offices.

DESCRIPTION

The design and build consortium planned a fast-track on-site construction duration of 34 weeks. Tullamore ETNS (Lot 22.2) was part of 4 new build schools awarded to ABM by the Department of Education & Skills Rapid Build Programme 2014-2015 and consisted of a total floor area of 1638sq m.



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PROJECT DETAILS



Image 1 & 2 – Stair Core & Classroom



Image 2 – Composite Site Plan

The ground works commenced simultaneously with the off-site fabrication of the Nordman 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. Clare and craned into position just after installation of the precast concrete stairs.

Externally, the façade comprised of concrete block work outer leaf with coloured cement sand render finish.

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.

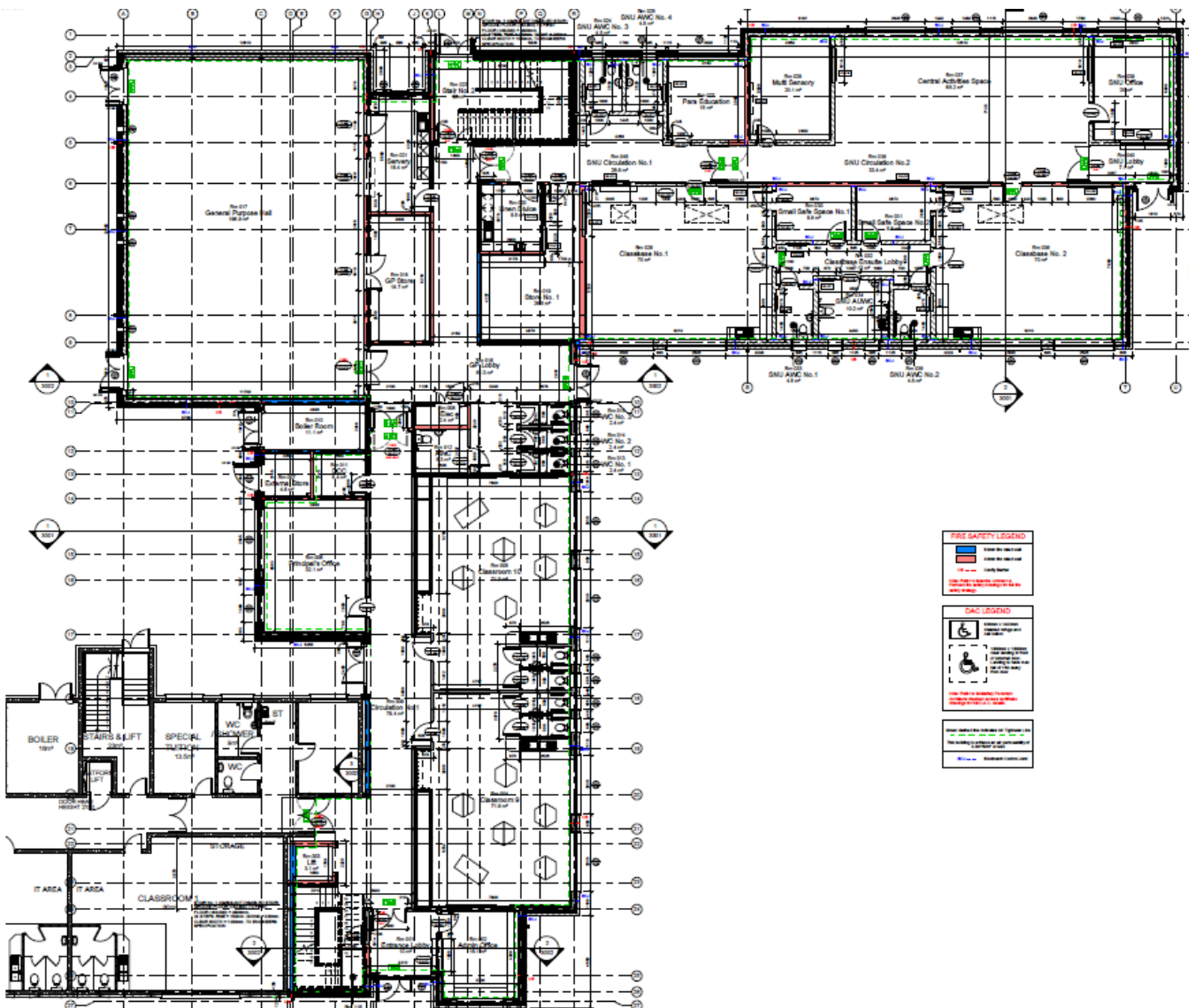


Image 3 – Ground Floor Plan

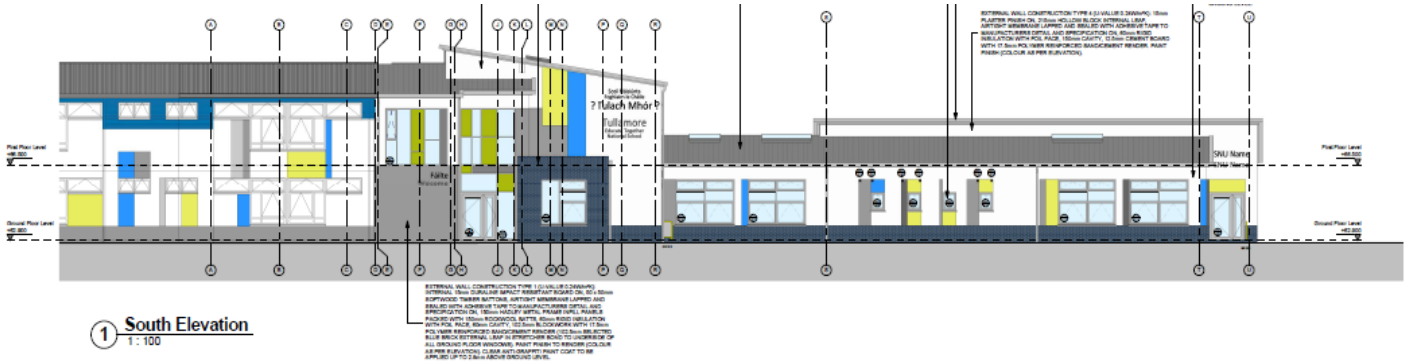


Image 4 – South Elevation



Image 5 – West Elevation

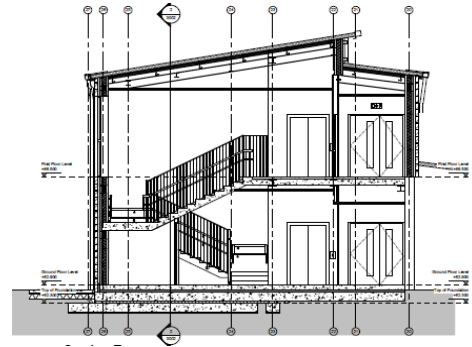
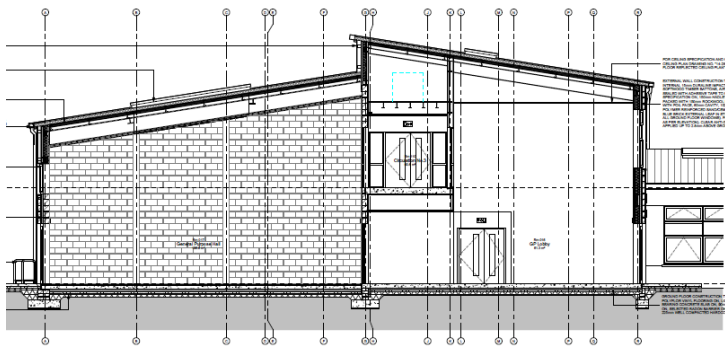


Image 6 & 7 - Sections

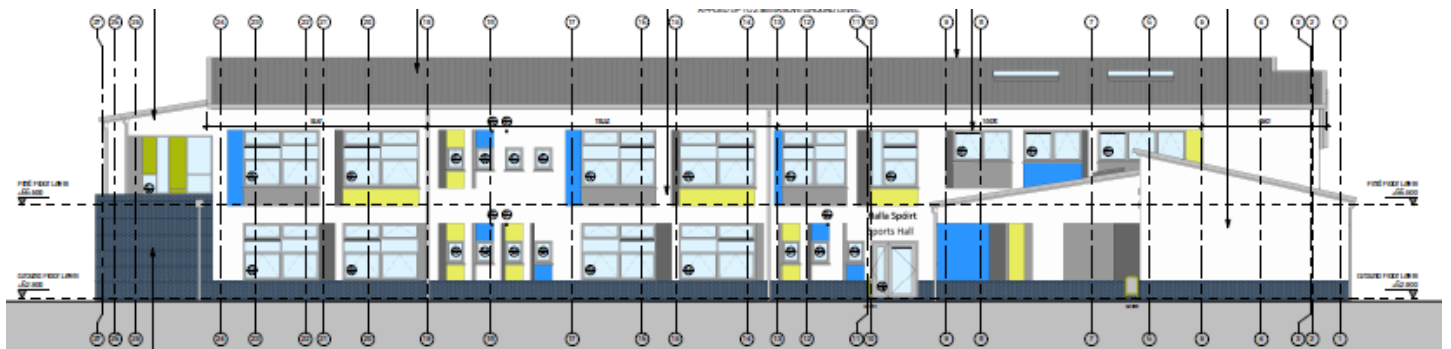


Image 8 – East Elevation



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Image 9 & 10 – GP Hall & Signage



Image 11 – Rear Elevation and Ball Court

Sustainability

In accordance with the Department of Education and Skills 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.

Building Element	TGD Part L 2008 required U-Value	As Built U-Value W/m ² k	ABM Surpassed TGD Part L Requirements by U-Value w/m ² k
Ground Floor	0.25	0.12	0.13
Walls	0.27	0.16	0.11
Windows	1.8	1.5	0.3
Doors	1.8	1.5	0.3
Roof	1.8	0.14	0.02

The requirements set out in the Department’s TGD documents for air-tightness required an air loss of 3 m³/h/m² at a test pressure of 50Pa. The actual results from the test at 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.

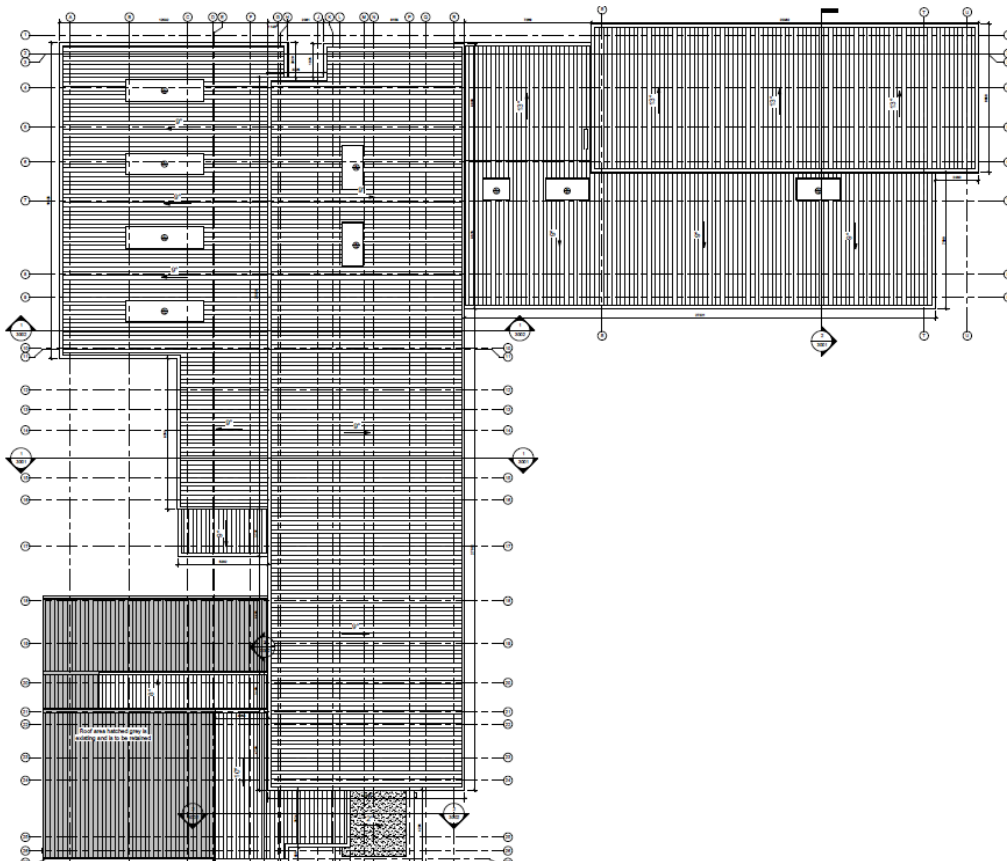


Image 12 – Roof Plan



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Air Pressure Results

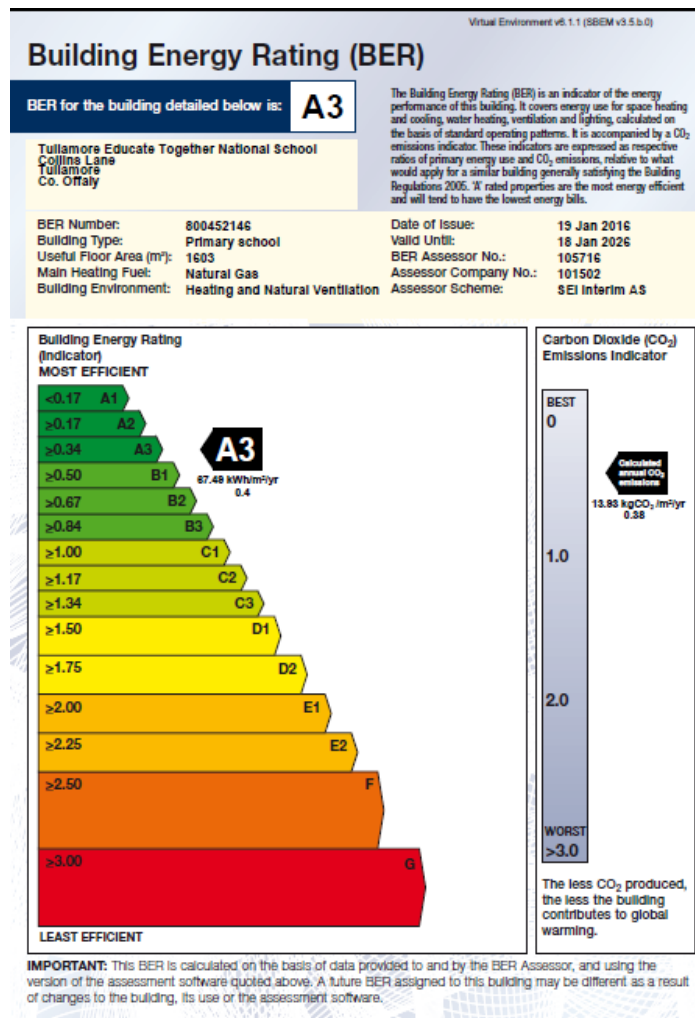
Air Permeability @ _P 50 Pa 2.96
 Air Leakage Coefficient CL (m³/hr/Pan) 1270.8124
 Correlation Coefficient (r₂) 99.82
 Air Volume Flow @ 50 Pa m³/hr 11310.5874
 Air Flow Coefficient C (m³/hr/Pan) 1262.7691
 The test measured an air permeability of **2.96 (m³/hr)/m² at 50 Pa** building pressure

BER Results

A building energy rating certificate and advisory report formed part of the original TGD documents. The BER is an indicator of energy performance covering energy use for space heating and cooling, water heating, ventilation and lighting, calculated on the basis of standard operating patterns. It is accompanied by a CO₂ emissions indicator.

The Building energy rating survey was carried out in January 2016 which resulted in the building receiving a highly sustainable building energy rating band of A3.

The estimated annual energy consumption is a highly efficient value of 64.08kWh/m²/yr and the annual estimated CO₂ consumption is estimated to be 13.93 kgCO₂/m²/yr.





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Tullamore ETNS was Complete February 2016

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