

JACOBS<sup>®</sup>

MALVERN VALE PRIMARY SCHOOL

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Project Description

In May 2015 Jacobs carried out a feasibility study for Worcestershire County Council (WCC) for the provision of a new 1 FE Primary School on a site within the recently constructed Malvern Vale Housing Development in Malvern. We were subsequently appointed to design, procure and supervise the construction of the new school which was completed in June 2018.

The Design Philosophy

- To become a central facility to the local community
- To be an inspirational learning environment
- To create integrated internal and external learning spaces, where classrooms have direct access to external areas, and internal spaces are light and airy
- To create a flagship building, which represents the Academy Trust
- To create a calm, contemplative, environment for learning
- To create a low energy, sustainable building, to complement its surroundings.

The Scheme

A linear plan layout was generated by the presence of the Malvern Vale Community Centre, essentially dividing the site into two distinct areas. This together with the existing service track and turning head, created a challenge in the detailed landscape design in relating the new building to the field. These

separate parameters narrowed the site and drove the overall site layout. It is hoped that in the future, both the school and the community centre would share facilities, and the new building has been designed with a separate entrance adjacent to the hall to make this use more practical. The building would be zoned for security and servicing to allow this arrangement to work smoothly.

The building is set back from the eastern site boundary to allow for formal, quiet play areas to the front of the school. The east facing elevation of the building is screened by a tree line to the facade creating a natural barrier between the main road and adjacent housing.

Internally the building is organised along a linear corridor creating clear routes of circulation. The main entrance area is formed by the introduction of a perpendicular corridor creating a focal area to the centre of the building. The staff, administration, and pupil shared areas are located within this central junction allowing easy access to all parts of the school.

The classrooms are light and airy teaching spaces with louvred windows that allow secure night cooling to help prevent overheating. The roof of the building has been lowered adjacent to the residential properties, and rises to the playground elevation. The eastern elevation has minimal windows, where the supporting accommodation provides a buffer between the residential properties and the activity of the classroom. Large triple glazed roof lights to the corridor areas provide natural light. The classrooms incorporate high level glazing to the rear to allow for natural cross ventilation during the summer. The roof overhang creates sheltered spaces for the classrooms and partial shading to the South.

The main hall is positioned adjacent to the existing Community Centre, its roof is matt, slate grey standing seam aluminium and has PV panels generating at least 10% of the buildings predicted energy requirements. Given the proximity of the site to the Malvern Hills AONB, the flat roof is sedum which is low maintenance and absorbs rainwater slowly whilst filtering pollutants.

The building was designed by 'fabric first' principles to have high levels of insulation, airtightness and careful detailing to avoid cold bridging above that required by building regulations. The building is connected to Worcestershire County Council BEMS energy monitoring service to ensure long term energy savings and to pick up on faults quickly. The Building achieved a high air tightness score of 1.96 m<sup>3</sup>/(h.m<sup>2</sup>) @50 Pa.

The building was awarded the BREEAM rating of 'Very Good' where it scored highly for 'Energy' and 'Materials' for our choices based on durability, recyclability, recycled content and FSC certified timber. Offsite prefabricated cassettes were filled with recycled newspaper insulation and the walls were internally lined with robust Fermacell boards made from recycled materials with moisture regulating properties to balance the room climate. Rubber flooring was chosen for the WC's and cloak areas for its durability and contribution to a healthy indoor environment.

The Contractor committed to performing well in The Considerate Constructors Scheme and this helped a positive relationship with the neighbours, with a tidy organised site and achieving 96% of site waste recycling.



▲ School Hall



▲ North East Elevation



▲ Key Stage One Classroom



▲ Key Stage Two Classroom



▲ The wide corridor provides group spaces

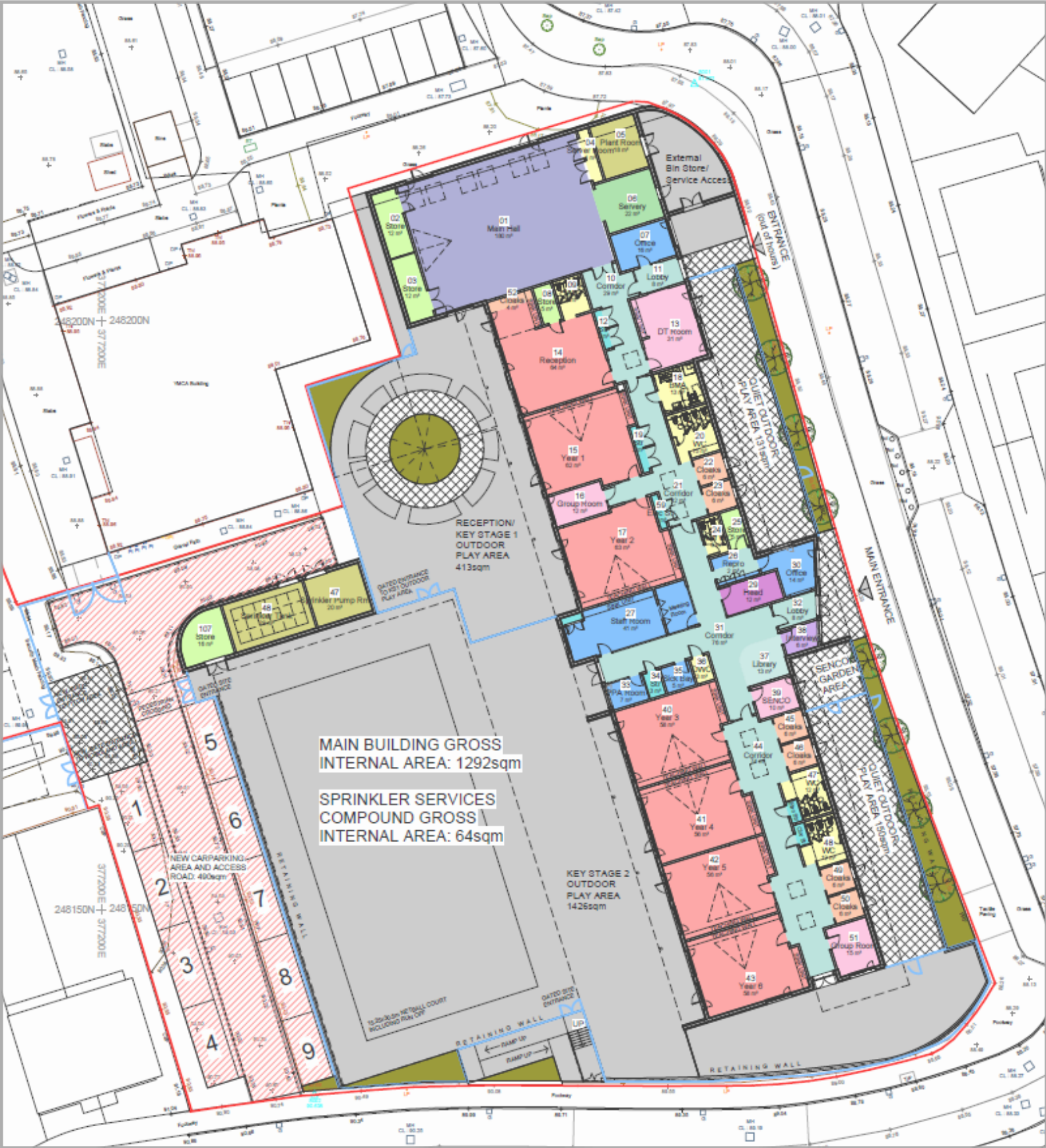
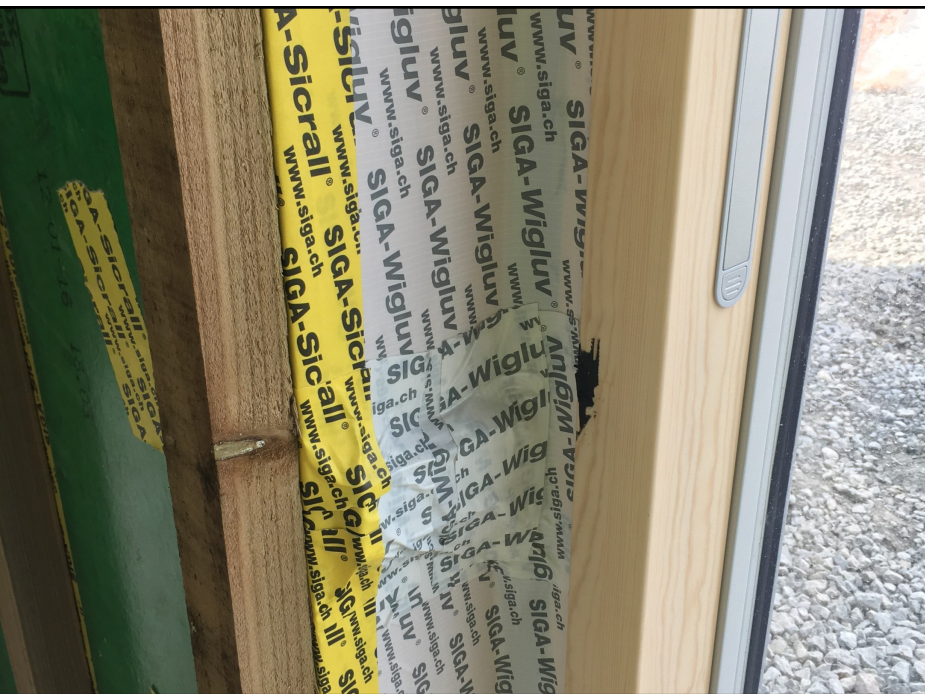


▲ Corridors lead to cloak spaces



▲ Timber frame cassettes

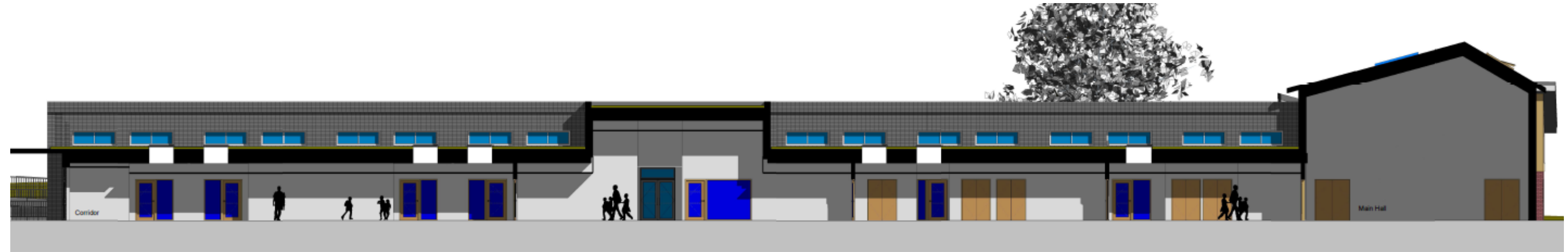
▼ Air tightness detailing



▲ Site Plan



▲ The Main Entrance



▲ Longitudinal Section



◀ View of North East Elevation

KEY PROJECT FACTS

Client: Worcestershire County Council / Mercian Educational Trust

Jacobs Role: - Architect, M&E, Quantity Surveyors and Clerk of Works

Other Consultants: Shires - Structural & Drainage, Greenfield Consult Ltd - BREEAM

Completed: June 2018

Contract Value: £3,795,500

Contract Type: JCT Intermediate with Contractor's Design

Contractor: Speller Metcalfe Ltd