

# Barbara Hepworth Building, UoH



Winner of  
**Building Project of the Year 2019**



## Project Details

<b>Client</b>	University of Huddersfield
<b>Location</b>	Huddersfield
<b>Start date</b>	December 2017
<b>End date</b>	August 2019
<b>Contract value</b>	£30m
<b>Type of work</b>	New build, Education
<b>Approx. m<sup>2</sup></b>	24,384m <sup>2</sup>

## Project Outcomes



8 weeks ahead of schedule completion due to usage of offsite



reduction of carbon footprint by 5 tonnes



reduced waste to landfill



zero health & safety incidents



rain water harvested for use onsite



usage of VR in the design process to enable the client to understand the concept



45/50 score

## Project Benefits

apprenticeships created

local employment reuse of materials

high-quality local spend

100% customer satisfaction

Bronze Award and Certificate of Excellence 2019 National Site Awards

## Project Requirements

The Barbara Hepworth Building (BHB) is the University of Huddersfield's (UoH) new centre for the study of art, design and architecture. Delivered by Morgan Sindall (MS) and named after the West Yorkshire-born sculptor, the five-storey building includes cutting-edge design and construction studios, design laboratories and a daring 18m flying cantilever reaching out from the plinth of the building to the nearby canal. A dedicated and determined project team delivered the building on time and within budget; however they had several environmental and design challenges to factor in.

Morgan Sindall was committed to meeting the strict timeframe and staying within the specified budget, as they were acutely aware that, as an educational build, there was little room for movement on either of these factors. The execution of the 18m cantilever's distinctive sculptural and architectural form was the biggest challenge, both in terms of how to safely erect it and how to monitor its movement while ensuring all activities in the surrounding areas were safely delivered. Moreover, due to the proximity to the adjacent canal and the River Colne, the BHB site was classified as environmentally sensitive.

## The Solution

The solution MS devised for the 18m cantilever was to build the structure in sections on the ground before lifting it into position, while at the same time providing temporary support. This reduced safety risk by avoiding working at height to stitch pieces together. In order to navigate the multiple challenges faced, MS also upheld a rigorous health and safety programme that combines methodical planning and reporting with cutting edge technology. The success of the cantilever lifts perfectly illustrated the benefit of such an approach, which ensured any actions carried out were time and cost effective and, crucially, safe.

Meticulous attention to detail and a clear understanding of the client's needs ensured the final structure and fabric of the building accommodated all of the specialist equipment requirements, including acoustics, IT infrastructure and lighting. From the outset, maintaining clear lines of communication between all parties was essential. Flying Start workshops were held for stakeholders, including the client, contractor and key supply chain, before the start of each stage of the project. These enabled the team to identify key drivers and challenges and agree workable strategies and expected behaviours. The building is open plan and a number of different activities will take place in adjacent spaces. Therefore separate rooms were designed to isolate noisy activities and the large open spaces incorporate acoustic absorption to combat reverberation time.

An early issue relating to the groundworks required a substantial rethink. It became evident some of the initial piling designs would have meant bringing in a lot of materials onto the site, something MS were keen to avoid throughout the project to reduce disruption. The team went back to the drawing board and came up with an innovative solution that utilised materials that were already onsite, essentially re-engineering them to get a solution for the ground slabs.

A carbon reduction plan was implemented to reduce the project carbon footprint during construction. The team donated eleven tonnes of surplus timber to Yorkshire Community Recycling, who reuse waste wood in the most environmentally beneficial way. This ultimately saved five tonnes of carbon by reducing waste to landfill. Furthermore pre-cast concrete floor units were manufactured offsite, reducing onsite waste production and minimising the risks.