caunton
ENGINEERING

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Steelwork for

# Education

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Caunton is one of the UK's leading steelwork contractors, offering a one stop construction solution. Specialising in the design, 3D Tekla modelling, fabrication and erection of structural steelwork Caunton Engineering can give a first class service every step of the way.

We are a family owned company, established in 1969 and we have since proven to be a progressive pioneer of fully automated manufacture, information technology and innovation.

Our Nottingham based production facility employs some of the most up to date CNC machinery, and state of the art painting facility, within our 150,000 sq foot plant on a 42 acre site.

# Bewerley Primary School, Leeds

## An award winning design by Leeds City Architects - resembling an ammonite

The architects had likened it to "an Ammonite"- Caunton's erectors identified it as "a Sawtooth" reflecting their own trade skills of course – but everyone agreed the steel framed school building for Bewerley Primary School near Leeds is an exciting design.

The traditional closing ceremony for the steelwork-erection phase – the tightening of the last two bolts – was most appropriately to be carried out by two future pupils of the school.
The school was handed over a speedy four weeks early by main contractor Kier with the help from Caunton.

**Main Contractor:** Kier Northern
**Engineer & Architect:** Leeds CC Architects Department
**Tonnage:** 100 tonnes

Bewerley carried on to win seven industry awards in 2007 including three awards from RICS Pro Yorkshire Awards as 2007 Project of the Year, Community Benefit and Regeneration Awards.

# Merrill, Da Vinci, Hardwick and Sinfin Schools, Derby

**PFI**

## Four exciting new school buildings for Derby PFI - on both existing and new sites.

The projects for this exciting package comprised of Merrill College, which previously consisted of a lower and upper site, Da Vinci School and Technology Centre which was built on the existing Highview school site, and the Hardwick Infants, Nursery and Junior Schools that were replaced by a new building as a single, all-through primary school on the existing site.

Da Vinci School

Vinci UK, formerly Norwest Holst, selected Caunton as a partner for this scheme at a very early stage. Caunton were working with the Design Team to develop and value engineer the schemes for over 6 months before any orders were placed. This enabled the team to provide cost certainty, ensuring all necessary details and interfaces were agreed, virtually eliminating changes and variations at construction stage.

Sinfin School was then built as an addition to the package which was rebuilt as a result of an unfortunate fire. The combined order for Caunton adds up to over 1000 tonnes of structural steelwork.

**Main Contractor:** Vinci - Formerly Norwest Holst
**Engineer:** RPS Burks Green & Pick Everard
**Architect:** Bond Bryan Partnership & Race Cottam Associates
**Tonnage:** 1180 tonnes

Sinfin School

Hardwick School

Merrill College

PFI

# Leicester Grammar School

**Relocation of a famous old school includes a new sports complex and aerobics area.**

**Main Contractor:** Vinci - Formerly Norwest Holst
**Architect:** Pick Everard
**Tonnage:** 800 tonnes

Early in 2007 the Leicester Grammar School Trustees announced that they had completed an agreement with Land Securities Trillium for the construction funding and long term investment of the relocation of Leicester Grammar School and Leicester Grammar Junior School to Mount Farm, Great Glen.

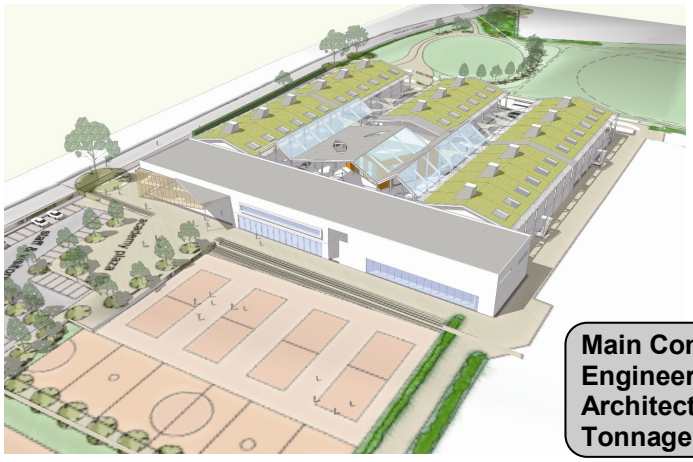
The new facility now accommodates the main school as well as the junior school and incorporates first class academic and sporting facilities on one site. Caunton are supplying over 800te of steelwork (plus floor decking and thru deck studding, plus staircases) which are located in three main areas - a two-storey academic block, a two-storey pavilion and sports complex with swimming pool, and a two-storey aerobics area.

BSF

# The Bulwell Academy, Nottingham

**A new eight block business and enterprise specialist Academy based in Nottingham**

The Bulwell Academy, entirely framed in steel, is divided into eight distinct blocks. Block 8 comprises the 13mx23m main hall, block 6 the 35mx18m sports hall, block 7 library and PE facilities, block 5 the dining area with the remaining blocks comprising classrooms on two levels connected at first floor level by outside walkways.



These eight blocks combine to form an E-shape and the open areas generated are mainly roofed over with ETFE with a supporting steel framework.

The building's columns and roofs are framed with steel pitched- or plain-portal frames with first storey floors, where described, steel framed with metal deck. The roofs of the classroom blocks are substantially green sedum, adding a valuable sustainability benefit to the design. Design of the steelwork is by Atkins with connections design by Caunton.

The Bulwell Academy once constructed will have a business and enterprise specialism and aims to provide an equal focus on both academic and practical learning for its students.

**Main Contractor:** Carillion Plc
**Engineer:** Atkins
**Architect:** Atkins
**Tonnage:** 835 tonnes

# Middlesex University Learning Resources Centre

### A new multi storey extension with off site intumescent coatings and modern sustainability features.

Caunton completed the structural steelwork for a new Learning Resources Centre for Middlesex University in Hendon. The sophisticated design by architect BPR Architects and engineer Bridges Pound focussed on modern sustainability techniques, and featured tubular steel columns coated with intumescent paint off-site. Caunton's own directly employed erection team were to maintain extra vigilance when handling the fire protected members. They also erected the pre-cast floors and staircases. The project incorporated over 500te of structural steelwork in total.

**Main Contractor:** VolkerFitzpatrick Contractors
**Engineer:** Bridges Pound Ltd
**Architect:** BPR Architects
**Tonnage:** 500 tonnes

# Thistley Hough School

### A two and three storey building of contemporary design, which achieves BREEAM Good

Caunton have supplied and erected the steelwork for a new school in the Potteries. The new, and larger, Thistley Hough High School, designed by architect Aedas, engineer Cundall, will accommodate 1,050 pupils aged 11-16. Current school numbers are c 800. The new school will enjoy a Media and Visual Arts specialist status.

The building will house learning, community and leisure facilities which are accessible through a light filled multi-purpose central heart space. Dedicated teaching accommodation sits either side of three three-storey heart spaces. The 500te of structural steel by Caunton efficiently frames this two and three storey building of contemporary design, which itself achieves BREEAM Good.

Thistley Hough High is one of 18 secondary and special schools in Stoke-on-Trent to have new or refurbished buildings as part of the Building Schools for the Future (BSF) programme. Balfour Beatty are the main contractor for this particular school.

**Client:** Stoke on Trent BSF
**Main Contractor:** Balfour Beatty Construction
**Engineer:** Cundall Consulting Engineers
**Architect:** Aedas Architects
**Tonnage:** 485 tonnes

PFI

# Northampton PFI Schools

### Two Schools for Northampton PFI Initiative - Northampton School for Girls & Kingsthorpe Community College

Caunton are the suppliers of structural steelwork for schools which are being built as a result of the biggest ever group school PFI in the country. Significant rebuilding and remodelling projects will take place at forty one schools in Northampton.

The construction client for this project, the £200m transformation of schools in the town, is the Northampton Schools Limited Partnership which is working for Northampton County Council. Major contractor Galliford Try has started work on several school sites in the town. Two of these sites are employing steelwork supplied by Caunton Engineering. These schools are Northampton School for Girls, NSG, and Kingsthorpe Community College, KCC.
NSG is being built in two phases –the second includes the Music and Drama Block. In 2004 NSG was in fact the first school in England to achieve Music College Status.

Kingsthorpe's 1400 students are now housed in one building as a result of phase one of their works. Previously the college was on two sites and two miles apart. KCC is also a major Sports college. Phase two of the building works will result in the completion of these sports facilities.

**Main Contractor:** Galliford Try
**Engineer:** Jenkins & Potter
**Architect:** GHM Group
**Tonnage:** 1,400 tonnes

PFI

# Edlington and Mexborough Schools, Doncaster

## Two schools within the £45m Doncaster Schools PFI Scheme

Caunton worked with Vinci UK Company Norwest Holst yet again on a PFI Schools project. Doncaster Metropolitan Borough Council has announced Vinci PLC as its preferred partner for the £45 million Doncaster Schools PFI scheme. This will provide two new secondary schools at Edlington and Mexborough.

Both schools combine steel framed and concrete framed construction in adjacent independent wings.

Caunton provided initial cost engineering advice to Vinci and Scott Wilson to assist economical development of the scheme design.

**Main Contractor:** Vinci - Formerly Norwest Holst
**Engineer:** Scott Wilson
**Architect:** Frank Shaw Architects & Race Cottam Associates
**Tonnage:** 800 tonnes

BSF

# The Samworth Church Academy, Mansfield

## Five three storey beam and column structures with supporting pre-cast concrete floors

The Samworth Church Academy is to be located on the current Sherwood Hall School site in Mansfield, Nottingham. It replaces the existing Sherwood Hall School and Sixth Form College. The Academy is being built on part of the site of the Sherwood Hall School with six forms of entry, and room for 900 11-16 year old students and a sixth form of 250.

The Academy is jointly sponsored by the Church of England, through the Diocese of Southwell & Nottingham, and Mr David Samworth, a local businessman. Mr Samworth is sponsoring two other new academies in both Leicester and Nottingham, one of which Caunton is supplying the structural steelwork to also.

The Samworth Church Academy, entirely framed in steel, is divided into five distinct blocks. These blocks form five clear individual schools within the development. They are divided as follows - Humanities & PSD (titled Hardwick), Maths & Business Base (Sherwood), Communications (Newstead), Outdoor Education, Sports & Performing Arts (Welbeck), and Science Technology & ICT (Rufford). All blocks are three storey beam and column structures supporting pre-cast concrete floors and pc concrete access staircases.

Sustainability features include the use of the thermal mass of the building for cooling, natural ventilation, rainwater harvesting (the use of grey water), a Biomass Boiler and a “Brown Roof” for the roof above the drama studio.

The buildings’ extent is 10350m² of total floor area, and requires over 500te of structural steelwork.

**Main Contractor:** Kier Marriott
**Engineer:** Building Design Partnership
**Architect:** Building Design Partnership
**Tonnage:** 545 tonnes

BSF

# The New Hereford Technology School

**A two-storey secondary school with a full height and full length glass wall to the top floor**

Caunton supplied over 400 tonnes of structural steelwork for an appealing secondary school in Grimsby which incorporates 7,000m² of further teaching accommodation. The building incorporates a two storey teaching block and single storey curved area which can be seen illustrated below.

The mix of linear and circular shapes enables classrooms to be different shapes and sizes, offering a flexible approach to learning. The single-storey curved area is set to be the technology base with the rectangular second floor providing the majority of the classroom accommodation.

An additional yet appealing feature to the first floor is a full height and full length glass wall to the main ICT area which is set to create an inspiring focal point to the school.

The building being designed with a structural steel frame has proved to be of great advantage to the school as the structural frame allows for all internal partitions to be removed and reconfigured in the future should major change be required to the facilities.

This was the second of 3 school contracts this year.

**Main Contractor:** Kier Group
**Engineer:** Faber Maunsell
**Architect:** Architects Co-Partnership
**Tonnage:** 410 tonnes

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BSF

# Nottingham Academy

**Steelwork for the largest school in the UK, catering for 3,600 pupils**

Caunton supplied nearly 900te of structural steelwork for a unique institution which is set to be the largest school in the UK catering for 3,600 pupils, The Nottingham Academy.

The Nottingham Academy will cater for pupils aged 3 to 19 years replacing three existing schools; Jesse Boot Primary and Nursery School, Greenwood Dale School and Elliott Durham School all in Nottingham.

The Academy is being sponsored by Greenwood Dale School under the Government's Successful Schools initiative with leading global information services company Experian acting as its business partner.

**Main Contractor:** Carillion Plc
**Engineer:** Price & Myers
**Architect:** Franklin Ellis
**Tonnage:** 880 tonnes

Specialising in literacy, mathematics and digital media the opening date for this exciting Academy was September 2011.

# Bilborough College, Nottingham

**Transformation of this struggling '50's school led to it winning a hatful of civic awards**

**Main Contractor:** Bowmer & Kirkland
**Engineer:** Arup
**Architect:** CPMG Architects
**Tonnage:** 180 tonnes

Completed in September 2005, this project, with steelwork by Caunton, has seen a struggling 1950's Nottingham school with a 500-student capacity transformed into Bilborough College, a modern centre of excellence catering for 1300 pupils. The steelwork used comprised columns, roof steelwork and stairwell framing.

The development won a design award from the local Civic Society, and has also received the Lord Mayor`s Prize for Architectural Excellence.

It was to be a local steelwork contractor working alongside a local main contractor, Bowmer and Kirkland, who created this vital community benefit. A good investment for the youth of East Midlands.

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BSF

# Newfield, Talbot, Silverdale and Yewlands Schools, Sheffield

**Four schools part of a £320m BSF contract for developer Paradigm, led by Vinci.**

**Main Contractor:** Vinci - Formerly Taylor Woodrow
**Engineer:** Faber Maunsell
**Architect:** HLM Design International & BDP
**Tonnage:** 1180 tonnes

Two of the schools, Newfield Secondary and Talbot Special Needs Secondary are in fact on the same site – the former Newfield School site.

The third school, Silverdale Comprehensive School, is in effect a green field site development, but directly alongside the existing school, which will then be demolished once the new building opens.

Work on the fourth school, Yewlands Technical College, is very much a traditional refurbishment-rebuild mix, but aiming to create what the school itself calls a new 'school of the future', with over £1 million of ICT equipment to be installed.

The overall BSF contract is with Paradigm (led by Taylor Woodrow) and is set at a massive £320million, with these four particular schools part of Phase One - budgeted at £158m.

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# Mackworth College, Derbyshire

**Design & Build extension to existing college including supply and installation of metal deck flooring**

**Main Contractor:** Vinci - Formerly Norwest Holst
**Engineer:** HSP Consulting
**Architect:** Hulme Upright
**Tonnage:** 220 tonnes

Caunton designed and supplied this prestigious new extension to the existing College at Mackworth, on the outskirts of Derby. The Design and Build project weighed approximately 220 tonnes and included supply and installation of metal deck flooring.

The structure incorporated several feature-curved roofs designed by the Architect for their considerable visual effect. These were based both on lattice truss and curved section construction, with an area of the trusses being left exposed as a feature within the completed building.

The whole project was completed in an impressive five-and-a-half week period for Main Contractor Norwest Holst Construction.

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BSF

# Bolsover School, Derby

**Built in three phases this school was completed in a prompt nine week period illustrating the speed of steel construction**

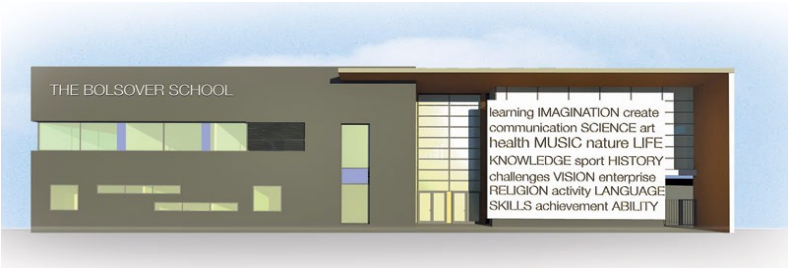
Caunton received the order from Bowmer and Kirkland for the connection design, supply and erection of 415 tonnes of structural steelwork for Bolsover School in Derbyshire.

The new buidling is to be built in three phases within a compact nine week period.

The new school is set to replace the original 1950's building and has been specifically designed to reflect the town's history. A massive, solid anthracite "bookend" at the left entrance elevation helps to record and celebrate the town of Bolsover's coal mining heritage.

Bolsover School is wrapped around the courtyard which is the 'heart' of the school.

**Main Contractor:** Bowmer & Kirkland
**Engineer:** BWB Consulting
**Architect:** Maber Associates
**Tonnage:** 415te

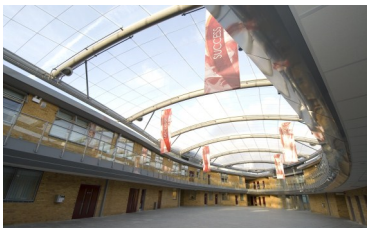



PFI

# Failsworth School, Oldham

**This PFI funded 1500 place school now enjoys a new sports hall, teaching blocks and refectory all linked by ETFE roofed "The Street"**

**Main Contractor:** Kier Build
**Engineer:** Arup
**Architect:** Architects Co-Partnership
**Tonnage:** 650 tonnes



Caunton is an experienced steelwork contractor in the burgeoning schools building sector.

The company completed the supply of the steelwork for new school buildings in Oldham Lancashire, at Failsworth School. The new school, in fact on the site of the existing one, will be developed as a 1500 place school for the 11-16 age group.

Over 650 tonnes of steelwork have been supplied by Caunton, which includes curved steelwork framing.

Steelwork connection design is most carefully co-ordinated, because of the interface with concrete shear walls & cores. This has led to the development of subtle movement joints.

Caunton's scope of works comprises the framing over the Sports Hall, the Art, Humanities, Performing Arts, and Design-and-Technology Blocks, and the Refectory Area. There are one large and three smaller rotunda areas providing architectural interest to the main school structure.

All the school's departments are linked by what is called "The Street", the roof of which is designed as a tubular frame supporting a clear ETFE roof, (ETFE is the clear roofing material used for the roof of the Eden Project too). The majority of roof members are bespoke curved members describing the distinctive profile of the roof.

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