



Toureen Group

PROJECT PROFILE

ABCAM
CAMBRIDGE

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ABCAM PLC GLOBAL HEADQUARTERS

In 2017, the life sciences company, Abcam, initiated the construction of its new global headquarters building at the Cambridge Biomedical Campus (CBC) in Cambridge, UK; with one area housing the manufacture of high quality antibodies used in medical research. Kier Major Projects was appointed as Principal Contractor for the £46m contract, to build a combined laboratory and offices in the heart of the Cambridge Biomedical Campus and is a landmark building designed to set the standard for future developments on the plot.

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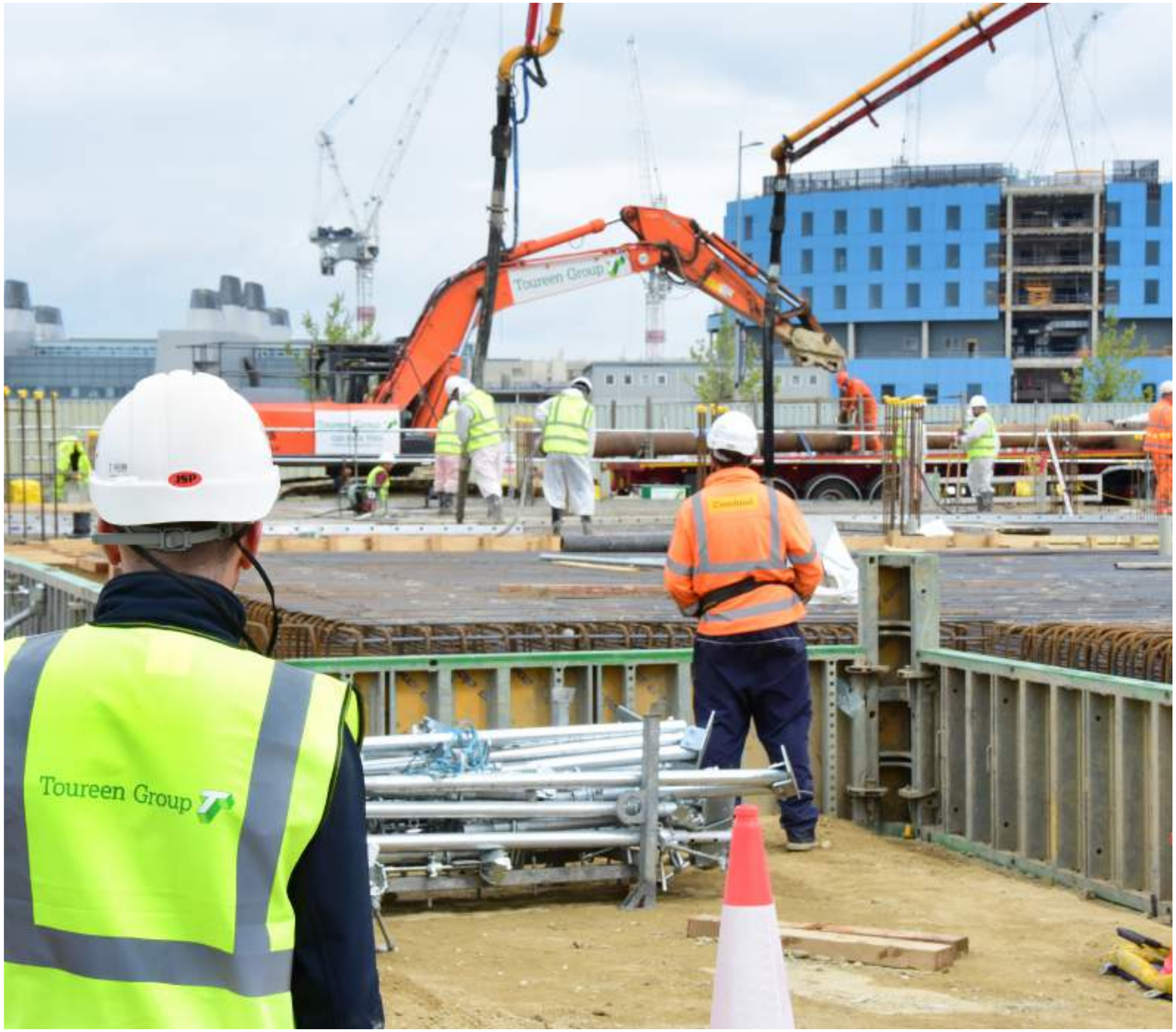


PROJECT DURATION	DATE OF COMPLETION	CONTRACT VALUE	CLIENT
40 WEEKS	**NOV 2018**	**£9 MILLION**	**KIER MAJOR PROJECTS**

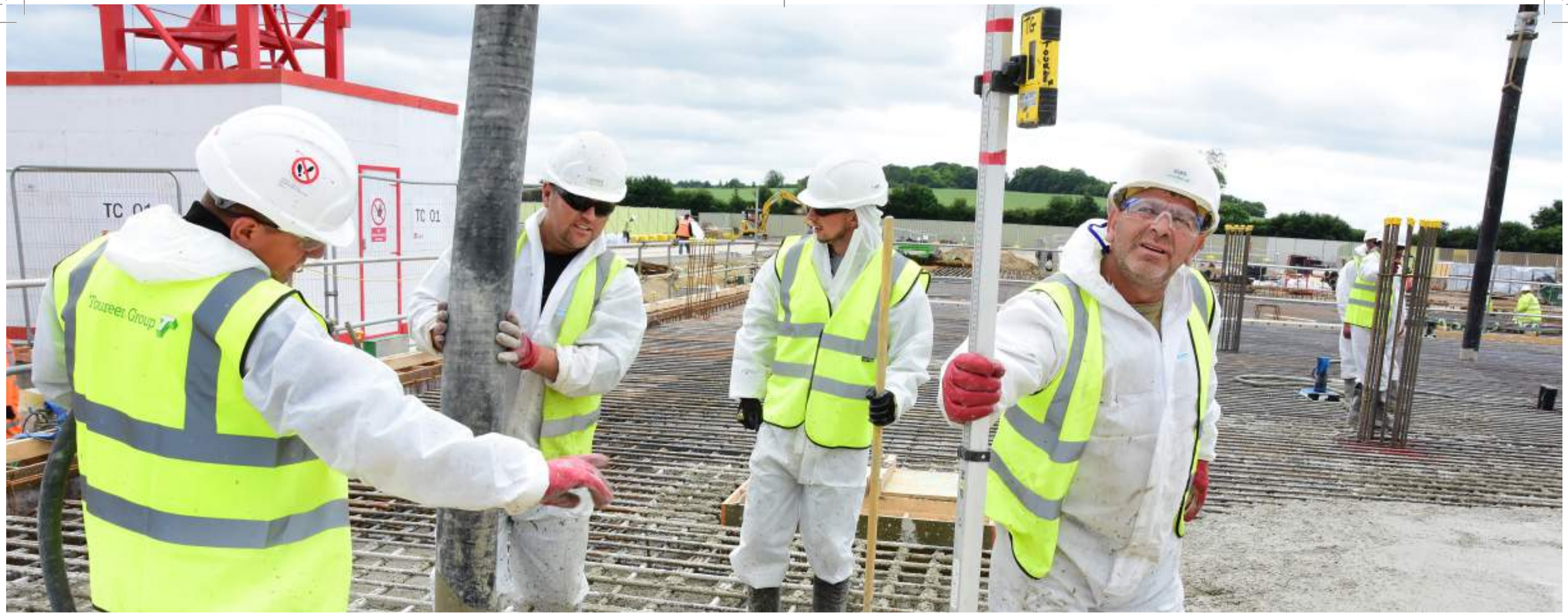
Toureen Group's Northern Home Counties Division was the specialist contractor appointed by Kier Major Projects to deliver…

- RC frame construction (with all exposed soffits and columns to a high standard finish of polished concrete),
- ground remediation works,
- 278 works,
- associated drainage,
- holding tanks for the whole of the Biomedical Campus with a cofferdam,
- stabilisation of all ground works,
- RC raft construction; and
- associated external works and hard landscaping for the project.

In addition, a new bicycle way was constructed to help avoid any nearby main roads. Toureen Group also supplied all the plant, labour and materials for this project. The project was successfully carried out over two phases.

Phase 1 - Groundworks & RC Frame

Phase 2 - External Works



PHASE 1
GROUNDWORKS

Phase one works began on site in March 2017, which consisted of the Groundworks and RC frame works. Ground improvement works were required for approximately 10,000m^2 of the site. In order to cut down the flow of lorries to and from the site, Toureen designed and carried out the ground stabilisation works - which resulted in a saving of approximately 1,600 lorry movements due to the treatment of materials on site for re-use. The ground improvement works facilitated the installation of the below ground drainage system up to 8 metres in depth and the installation of 2 x 3.5m diameter below ground holding tanks (for sewage for the Biomedical Campus) with an overflow system for future use; using a cofferdam system designed by Toureen's in-house design team.

Infrastructure works to the site perimeter required Section 278 enabling works to be carried out to the public highway, ensuring that the work carried out was completed to the standards and satisfaction of the Local Highway Authority.

Two access roads were constructed through the site perimeter to adoptable standards and in accordance with the granted planning permission.

"This part of the project was particularly challenging and required us to work closely with the Gas Board, as we had to dig very near to the live gas mains facility which supplied gas to the whole of Cambridge and Addenbrookes Hospital. The mains gas route ran parallel to the crossovers so we carried out a non-mechanical dig operation using vacuum excavators which was by far the safest method to adopt. We re-routed the footpaths to the opposite side of the road to protect the public as it was a main road and used by emergency vehicles attending Addenbrookes Hospital." - **James Keane, Project Manager**

The project required the construction of a 3,500m^3 raft slab, which ranged from 600mm to 1m in depth. The raft slab was specially designed and shaped for this purpose and contained approximately 3,200m^3 of concrete and 250 tonnes of reinforced steel.

The groundworks were completed with the installation of a new sub-station with accompanying services and the construction of a 3,500m^2 level car park on site.

PHASE 1
RC FRAME

The RC frame was split over three sections, blocks A to C and sequenced respectively with frames ranging in height from three to four storeys.

- Block A is a three storey concrete structure with a fourth floor constructed with a steel frame and all exposed soffits and columns.
- Block B consists of a four storey concrete structure, complete with a feature stair detail from the raft slab to the roof with all exposed soffits and columns.
- Block C is a four storey concrete structure with a fifth floor constructed with a steel frame.
- Approximately 4,500m³ of concrete was used for the frame construction with approximately 550 tonnes of specially designed reinforced steel cut and bent re-bar.

PHASE 2
EXTERNAL WORKS

Toureen Northern Home Counties returned for phase 2 of this development to carry out external works on the site. Certain external works were installed for both functional and aesthetic purposes outside the combined laboratory/marketing building. External works included the following;

- Tarmacing works
- High quality resin bonding finishing
- High specification bespoke street furniture; which included bicycle shelters, benches and dustbins that were designed and manufactured in Denmark with a 20 week design and delivery period
- Construction of a car park
- Hard landscaping

The site team overcame various challenges to ensure the project was completed successfully. Wind was a major factor on this site as it was very open and therefore two tower cranes were used to assist. Due to the greenfield site being ploughed the previous year, Toureen extracted 3,500m³ of topsoil and stored it for future use in the project on site. This led to the stabilisation of the remaining soil to strengthen the ground in order to construct the roads and foundations. This process of removing the topsoil ensured that Toureen saved over 2,000 lorry movements on and off site, as well as a significant time saving to the programme of works.

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Key to the success of any project is building relationships and integrating working practices with the various other contractors and trades involved on site. The construction of footpaths required close involvement with the soft landscaper to ensure the correct conditions were in place before the resin bonded gravel could be laid. Co-ordinating with the mechanical and engineering contractors with regard to the lighting columns; ensuring that the lines into the lights were correct; as well as deliveries and the fitting out of the building inside on a daily basis, required frequent discussions in order to avoid any potential conflicts that may arise.

At the outset of this project, planning and communication were essential. Many specified materials were coming from abroad on a lengthy delivery schedule. For example, the slabs used around the building and to all open doorways; which required setting out to an extremely high specification, came from China with a special delivery schedule of 16 weeks and each slab weighed 110kg with a special grouting to each joint.

"Having been appointed by Kier Special Projects, based on our previous involvement in various projects, we inevitably worked closely with them throughout the development. They entrusted us with all the civils, substructure, externals and RC frames, looking upon as a "One Stop Shop"." **- Martin Maloney, Director, Northern Home Counties**

Toureen completed both phases in November 2018, with the project receiving high praise from the client, Kier Major Projects.

A company representative commented;

"Toureen is the specialist contractor we have employed to deliver the concrete frame and associated external landscaping for the Abcam project. Throughout the 18 months I have worked with Toureen Group, I have seen for myself the driving factor they have on safety within the business, which runs down from senior management all the way to the operatives on site. They will never compromise safety just to get the job done, which I see as one of their greatest strengths. Supervisors and operatives alike have been friendly and forthcoming, while always maintaining a professional manner, a trait we have come to understand is highly valued and promoted within their company ethos.

Toureen is a company with strong values and an appetite to continue to grow and improve its business." **- Senior Project Engineer, Kier**

Toureen Group

Solving complex challenges since 1992

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