Louis Watson | Transport for London

Winner of Matchtech's sponsored competition:

Martin Roach Development Report Writing

What inspired you to pursue a career in engineering?

I have always had an interest in how things work, which is why I initially wanted a career in physics or biology. However, I remember talking to the Careers Advisor at my secondary school about my interests and was told that Civil Engineering was a career that would provide more opportunities for me. As I've developed through my career and gained a thorough understanding of what Civil Engineers do in the world and how important their role is in society, I've become increasingly inspired. It's given me assurance that I wouldn't want to pick any other career.

What are your future aspirations?

My aspiration is to be a competent Chartered Engineer who has a comprehensive understanding of how our society operates and to be able to influence positive change. My belief is that the most successful and competent Chartered Engineers are those whom have experience, knowledge and skills in different sectors across the construction and engineering industry. Non-career aspirations include wanting to see as much of the world as I can. Therefore, by combining my aspirations, my plan is to work in different continents around the world within different sectors of the Civil Engineering industry i.e. Nuclear, Oil and Gas, Renewables, Bridges, High Rise Buildings and Marine. The ICE Chartered Engineer status is effectively a work permit to live and work anywhere on the globe, and it would be rude not to make use of it.

Can you please give us an overview of the project you entered for the competition? What aspects are you most proud of and what were the challenges?

I was lucky enough to gain a secondment with the Principal Contractor, Dragados U.K. & Ireland, on the

Bank Station Capacity Upgrade Project. This is a mega project in the heart of London that aims to improve the travelling experience for the half a million daily users of the station by delivering a new entrance, new concourse and passageway tunnels, step-free access and new Northern Line running tunnels. I spent six months in the Temporary Works Design team and was tasked with delivering in-house Temporary Works designs for the project. My proudest moment on the project was going to site and seeing the formwork, which I had designed a few weeks before, actually put into action. The formwork was required to enable the construction of the concrete walls of an 18-metre deep cable shaft. It was at that moment of seeing the formwork being built and used when I realised that what I was doing in my day-to-day role directly helped progress the project.

There was admittedly a brief rush of panic when I also realised the effectiveness of the formwork and the health and safety of the workers constructing it were very much dependent on what I had delivered. The trust in my work and the design assurance process swiftly replaced those nerves with satisfaction. The biggest challenge on this project was having to deliver an upgrade to one of the busiest train stations in the UK – all while it was fully operational! To overcome this challenge, all construction activities were meticulously planned and any close interface with the public or live London Underground assets strictly managed.

What new engineering skills have you developed during the past year?

I have developed my technical and practical engineering skills immensely over the past year. Following my six-month design placement, I spent five months in the Construction team as a Site Engineer. These placements required skills such as identifying problems, solving problems, risk management, health and safety management, quick decision making and delivering to strict deadlines. Arguably, the most important skill, which is fundamental to all of the aforementioned engineering skills, is the ability to communicate and work with others. I developed this core skill as I had to adapt to work with a variety of individuals of different backgrounds and cultures – from senior management in the office to the Miners down at the tunnel face.

Given the current drive for more young people to study STEM subjects to support the growing engineering skills gap, how would you inspire today's young people to enter the industry?

There are very few careers that are as rewarding as engineering. Engineers have the opportunity to make a real positive difference in shaping our society and make everyone's day-to-day activities easier and more efficient. From access to water and electricity and the development of transport, to instant communication across the globe and curing disease and illness, none of this would be possible without engineers to make it happen. It is vital that working professionals in STEM industries promote the importance of engineers within all of our daily lives and attract people into our industry from all backgrounds, regardless of social status, race or gender.