



CAROLINE LIVESEY
CONSULTING

Caroline Livesey, MEng, MSc, CEng, CM Civil Engineering Design Consultant and Advisor

EXPERIENCE SUMMARY

Caroline has over 15 years' experience leading large teams to ensure successful outcomes on complex projects. She has a strong record of successful delivery on multi-disciplinary projects where her management skills are key. Work in remote and high risk areas has honed these skills. A skilled geotechnical engineer, clients recognise the value of the work she delivers in technical design and design management, innovative value engineering and expert witness support for legal cases.

She has provided specialist advice to government bodies, local authorities, infrastructure owners, consultants, contractors, developers, and private clients. She can deliver factual and interpretive reports, designs, contract documentation and technical certification as well as expert witness reports to CPR 35 on which she has acted as an assistant.

As a member of large multi-disciplinary design teams, Caroline has regularly undertaken value engineering and innovation of alternative designs for geotechnical elements of large infrastructure schemes including consideration of temporary works. Her geotechnical design experience includes ground improvement, material reuse, reinforced earth, load transfer platforms, soil nailing, piling, foundations, road embankments, slope stability and repair, coastal protection, road widening and new road schemes.

As a civil engineer, Caroline also has a strong background in the practicalities of site work and an extensive grasp of general civil engineering design. Prior to specialising in geotechnics, Caroline managed many civil engineering projects both as a site engineer and a design manager.

Prior to setting up her consulting business, Caroline was an Associate at Coffey Geotechnics which she came to having spent 10 years in the British Army (Royal Engineers). While in these roles she was regularly in charge of multiple high value projects where her skills in coordination, resourcing people and time management were invaluable. These skills were honed in the military where work included a role in Afghanistan with DFID where she prioritised and controlled £80m worth of construction projects through local contractors. She was also the subject matter expert for protective infrastructure on operations. At Coffey she regularly led large design teams liaising with clients and stakeholders to ensure prompt delivery.

She is particularly skilled at delivering project briefs to large multi-disciplinary teams and in client engagement. Excellent interpersonal skills coupled with technical knowledge enable her to find and communicate effective project winning solutions. Her technical report writing is excellent and she is used to pulling together large documents for submission at all stages of design.

Caroline has been instrumental in business development where her excellent communication is key to development of relationships. As a chartered manager she is adept at business management including implementation of change.

CAREER SUMMARY

- Director, Caroline Livesey Consulting. 2018 (current)
- Coffey Geotechnics UK Ltd, March 2013 – Dec 2017.
- Lead Project Engineer, Force Protection Engineering Cell, Royal Engineers, 2012-2013.
- Command and Staff Course, Staff College, 2011-2012.
- Senior Civil Engineer, 527 Specialist Team Royal Engineers 2009-2011.
- Infrastructure Advisor, Helmand Provincial Reconstruction Team, Afghanistan 2009.
- Industry placement, Sir Robert McAlpine and BWB Consulting, 2007-2009.
- Junior Officer in Royal Engineers, including work in Northern Ireland, 2004-2007.
- Royal Military Academy Sandhurst, 2003.

EDUCATION

MEng Civil Engineering and Construction Management, University of Leeds, 2002

MSc (Hons) Military Construction Engineering, Cranfield University, 2009,

AREA OF EXPERTISE

Geotechnical design, ground improvement, material reuse, reinforced earth, load transfer platforms, soil nailing, piling, foundations, road widening, slope stability, coastal protection, expert witness assistance, forensic engineering, report review, desk studies, business development.

REGISTRATIONS / AFFILIATIONS

Chartered Engineer (CEng) & MICE (2009)

Chartered Manager and MCM (2013)

TRAINING / CERTIFICATION

Construction Skills Certification Scheme (CSCS)

YEARS OF EXPERIENCE

15

WEBSITE

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RELEVANT PROJECT EXPERIENCE

RAIL

- Design of reinforced earth approach embankments and load transfer platform for the Reading Station freight viaduct during redevelopment of this busy station. Liaison with large multi-disciplinary design team and direct interface with Network Rail.
- Design of soil nailing and piling solution for new abutments to allow successful replacement of a critical rail bridge at Spring Bank West, Hull. Site attendance and guidance.
- Assessment of existing retaining wall adjacent to a main rail line in London and optioneering design solutions for temporary works to enable track replacement during short possession.
- Geotechnical tender design for winning tender for a new rail passenger transfer route for Luton airport.

ROAD

- Lubbethorpe M1 Crossing. Design of reinforced earth abutments and wingwalls for a new bridge over the M1.
- A19 Parkway Junction. Design of reinforced lightweight fill retaining walls to widen a road across an existing structure.
- A45 Daventry link road. Tender design alternatives for winning contractor on this major new road scheme. Designs included materials reuse, geotechnical parameters, cutting and slope design.
- A19 Silverlink Roundabout. Tender design alternatives for the winning contractor on this major new road junction scheme. Designs included materials reuse, piling alternatives, construction sequencing to remove piling, slope angles, cutting stabilisation, sheet piling and temporary works.
- Many other large and small road projects with advice given from tender through to detailed design and construction delivery, temporary and permanent works.

COASTAL, PORTS & HARBOURS

- Scarborough Spa Coastal Protection Scheme. Design Project Manager for large design team on the ECI phase of this critical and complex coastal protection scheme. Team included structural engineers, environmental and planning teams and specialist subcontractors. Managed all processes with authorities and council from planning application and public consultation to detailed design delivery and authority acceptance. Design included development of complex ground model including analysis of historical slips, soil nailing and piling.

OIL, NUCLEAR, UTILITIES & POWER

- Summail Gas Plant, Kurdistan. Caroline was one of the key geotechnical consultants providing specialist advice on gully debris flows and rock falls from a high mountain ridge above the proposed site for a gas plant, and also slope stability and foundation design. She managed the team responsible for the design of redirection works for the gully, including debris flow trap areas and river erosion prevention measures. The team also carried out assessment of rock fall from above the site and development of rockfall protection bunds.
- Tawke Oil Pipeline, Kurdistan. Caroline was lead geotechnical designer providing specialist advice, in conjunction with a hydro dynamics expert, on the river bank scour which had exposed a 24" oil pipeline in a major river and development of remedial options to remediate the situation and prevent ongoing erosion.

MINING & QUARRYING

- Caroline undertook detailed design for a reinforced platform to support a tailings dam for the Hemerdon Tungsten Mine which was built over an area of historical tin streaming mine workings. The dam is one of the largest in Europe and design of this sensitive area included extensive geological and historical research as well as complex geotechnical design work in order to obtain approval from the authorities.
- Caroline was lead designer for the enabling works tender design for the York Potash mining project in the North York Moors. Design work included design of alternative solutions for a slurry wall to prevent groundwater drawdown likely to be caused by the works for the main shaft. She also carried out specification development and materials reuse.

COMMERCIAL/PROPERTY

- Caroline has undertaken development of economic design solutions for the geotechnical aspects of large warehouses, enabling contracts to be won and buildings to be completed efficiently. Designs have included CMCs, lightweight concrete, piles, pads, and various ground improvement solutions.
- Caroline was lead designer for a large team during the detailed design of the foundations, retaining walls and cut slopes for a new factory to be built on a steep site adjacent the M62 at Ainley Top. The site has complex ground conditions with previous mining activity. She carried out liaison with local authorities, HE and stakeholders to ensure successful design delivery and planning approval.



- She has advised on the geotechnical solutions for domestic and commercial projects on a variety of problems from restricted access sites in cities to difficult sloping ground in rural settings.
- Caroline has also undertaken many other large warehouse projects, both tender and detailed design for piled, ground improvement and ground slab solutions.

FLOOD RELIEF

- She was the lead designer and construction supervisor for the Barker Crossing in Workington in 2009 following the floods. This was a new temporary bridge successfully designed and installed by the Royal Engineers within a 13 day timeframe under considerable pressure.

EXPERT ADVICE & FORENSIC INVESTIGATIONS

- Caroline has regularly acted as the assisting expert witness on a variety of geotechnical cases where she has produced full reports compliant with CPR 35 to advise the court or dispute resolution team. She has successfully completed the ICE Advanced Professional Award in Expert Witness Training.
- Cases have included investigating construction practices for soil nail installation and testing adjacent to a road where existing unstable slopes were being repaired.
- Investigating the earthwork practices used at a supermarket warehouse development which encountered difficulties with delays due to water, asbestos and meeting compaction specifications.
- Assistance to the expert witness investigating slope instability in Whitby which resulted in the loss of terraced houses built on the slope.
- Advice to the owner of a large recycling facility which had suffered from slab failures. This case included delivery of a full CPR 35 compliant report covering both the slab deficiencies and gas protection issues to aid the Client in mediation.
- A variety of other forensic engineering expert witness investigations including report writing to CPR 35 and reports for adjudication and mediation.

PUBLICATIONS

- Civil Engineering 164, May 2011, Paper 100023 The Barker Crossing- Royal Engineers Reconnect Workington. (Awarded ICE Coopers Hill War Memorial Prize 2011)

OTHER APPOINTMENTS

- Caroline was the ICE Supervising Civil Engineer (SCE) at Coffey Harrogate office. She was responsible for the development of all staff on the ICE trainee programme during her time at Coffey.