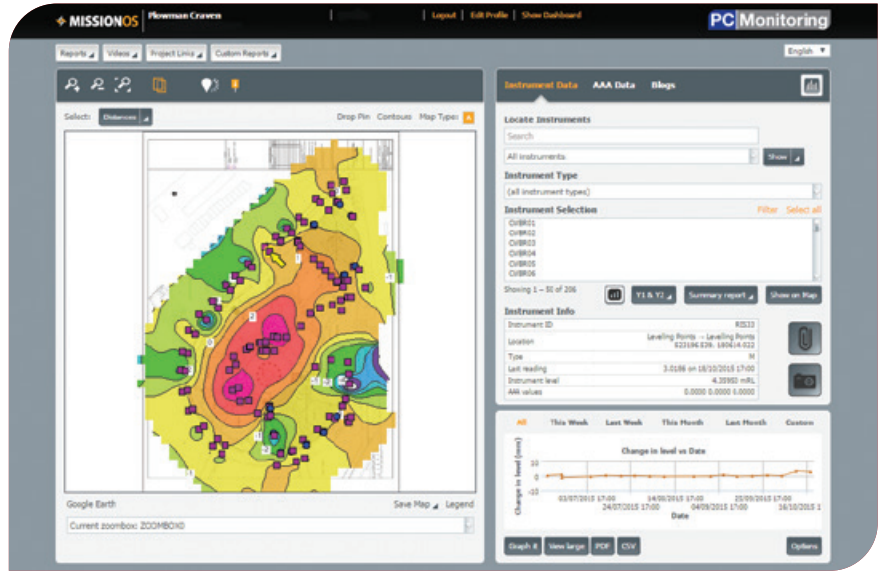


STRUCTURAL & ENVIRONMENTAL MONITORING & ENGINEERING SERVICES



Plowman Craven provides manual and automated structural monitoring, environmental monitoring and engineering services to the construction industry. With a forward-thinking and progressive approach, we deliver expert advice and practical benefits to clients requiring complete and seamless monitoring solutions.

www.plowmancraven.co.uk



Why choose **Plowman Craven**?

We offer a consultative approach, working with clients to advise on and manage all structural, geotechnical and environmental monitoring requirements.

Our construction monitoring services are fully integrated with Plowman Craven's environmental monitoring services for centralised installation, management and delivery of a complete package.

Structural Monitoring

Ensuring all buildings and surrounding structures remain stable throughout a construction programme is of primary concern, and just one of the many challenges developers face when undertaking major projects. Our consultative and expert approach minimises risk and creates programme efficiencies.



Automated Monitoring

Plowman Craven is at the forefront of many major tunnelling and construction developments where precise monitoring and early warning of movement on surrounding structures is a necessity. We're experts in the measurement and monitoring of deformation, deflection and settlement during demolition, excavation and construction works.

Monitoring schemes, surveys and services:

- Structural
- Environmental
- Condition
- Rail

Measurement:

- Tilt
- Strain
- Crack Width
- Vibration
- Convergence
- Distortion
- Load
- Settlement
- Heave
- Rotation



Manual Monitoring



Environmental Monitoring

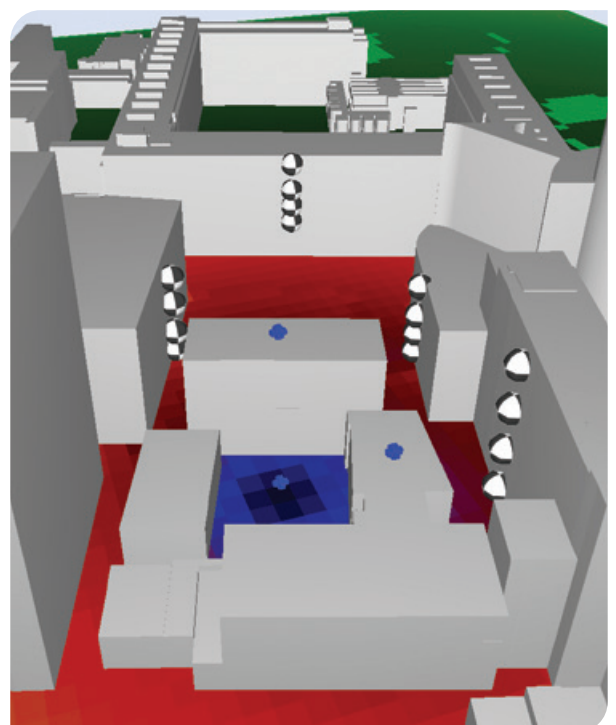
Our consultation and participation during the design phases of a development means we're well placed to provide expert advice on noise, air quality and vibration monitoring.

Our Monitoring and environmental teams are fully integrated to help minimise environmental risks for clients, including reputation damage, potential legal action and costly delays to do local authority working restrictions.

Services include:

- **Noise, Vibration and Air Quality Monitoring**
- **Acoustic Modelling, Assessment and Mitigation Advice**
- **Air Quality Modelling, Assessment and Mitigation Advice**
- **Consultation and Negotiation with Local Authorities**
- **Consents and Permits to Work**

Noise Heat Map Model



Engineering Services

Positional control during construction works is the key to a successful and error free project.

The importance of establishing and maintaining accurate and robust survey control is a project fundamental. From undertaking topographic surveys and BIM modelling in the early stages, through to setting out, monitoring and as-built surveys in the construction phase, our Monitoring teams work closely with all other Plowman Craven teams throughout the project lifecycle, ensuring all dimensional surveys are referenced to the same assured control grid, eliminating discrepancies and ensuring all parameters are met throughout the project.



Plowman Craven offers expert consultation, installation and monitoring expertise on a range of projects.

Whether it's establishing control for new office developments, providing grid lines and datums for the setting out of external facades, or verifying accuracies in the construction of pre-fabricated modular tower blocks, our consultative and expert approach minimises risk and creates programme efficiencies.

Services include:

- Control Establishment and Verification
- Grid Lines and Datums
- As-built Surveys
- Window Alignment Surveys

Projects

We have been involved with many major projects and have extensive experience in managing relationships and approvals processes with infrastructure providers and third parties.



Crossrail Depot, Old Oak Common

Provided a track and structural monitoring system to record any movement of the sensitive assets bordering the site.

- **Precision Robotic Total Stations**
- **Track Prisms**
- **3D Structural Prisms**
- **Web-Hosted Data Visualisation Software**



Earls Court Masterplan

Continually involved in this project since 2014, we have supplied both manual and automated monitoring systems to record any movement of sensitive assets bordering and beneath the site.

- **Structural Monitoring Scheme**
- **3D Structure Prisms and Retro Targets**
- **Web-hosted Data Visualisation Software**



Halifax House Development

Environmental monitoring schemes on party walls, 3D vibration/monitoring of underground sewers and tunnels, local buildings and retained façades plus setting out of gridlines and datums.

- **Site Engineering Services**
- **3D Track/Tunnel/Façade Monitoring**
- **Environmental/Vibration Monitoring**



Ludgate House Development

Monitoring of Network Rail assets including a viaduct, Blackfriars station and services tunnel running underneath during demolition of existing buildings relating to a new mixed-use development.

- **Manual and Automated Schemes**
- **3D Track/Viaduct/Tunnel Monitoring**
- **Tape Extensometer Monitoring**

An Integrated Approach

Plowman Craven's Structural, Environmental and Engineering services are integrated into our broader surveying and measurement services deployed throughout the project lifecycle. This approach saves our clients valuable time, working with one company rather than several, and creates efficiencies in our delivery, leading to significant cost savings.

Innovation tailored to your needs

Over the last 60 years, Plowman Craven has built a reputation for innovation – our Monitoring services follow this tradition and utilise the tools and technology developed in the business which add value to our monitoring and risk management solutions.

An expert team

Our service is backed by a strong management team which actively engages in each project to provide cost-effective monitoring solutions and consultancy throughout.



- **Centralised Management** – Provides greater control, expertise, flexibility and efficiencies throughout the project lifecycle
- **Comprehensive Risk Management** – We work with clients to identify, manage and mitigate project risks through the provision of technical solutions which fully meet client requirements
- **Expert Consultation** – Backed by a strong management team, providing experienced advice and support
- **Cost Efficiencies** – Realised through combined management, installation and efficient data presentation
- **Innovation** – A range of advanced software packages and web-based platforms provide data access tailored to suit client requirements
- **Comprehensive** – Seamless integration with Plowman Craven's industry-leading BIM, Property and Infrastructure divisions.

About **Plowman Craven**

Plowman Craven provides integrated measurement and consultancy services to the property and infrastructure markets, pioneering the use of technical innovation to deliver proven expertise and trusted results throughout the project lifecycle.

With more than 60 years' industry experience, Plowman Craven has contributed to many of the UK's high-profile redevelopment, infrastructure, heritage and estates projects. The company is built on honesty, integrity and a reputation for consistent delivery of quality service to customers who trust our expertise and professionalism.



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Consult. Trust. Innovate.