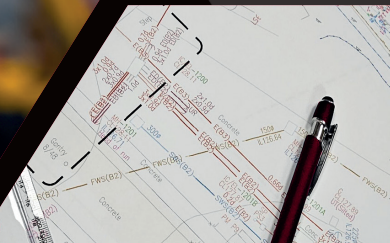
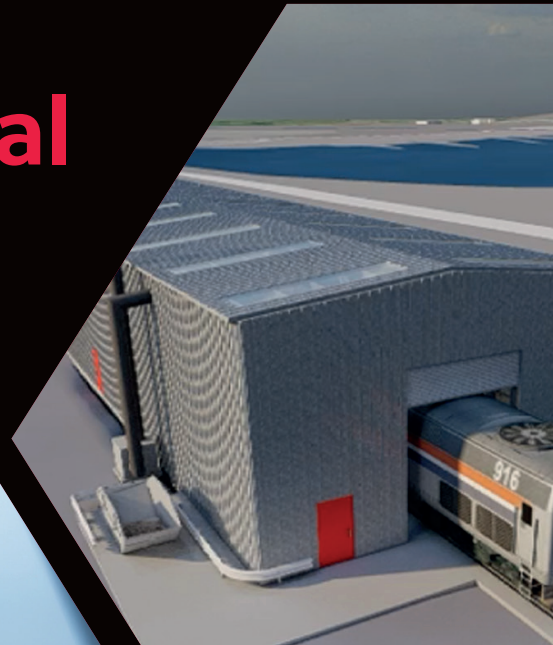


HEXAGON

Pre-construction, design and technical services

Your next design starts here.



Hexagon is a structural engineering design consultancy and specialist provider of pre-construction, design, and technical services for rail depots and bespoke projects.

Our Services

From surveys and reports to detailed designs, HEXAGON offers a suite of services to ensure your project requirements are fulfilled by one cohesive team.



**CONSULTANCY & DESIGN
MANAGEMENT SERVICES**



**DESKTOP STUDIES &
FEASIBILITY REPORTS**



**TOPOGRAPHICAL &
CLOUD POINT SURVEYS**



**OUTLINE AND
DETAILED DESIGN**



**PRE-CONSTRUCTION
SERVICES**



**CALCULATIONS & TEMPORARY
WORKS DESIGN PACKAGES**

Schedule a call with a team member

info@hexagondesign.co.uk
0113 277 4548



Our Services

HEXAGON specialises in delivering cutting-edge technical services tailored to the rail industry. With our team of engineers and innovative designers, we provide comprehensive solutions that encompass everything from initial feasibility studies to detailed structural analysis and design. Our expertise ensures robust, efficient, and safe infrastructure, meeting the highest quality and compliance standards.



CALCULATIONS & TEMPORARY WORKS DESIGN PACKAGES

- Geotechnical
- Environmental
- Structural analysis
- Calculations
- Risk assessment
- Constructability
- Safety measurements



CONSULTANCY & DESIGN MANAGEMENT SERVICES

- Technical evaluation
- Rail stakeholder engagement
- Quality control/assurance
- Interdisciplinary collaboration
- Value engineering



PRE-CONSTRUCTION SERVICES

- Project scheduling
- Design decision making
- Options for procurement of works
- Obtaining permits and approval
- Co-ordination with stakeholders
- Types of contracts to be used



TOPOGRAPHICAL & POINT CLOUD SURVEYS

- Topographical survey
- Point cloud survey

SCAN THE QR CODE
TO LEARN MORE
ABOUT OUR
SERVICES



DESKTOP STUDIES & FEASIBILITY REPORTS

- Data collection
- Site investigation
- Risk analysis
- Technical requirements
- Environmental impact assessment
- Noise impact assessment
- Ecological impact assessment
- Lightening protection analysis



OUTLINE AND DETAILED DESIGN

- Scope definition
- Single option development
- Industry compliant design pack
- Technical design
- Value engineering
- Hazard identification
- Co-ordination
- Industry compliant design pack



We have worked with Lisa and HEXAGON (formally Epsilon) on various Railway Depot Upgrade Projects. Their positive, creative attitude has ensured projects are normally delivered on time and within budget. We recommend them to our customers and will be using them again.

Bob Newsham,
Senior Project Manager,
Alstom Transport UK



HEXAGONDESIGN.CO.UK/
TESTIMONIALS

A rich heritage of rail and civil engineering experience and technical knowledge



**SCAN THE QR CODE
TO LEARN MORE ABOUT
OUR RAIL SERVICES**

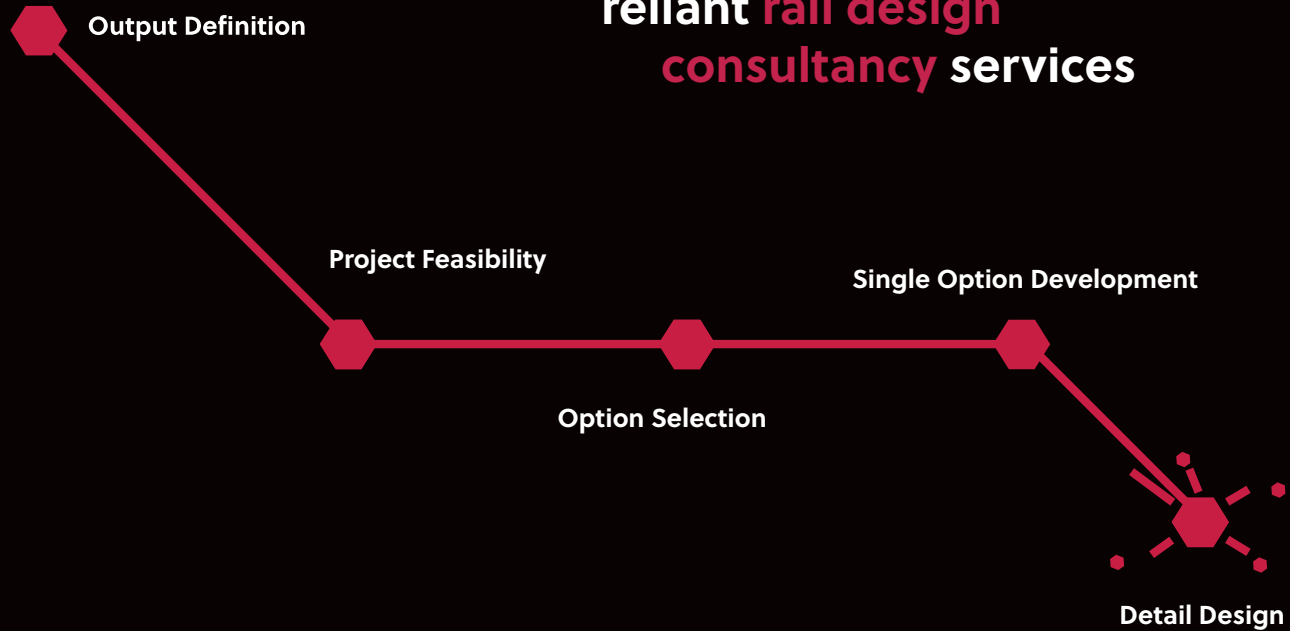
For over ten years, Hexagon Design has worked on and delivered significant infrastructure projects in the civil engineering and rail industries.

Our team of specialists, each bringing a unique wealth of knowledge and expertise from the rail industry, ensures that your project is crafted with a deep understanding of how projects are constructed, providing you with the reassurance of top-notch quality.

We have delivered consultancy for over 30 UK rail depots, enabling new infrastructure and construction works. We are Network Rail compliant on all our projects where applicable.



We strive to ensure reliant **rail design** **consultancy** services



Our consultancy process is structured into five key steps to ensure the success of your rail projects.

We begin with output definition, working closely with you to understand and articulate the desired outcomes and objectives.

Next, we conduct a thorough feasibility assessment, analysing technical, financial, and regulatory aspects for the viability.

Following this, we move to option selection, exploring and comparing alternatives to identify the most effective solution.

Once the best option is selected, we proceed to single-option development, refining and optimising the chosen design.

Finally, we advance to detail design, creating precise plans ready for implementation, ensuring every aspect meets the highest quality and performance standards.



“ HEXAGON were invaluable when managing our approval process with Network Rail on our difficult site in Hackney which neighboured crucial rail infrastructure for London. The HEXAGON team seemed to have a strong relationship with Network Rail which combined with passion and communication enabled a quick and cost effective resolution.”

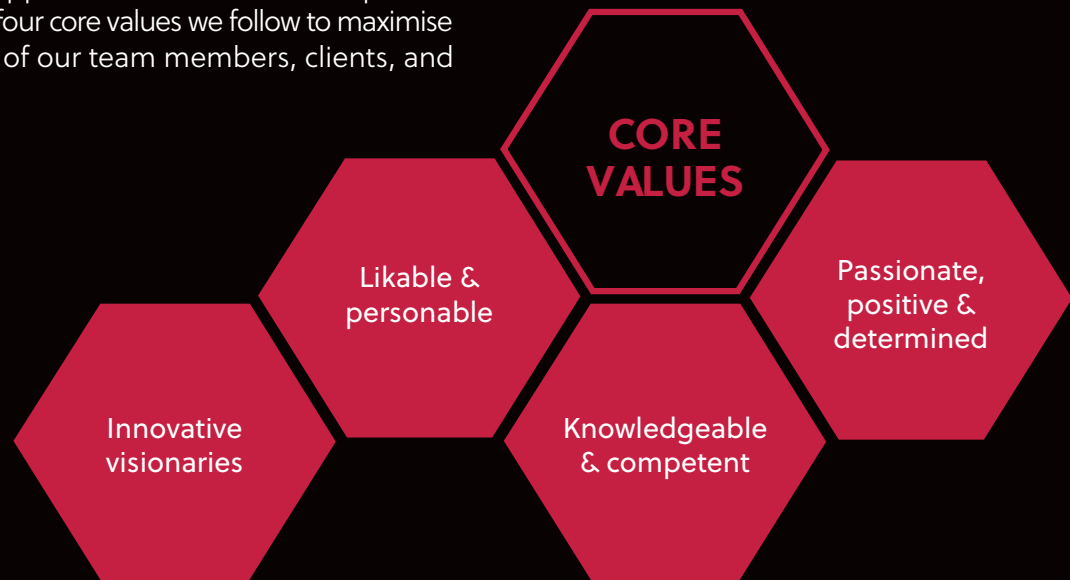
**Tom Davies MRICS,
Managing Partner & Co-founder,
Bloom Developments**

Our Values

Bringing together a specialist team of designers and engineers, HEXAGON has devoted a high level of resources and effort to developing and maintaining a fully integrated management system, achieving RISQS approval for rail-related design works.

At HEXAGON, we understand the importance of effective and efficient communication. That's why we adopt a single point-of-contact approach, ensuring that you have a direct team member, making your experience with us seamless and hassle-free.

We're a busy hive collaborating to deliver your project. Our approach is honest and transparent. We've set out four core values we follow to maximise the potential of our team members, clients, and supply chain.



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HOLYHEAD CARRIAGE WASH

Our client needed a new railway carriage wash facility for their expanding rolling stock, including drainage and maintenance rail.

Our consultancy process included designing a steel portal frame shed housing a train carriage wash with a bespoke drainage system for wastewater separation to achieve recycling targets using GRP TrackPans.

The structure is designed to integrate overhead lines. The facility uses GRP TrackPans to avoid a full concrete track slab, allowing safe and efficient handback of the road after each shift. It also provides comprehensive M&E design.

Outcomes

- ✓ All designs to Network Rail-compliant standards by the GRIP process
- ✓ Steel portal framed single skin cladded carriage wash shed incorporating passive provision for future overhead line
- ✓ Water reclaim plant, above ground three stage interceptor, and recycling plant for re-use.
- ✓ TrackPan integrations
- ✓ Design of GRP floor mesh



CONSULTANCY & DESIGN MANAGEMENT SERVICES



TOPOGRAPHICAL & CLOUD POINT SURVEYS



OUTLINE AND DETAILED DESIGN



DESKTOP STUDIES AND FEASIBILITY REPORTS

PETERBOROUGH MAINTENANCE HUB

Hexagon designed a new 95-metre-long maintenance hub for freight operator GB Railfreight. The project provision entailed undertaking feasibility studies and creating the outline and detailed design specifications.

Our consultancy process included designing a sustainable carbon-reduced facility with a monolithic slab foundation and jacking provisions, two embedded tracks, complimented by a 6.3t overhead gantry crane.

Outcomes

- ✓ Steel portal framed cladded wagon maintenance hub with full-length jacking strips
- ✓ Full-length gantry crane
- ✓ Fully electric powered to support shunt engines and forklifts
- ✓ Fume extraction system
- ✓ Foul drainage with volume attenuation
- ✓ Fume extraction design



PRE-CONSTRUCTION SERVICES



CONSULTANCY & DESIGN MANAGEMENT SERVICES



TOPOGRAPHICAL & CLOUD POINT SURVEYS



OUTLINE AND DETAILED DESIGN



DESKTOP STUDIES AND FEASIBILITY REPORTS



CALCULATIONS & TEMPORARY WORKS
DESIGN PACKAGES

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WATCH OUR
3D VISUAL





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3D VISUAL

HOLGATE FEASIBILITY

A feasibility study was undertaken for Holgate depot to introduce a new facility that will house an under-floor wheel lathe machine, a bogie drop and wash-down facilities.

Our consultancy process included location optioneering for the wheel lathe facility, early stakeholder engagement, ensuring compliance with permitted development rights, integrating the wheel lathe within existing Network Rail infrastructure, checking existing power supply capacity, and planning for an external wash-down area, vehicular access road, and parking facilities.

Outcomes

- ✓ All designs to Network Rail-compliant standards by the GRIP process
- ✓ GRP (ground penetrating radar) survey
- ✓ Topographical survey
- ✓ 3D survey
- ✓ Permanent way survey
- ✓ Outline drawing production
- ✓ Feasibility report
- ✓ 3D visualisation and fly through



CONSULTANCY & DESIGN MANAGEMENT SERVICES



PRE-CONSTRUCTION SERVICES



TOPOGRAPHICAL & CLOUD POINT SURVEYS



OUTLINE AND DETAILED DESIGN



DESKTOP STUDIES AND FEASIBILITY REPORTS

ILLFORD WHEEL LATHE FEASIBILITY STUDY

The replacement of a life-expired single-headed wheel lathe with a double-headed wheel lathe to lathe 4 & 5 car sets of various rolling stock fleets.

Our consultancy process included optioneering to determine the optimum location of a double-headed wheel lathe, outlining any building, infrastructure, permanent way, foundation, wheel lathe pit, and OLE alterations, clarifying the suitability of the existing crane, and finally, conducting checks on the depots' existing power supply capacity.

Outcomes

- ✓ All designs to Network Rail-compliant standards by the GRIP process
- ✓ GRP (ground penetrating radar) survey
- ✓ Desktop studies for gauging, crane suitability, existing infrastructure dimensions, rolling stock clearances
- ✓ Site investigations for condition of building
- ✓ Steelwork, concrete pit and permanent way
- ✓ Outline drawing production
- ✓ Feasibility report
- ✓ 3D visualisation and fly through



CONSULTANCY & DESIGN MANAGEMENT SERVICES



PRE-CONSTRUCTION SERVICES



TOPOGRAPHICAL & CLOUD POINT SURVEYS

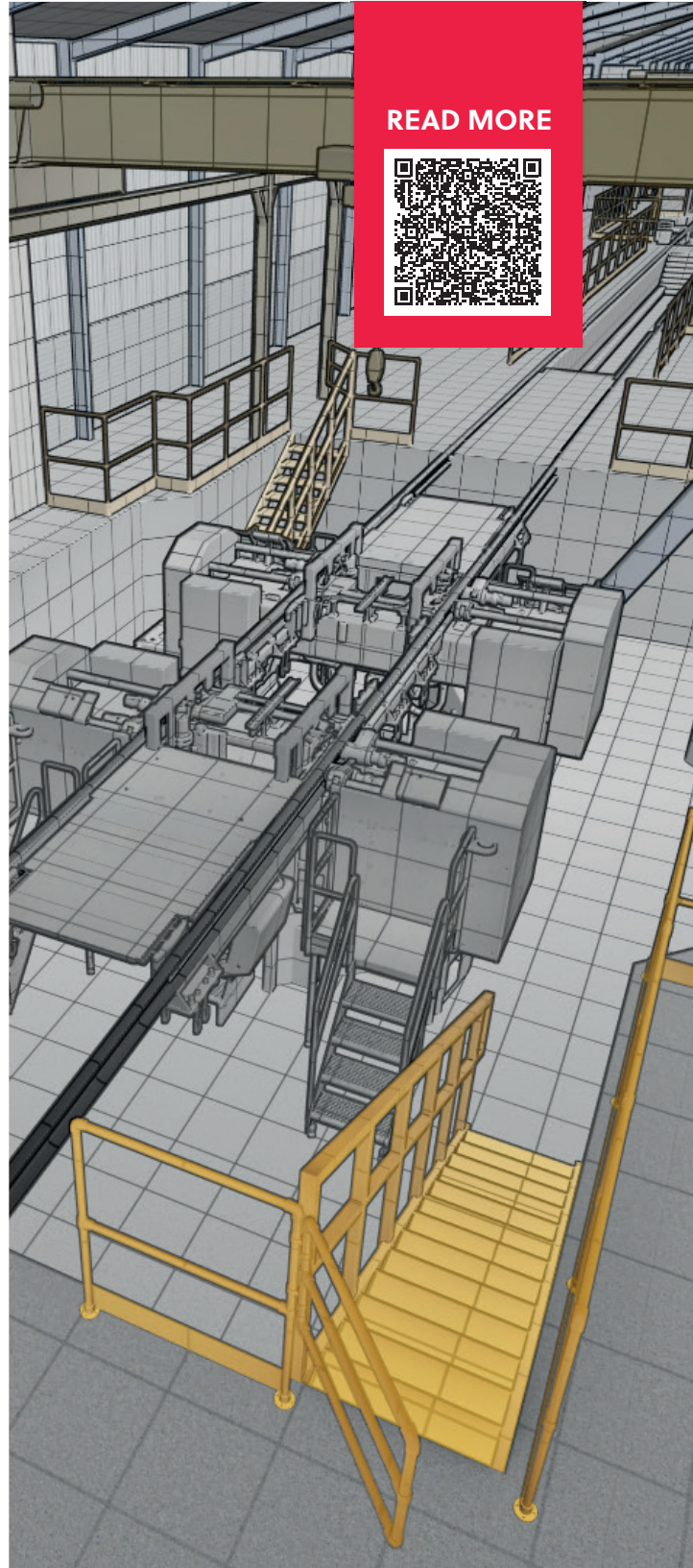


OUTLINE AND DETAILED DESIGN

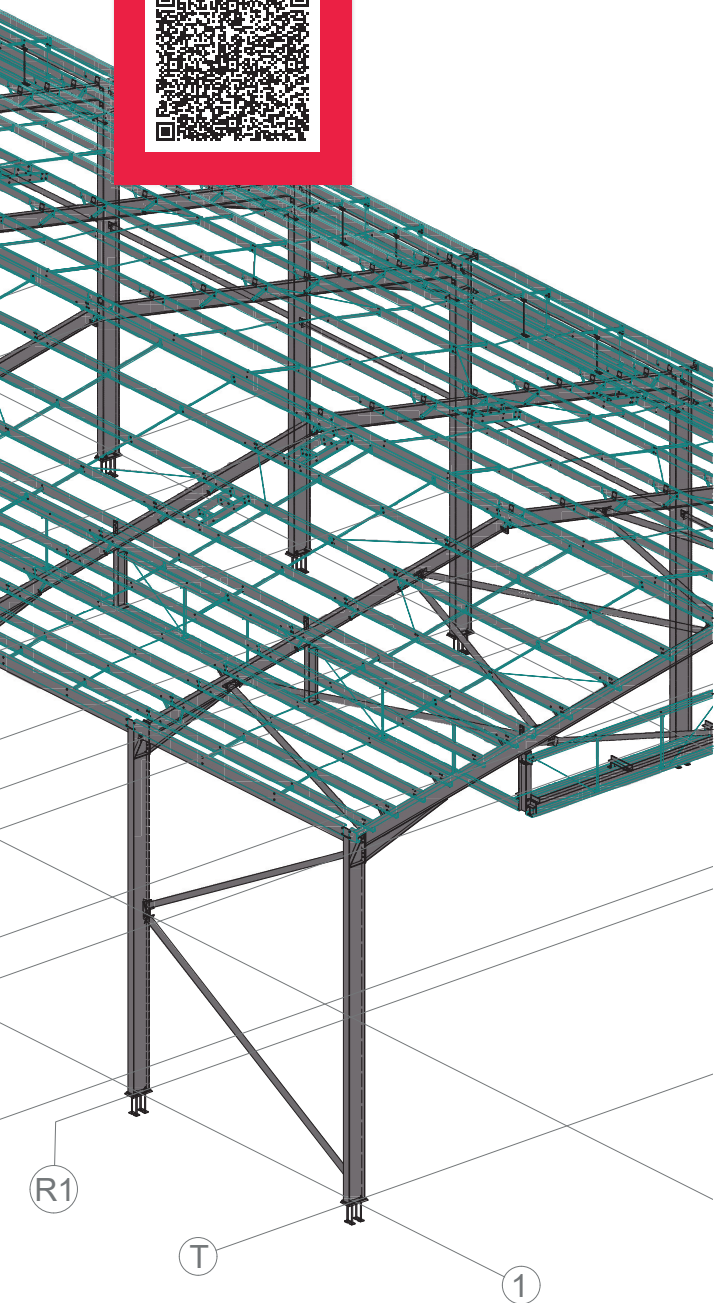


DESKTOP STUDIES AND FEASIBILITY REPORTS

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HULL BOTANIC GARDENS SUPERSTRUCTURE

Hull Botanic Gardens Depot upgrade works include shed roof replacement, jacking, roof access equipment, pedestrian footbridge upgrades, fuelling, CET, tanking, AdBlue, a 12-t jib crane, and M&E for an additional stabling road for Class 170 vehicles.

Hexagon (formerly Epsilon Design Engineers) undertook a series of surveys and calculations and outlined detailed design schematics to replace the roof and add new facilities.

Outcomes

- ✓ All designs to Network Rail-compliant standards by the GRIP process
- ✓ Existing buried services survey
- ✓ Desktop studies for gauging, existing infrastructure dimensions and rolling stock clearances
- ✓ Site investigations for the condition of building steelwork, concrete and permanent way
- ✓ Bespoke design of steel exoskeleton to cover the life expired roof
- ✓ M&E design for ventilation, lighting, electrical supplies, charging and CCTV



CONSULTANCY & DESIGN MANAGEMENT SERVICES



TOPOGRAPHICAL & CLOUD POINT SURVEYS



OUTLINE AND DETAILED DESIGN



DESKTOP STUDIES AND FEASIBILITY REPORTS



CALCULATIONS & TEMPORARY WORKS DESIGN PACKAGES

STONE COLUMN FOUNDATIONS FOR UNIT 1 OLDHAM

Hexagon designed an outline and detailed design for foundational stone columns for constructing a commercial building to ensure the structural load-bearing integrity of the building foundations was sufficient.

Hexagon (formally Epsilon Design Engineers) designed Vibro stone columns. The Vibro stone columns act as 'reinforcing elements' within weak compressible soils to improve their bearing capacity and settlement characteristics and permit the adoption of conventional shallow footings and ground-bearing floor slabs.

The design consultancy work included building dimensions with clearly marked foundation sizes.

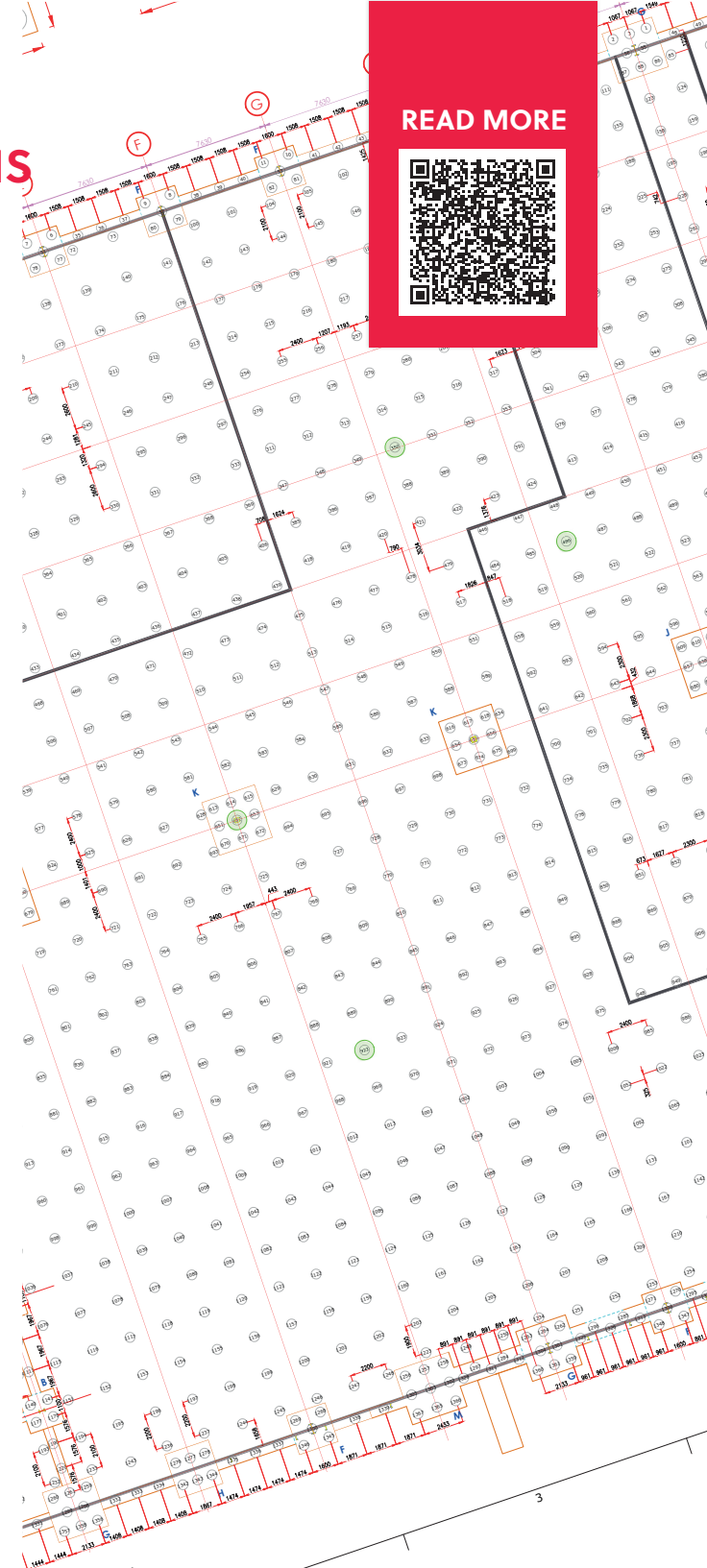
Outcomes

- ✓ Setting out with coordinates for vibrostone columns to support foundations for residential, low-rise rise and industrial buildings

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OUTLINE AND DETAILED DESIGN



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