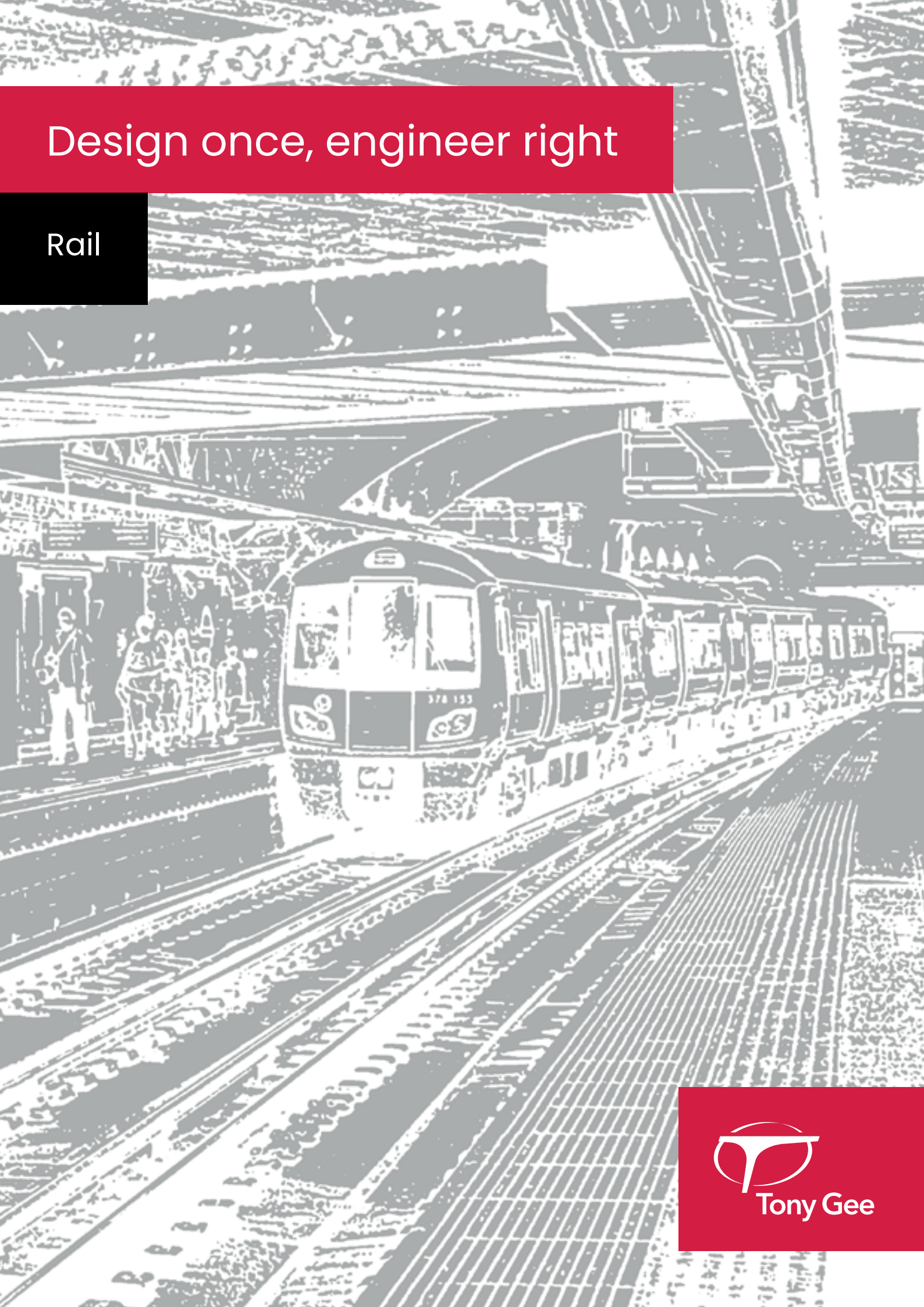


# Design once, engineer right

## Rail



Tony Gee



## Design once, engineer right

Our work is always the best it should be, anticipating challenges and revealing possibilities, avoiding waste and better serving the needs of society and the environment – for today and the future



Midland Metro Alliance

“A firm which has carved out a strong reputation as a provider of technical maestros who can sort out any complex construction challenge”

New Civil Engineer Magazine

### Sectors



Marine



Highways



Rail



Power and Energy



Aviation



Commercial and Industrial



Defence



Health

## Tony Gee and Partners

Tony Gee is an owner-managed business which focuses on civil, structural and geotechnical engineering and infrastructure design services. Founded in 1974, we are a multi-award winning firm which has a reputation for providing high-calibre, complex and innovative engineering solutions, with a particular flair for the unique and challenging.

We have offices throughout UK and internationally and have established, world-leading capabilities that can deliver solutions at a global level, whilst recognising the needs of local clients and communities.

Our reputation has been built through the delivery of creative solutions and alternative design solutions. Our designs always embrace buildability at their core through the deployment of modern and sometimes unique construction methods and technologies. Our approach is always to work collaboratively alongside our clients to develop innovative solutions, designing both permanent and temporary works together, focussing in particular on the integration of design with construction that delivers cost, time and material resource savings.

### Our key differentiators and USPs:



**Technical** – Highly experienced local teams that understand the challenges faced by clients and invested in its success



**Understanding** – Construction risk in the design process methodology and design integration



**Sustainable** – Designing with carbon and biodiversity net gain in mind



**Flexible** – Agile and responsive in service delivery



**Always collaborative** – Working with clients and contractors on complex projects



**Delivering value** – Socially, financially and environmentally, through our safe and buildable infrastructure designs

Dover Sea Wall Emergency Works



# Our Culture

Our culture shapes everything we do, from how we approach challenges to how we interact with one another and our environment.

It's defined by six key principles: Curiosity, Respect, Excellence, Agility, Teamwork, and Empowerment.

CURIOUSITY

RESPECT

EXCELLENCE

AGILITY

TEAMWORK

EMPOWERMENT

Curiosity

Respect

Excellence

Agility

Teamwork

Empowerment

We challenge and innovate

We care about and value each other and our environment

We continuously improve to do what is best

We are responsive and adaptable

We connect capability

We encourage, trust and nurture

## Designing for a sustainable future

Sustainability has become a cornerstone of our work. We embrace all the services that are now demanded by client organisations and projects and retain in-house capabilities in sustainability, digital delivery, carbon, social value and whole life costing. We are an accredited carbon neutral organisation.

## Simply Safe

Simply Safe is our cultural approach to safety and the well-being of people and is woven throughout everything that we do. We value technical excellence - inviting and tackling the hardest engineering challenge but always with a deep commitment to our civic duty to protect our people, our industry colleagues, and the wider public from harm. We can make safety simple by planning ahead, designing right first time, and considering the whole life-cycle of every project.

## Giving something back

At Tony Gee we take pride in giving back to communities. Whether this is for the contributions we make to charity and good causes or for the engagement in wider industry and local community activity that we support our staff to make. We empower them to make a difference.

## Our people make us

We are a business of people. Our size allows us to maintain our values and culture through simple lines of communication and to be able to remain flexible and responsive to changing demands. We employ highly qualified and experienced staff and develop them through progressive training programmes to develop the broad range of skills across all disciplines that we have built our reputation on.



# Tony Gee in the Rail Sector

Tony Gee's experience in the rail sector ranges from infrastructure renewal and enhancement in all regions of the UK to independent validation and verification of high-speed railways in Asia. We have experience of a broad range of delivery models which vary from alliancing and partnering to highly competitive design and build arrangements.

Our projects are delivered by staff who understand the requirements of the rail industry and who are trained to the highest standards of health and safety appropriate to the rail environment.

## Practical, Buildable Rail Solutions

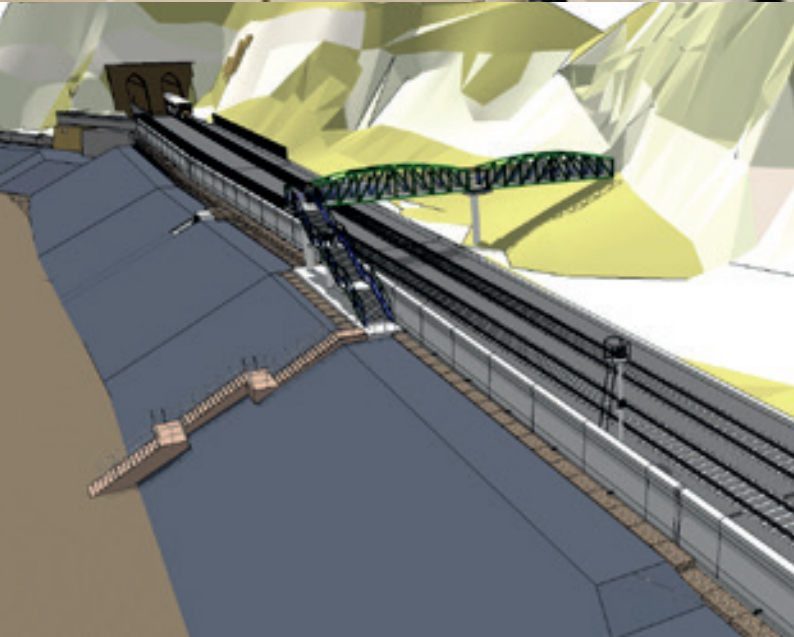
Our cultural approach and significant experience in the rail sector allow us to tackle a diverse range of projects in both size and complexity. From earthworks to track, structures to stations our wide-ranging capabilities and flexible approach allow us to meet the requirements of our clients.

We provide design solutions that address budget and programme needs whilst recognising the need to incorporate change when required. The close relationships that we have built over decades with many of the UK's leading and specialist contractors has given us a detailed understanding of materials and methods, buildability, practical site issues and the demands of the project programme throughout every stage of project development.

## Digital Rail

We regularly employ a vista of techniques that add value to a project. These include visual information aids, applied to early concept project stages, using 3D schematic representation tools such as SolidWorks. We also use project modelling, BIM information management and collaborative working using common data environments. We can also employ Design for Manufacture and Assembly to reduce construction costs and deliver high quality solutions and information where it is needed.














As an important part of our unique ability to integrate temporary and permanent works design, Tony Gee can provide a full spectrum of digital engineering services.













# Our Rail Expertise

## Design and engineering services...

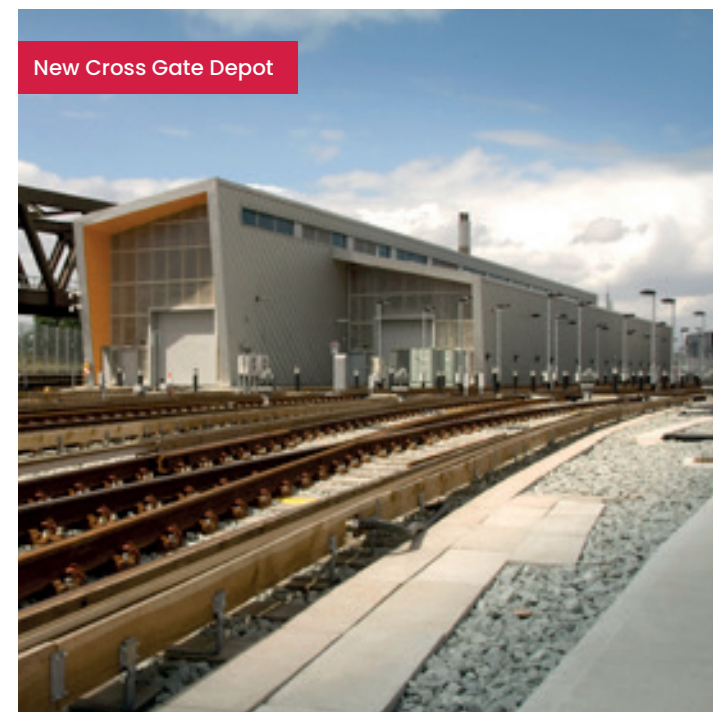
-  Research and development
-  Inspections and assessments
-  Feasibility studies and business case development
-  Ground investigations
-  Permanent works design
-  Temporary works design
-  BIM and digital modelling
-  Lifting and moving systems
-  Design checking
-  Demolition and façade retention
-  Construction methodology
-  Site monitoring
-  Expert witness

## ...and where we apply them

-  Stations and depots
-  Bridges and tunnels
-  Inclusive access
-  Earthworks
-  Metro and light rail
-  Permanent way and rail systems
-  Building services and SiSS
-  Stakeholder management



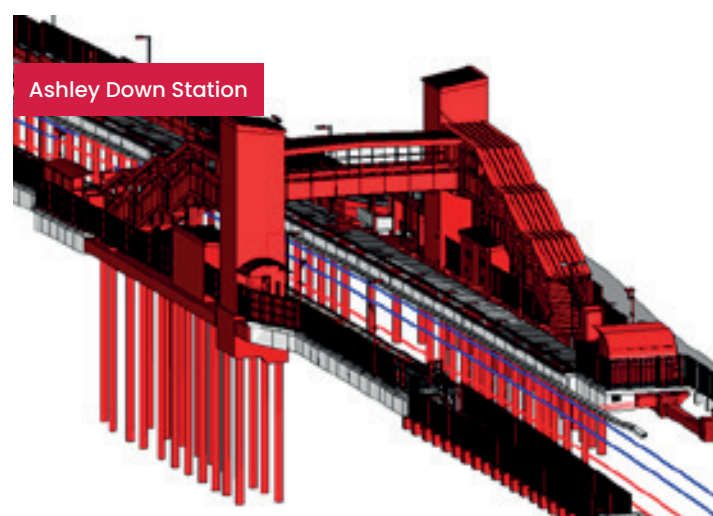
# Stations and Depots



Tony Gee has broad experience in the design of stations and depots across the UK rail network and successfully delivered a wide range of projects over more than 20 years. We are able to demonstrate leading capability from heritage work to re-purposing and refurbishment; feasibility to new build.

Bringing together many of our core design services, we understand that each station or depot facility, no matter what type or size, should be an integrated solution for the travelling public, the station operator and the asset owner and manager.

We understand the operational constraints of working within depots and have brought this experience to early-stage feasibility studies, outline and detailed design of new depots, and the design of remediation and modification to existing facilities.





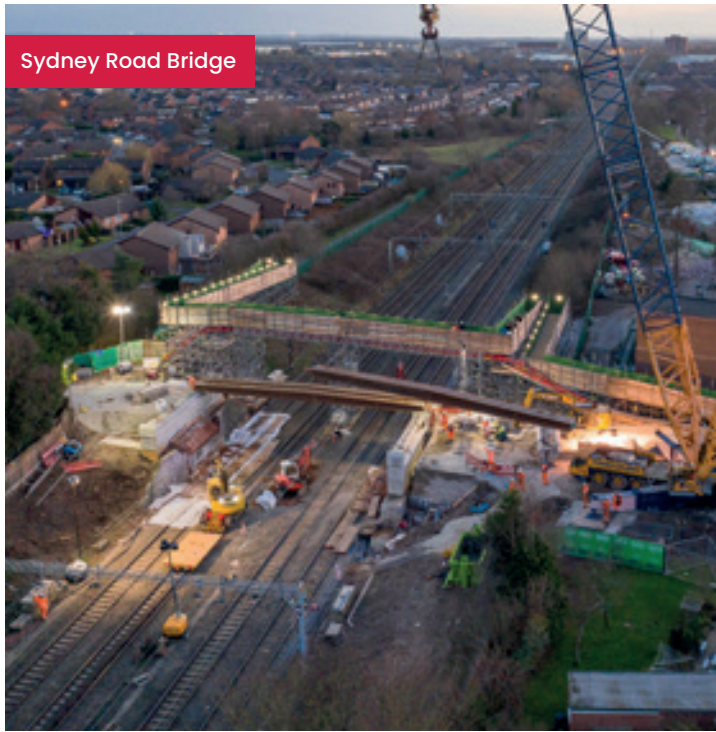
# Bridges and Tunnels



Sandwich Bridge



Hitchin Viaduct



Sydney Road Bridge



Werrington Grade Separation Dive Under

Our reputation has been founded on providing value engineered solutions for rail structures. Our roots as a 'go-to' designer for contractors has allowed Tony Gee to develop the skills and expertise to successfully build an extensive bridge and tunnel structures portfolio in the rail environment.

We understand the constraints and the importance of buildability and value engineering. Our approach is to always look for the alternative, cost effective solutions which has allowed us to provide integrated permanent and temporary works design solutions across the UK and international rail networks for more than 40 years.

Over the years we have been involved with an array of team models and can boast experience of design and build, temporary works integration and full client alliancing projects.



Orlando Street Bridge



Victoria Station Upgrade



Sapperton Tunnel



MTRC Viaduct



# Earthworks



Our geotechnical and environmental expertise is provided as a stand alone service or is integrated into delivery teams providing a diverse and wide range of skills.

We are trusted as one of Network Rail's key geotechnical consultants under the Design Services Framework and have undertaken significant programmes of works on embankments and cuttings for asset owners or contractors alike.

We were Network Rail's consultant of choice for both the Dawlish sea cliffs and the Dover sea wall emergency projects, where our responsive, flexible and pragmatic approach, together with a can-do attitude expedited successful high profile solutions and delivery.





# High-Speed, Metro and Light Rail



Taiwan High Speed Rail



Scomi Monorail



Gloucester Road Station



Klang Valley LRT

We have experience through a diverse range of high-speed rail, light rail and metro projects in the UK and across the world.

Cities around the world are increasingly looking at light rail or metro schemes as part of an integrated transport strategy. We can provide a wide range of services including feasibility, outline and detailed design services to clients in support of new or existing networks.

As key design partner for the Midland Metro Alliance we were integrated in to the delivery team, not only providing design but key project and stakeholder management services.

High-speed rail is equally as important in linking cities together and we have experience across the world including the Taiwan high-speed systems and more than 20 different contracts on the UK's HS2 programme.



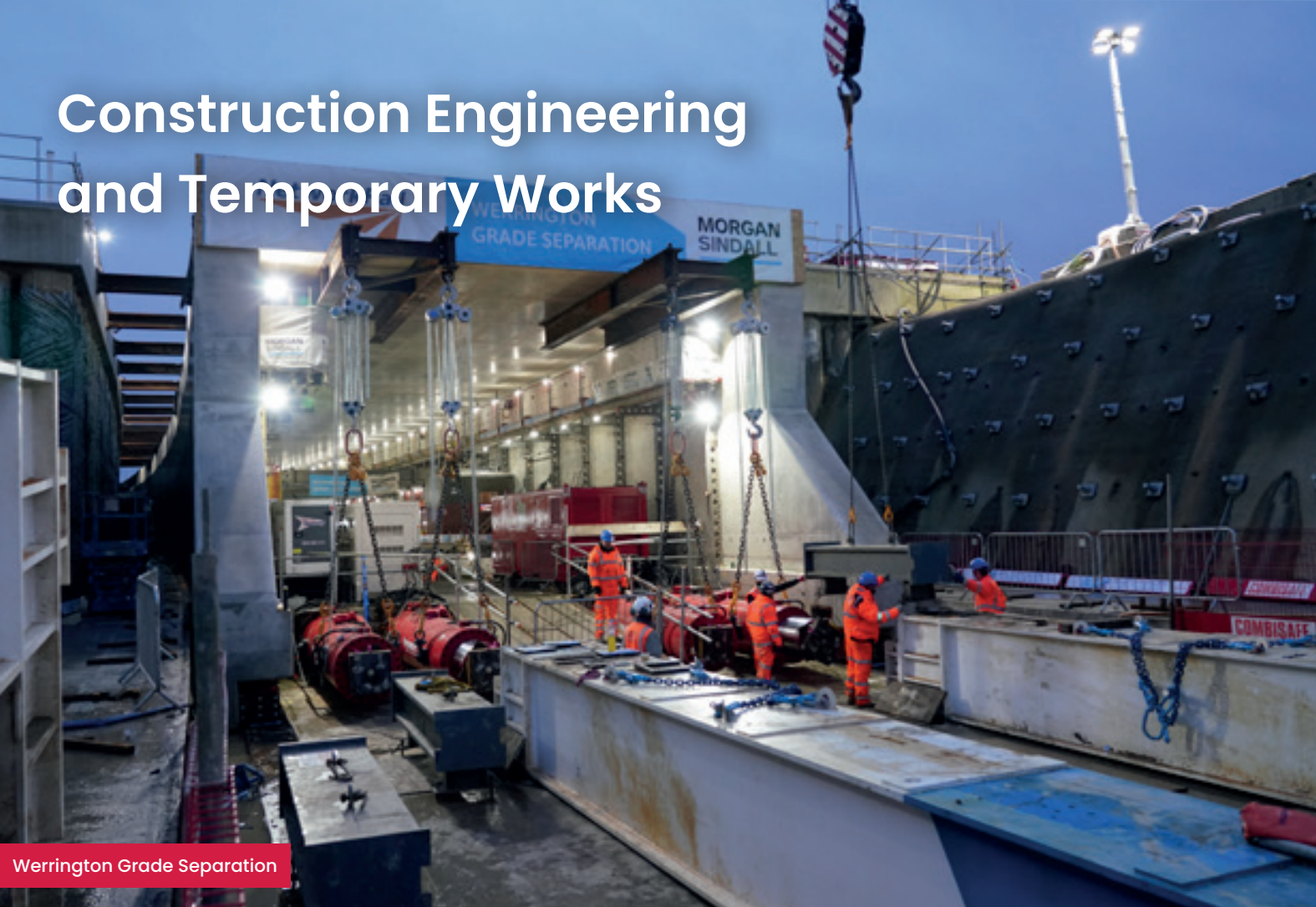
Midland Metro Alliance



Luton DART



# Construction Engineering and Temporary Works



We have developed an extensive capability in both temporary and permanent works design, focussing in particular on integration of design with construction.

Our reputation has been built through the delivery of innovative and alternative designs that have taken into account the employment of construction methods, modern and innovative techniques as well as the effective use of materials. Our approach is always to work alongside our client to consider robust, combined solutions, designing both permanent and temporary works together. We have extensive knowledge and experience of working for contractors across the globe, recognising and understanding the logistical challenges associated with major infrastructure schemes.

Providing buildable designs is at the core of Tony Gee, and the reason why we are one of the preferred consultants for many contracting clients. Within the highly constrained railway environment we understand that how to build is just as important as what to build.





# Permanent Way and Rail Systems



Our permanent way and rail systems design capability has been a focus of growth over recent years, providing us with the skills and expertise to deliver a wide range of multi-discipline services.

We have significant experience and expertise in the delivery of permanent way and gauging design services, from depot layouts, major mainline upgrades and route remodelling to simple schemes such as bridge replacements and station upgrades.

Through key contractor and equipment supplier partnerships we have undertaken extensive work on both AC and DC across the network including substation design, feeder routes, OLE design and modification, along with design as part of larger multi-disciplinary electrification programmes.

With established and proven design partners we have delivered significant signalling design work in support of wider infrastructure and station projects, providing seamless design integration.







## Tony Gee and Partners

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[tonygee.com/rail](http://tonygee.com/rail)

