SPENCER
Rail Engineering

INDUSTRY LEADING RAIL ENGINEERING SOLUTIONS

OVER 30 YEARS OF EXPERIENCE IN DEPOTS, STATIONS AND INFRASTRUCTURE PROJECTS

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WE ARE SPENCER RAIL ENGINEERING

Mike Halliday
Managing Director
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We are pleased to be able to introduce this snapshot of Spencer Rail Engineering's capabilities. Our dedicated professional multi-disciplined rail team provide innovative, integrated solutions for our clients, which are delivered to industry-leading safety standards. Our business model enables clients to tap into our turnkey, in-house design and build capability, whilst benefitting from our provision of value-engineered solutions for Property, Civils, Track, Depot and Control Centre projects throughout the UK.

Our award-winning team works collaboratively with a wide range of clients, including Network Rail, Train Operating Companies, Freight Operating Companies, Private Clients, and Government, Local and Regional Authorities. We value the opportunity for early contractor involvement taking projects through their whole lifecycle from feasibility, planning and design, to implementation and maintenance, with experience of working across all GRIP stages.

Throughout this brochure you will see definitive evidence of our business values of top-class performance coupled with visionary engineering thinking, a collaborative approach and the desire to make a difference to the communities in which we work. We hope we can bring these values to your project in the future.

SPENCER Rail Engineering

Stevenage Turnback Facility

CAPABILITY AND EXPERTISE: NEW-BUILD AND REFURBISHMENT/MAINTENANCE OF THE FOLLOWING:

MAJOR INFRASTRUCTURE PROJECTS | STATIONS | DEPOTS & SIDINGS | LINESIDE STRUCTURES & INFRASTRUCTURE

SERVICES

ECI & FEASIBILITY | DESIGN | PROJECT MANAGEMENT | CIVIL ENGINEERING | MECHANICAL & ELECTRICAL | FIXED DEPOT PLANT | ELECTRICAL, CONTROL & INSTRUMENTATION | RAIL SYSTEMS | SIGNALLING & TELECOMS | PERMANENT WAY

DELIVERY OF PROJECTS

Richard Watson
Delivery Director
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Our teams of highly skilled and experienced industry professionals have been at the very forefront of successfully delivering multi-disciplinary rail projects for over 30 years. These have ranged from major rail enhancements and capital delivery assignments through to refurbishment and extensions to existing operating depots, and the construction of key stations across the UK.

Ryan Jones
Delivery Director
ryan.jones@thespencergroup.co.uk

Spencer Rail Engineering often assumes the role of Principal Designer and Principal Contractor. Clients trust us to manage risk, design, cost/value and performance. They come to us in the knowledge that we have a world-class reputation and demonstrable track record in delivering major, potentially disruptive works, whilst maintaining a live, safe working environment whether we are working on a station, depot or the track itself. Each project is supported by our team of experienced CEMs and discipline-specific CREs, who bring their extensive knowledge of industry specific standards and legislation to ensure compliance at all stages.

SPENCER
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EARLY CONTRACTOR INVOLVEMENT

Tony Wells
Project Director
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Spencer Rail Engineering are passionate in seeking out the most efficient and effective value-added solutions for our clients at the pre-contract stage. This is the most critical stage of any project. By developing the optimum design solutions, to deliver the safest and best commercial and programme outcomes for our clients, we can remain at the very forefront of our industry by and well ahead of our peers.

It is crucial to ensure that innovation, robust cost optioneering, buildability, and engineering ingenuity are all optimised at the design stage. This is something we have developed particular skills for over decades of manging this delivery model concept, along with our own designers and the client's consultants.

Most of our national clients are increasingly striving for enhanced value at lower cost and at the appropriate quality. We have honed our Early Contractor Involvement (ECI) services and processes to do just that by developing a range of early conceptual designs coupled with a selection of cost options and buildability analyses This provides our clients with the power to explore and seek out the best and most fitting final design solution, which exactly suits their needs and requirements. Our in-house design and delivery models allow us to take projects from inception to completion which provides the optimum single-source option for our clients.

By integrating and pooling the talents and experience of our Civils, Structural, M&E and ECI, design engineering and construction professionals we are able to create truly innovative award-winning solutions.

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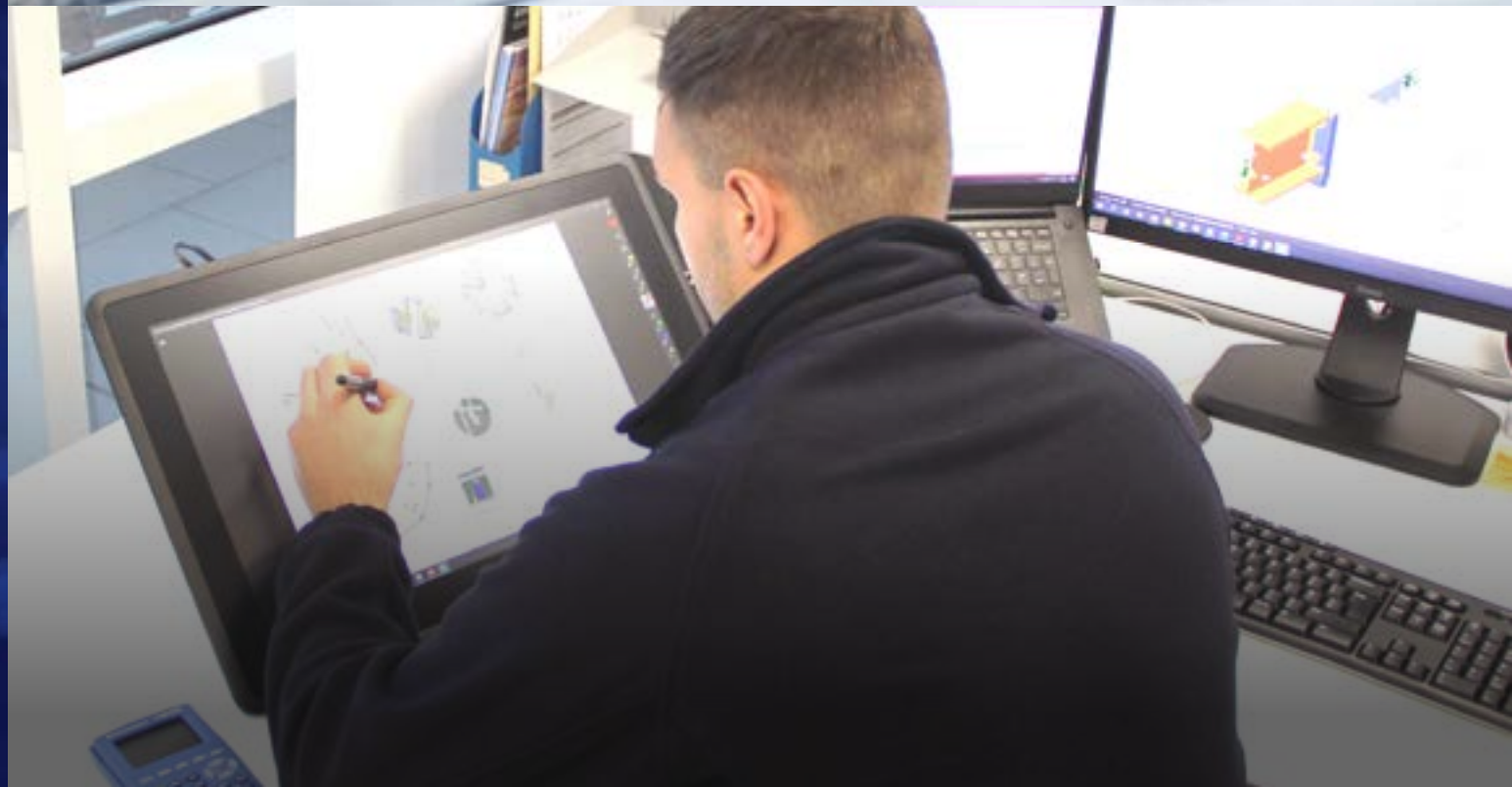

IN-HOUSE DESIGN TEAM

Tony Hopkins
Engineering Director
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Few UK contractors have dedicated multi-disciplinary, in-house design teams. At Spencer Rail Engineering, my focus is to explore every engineering option and emerging technology, ensuring complex projects benefit from a fully integrated design approach. By driving collaboration between our design engineers, construction teams, clients, and supply chain, we take full ownership of the design process. Our permanent works are delivered in a BIM-compliant environment for seamless information sharing, while our temporary works are developed early to be efficient, buildable, and, wherever possible, become part of the permanent works design.

Martin Lewis
Rail Engineering Manager
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As a Rail Engineering Manager, I ensure the project is designed, built, and handed over safely, correctly, and in full compliance with standards. I bridge technical leadership, safety assurance, and project delivery so that all engineering work fits together seamlessly. I also lead and coordinate between design and construction teams, acting as the key link that translates design intent into practical, safe, and efficient delivery on site.

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Tyseley Depot - Enhancement Project

LARGE MULTI-DISCIPLINARY PROJECTS

We have over 30 years of experience delivering large-scale, multidisciplinary rail projects for some of the most vital parts of the UK's rail infrastructure. Spencer Rail Engineering have the combined expertise in civil, building, electrical, and P-way engineering to handle the demands of any project from design to delivery and handback. Our in-house possession planning capability combined with our knowledgeable design and construction teams allows us to carry out complex and sensitive works under time constraints with minimal disruption to the operational railway, associated infrastructure, travelling public and the communities in which we work. We have an established supply chain with whom we collaborate to ensure that we provide innovative, value-engineered solutions for our clients.

SPENCER Rail Engineering

Stevenage Turnback Facility

Tyseley Depot

Ipswich Chord

Gravesend Station

East Kent Phase 2

PROJECT DETAILS

Client	West Midland Railway
Start Date	June 2023
End Date	September 2025
Duration of ECI	7 months
Location	Tyseley, Birmingham

KEY STATS

£1.3M — COST OF ECI STAGE

£2.5M — SAVING THROUGH ECI STAGE

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TYSELEY DEPOT ENHANCEMENTS

Spencer Rail Engineering successfully completed a three-year rail infrastructure project at Tyseley Depot in Birmingham, enhancing capacity and facilities for West Midlands Railway (WMR). Delivered ahead of schedule and under budget, the scheme involved three work packages that expanded and modernised the depot to accommodate longer, six-carriage trains. Our team worked very closely with the WMR depot team to coordinate all the intrusive activities such as crane lifting operations in the live depot. This was hugely successful and resulted in zero unplanned train delay or disruption.

PROJECT SCOPE

The Tyseley Depot project involved the comprehensive design, construction, and commissioning of major infrastructure enhancements to support increased operational capacity and improved maintenance efficiency. The works included a 100-metre extension to the existing depot building, providing two new six-car stabling roads (Roads 11 and 12) to accommodate the growing fleet. New undercarriage maintenance pits, gantries, and jacking systems were installed to enhance safety and efficiency in train maintenance operations.

A 30-metre extension to the Under Frame Cleaning building was also constructed to expand cleaning capacity and improve operational throughput. The project delivered extensive mechanical, electrical, and shore power system upgrades, ensuring compliance with modern performance standards and energy efficiency requirements. In addition, a solar photovoltaic (PV) system was integrated into the design, generating approximately 124,000 kWh of renewable electricity annually to reduce the depot's carbon footprint and operating costs.

Close coordination with West Midlands Railway (WMR) and Network Rail was maintained throughout the project to ensure that depot operations remained fully functional and uninterrupted during construction, demonstrating effective planning, collaboration, and stakeholder management across all project stages.

ECI SUMMARY

The project was procured under a two stage Early Contractor Involvement (ECI) process using an NEC4 Option A fixedprice contract. The initial ECI phase was valued at approximately £600k with a 16-week duration. Following an early gap analysis of client data and project status, we worked collaboratively with the client team, end users, and key stakeholders to clarify requirements and explore costeffective options.

This collaboration extended the ECI phase to 42 weeks and increased its value to around £1.3m, enabling the project scope to be fully defined, detailed designs completed, budgets confirmed, and access and methodology agreed. The early engagement allowed us to resolve design challenges proactively and gain a thorough understanding of depot operations and constraints.

As a result, the project was delivered ahead of schedule, within budget, and without operational disruption. Key ECI benefits included rationalising the P-Way design (saving £700k), adopting mobile gantries instead of fixed (£750k saving), and optimising sequencing to shorten the programme by four months—saving approximately £1m.

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PROJECT DETAILS

Client	Network Rail
Duration	24 months
Location	Stevenage

STEVENAGE TURNBACK FACILITY

A two-year project, Stevenage Turnback Facility was a complex scheme involving civil, structural, M&E, P-way and OLE elements. We worked in collaboration with Network Rail, Govia Thameslink Railway and other project stakeholders to successfully deliver the scope of works twelve months ahead of the planned completion date.

KEY STATS

127M NEW 127 METRE PLATFORM

1 COMPLETED 1 YEAR AHEAD OF SCHEDULE

1.6 MILES OF ELECTRIFIED TURNBACK LINE

PROJECT SCOPE

Spencer Rail Engineering were appointed as the Principal Contractor and Principal Designer to extend the existing Down Hertford Loop into Stevenage Station and provide a turnback facility serviced by a new single platform sufficient for a 6-car set based on Class 717 coach lengths.

The scope of works included over a mile of new plain line P-way with a switches and crossings unit connection into the East Coast Main Line, along with associated new OLE structures and equipment, signalling, lineside cable troughing, bonding, electrification and power, M&E, retail telecoms services and associated civil and structural engineering activities, such as earthworks to embankments, piling, drainage, RC works and structures. The scheme also included the design and construction of a new station entrance, stairs and lift.

Within the station and passenger areas, we designed and constructed a new 127m turnback platform to accommodate a 6-car set Class 717 vehicle, including a 5-metre safe distance between the train and the buffer stop. In addition, 41m of passive provision was made for the future extension of the platform to accommodate 8-car sets.

PROJECT OUTCOME

The project was achieved by removing risks early through our ‘Safe by Design’ process. To prevent slippage of the programme, we erected two new portal structures for OLE at the southern end of the site. This activity had to be completed within a 72-hour blockade. To de-risk the task, we brought in a large mobile road crane and built large supporting bases to ensure the works could be achieved in the available window of 24 hours.

The completed project facilitates faster and more frequent commuting services between Hertford and Stevenage.

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PROJECT DETAILS

Client	Govia Thameslink Railway
Duration	27 months
Location	Cambridge

CAMBRIDGE SIDINGS

At Cambridge we worked with Govia Thameslink Railway to increase stabling facilities at one of the busiest stations, part of the £7bn Thameslink Programme which is delivering substantial service benefits for hundreds of thousands of commuters and other travellers on the network.

KEY STATS

2KM OVER 2KM OF NEW TRACK

1500M OF NEW CONCRETE APRONS

8 WEEK ROAD CLOSURE TO DEMOLISH & REBUILD ROAD OVER RAIL BRIDGE

PROJECT SCOPE

The project involved increasing the stabling capacity from 64 to 96 coaches by removing and remodelling existing and new P-Way sidings to Roads 4, 5, 6, 7, 7A & 7B, complete with OHLE diversions and installations to support faster Class 700 rolling stock.

M&E works included the provision of a new DNO supply with multiple feeds for eight new signals and twelve modified signals, as well as troughing routes, cabling and LOC/signal connections. Works associated with the provision of the CET system, comprised drainage, connections, a pump house and a new concrete apron. We installed new sanding facilities, sand vessels and pipework, and new track and site drainage. The existing train wash plant, other facilities and offices were removed, and a new wash facility and welfare buildings were constructed. We also undertook strengthening works to Mill Road Bridge strengthening works.

PROJECT OUTCOME

The programme of works was successfully completed on time to allow the servicing and cleaning of trains to meet the new timetable change. Spencer Rail Engineering worked closely with GTR to minimise all disruption to the regular depot activities and have minimal impact on the movement of trains around the depot.

The works have facilitated faster and more frequent trains from Cambridge, through London and on to the south coast.

SPENCER Rail Engineering

STATIONS & ACCESS FOR ALL / STEP FREE ACCESS

Spencer Rail Engineering has a proud history of innovation and excellence in the delivery of a broad range of station and interchange projects, ranging from local station's through to large, city-centre transport hubs. We have experience of a wide range of works including sensitive restoration and re-construction, strengthening and improvements, and new-build projects, creating modern stations fit for the twenty-first century.

In addition, we understand the importance of compliance with legislation surrounding accessibility and have worked on a number of access for all schemes, where we have provided step-free access throughout the stations, implementing the combined knowledge of our rail and bridges teams. We are also committed to managing projects in partnership with all stakeholders to ensure that work is carried out whilst the station is still operational, with as little disruption as possible to the normal day-to-day running of the facilities.

SPENCER Rail Engineering

Putney Station

Edinburgh Waverley Station

Hull Paragon Station

Rochester Station

Kirkstall Forge Station

PROJECT DETAILS

Client	Greater Cambridge Partnership
Start Date	September 2025
End Date	December 2027
Duration	27 months
Location	Waterbeach, Cambridgeshsire

WATERBEACH STATION

Spencer Rail Engineering have been appointed to deliver Waterbeach Station, a transformative change in Cambridgeshire, involving closing the existing station and opening a new station in a new location 1.5km north of the existing village. The scheme includes a two-platform new station with a footbridge, staircases and new lifts to ensure that the station is accessible for all. The wider development also in our scope is a new highway access road, car park and landscaping..

PROJECT SCOPE

The project will deliver a fully accessible new station comprising two platforms, station canopies, a footbridge with stairs and lifts, plus a new access road and car park. The remit includes collaborating with the client and stakeholders to design and build the new facility while decommissioning the existing one. Work packages cover site clearance, enabling works, drainage and containment, temporary works, piling, pile caps and platform construction.

Platforms will be built using a mix of pre-cast and in-situ elements, maximising off-site fabrication to streamline installation, minimise disruption, and support rail and safety performance. Additional works include track and OLE adjustments and complex entry-into-service requirements. Lift shafts, lifts and the footbridge will deliver full accessibility and enhance surrounding infrastructure, supporting long-term sustainable travel through integrated public transport links.

Spencer Rail Engineering will partner with its trusted supply chain to manage delivery, oversee rail-specific interfaces, and collaborate with clients and stakeholders through to completion.

PROJECT OUTCOME

Following a competitive tender, we were selected as the preferred contractor for the new station and car park. However, the scheme was over the client's budget and therefore the scheme was at risk. Working with the client through a review period, we developed a schedule of potential savings and value engineering options.

This allowed the client to take a view on the budget and by working together to assess the risk and likelihood of opportunities we were able to develop a new price that was within the allowable client budget but clearly identified areas that can be developed and driven to an acceptable solution.

For example, by liaising with the planning authority early we were able to identify alternative materials, thus reducing a very expensive architectural design to something acceptable but much more affordable. A further example was to further investigate a secondary means of escape which carries a potential saving of around £600K.

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PROJECT DETAILS

Client	Network Rail
Start Date	November 2014
End Date	June 2016
Duration	20 months
Location	Bradford

KEY STATS

2 LIFTS

2 PLATFORMS

62K 62,000 MAN HOURS WORKED IN TOTAL

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KIRKSTALL FORGE STATION

Kirkstall Forge Station, Bradford, was part of the wider West Yorkshire Rail Growth Package, an integrated package of rail enhancements in the Leeds City Region. Kirkstall Forge was one of two brand new stations Spencer Rail Engineering built on the Bradford Forster Square – Leeds route. Apperley Bridge, the other station, was built and commissioned by Spencer Rail Engineering 7 months earlier.

PROJECT SCOPE

The full scope of works involved the design and build of a brand new station, incorporating the following:

- A new access road off Abbey Road, A65
- A pick-up and drop-off point for cars and buses
- A 200 space car park
- 2 passenger platforms, new OLE structures, under track duct
- Artisan AFA overbridge with lifts and staircases
- CCTV and public address system
- Passenger information displays
- Bicycle parking and shelters
- Ramp facilities throughout
- One of the first projects to be completed in line with the Common Safety Methods (CSM)

PROJECT OUTCOME

At detailed design stage it became clear that significant track realignment was required in order to deliver standard-compliant platforms, and so a staged approach to construction was undertaken. Involved was a maximum 200mm lift and 150mm slew over a 700m section of line, alongside relocation of a pair of insulated block joints and associated location cabinet, as well as existing OLE stanchions and TOWS. Upon completion, Kirkstall Forge station was recognised by the area's transport authority as its 'model scheme' to develop the 'access to the North' initiative. The station is part of a new development comprising 1,050 new homes, 300,000 square feet of office space and 100,000 square feet of retail, leisure and community space.

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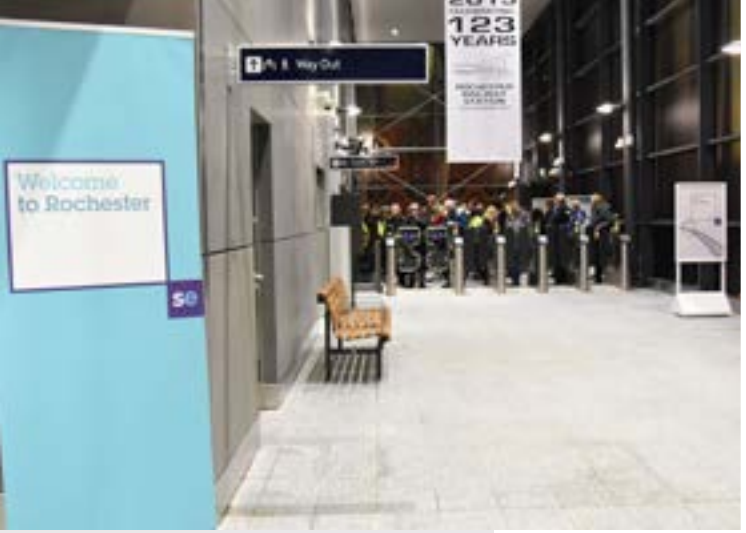

PROJECT DETAILS

Client	Network Rail
Start Date	September 2013
End Date	April 2016
Duration	31 months
Location	Rochester

KEY STATS

300M SECTION OF 17M LONG SHEET PILES INSTALLED

ZERO DISRUPTION TO EXISTING SERVICES

96HR BLOCKADE UTILISED FOR THE INSTALLATION OF A SUBWAY BUILT 'OFF LINE', ADJACENT TO THE EXISTING RAIL EMBANKMENT

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ROCHESTER STATION

The £145m East Kent Phase II programme saw the upgrading of a 33-mile stretch of East Kent's railway network, last renewed in 1959. The new £26 million facility at Rochester, which replaced the old Victorian station a mile away, was built around an operational railway, close to the town centre.

PROJECT SCOPE

The project included the construction of three platforms, each long enough to accommodate the new 12-car sets, a new canopy, and construction and fit-out of the new Rochester station building. The station is of modern design, incorporating the latest high specification finishes, including M&E and telecoms for PA, CCTV, and CIS monitors with ticket gating.

To the rear of the new building, one of the biggest challenges on the project was the construction of an 850-tonne pedestrian subway. It was built 'off line', adjacent to the existing rail embankment, then installed during a 96-hour blockade over the Easter period.

PROJECT OUTCOME

The construction of the new station provided a modern facility, which is bright and fully step-free, offering a pleasurable passenger experience. The station and its underpass are key to a new 1,500 home development in the area, as they allow residents to take a quick stroll between the riverside and town centre or easily catch a train to London, only 35 minutes away.

This project was described as an industry model for collaborative working and won three industry awards: Best Collaboration at the 2014 Network Rail Partnership Awards, Most Interesting Major Infrastructure Project at the Rail Expo Awards, and Engineering Innovation from the Institute of Civil Engineers, both in 2015.

SPENCER Rail Engineering

DEPOTS & SIDINGS

Depots play a strategic role in keeping the rail network on the move. With a growing range of successful projects behind us, our in-house designers and engineers have the knowledge and skills to deliver complex engineering solutions tailored to our clients' requirements, from the enhancement of existing facilities to the design and build of new depots. We seek to understand the operational needs of each depot and work with their staff to ensure the optimal functioning of the depot throughout our works. Our experience spans all elements of depot working including CET, fuelling and AdBlue systems, train wash, HVAC, fume extraction, wheel lathes, maintenance/ inspection facilities, depot protection, lighting, sanding, under frame cleaning facilities, lifting cranes, bogie drops, access solutions, including walkways and gantries, as well as depot accommodation and welfare. Our works aim to enhance our client's asset by providing a modern, safe and efficient working environment built for the next generation of rail transport.

As a contractor on the Fixed Depot Plant Framework, we are pleased to collaborate with Network Rail, Train Operating Companies and Freight Operating Companies to provide plant supporting a twenty-first century rail network.

Our depot Design & Build experience extends to the following:

- Depot New-Build
- Operational Depot Extensions and remodelling
- Depot Rail Systems
- Fixed Depot Plant
- Depot Access
- Depot Accomodation

SPENCER Rail Engineering

Tyseley Depot

Penzance Depot

Craigentinny Depot

Neville Hill Depot

Ardwick Depot

PROJECT DETAILS

Client	East Midlands Trains
Start Date	April 2022
End Date	June 2024
Duration	117 Weeks
Location	Derby
Value	£4.5M

KEY STATS

98.55 PERCENT OF LANDFILL WASTE DIVERSION

60 PERCENT SME SPEND

0 REPORTABLE ACCIDENTS

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ETCHES PARK - 5 CAR UFC & NEW OFFICES

The Etches Park Depot Enhancement Project involves the design and construction of a new 5-car Underframe Cleaning Facility (UFC) and associated office and welfare buildings for East Midlands Railway (EMR) in Derby. This project expands the existing 2-car facility to accommodate 2, 3, and 5-car units, supporting multiple train classes including 15x, 170, 180, and 810 fleets. The works include the removal of obsolete structures, installation of modern infrastructure, and creation of energy-efficient, accessible office spaces, ensuring EMR's maintenance operations remain efficient and compliant with future operational needs.

PROJECT SCOPE

The scope included full design, construction, testing, and certification for the 5-car UFC extension and new depot facilities at Etches Park. Spencer Rail Engineering acted as both Principal Contractor and Principal Designer under CDM regulations.

Key tasks include removal of old boiler house fuel tanks, coolant mixing room, and existing office structures, followed by the construction of a new compressor housing and bunded IBC storage area. The existing 2-car UFC was extended to accommodate up to five-car units with new driver access platforms, emergency exits, heating, lighting, drainage, and fire systems that align with legislative standards.

A new two-storey building was also constructed, providing modern offices, locker rooms, toilets, showers, mess areas, and meeting rooms, designed for flexibility and accessibility.

All works were undertaken in compliance with EMR safety management systems, Network Rail standards, and environmental best practices. Disruption to existing depot operations, especially underframe cleaning activities, were minimised throughout the project duration.

PROJECT OUTCOME

Etches Park Depot now has a future-proofed underframe cleaning facility capable of servicing longer, modern rolling stock. The new 5-car UFC increases maintenance throughput, reduces downtime, and maintains environmental and operational compliance.

The upgraded UFC supports full 5-car units, with gas-fired AHUs, smart ventilation, and improved water and drainage systems ensuring an efficient, compliant cleaning process.

New offices and welfare areas provide EMR staff with modern, comfortable, energy-efficient spaces. The site layout is now safer and more efficient, with improved access, drainage, and facilities built to current standards.

The project delivers a sustainable, fit-for-purpose depot aligned with EMR's operational needs and growth strategy. All works were coordinated around live operations with zero unplanned disruption.

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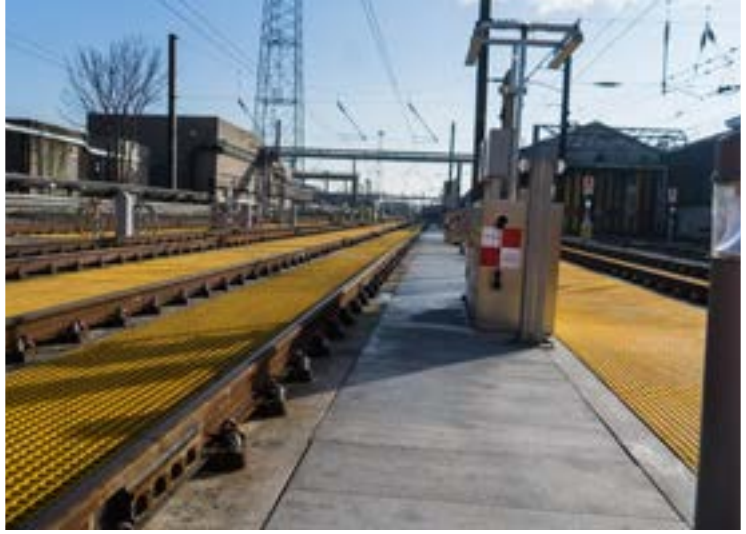


PROJECT DETAILS

Client	Hitachi Europe
Duration	14 months
Value	£8m
Location	Leeds

KEY STATS

4 NEW ROADS

0 DEPOT DISRUPTION

720M SHEET PILING INSTALLED

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NEVILLE HILL IEP DEPOT

Spencer Rail Engineering worked in collaboration with Network Rail and Hitachi on the upgrade of eight Light Maintenance Depots (LMDs) to design and build improved maintenance and servicing facilities at existing East Coast Depots for Hitachi Europe. Neville Hill in Leeds required a full refurbishment of the depot ready for the arrival of the new fleet of Super Express Trains.

PROJECT SCOPE

As part of the IEP Depot framework, Neville Hill involved the design and build of four new rail roads to accommodate the new Hitachi 800 biofuel trains. The works included constructing incorporated trenches and troughs, installing new AdBlue and Fuel Dispensers with the associated pipework, connecting new and amended drainage (including a new vacuum pumping main chamber), building a new AdBlue pump house and fitting additional lighting. The works had to be carried out sequentially with the other 6 depots on the framework as only one depot on the East Coast Main Line can be closed at any one time. Spencer's have created a detailed programme of the entire framework to ensure works do not overrun and affect other sites.

PROJECT OUTCOME

Hitachi, Network Rail and Spencer Rail Engineering formed a close relationship throughout the works, resulting in a smooth and successful delivery. We minimised our impact on the local area throughout, with zero noise complaints during the works despite the residential area surrounding the depot. Spencer Rail Engineering provided a shuttle bus to the site due to limited local parking, to ensure that disruption from additional depot traffic was minimal. Steffan Thrower, Hitachi, stated: "The quality and safety of the work Spencer Rail Engineering carry out has been excellent throughout, and I'd like to pass on my personal thanks to the hard efforts of your project team". Spencer Rail Engineering successfully interfaced with depot staff and stakeholders for the duration of the works to deliver the upgraded depot for the arrival of the new trains.

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PROJECT DETAILS

Client	GWR
Start Date	July 2016
End Date	January 2018
Duration	15 months
Location	Penzance

KEY STATS

1 BREEAM "VERY GOOD" STATUS

0 ZERO UNPLANNED DISRUPTION TO DEPOT OPERATIONS

1 COLLABORATIVE RELATIONSHIP WITH GWR

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PENZANCE DEPOT

Great Western Railway (GWR) required the redevelopment and expansion of the existing Penzance Depot to accommodate the transition of rolling stock from Old Oak Common as part of the High-Speed Rail 2 programme of works.

PROJECT SCOPE

Spencer Rail Engineering proposed an alternative solution in order to deliver the design and construction of a 132m x 15m new Train Care Depot encompassing the refurbishment of the existing High-Speed Train shed as part of one whole facility, through incorporating the old shed within the new building using an innovative envelope and cantilever steelwork design. We constructed a taller portal frame shed, designed to enable installation of the new building's roof sheeting without disrupting the original shed below.

A moveable encapsulation shield was used to remove the old High-Speed Train shed asbestos roof and wall sheeting, whilst maintaining the 24-hour operational requirements of the depot and ensuring the asbestos was contained. Furthermore, Spencer Rail Engineering removed the structural steel rafters from the old shed, connecting the old columns to the new cantilevered portal rafters.

PROJECT OUTCOME

The original contract was due to be completed in April 2018, however due to the early transition of rolling stock from Old Oak Common, we were instructed to accelerate the contract by 17 weeks. Through a strong collaborative working relationship between Spencer Rail Engineering, GWR and the Depot team, we achieved every project milestone, completing it to the accelerated programme with no impact to depot operations.

As a result of this success, we received the GWR Collaboration Award.

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PROJECT DETAILS

Client	East Midlands Trains
Start Date	November 2008
End Date	January 2010
Duration	14 months
Location	Derby

KEY STATS

400M² WORKSHOP AREA

2.4KM PLAIN LINE TRACK

2,800M² OFFICE AND WELFARE FACILITIES

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ETCHES PARK DEPOT

The design and construction of Etches Park rail depot facility incorporated a 400m2 storage/workshop area with office and staff welfare facilities, and a new wheel lathe building, to provide routine servicing for rolling stock.

PROJECT SCOPE

The scheme involved the installation of 2.4km of new plain line track, 6 switch and crossing units, plus one tandem turnout. The workshop/storage shed was a new covered three-road, 7-car set length building, with two through roads, and one buffer stop road, including service pits on two roads. One of the key requirements for this project was to complete the new wheel lathe facility prior to the construction of the main depot building.

The project also incorporated the construction of a new two-storey office and welfare facility for depot staff, as well as the installation of a new 2 x 70m concrete track slab, associated CET and fuelling equipment.

PROJECT OUTCOME

To achieve the completion of the new wheel lathe facility, Spencer Rail Engineering altered programme logic and sequencing, accelerating the programme to a 24-hour-a-day, 7-days-a-week work pattern. This enabled the wheel lathe to open on schedule and operate whilst the remainder of the depot was being constructed.

The 2800m2 office and welfare facility created a ‘professional place of work’ (Tim Shoveller, East Midlands Trains MD) for staff, with numerous energy efficiency features leading it to achieve a BREEAM rating of ‘Very Good’, helping to keep East Midlands Trains environmental goals on target.

SPENCER Rail Engineering

PROJECT DETAILS

Client	Network Rail
Start Date	November 2016
End Date	January 2018
Duration	14 months
Location	Leeds

KEY STATS

720M OF SHEET PILING INSTALLED

0 DISRUPTION TO DEPOT OPERATIONS

1500M^3 OF CONTAMINATED WATER REMOVED

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NEVILLE HILL DEPOT

Spencer Rail Engineering worked in collaboration with Network Rail and Hitachi on the upgrade of eight Light Maintenance Depots (LMDs) to design and build improved maintenance and servicing facilities at existing East Coast Depots for Hitachi Europe. Neville Hill in Leeds required a full refurbishment of the depot ready for the arrival of the new fleet of Super Express Trains.

PROJECT SCOPE

As part of the IEP Depot framework, Neville Hill involved the design and build of four new rail roads to accommodate the new Hitachi Class 800 biofuel trains. The works included constructing incorporated trenches and service troughs, installing new AdBlue and Fuel Dispensers with the associated pipework, connecting new and amended drainage (including a new vacuum pumping main chamber), building a new AdBlue pump house and fitting additional lighting. The works had to be carried out sequentially with the other 5 depots on the add programme of works, to ensure works did not overrun and affect the commencement of the other sites.

The scope also included the provision of temporary fuelling facilities within one of the existing maintenance sheds. This work was completed as part of the enabling works, which also included the installation of a temporary OLE isolation switch to allow the main sidings work to be completed effectively without significantly impacting the depot operations by maintaining the bypass road for shunting operations as only one depot on the East Coast Main Line can be closed at any one time. We created and maintained a detailed programme of the entire framework to ensure works do not overrun and affect other sites.

PROJECT OUTCOME

Hitachi, Network Rail and Spencer Rail Engineering formed a close relationship throughout the works, resulting in a smooth and successful delivery. We minimised our impact on the local area throughout, with zero noise complaints during the works despite the residential area surrounding the depot. Spencer Rail Engineering provided a shuttle bus to the site due to limited local parking, to ensure that disruption from additional depot traffic was minimal.

Steffan Thrower, Hitachi, stated: “The quality and safety of the work Spencer Rail Engineering carry out has been excellent throughout, and I’d like to pass on my personal thanks to the hard efforts of your project team”. Spencer Rail Engineering successfully interfaced with depot staff and stakeholders for the duration of the works to deliver the upgraded depot for the arrival of the new trains.

SPENCER Rail Engineering



PROJECT DETAILS

Client	Network Rail
Start Date	January 2018
End Date	November 2018
Duration	11 months
Location	London

KEY STATS

1 INSTALLATION OF AN ELEVATED WALKWAY

1 NEW AZUMA SHORE SUPPLY SYSTEM

1ST FIRST RETRACTABLE OVERHEAD SYSTEM IN THE UK FOR NETWORK RAIL

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BOUNDS GREEN DEPOT

Spencer Rail Engineering were appointed by Network Rail to deliver the upgrade of Bounds Green Depot in order to accommodate the new IEP Azuma Trains. This was the last phase of the IEP Programmed Works which involved delivering upgrades across 5 other depots and the design and construction of the first retractable overhead system to be installed for Network Rail in the UK.

PROJECT SCOPE

The Design and installation scope of works at Bounds Green included the installation of an elevated access walkway. Removal and replacement of associated high level lighting and heating services. Modification of Depot Protection Systems to allow for the installation of an interlocking System. Modification works to the OLE on Road 11 including the installation of a retractable OLE conductor beam and associated works. Alterations to the door aperture to cater for the new OLE alignment and structures . Provision of a new runway beam with 2 powered trolleys and chain hoists, each with a capacity of 1.5t over Road 11. Provision of a separate runway beam for the attachment of man-safe fall arrest equipment.

In order to successfully deliver the works, we collaborated with the depot operators to conduct progressive possessions across the rail lines, whilst maintaining the operation of the remaining lines, with 3 trains scheduled to enter the depot each day. In order to minimise disruption, we installed hoardings within the depot to separate our works from the operational lines. We overcame a number of issues during the works.

For example, once work began on site, we found that cables were not located where the Clients surveys had identified. We therefore, worked collaboratively with the depot operators to safely identify these cables. Throughout the project we worked closely with Network Rail to propose alternative and innovative methods to improve efficiency and reduce disruption to the operational depot. This included utilising an alternative method in order to remove large sections of the RC slabs rather than breaking it up in an enclosed and habited environment.

PROJECT OUTCOME

The project involved the installation of a retractable arm and associated structures, the first of its kind for Network Rail. We therefore, maintained a close relationship with the Client's representatives to ensure they were continually updated on progress, the design for engineering assurance and construction methods to ensure the smooth transition of Entry Into Service and handover.

The Project Manager therefore, held regular meetings with Network Rail and circulated all information on current works and project milestones to ensure a 'one team approach' throughout. As a result, Spencer Rail Engineering received high praise from Network Rail for our successful delivery and collaborative approach to work.

SPENCER Rail Engineering



PROJECT DETAILS

Client	GWR/DfT
Start Date	September 2015
End Date	August 2017
Duration	24 months
Location	Reading

KEY STATS

6 ARTICULATED TRUCK LOADS OF WHEEL LATHE COMPONENTS

90% DIVERSION OF WASTE FROM LANDFILL

1ST WHEEL LATHE DANOBAT INSTALLED IN UK

spencerrailengineering.co.uk

READING TRAIN CARE DEPOT

The Reading Train Care Depot wheel lathe facility was commissioned by First Great Western in order to serve the changing requirements of the Thames Valley fleet, as part of the Department for Transports electrification programme. Spencer Rail Engineering took on the challenge of designing and building the scheme while keeping the facility fully operational for the duration of the contract.

PROJECT SCOPE

The works involve extending the existing train shed to create space for the new wheel lathe facility, P-Way was extended to allow trains to access the wheel lathe facility and the depot's existing carriage wash plant room was relocated with all components (steel frame, cladding and equipment) being re-used as it was fouling the alignment of the embedded concrete track slab.

Office / training rooms and welfare accommodation are located within the extension for the depot staff.
Once the wheel lathe building was weather-tight and the overhead gantry crane commissioned, Spencer Rail Engineering assisted the wheel lathe manufacturer (Danobat) to transport their components into the wheel lathe pit for them to assemble the lathe.

PROJECT OUTCOME

Spencer Rail Engineering found an existing high-pressure gas main and HV electricity cables directly in the way of foundations for a new retaining wall. This wall formed the boundary of the access road we were to construct to maintain a vehicle route to the West end of the Depot.

This required the site team and design team to review the programme and come up with an alternative access route and delivery strategy to commence construction of the wheel lathe building.

Once services diversions were complete the project took off and was delivered to a challenging programme, scheduled to mitigate further delays and serve the demands of the Client and DFT to ensure the project was completed by end of August 2017.

SPENCER Rail Engineering

LINESIDE STRUCTURES & INFRASTRUCTURE

At Spencer Rail Engineering, we understand that lineside infrastructure is about far more than structures and steel — it's about keeping the railway operating safely, reliably, and ready for the future. Since delivering the UK's first signalling control centre in 2006, we've continued to build on that foundation, becoming one of the most experienced partners in designing and delivering complex operational facilities. With our design and construction teams working side-by-side, we bring genuine collaboration to every project, using off-site fabrication, modular approaches, and thoughtful planning to make challenging brownfield sites work smarter. Sustainability sits at the heart of our thinking, demonstrated through projects like the Derby Control Centre, which achieved Network Rail's greenest operational rating at the time.

Our experience also spans more than three decades of bridge work across the rail network. Whether it's renewal, refurbishment, or new build, we bring practical expertise and a steady hand — particularly when dealing with historic or heritage structures. We help clients navigate the sensitivities of working on aged assets, providing safe access solutions and managing possessions in-house to keep programmes on track.

And for associated infrastructure such as car parks, we apply the same care and rigour. Working in busy urban settings, we focus on safety, smart planning, and minimal disruption, ensuring the finished asset supports both the railway and the communities it serves.

SPENCER Rail Engineering

Three Bridges Control Centre

Rochester Medway Car Park

Ipswitch Chord

Three Bridges Control Centre Car Park

East Kent Subway Slide

PROJECT DETAILS

Client	Network Rail
Start Date	October 2011
End Date	October 2013
Duration	24 months
Location	West Sussex

KEY STATS

72M X 53M — DESIGN AND BUILD PACKAGE

7560M^2 — OVERALL SQUARE FLOOR AREA

2 — 11KV / 33KV POWER SUPPLIES, GENERATOR BACKED VIA UPS

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THREE BRIDGES CONTROL CENTRE

A new rail operating centre was required at Three Bridges in Crawley, as part of Network Rail's commitment to replace over 800 signalling boxes and it represented the first 'second generation' control centre to be built in the UK. Spencer Rail Engineering were commissioned to deliver the project from GRIP stages 5 to 8.

PROJECT SCOPE

The project involved the clearance of the original Tilgate railway sidings followed by the construction of a new three-storey building, which comprised of pile and ground beam substructure, steel superstructure, precast concrete floors and blast enhanced curtain walling, with GRC cladding forming the external envelope.

Spencer Rail Engineering were responsible for the detailed design, fit-out and testing of the signalling control centre, in addition to the temporary works, general civil works, installation of an access road and associated services. The building design incorporated a glazed entrance atrium, with a corridor light well running the full length of the building. The team installed a multiple-level electrical distribution system with UPS back-up, providing power redundancy to maximise system resilience for signalling, ECO and route control systems. State of the art security systems were incorporated to manage and maximise the safety of personnel in and around the building.

PROJECT OUTCOME

Spencer Rail Engineering site teams overcame significant project constraints, delivering the project within a tight and land-locked site, with only one access point under the Horsham line, as well as working in close proximity to the local community school and playground. Through close collaboration with key stakeholders, including Balfour Beatty, the adjacent Thameslink Depot and the local public, we successfully completed the project without any unplanned disruption.

The building achieved a BREEAM 'Very Good' rating, demonstrating our commitment to the sustainability of the project.

SPENCER Rail Engineering

PROJECT DETAILS

Client	Network Rail
Start Date	August 2012
End Date	March 2014
Duration	20 months
Location	Ipswich

KEY STATS

4 NEW BRIDGES IN TOTAL

413M RETAINING WALL

2 NEW EMBANKMENTS

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IPSWICH CHORD BRIDGE 404

The Ipswich Chord is a new 1.2km double track railway providing essential connection between the East Suffolk Line and the Great Eastern Line. The Chord forms part of the strategic freight network between Ipswich and Peterborough. Spencer Rail Engineering was commissioned by Network Rail for the design and construction phase of the project.

PROJECT SCOPE

The team was faced with access difficulties to a site hemmed in by rail , river and urban development; and in successfully gaining the support of local landowners and users for the permanent and temporary work.

Working alongside a live railway required a significant disruptive possession regime including a 5-day blockade over Christmas 2013. This required an intricate plan of staged construction and testing to maintain operational performance without comprising site safety.

Spencer Rail Engineering enjoyed a full collaborative relationship with Network Rail and also formed an effective alliance with lead designer, Arup. This created an ideal platform for finding joint solutions to problems on-site, resolving commercial issues and managing risk.

PROJECT OUTCOME

Bridge 404, a two-track rail over water bridge was replaced during the Christmas blockade, one of four bridges in this project. This was achieved in just 52 hours through use of precast units.

Despite the extreme complexities of the project and some of the worst winter storms on record, the work was completed on time and to budget with no complaints. The Ipswich Chord will cut journey times by at least 30 minutes and the increased capacity on the railway will mean 750,00 fewer lorries on the road.

This will be huge relief for commuters on the congested A14 and will make a significant contribution to meeting carbon reduction targets.

SPENCER Rail Engineering

PROJECT DETAILS

Client	Network Rail
Start Date	December 2012
End Date	April 2016
Duration	41 months
Location	Rochester

KEY STATS

2 INDUSTRY AWARDS WON

850 TONNE SUBWAY SLIDE

96 HOUR EASTER BLOCKADE

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EAST KENT PHASE 2

Spencer Rail Engineering were awarded the contract to undertake all civils works on this £150m track remodelling project alongside Network Rail, Atkins and Balfour Beatty. East Kent Phase 2 was completed and accessible to passengers in spring 2016, delivering operational savings within the project area and improved network integration with other modes of transport.

PROJECT SCOPE

This project was part of a £150m BS11000 collaborative alliance between Spencer Rail Engineering, Atkins, Balfour Beatty and Network Rail. Spencer Rail Engineering were awarded the contract to undertake all civils works on this track remodelling project. This included the creation of a new station, subway and multi-storey car park at Rochester, new 12 car platforms at Strood and a new 12 car bay platform at Rainham, embankment widening including new contiguous piled retaining walls at Rochester and embankment and track monitoring. We also established a new project village for the project team,
where we co-located with our collaborative partners for the duration of the project delivery.

PROJECT OUTCOME

One of the biggest challenges on this project was the installation of the new subway at Rochester. The 850T, 28m long, 7.6m wide and 4.0m high subway was slid 36m into place on a bed of nitrogen gas during a 96 hour Easter blockade, This method (building the subway off line and adjacent to the embankment before sliding it into place) was used to minimise interruption to the network, and it was the first time this specialist technique was employed in the UK.

This project was described as an industry model for collaborative working and won two industry awards: Best Collaboration at the 2014 Network Rail Partnership Awards and Engineering Innovation from the Institute of Civil Engineers in 2015.

SPENCER Rail Engineering

PROJECT DETAILS

Client	Medway Council
Start Date	June 2015
End Date	January 2016
Duration	7 months
Location	Rochester

KEY STATS

1,700M² OF GOLD CLADDING USED ON THE EXTERIOR OF THE CAR PARK

327 PARKING SPACES CREATED

0 DANGEROUS OCCURRENCES REPORTED

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ROCHESTER MEDWAY CAR PARK

Spencer Rail Engineering won the design-and-build contract to build a 300-space car park adjacent to the new Rochester Station in June 2015. We were already on site constructing the new station for Network Rail and so were well-placed to assist the council's plans for the new car park facility, utilising our civil engineering expertise to supplement the ongoing rail project and demonstrate our flexibility.

PROJECT SCOPE

Spencer's aim for the project was to make the completed building accessible to people of all ages and abilities, and the installation of two lifts has helped to achieve this. The building is 90m long, 30m wide and up to 10m high, allowing for a coherent layout and clutter-free design. Spencer's designers co-ordinated design input from a number of external consultants and specialist contractors, including an award-winning architect who produced the initial concept design.

Work started on site in June 2015 with the diversion of services and in September, 150 continuous-flight-auger piles were installed by Spencer's supply partner, Bachy Soletanche. The project was completed in time for the 'Sweeps' Festival, an important client objective.

PROJECT OUTCOME

The car park provides a high-quality structure at the gateway to the development area, whilst meeting the logistical demands of this new cultural hub. Spencer Rail Engineering achieved the aims of the local council whilst also constructing a large scale rail project next-door, demonstrating our skill at handling multiple complex projects in several disciplines.

Richard Hicks, Director for Regeneration, Culture, Environment and Transformation said: "The new Rochester Riverside car park meets a need for more parking in the area, which is long overdue. It is well placed in the heart of Rochester, with shops, restaurants, tourist attractions – and the new railway station just a stone's throw away."

SPENCER Rail Engineering

M&E DEPOT SERVICES

Our multi-skilled and widely experienced Electrification & Plant, and M&E professionals have been at the forefront of key innovative projects for over 30 years, from major rail maintenance projects and signalling control centre work, to state-of-the-art depot extensions and new station schemes.

Our in-house designers work alongside their colleagues from other disciplines to ensure integrated designs are produced that fully capture the client requirements. We provide E&P and M&E services across all elements of the rail infrastructure from lineside buildings to control centres, depots and stations. We follow each project through to commissioning, providing the operation and maintenance manuals for all our client's assets.

SPENCER Rail Engineering

Etches Park Depot

Penzance Depot

Thames Valley Signalling Centre

Three Bridges Control Centre

Stevenage Turnback Facility

PROJECT DETAILS

Client	Northern Rail
Duration	33 weeks
Location	£2.1 million

KEY STATS

8 AUTOMATED CET SYSTEMS INSTALLED

1 OFFICE ACCOMMODATION MODERNISED

1 ENERGY SAVING LIGHTING CONTROL SYSTEMS INSTALLED THROUGHOUT DEPOT SHED

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MANCHESTER INTERNATIONAL DEPOT

The depot was originally built in the early 1990's as part of a plan to operate Eurostar international train services from Manchester to Europe. This was seen as uneconomical and was never implemented. The depot was sub-let from 2018 – 2021 to train manufacturer CAF. The 30 year old train depot required substantial modernisation to ensure the depot was a safe and compliant operational facility.

PROJECT SCOPE

The Manchester International Depot Upgrade required Spencer to take the project from GRIP stage 3 Option selection through to GRIP stage 8 project close out. A full dilapidation survey was undertaken for the building structure, roof, fittings and fixtures, M&E building services including fire alarm, depot protection, heating, ventilation and air conditioning to both office and shed. This allowed the client to bring the depot back into operation providing a comfortable, modern environment. As part of option selection, return of investment calculations were produced to provide the client with a payback period and cost savings for replacing the existing lighting with new LED lighting including daylight dimming and absence detection. The client also required the installation of a fully automated CET (Controlled Emission Toilet) system to allow for the safe and hygienic disposal of toilet waste from the train onboard toilet retention tanks to the sewer. This included fully automated tanking and flushing water systems.

The office block was refurbished including kitchen renewal, toilet IPS panels and heating, ventilation and air conditioning.

The external lighting throughout the depot was replaced with the latest energy efficient lighting and control systems providing presence detection and dimming to increase cost saving. 200m of maintenance/driver walkway lighting bollards were installed to provide safe access and egress. New painted walking routes, upgraded car parking areas including disabled parking and an external security office were provided.

The existing depot protection system was upgraded to include a new SCADA system, key exchange and personnel log on/off panels. The existing incandescent lamp signals were upgraded with replacement LED units providing enhanced signal recognition.

PROJECT OUTCOME

Spencer Rail Engineering successfully modernised and enhanced the reliability of the depot by implementing various upgrades to align the depot to the latest Network Rail standards and provide a safe modern train servicing facility. The improvements to the depot focused on energy and environmental upgrades to ensure future energy savings for years to come. The works were staged to ensure all high level works in the maintenance shed were completed on schedule and handed back to allow the re-energisation of the OLE.

The depot upgrade was completed on time, safely and to the clients budget. Training was provided on all aspects of the upgrades including the CET system and Depot Protection. Hand back completed the process providing a transition from Spencer to client.

SPENCER Rail Engineering