Foreword

Our congratulations to all the inspiring projects that were nominated for the 2019 Awards. The independent judging panel had the difficult but rewarding task of examining the excellent short-listed projects and selecting the best. Exceptional Achievement Awards will be presented in the following categories:

- Strategy & Management
- Effects on Neighbours
- Community & Stakeholder Relations
- Landscape
- Restoration of Contaminated Land
- Ecology & Biodiversity
- Historic Environment
- Water Environment & Resources
- Energy & Carbon
- Material & Waste Management
- Director’s Corporate Award
- Director’s Individual Award

The judges also gave special recognition to one of the nominated projects by presenting The Eric Hughes Award for Outstanding Contribution to Improving Sustainability.

About CEEQUAL

CEEQUAL is an evidence-based sustainability assessment, rating and certification scheme for civil engineering, infrastructure, landscaping and public realm projects. It promotes and celebrates high environmental and social performance in the specification, design, and construction of civil engineering works.

By providing a rigorous and comprehensive sustainability assessment and rating, CEEQUAL helps clients, designers and contractors to improve their projects. CEEQUAL has been successfully used on hundreds of projects in countries around the world.

CEEQUAL certification is available for clients, designers and contractors to publicly demonstrate the sustainability of their projects. Pinnacle best-practice is celebrated at the Exceptional Achievement Awards.

https://www.ceequal.com/

CEEQUAL Exceptional Achievement Awards

The CEEQUAL Exceptional Achievement Awards recognize and acknowledge projects that demonstrate pinnacle best-practice performance in any area of the CEEQUAL assessment. Irrespective of the total score of the CEEQUAL Award achieved. They highlight some of the top sustainability achievements by civil engineering projects teams around the world.
Many thanks to our independent Panel of Judges who have undertaken the difficult task of selecting the Award winning and Highly Commended projects from the excellent and wide ranging nominations.

Leading figures in the fields of civil engineering and sustainability, they have brought their considerable experience and expertise to the judging process.

Andy Swain

Andy is a chartered environmentalist and sustainability professional. He started his career in the construction industry with BAM Nuttall before moving into the quarrying and building materials sector with Aggregate Industries and more recently Tarmac. At Tarmac, he is responsible for the delivery of the corporate sustainability strategy and non-financial reporting. Andy is a passionate advocate of CEEQUAL having been involved in the early development of the scheme. He is a CEEQUAL Senior Verifier and was chair of the technical advisory group and a member the CEEQUAL Board prior to acquisition by BRE.

Judith Sykes

Judith has over 20 years’ experience in master planning, sustainable design and strategy. Her background is in major infrastructure projects and masterplans, having worked on Heathrow Terminal 5 and the London 2012 Olympic Park. She has particular expertise in infrastructure planning to support urban regeneration. She has technical expertise spanning carbon, water, waste, green infrastructure, the circular economy, health and wellbeing and social value. She is part of the winning VeloCity team for the Oxford to Cambridge Ideas Competition run by the National Infrastructure Commission and has recently been appointed Design Advisor to the NIC.

Peter Crosland

Peter is a Chartered Civil Engineer and a Chartered Water & Environmental Manager with over 35 years’ experience of working on projects in the UK and Internationally. He has advised on multi-disciplinary projects including education, infrastructure, buildings (commercial and housing), sewage, water treatment and water supply and the investigation and remediation of brownfield sites.

Peter has worked for numerous major public and private sector organisations during his career and has acted at Divisional, Regional and Strategic Director level. Peter is now the National Civil Engineering Director for the Civil Engineering Contractors Association and advises on health, safety, environmental, water, technical, contractual and commercial issues. He is currently Chair of the HSE Tackling IL Health Working Groups, Vice Chair of the ICE H&S Expert Panel and member of the HCLG Exec Committee.

Rick Walters

Rick is Director, Infrastructure at GRESB and is an experienced sustainability professional with a diverse background covering more than 25 years’ experience in sustainability, investment, engineering and management. Before joining GRESB, Walters was a founder of the Infrastructure Sustainability Council of Australia where he led the development of its sustainability rating scheme, the first of its kind in Australia.

Mission-driven and investor-led, GRESB is the environmental, social and governance (ESG) benchmark for real assets. We work in collaboration with the industry to provide standardized and validated ESG data to the capital markets.

Terry Fuller

Terry is Chief Executive of CIWEM responsible for delivering the Institution’s strategic aims and its services to members and the public interest. He has over 30 years’ experience as a water and environmental manager having delivered major projects in some of the world’s most beautiful and challenging locations. Previously, Terry managed the rivers and coastal business for Jacobs Engineering working in their global business development group.

Terry is a member of CIWEM, serving on the committee of their Rivers and Coastal Group between 2004 and 2011. He has also served as a Board Trustee, and was chair during its 60th anniversary year in 2009.

Terry has always been active in helping to influence policy and research and has represented both CIWEM and the ICE at several international conferences. Terry firmly believes that water should be managed by considering the entire water cycle and all demands placed on water.

We would like to express our gratitude to ICE, ACE, CEECA, GRESB and CIWEM for their support of the 2019 Exceptional Achievement Awards.
The Colwyn Bay Waterfront Project is a prime example of best practice in the delivery of a highly sustainable civil engineering scheme that has delivered many additional benefits. The project achieved a CEEQUAL Excellent Whole Team Award and has also won several industry awards, including those from the ICE and CIHT.

As Phase 2 was a continuation of the wider Colwyn Bay Waterfront Project, skills and resources remained within the project team throughout, so there was strong appreciation of the benefits the CEEQUAL process could bring. The client fully embraced this process, while the project team decided early on to use it as a guiding document to ensure they grasped all opportunities for best practice.

From the outset, the project team used a tool developed by Mott MacDonald called ‘Design for Resource Efficiency’ (D4RE), which focused on aspects such as energy reduction, water reduction and sustainable procurement. By adopting this approach, the project achieved around a £300,000 saving on disposal costs, a 48% average saving on paving, street furniture, kerbs and paved areas by using over-ordered materials on other council schemes and a 30% reduction in carbon emissions.

Judges praised the overall principles and approach of the client and designers, commenting the strategy was ‘very good’.

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The £7 billion Thameslink Programme meant redeveloping and reconfiguring London Bridge station, with significant changes to the eastern and western approaches. As well as delivering a world-class transport interchange, the project created a brand new, street-level concourse that provided new entrances on to neighbouring Tooley Street and St. Thomas Street. Given its location, noise was a significant constraint to the construction programming and phasing.

Major programmes such as the Thameslink Programme inevitably generate noise and vibration, but as part of its vision to deliver a sustainable programme, the project team committed to implementing robust controls to keep these impacts to a minimum.

In particular, it appointed a night shift Noise and Nuisance Advisor who helped reduce the impact of night works and was instrumental in gaining trust, leading to approval for extended working hours overnight and at weekends. As a result, the project was awarded the Noise Abatement Society ‘John Connell Silent Approach’ Award.

Network Rail, Costain and the supply chain collaboratively ensured the project created a lasting legacy for the station and surrounding areas and delivered it in a way that sets a blueprint for major complex projects. Acknowledging this, the judges said the team demonstrated a real commitment to ensuring that the project minimised disruption.
The Ainsdale Station project in Merseyside provided Merseyrail with an opportunity to modernise and future-proof the station, improve customer facilities and implement the client’s goal of delivering a truly sustainable station.

Building a modern, new, purpose-built eco-station at the heart of a local community with improved waiting facilities, toilets and customer information screens meant involving those who would use it from the outset.

Community consultation was first undertaken at design concept stage and the views expressed and issues raised were taken into account and presented as part of the proposed overall solution. Changes in the design of the tower and road marking alterations to prevent overflow parking were incorporated following concerns from nearby residents, while the local community was kept informed of progress and consulted throughout the construction phase.

In addition, the station was kept open during the redevelopment and presented as part of the proposed overall solution. Changes were introduced measure to reduce disruption during the project such as dust damping, keeping the site clean and using a green fuel that reduced CO₂ emissions by up to 90%.

The project in itself is an improvement of the local community and economic control between client and contractor. One of these principles was overall public satisfaction during the construction and operation phase. Community involvement and dialogue between residents and the project team was a feature throughout the initial design and the two-year construction phase. This included community consultations, meetings with the project manager and regular written updates from the project team to the local community. The project team also introduced measures to reduce disruption during the project such as road works, keeping the site clean and using a green fuel that reduced CO₂ emissions by up to 90%.

The Wessex Capacity Alliance was the first to trial the Common Social Impact Framework (CSIF) – a way for the UK rail industry to measure its social value – on a major project. The CSIF pulls together a range of monetised, quantifiable and qualitative measures that can be applied to a range of situations to show the benefit of rail improvement projects to stakeholders.

The alliance has since gained national recognition for the development of this industry first framework, which is regarded as the pinnacle of best practice. Judges commented the CSIF was retrospectively piloted so did not influence performance, but praised the team for having tested it very robustly and shared negative learning as well as positives.

The team saw themselves as members of the community.
The Colwyn Bay Waterfront Project combines the renewal of coastal defences with regeneration improvements to the promenade. As such, the project team put a great deal of thought and planning into all the landscaping decisions that would affect both the townscape and stunning seascape.

Building the new seawall nearer to the sea than the old Victorian defences created a much larger area compared to the previously fairly narrow promenade. To make more eye-catching use of the extra space, the design team drew inspiration from the sea and the new seawall was built with three curved ‘wave’ sections. This created headlands for artwork, event spaces and a new concession building.

Students at Wrexham Glyndwr University were asked to prepare concept designs for the concession building and the winning design became the blueprint for it. In addition, the project design team built artwork into the fabric of the promenade that included cultural information about the town and health markers at 50m intervals along the new stretch of promenade to encourage walking, jogging and cycling along it.

Impressed, the judges remarked that taking the opportunity afforded by the upgrade to flood defences to create a better environment ‘demonstrates a great approach to ensure the defences created amenity value for the community.’

The 98-hectare Homes England site of the former Avenue Coking Works in Chesterfield was one of the most contaminated industrial sites in Western Europe. When the plant closed in 1992, it left a legacy of pollution, open tar lagoons, asbestos and contaminated soil. This extensive and innovative project aimed to create a site with new and enhanced habitats for wildlife alongside a development platform for community and residential opportunities.

From the outset, the project team worked with regulators, including the Environment Agency and North East Derbyshire District Council, to assess what could be achieved and brought in experienced contractor administrators and construction professionals to ensure the strategy could be delivered.

Traditional remediation solutions such as off-site landfill disposal or in-situ encapsulation were unsustainable, so the project team deployed innovations such as thermal desorption, mechanical sorting and bio-remediation, which impressed the judges.

This combination of innovative technology and methodology resulted in an affordable, sustainable and robust remediation scheme that has totally transformed the site. Its legacy will be enjoyed by the local community for generations, while its impact is being felt in the wider remediation industry, both in the UK and internationally.

Acknowledging the success, the judges said: “This was a ground-breaking project, the scale of remediation required is probably beyond anything ever seen before.”

To realise the construction of two new car parks, a new roundabout, widening of a section of A-road and signalisation of a renowned accident blackspot junction, the St Erth Multi Modal Hub project team had to overcome a range of historical legacy land issues.

Although a relatively small project, the St Erth Multi Modal Hub faced three complex, diverse problems – mining remediation, Japanese Knotweed contamination and soils that could not be reused.

Under huge pressure to maintain progress and achieve a successful outcome – and despite encountering vastly different conditions to those anticipated at the outset – the team developed solutions that minimised the financial and environmental consequences of the remedial work.

These drew upon a variety of expertise across environmental, geotechnical and mining remediation disciplines. All the specialists and consultants involved believed this is the first time this combination of methods had been employed in this way anywhere in the UK.

Judges were impressed by the team’s hard work in finding solutions to challenges that would ‘ordinarily have killed the project’ given its size.

The project team proposed a propped cantilever road structure rather than a viaduct, which brought a range of benefits including less impact on the local community during construction, improved journey times, creation of a verge on the east side suitable for pedestrians and cyclists and an overall better experience of the surrounding natural landscape of Loch Lomond.

Working closely with the Loch Lomond & the Trossachs National Park (LTNPA) and local community meant visual aspects of the finished structure helped deliver a solution that sits quietly and delicately into the surrounding landscape.

Acknowledging this, the judges said the novel structure meant the road was ‘embedded into the landscape rather than being separate to it.’

The project team ensured a better fit with the environment.
Ecology & Biodiversity

Winner

A5758 Broom’s Cross Road
Client: Sefton Council
Designer: Jacobs
Contractor: Balfour Beatty

CEEQUAL Excellent (85.1%)
Whole Project, Version 4, October 2017

The 2.8-mile Broom's Cross Road that links the A565 with the motorway junction near Aintree is built on agricultural land in the green belt, so the local council took the opportunity to go beyond environmental mitigation and incorporate measures to advance and improve ecology and biodiversity. Ecology and biodiversity issues were taken into account from the outset, even before the business case had been submitted to central government. A full environmental assessment was carried out and submitted with the planning application for the scheme, together with a detailed environmental masterplan. Included in that plan were numerous measures to protect and enhance existing habitats and wildlife as well as the planting of 30,000 new trees and shrubs and 2.4km of hedge. Of particular benefit to local biodiversity were the creation of the new wildlife ponds and the drainage attenuation ponds, incorporating reedbeds.

This project demonstrated that, even for projects of moderate scale with limited adverse impacts, the scope for providing significant and long-lasting environmental benefits is huge and also attainable. As the Judges commented: “The enhancements were achieved because the client was committed and interested in their local environment and the team showed an attention to detail which is very rarely seen.”

“Astonishing ecological enhancements.”

Highly Commended

Bermondsey Dive Under
Client: Network Rail
Designer: Ramboll
Contractor: Skanska

CEEQUAL Excellent (86.6%)
Whole Project, Version 4, April 2017

The Bermondsey Dive Under project demolished existing viaduct arches and built a separation junction for the Thameslink Lines approaching London Bridge station to ease congestion. The project team committed to ensuring biodiversity onsite rather than offsetting elsewhere.

The inherited site contained previous tenant’s debris and soils heavily contaminated with asbestos, hydrocarbons and Japanese Knotweed. The land had limited botanical diversity, low conservation value and the fragmented nature of the vegetation meant the area was a poor habitat corridor. Wildflower planting created green corridors and stepping stones to the wider area, while green walls were installed to offset lost vegetation. The area will be serviced under the continual maintenance schedule, helping the habitat mature and become ecologically valuable.

Judges praised ‘the objective to achieve net positive’ which was ‘achieved through on-site enhancement despite the technical challenges’.

“A technically complex project, which could easily have resulted in ecology enhancements being overlooked.”

Ecology & Biodiversity

Historic Environment

Winner

London Bridge Station Redevelopment (Main Station)
Client: Network Rail
Designer: Hyder Consulting (now Arcadia), WSP
Contractor: Costain

CEEQUAL Excellent (97.3%)
Whole Project, Version 4, May 2019

Preserving our historic environment is recognised as a key component of delivering sustainable infrastructure programmes such as the Thameslink Programme and, given London Bridge station is the oldest London railway terminus, the redevelopment programme had high expectations from a heritage perspective.

Working around and within a number of listed structures and heritage assets, the project team has delivered a redevelopment that incorporates modern architecture without compromising the personality and legacy of the station.

Many original aspects of the station remain, including the Grade II listed brickwork wall along St Thomas Street and the Grade II listed Warren Trusses at Joiner Street, and hundreds of historic artefacts were discovered during excavations under the ancient arches of the station and donated to the Museum of London.

As part of the project, the quadripartite arches of the Western Arcade, originally built in 1836, were retained and refurbished to their former glory, while parts of the Victorian Grade II listed train shed were donated to Vale of Rheidol Railway in Aberystwyth.

Judge’s praised the project team’s ‘comprehensive approach’ that resulted in the ‘Vale preservation of historic elements of station’, while creating a modern station that has not compromised the legacy of the station’s history.

“Sensitive integration with existing structure.”
**Water Environment & Resources**

**Winners**

**Doha South Sewage Infrastructure Project – Main Trunk Sewer**

*Client:* IDSNS Main Trunk Sewer (MTS) Section 01  
*Designer:* CH2M Hill  
*Contractor:* Bouygues-Urbacon  
*CEEQUAL:* Good  

**Design and Construction, Version 4, October 2017**

The Doha South Sewage Infrastructure Project is a gravity-based sewage collection system linking several catchment areas in Doha, Qatar. The project involved decommissioning more than 20 old pumping stations and replacing the sewer pipes and septic tanks to reduce leakage and limit the risk of groundwater contamination. Qatar is among the world’s top 10 countries vulnerable to water scarcity, so this project took specific measures to protect the water environment from any potential adverse impacts.

At the outset, the project team carried out hydrotechnical investigations to identify zones of high potential groundwater inflow into the shafts and tunnels, which gave them data for the preliminary design but also helped the contractor understand potential risks. They prioritised preventing high volumes of groundwater inflow into the tunnel excavation, which could have had a significant ecological impact on the programme. The design team ensured river realignment and wetland creation was a priority within the delivery team. It also meant details could be finalised on site working methods.

**Stafford Area Improvements Programme – Norton Bridge Grade Separation**

*Client:* Network Rail  
*Designer:* Atkins  
*Contractor:* Staffordshire Alliance (Network Rail, Atkins, Laing O’Rouke & VolkerRail)  
*CEEQUAL:* Excellent (99.0%)  

**Whole Project, Version 4, June 2017**

The Norton Bridge Grade Separation was designed to create more capacity and reliability on the West Coast Main Line involved the construction of 10 kilometres of new railway plus the creation of large-scale landscape features, including significant river realignments and additional wetland creations.

From the beginning of the project, there was a commitment not only to mitigate for the length of channel lost but also to create improved diversity in the new river sections to replicate a natural river form. At each location, opportunities to improve habitat were realised by keeping existing channel sections as backwaters, improving diversity in the new river realignments and creating large-scale fish refuges. In total, 830 metres of new channel were constructed, along with 237 metres of wetland habitat linked to the river realignments.

The appointment of a river realignment manager from the design team ensured river realignment and wetland creation was a priority within the delivery team. It also meant details could be finalised on site working methods, giving the tunnel an extended life-cycle. Judges praised the team’s response to the ‘significant’ challenges of groundwater management, particularly given restrictions on active pumping and for using just 34% potable water in construction.

**Staffordshire Alliance (Network Rail, Atkins, Laing O’Rouke & VolkerRail)**

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**Highly Commended**

**A4232 Cardiff Eastern Bay Link**

*Client:* Welsh Government  
*Designer:* Capita, Cass Hayward  
*Contractor:* Dawnus Ferrovial Agroman Joint Venture  
*CEEQUAL:* Excellent (81.1%)  

**Whole Team, Version 5, March 2018**

Cardiff’s 1.2km Eastern Bay Link provides a much-needed extension to the Welsh capital’s road through its busy docks area. Early contractor involvement and a collaborative contractual approach enabled the project team and stakeholders to accommodate significant design changes to mitigate associated risks.

Risks to the water environment were identified as an important factor in the re-design, so the project team consulted a range of relevant agencies, including Cardiff City Council and Natural Resource Wales, and ran a series of focus groups.

**Flens Framtid**

*Designer:* WSP  
*CEEQUAL:* Excellent (75.5%)  

**Design, Version 5, May 2017**

A pipeline to ensure the future water supply and safety in the Swedish town of Flens was the core of this design-only project, which from the outset had maximising sustainability at the heart of it.

In this project, sustainability was not only considered, it was made the priority. As such, aspects related to sustainability were considered throughout the process and had large impact when it came to deciding the length and route of the pipelines, the materials used and the choice of working methods.

**Stakeholders**

Stakeholders were involved during the whole process, while the team developed a range of sustainability tools to monitor different elements such as carbon emissions, energy use, and water footprint. Employing these methods and tools resulted in the project management team choosing a more sustainable solution despite higher investment costs.

Judges praised the use of the water footprint tool in particular, noting it is ‘continuing to be developed and tested on other projects.’

**One of only a few infrastructure projects that have truly embraced the concept of water footprinting.**

**Very high infiltration rates given context of project.**

**Challenges of groundwater management were significant.**

**This work has enabled some significant ecological gains.**
Whole Project, Version 4, February 2018

**London Power Tunnels**

Client: National Grid  
Designer: Jacobs (previously CH2M-Halcrow)  
Contractor: Costain, Skanska  
CEEQUAL Excellent (89.7%)  
Whole Project, Version 4, February 2018

The £324 million London Power Tunnels (LPT) project – the longest single tunnelling contract ever let in Europe – created 32km of new electricity superhighway deep below the capital to ensure Londoners are connected to safe and reliable electricity supplies. Delivering a genuinely sustainable project was a key focus from the inception. Environmental and sustainability principles were integral in the design, construction and operation of the asset, going above and beyond legislative requirements and incentivising continuous improvement throughout the project.

Tackling climate change and understanding the whole life carbon footprint of the project was essential to ensure a lower project impact, which meant understanding the emissions associated with the construction. A new and innovative carbon model to assess the impact helped identify opportunities to reduce carbon output by 40%. These savings were achieved through minimizing lorry movements by reusing tunnel spoil, procuring low-carbon tunnel segments, redesigning the tunnel ventilation, heat recycling and providing low-carbon transport for employees commuting between sites.

In addition, the project team created an energy education centre at the main project office to help young people learn about energy, climate change and sustainability. Acknowledging the team’s success, judges praised its carbon reduction measurement and use of heat exchangers, saying the project ‘should for a good case study’ on how to ‘capture both cost and carbon saving’.

Refusing to accept the conventional use of ‘dirty’ diesel as a fuel for powering all on-site construction equipment, the team rolled out a number of hydrogen-powered pieces of equipment. These included tower lighting, which was virtually emissions free, and small generators, which delivered CO2 emissions savings of approximately 2.09 tonnes. This represented a step change in the use of alternative fuels on a construction site and the first time they had been used on Network Rail managed infrastructure. Judges acknowledged this pioneering initiative, saying the project had ‘demonstrated true innovation in reducing carbon emissions from plant’ and shown ‘the impact hydrogen plant can have in the future’.

The seven-year, £324 million London Power Tunnels (LPT) project delivered 32 kilometres of high voltage electricity cable tunnels between Hackney and Willemsden via Kensal Green and Wimbledon and included the construction of 14 access shafts and associated headhouses.

During the initial stages, the team identified the spoil from the tunnels could have significant environmental impacts and financial cost to the project, so management and movement of it was critical. Unlike on many other projects, excavated soils replaced an aggregate that would otherwise have been needed to fill gas holder sites. The project team also used electronic tracking software to ensure the spoil reached its intended destination.

As well as receiving a slew of awards from the Environment Agency among others, the project was praised by judges for having ‘clearly demonstrated the benefits of implementing the CL:AIRE Code of Practice early in a project’s life’.

Evidence of the team building on the learning from Blackfriars.

Highly Commended

**London Bridge Station Redevelopment (Main Station)**

Client: Network Rail  
Designer: Hyder Consulting (now Arcadis), WSP  
Contractor: Costain  
CEEQUAL Excellent (97.3%)  
Whole Project, Version 4, May 2019

Running a station the size of London Bridge would be highly carbon intensive if low energy options were not considered, so reducing the operational energy consumption of the station was a driving factor throughout the redevelopment project.

A range of features have been included in the station’s redevelopment that have resulted in total carbon savings of 18.9%.

Examples are the concourse, which was designed to allow in more natural light, the use of LED lighting and ‘slow and go’ escalators, which are predicted to save nearly 35 tonnes of carbon a year. Also included were geothermal piles and a ground source heat pump for retail outlets, which should provide annual carbon savings of 311 tonnes.

While commenting there was little detail on the actual carbon savings already achieved, judges acknowledged the difficulty of making huge reductions given the project’s context and praised the team for ‘identifying appropriate solutions to the circumstances they faced’.

Significant reduction in vehicle movements and carbon.

Material & Waste Management

**Winner**

**London Power Tunnels**

Client: National Grid  
Designer: Jacobs (previously CH2M-Halcrow)  
Contractor: Costain, Skanska  
CEEQUAL Excellent (89.7%)  
Whole Project, Version 4, February 2018

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Refusing to accept the conventional use of ‘dirty’ diesel as a fuel for powering all on-site construction equipment, the team rolled out a number of hydrogen-powered pieces of equipment. These included tower lighting, which was virtually emissions free, and small generators, which delivered CO2 emissions savings of approximately 2.09 tonnes. This represented a step change in the use of alternative fuels on a construction site and the first time they had been used on Network Rail managed infrastructure. Judges acknowledged this pioneering initiative, saying the project had ‘demonstrated true innovation in reducing carbon emissions from plant’ and shown ‘the impact hydrogen plant can have in the future’.

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During the initial stages, the team identified the spoil from the tunnels could have significant environmental impacts and financial cost to the project, so management and movement of it was critical. Unlike on many other projects, excavated soils replaced an aggregate that would otherwise have been needed to fill gas holder sites. The project team also used electronic tracking software to ensure the spoil reached its intended destination.

For project where vast qualities of spoil are produced in urban locations, LPT set down a benchmark for minimising impacts. Learning from the project will be applied to the future 80km portfolio of cable tunnels to be constructed over the next 15 years.

Demonstrated viability which can easily be scaled to give great impact.

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Significant reduction in vehicle movements and carbon.

**Highly Commended**

**Crossrail Surface Works: North East Spur**

Client: Network Rail, Crossrail  
Designer: Atkins, Costain  
Contractor: Costain  
CEEQUAL Excellent (83.8%)  
Whole Project, Version 4, June 2018

The Crossrail North East Spur section passes through highly urbanised areas consisting primarily of residential and commercial properties. This presented a number of challenges, particularly managing the impacts of diesel-powered equipment on local air quality and noise emissions and reducing the carbon footprint.

Evidence of the team building on the learning from Blackfriars.

**Winner**

**London Power Tunnels**

Client: National Grid  
Designer: Jacobs (previously CH2M-Halcrow)  
Contractor: Costain, Skanska  
CEEQUAL Excellent (83.8%)  
Whole Project, Version 4, February 2018

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Tackling climate change and understanding the whole life carbon footprint of the project was essential to ensure a lower project impact, which meant understanding the emissions associated with the construction. A new and innovative carbon model to assess the impact helped identify opportunities to reduce carbon output by 40%. These savings were achieved through minimizing lorry movements by reusing tunnel spoil, procuring low-carbon tunnel segments, redesigning the tunnel ventilation, heat recycling and providing low-carbon transport for employees commuting between sites.

In addition, the project team created an energy education centre at the main project office to help young people learn about energy, climate change and sustainability. Acknowledging the team’s success, judges praised its carbon reduction measurement and use of heat exchangers, saying the project ‘should for a good case study’ on how to ‘capture both cost and carbon saving’.

Refusing to accept the conventional use of ‘dirty’ diesel as a fuel for powering all on-site construction equipment, the team rolled out a number of hydrogen-powered pieces of equipment. These included tower lighting, which was virtually emissions free, and small generators, which delivered CO2 emissions savings of approximately 2.09 tonnes. This represented a step change in the use of alternative fuels on a construction site and the first time they had been used on Network Rail managed infrastructure. Judges acknowledged this pioneering initiative, saying the project had ‘demonstrated true innovation in reducing carbon emissions from plant’ and shown ‘the impact hydrogen plant can have in the future’.

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For project where vast qualities of spoil are produced in urban locations, LPT set down a benchmark for minimising impacts. Learning from the project will be applied to the future 80km portfolio of cable tunnels to be constructed over the next 15 years.

Demonstrated viability which can easily be scaled to give great impact.

Significant reduction in vehicle movements and carbon.
High Speed Two Ltd

HS2 has an ambitious sustainability strategy committed to going beyond enhancement and protection of the environment to address the key social and economic impacts of the development. It includes features such as working in harmony with communities, being a great neighbour and putting safety and wellbeing at the heart of the project. It also aims to create sustainable economic benefits for the whole of the UK, such as better skills and career opportunities for a new generation.

To help deliver this ambitious strategy and to demonstrate its legal obligations, HS2 believed it needed a new approach to assessing the sustainability of infrastructure projects of this scale. As a result, the team approached BRE in 2014 to investigate the development of a BREEAM scheme for infrastructure that would pioneer a new approach to sustainability strategy. HS2 became a founding member of the industry working group and made substantial contributions to the development of the BREEAM Infrastructure (pilot) Scheme. And in 2018, HS2 became the UK’s first infrastructure project to be awarded a certificate against that Scheme for its ambitious sustainability strategy on Phase 1 of the project.

Subsequent to BRE’s acquisition of CEEQUAL, HS2 continued to provide significant valuable feedback and learning from the application of the BREEAM Infrastructure pilot to HS2. This has been fed into the development of CEEQUAL Version 6, which has now replaced BREEAM Infrastructure.

This Directors Award is presented to recognise this ongoing substantial input to the development of sustainability assessment in infrastructure.

Helen Woolston, Transport for London

Helen has always held a theme of environmental responsibility within the various roles she has held during her career. This has included roles within corporates, a local authority and a trade body, and since 2006 in Transport for London (TfL) where she is Group Environment and Climate Change Co-ordinator.

Her role in TfL includes developing and delivering mechanisms that help project teams understand, assess and report on sustainability issues. Helen additionally coordinates environmental issues that are relevant across the whole business, such as reporting; adapting to climate change; carbon reduction commitment; and staff environmental engagement.

When Helen trained as a CEEQUAL Assessor in 2014 she immediately spotted the benefits that CEEQUAL could bring to TfL and how it could assist her in her mission. Since then, she has strived to get CEEQUAL embedded into TfL’s sustainability strategy while continuously promoting the benefits of its use with project teams across the business. As an active member of our industry working group Helen has also helped us shape the future of CEEQUAL by providing active feedback from both herself and colleagues across the business.

As a result of Helen’s work virtually all major TfL projects in the last 5 years have undergone or are undergoing CEEQUAL assessments and CEEQUAL is written into TfL processes for the future. This is a major achievement and truly warrants the recognition of this Directors Award.

Substantial input to the development of sustainability assessment in infrastructure.
The Thameslink Programme, Network Rail

The Government-sponsored £7bn Thameslink Programme is an ambitious 10-year project to deliver extensive infrastructure improvements and 115 new trains that will transform north-south travel through London. It included nine sustainability objectives applied across all the infrastructure work and CEEQUAL was implemented on eight of the major infrastructure packages.

The team deployed CEEQUAL to help Network Rail raise the bar for sustainability performance, challenge design and construction processes, embed sustainability into the supply chain and ensure learning from earlier projects was used to maintain and improve performance throughout the programme.

In an unprecedented achievement, these eight projects have so far scooped nine CEEQUAL Exceptional Achievement Awards, with the assessment for London Bridge Track and Signalling project still in progress.

This award-winning performance has been recognised throughout the length of the programme. In addition to the projects highlighted in this brochure, achievements from other Thameslink projects included:

- **Farringdon; Ecology & biodiversity (2013)**
  Integration of a living roof into the station’s design was a first for the Thameslink Programme and set the standard for best practice in ecology and biodiversity across the programme.

- **Farringdon; Historic Environment (2013)**
  Use of traditional building materials, such as lime plaster with horse hair and the construction of traditional brick arches, enabled this Grade II listed station to be refurbished and updated to meet 21st century needs whilst matching the existing structures.

- **Blackfriars Bridge and Station Refurbishment; Energy & Carbon (2013)**
  More than 4,400 PV panels installed on to the new roof of the historic Blackfriars Station, creating the ‘world’s first solar bridge’.

- **Borough Viaduct; Effects on Neighbours (2016)**
  Disruption mitigation included altering construction methods to reduce noise, working with other organisations to avoid road closures and using a ‘green’ wall to minimise visual impact – a temporary feature that became permanent.

- **Borough Viaduct; Historic Environment (2016)**
  Instead of demolishing the historic Wheatsheaf pub, the team removed the upper floors to allow the viaduct to pass through, preserving the pub and its listed circular wooden bar.

- **An unprecedented achievement.**

The Eric Hughes Award for Outstanding Contribution to Improving Sustainability

**Winner**

The Eric Hughes Award is presented in honour of Eric Hughes BEng CEng FICE MCIWEM, the CEEQUAL Chairman from 2006 to 2013.

It reflects the huge debt owed to Eric for the invaluable guidance and support he gave to CEEQUAL, its Board, and Management Team over his time as chairman.

The award is made at the discretion of the Judging Panel and is awarded to one of the nominee projects that in their view has demonstrated an outstanding contribution to sustainability in civil engineering.

- **Farringdon Station Redevelopment**
  - Winner: Ecology & Biodiversity 2013
  - Highly Commended: Historic Environment, 2013

- **Blackfriars Bridge and Station Refurbishment**
  - Winner: Energy & Carbon 2013

- **Borough Viaduct**
  - Winner: Effects on Neighbours, 2016
  - Winner: Historic Environment, 2016

- **Bermondsey Diver under Bridge**
  - Highly Commended: Ecology & Biodiversity 2019

- **London Bridge Station Redevelopment**
  - Winner: Effects on Neighbours, 2019
  - Winner: Historic Environment, 2019
  - Winner: Energy & Carbon, 2019

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An unprecedented achievement.
Twenty-four projects were shortlisted for the 2019 Exceptional Achievements Awards which cover a huge range of engineering work. The shortlist highlights the top achieving projects which have used CEEQUAL in recent years.

- A31 Magherafelt Bypass
- A4232 Cardiff Eastern Bay Link
- A5758 Broom’s Cross Road (Thornton to Switch Island Link)
- A62 Pulpit Rock
- Arnsdale Station
- Arlanda Längtidsparkering
- Bermondsey Dive Under
- Colwyn Bay Waterfront Project Phase 2
- Crossrail Surface Works: North East Spur
- Crossrail Surface Works: West Station (Phase 1)
- Doha South Sewage Infrastructure Project – Main Trunk Sewer (MTS)
- Flens framtida vattenförsörjning
- Frodsham Wind Farm
- Greenwich Millennium Village Parcel 5
- HS2 Phase One
- London Bridge Station Redevelopment (Main Station)
- London Power Tunnels, London’s 32Km electricity superhighway
- Nytt Driftområde Arlanda Airport
- Setiawangsa-Pantai Expressway (SPE/DUKE3)
- Stafford Area Improvements – Norton Bridge Grade Separation
- St Erth Multi Modal Hub
- The Avenue Remediation and Landscaping Scheme
- Tye Water and Sewage System
- Wessex Capacity Alliance
CEEQUAL is an evidence-based sustainability assessment, rating and certification scheme for civil engineering. It rigorously assesses and rates a projects strategy and performance against a range of best practice sustainability measures.

**Why use CEEQUAL?**

- Reputation building and good PR – including delivery of ESG/CSR policies
- Improvements in projects and maintenance work, and implementation of best practice
- Demonstrated commitment to sustainability agenda
- Cost savings – projects have reported cost savings through using CEEQUAL schemes

CEEQUAL is part of the BREEAM family of sustainability standards – [www.breeam.com](http://www.breeam.com)

Thank you to the clients and project teams who have supplied images and information for this document.

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