

Acanthus LW architects



*Infrastructure*



## About Us

Established in 1978 Acanthus LW architects offers professional services in architecture, landscape architecture and conservation. Our objective is to produce high quality architecture which makes a positive contribution to the built environment and which contributes to a sustainable environment. We aim to provide the best possible service to clients with appropriate, well designed solutions while running an office that is a friendly and rewarding place to work.

Over the last twenty years, the practice has developed a broad range of specialist infrastructure experience. Acanthus LW has a dedicated team, fully versed in the procedures, standards and good practice particular to the built infrastructure. Our clients include Transport for London, London Underground, Crossrail, DLR, Network Rail, train operating companies, main contractors and multidisciplinary engineering firms. Projects have ranged from interventions to the existing network, new bridges, viaducts and depots, large scale new build stations and the major remodelling of interchange stations.

Acanthus LW is a Link-up Registered Supplier.

## Our Approach

Infrastructure design is a specialist discipline requiring an understanding of complex engineering requirements and design issues together with a willingness to co-operate within multidisciplinary design teams. This is integral to the way we work across all works stages from feasibility studies to project completion.

We work in a variety of roles - as lead designers, as architects and premises designers as part of a multidisciplinary teams both for client bodies under NEC3 professional services contract, and for contractor led design and construct contracts.

Specialist infrastructure experience that we bring to a project includes:

- Ability to operate in multi discipline teams and in multi stakeholder projects, seeking consensus through design
- A realistic pragmatic approach to construction and detailed design based on experience and an awareness of costs
- Careful integration of services, carried out in conjunction with engineers, operators and maintainers in order to provide buildable, maintainable and appropriate solutions.
- Expertise in the production of 3D information models to Level 2 BIM.
- Specialist historic and listed buildings advice.



## Tottenham Court Road Station

*Dramatic upgrade and bold redevelopment of a busy central London interchange station requiring specialist underground station design skills.*

Acanthus LW provided specific underground station design input from inception to delivery for this £1bn project. The scope of works involved the modernisation and refurbishment of the Central Line areas, the Eduardo Paolozzi murals restoration, new interchange tunnels, stairs, lifts, shafts and the overall specification lead. Above ground works included a new Oxford Street entrance and the Falconberg Court operations building. Hawkins/ Brown were responsible for works to Northern Line areas.

We are now supporting the Vinci BAM Nuttall JV in finalising construction packages and delivering on-site works. Tottenham Court Road station was a finalist in the New London Awards 2011.

Client: CH2M Hill for LUL / Vinci Bam Nuttall JV



# TOTTENHAM COURT ROAD STATION







## Haggerston Station

*New build London Overground station including designs for line-wide architectural components.*

Haggerston station is one of four new stations on London Overground's East London Line and is located in the London Borough of Hackney. Acanthus LW were responsible for the design and led the design team from inception in 2007 to completion in 2010. The lead consultant role included managing design coordination with interfacing engineering disciplines and stakeholders. The project underwent several rounds of value engineering and the team worked to retain quality of the architecture and materials. The project was cited by judges when the East London Line won best project in the Concrete Association awards 2010.

Client: URS for Balfour Beatty Carillion JV for TfL

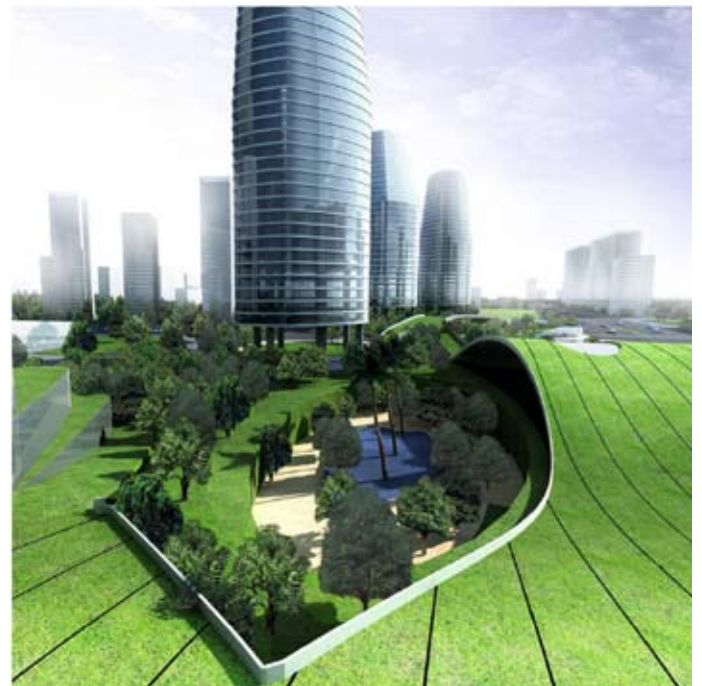


## Three New Stations, Metro Line 2, China

*Competition entry for Chinese interchange station.*

In 2010 Acanthus LW were invited by URS to support their design team in Guangdong for infrastructure projects in Wuxi. Acanthus LW provided metro station design skills in the planning of three new interchange stations. Options for station layouts and interchange methods were set out and evaluated. Urban design implications of each new station were explored and opportunities for integration with new commercial developments were exploited. The station designs all featured a common theme of modelling the topography of the surrounding areas to bring natural light and views of greenery into the stations.

Client: URS







## Blackwall Tunnel Ventilation Buildings

*Largest automatic opening ventilator in the UK.*

As part of the Northbound Blackwall Tunnel Refurbishment Project Acanthus LW were appointed by Mott Macdonald Ltd to devise a way in which the existing ventilation terminal buildings at surface level could be adapted to accommodate enhanced ventilation and emergency smoke extraction from the road tunnel below.

The four terminal buildings (two on each side of the River Thames) were designed as a group of functionally and visually related structures by the GLC Architects Department. Built in the late 1960's the buildings are architecturally dramatic and visually prominent in their settings.

Client: Mott MacDonald for TfL





## Croxley Rail Link

*Metropolitan line extension with new railway viaduct, two new London Underground stations and a new electrical substation.*

The Croxley Rail Link is a £120M project to reroute part of the London Underground Metropolitan line Watford branch services north of Croxley station to a new terminus at Watford Junction. Acanthus LW are the lead designers for two new stations at Cassiobridge and Watford Vicarage Road station. We also had substantial design input into the viaduct and bridge structures. Our role included significant stakeholder engagement, supporting the Transport and Works Act Order process and obtaining Funding from the Department for Transport. RIBA stage D designs were completed in February 2013. Acanthus LW are now architects for the design and construct team, working with Arup and Taylor Woodrow

Client: Arup for Taylor Woodrow





## Ticket Office, Victoria Coach Station

*New ticketing, staff and public area upgrades to distinctive Art Deco coach station.*

Acanthus LW architects were commissioned by Victoria Coach station to design new ticketing, staff and public areas for an upgrade of Victoria Coach station. The project remodelled the ticket hall/ waiting areas, staff accommodation including cash office and supervisor's office, and provides new ticket clerk workstations which have been designed with Human Factors input. ALW were supported by sub-consultants Beveridge Associates (mechanical and electrical design) and ElbowRoom (human factors design) in this process.

Client: Victoria Coach station for TfL



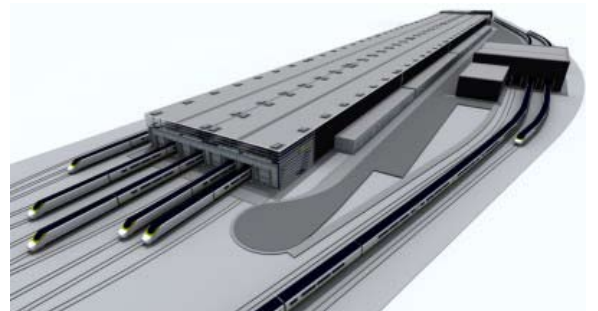


## Eurostar Training Simulator Facility

*Complex fast-track infrastructure project delivering vital £1m training facilities for Eurostar in east London.*

The training simulator is located adjacent to the depot building, using three Eurostar carriages stabled permanently for staff training purposes at Temple Mills Depot in Leyton. Built in an extension to the depot, the new simulator building replicates a section of the main tunnel and platform, pressurised cross passage and service tunnel realistically and enables Eurostar staff at to simulate an emergency evacuation situation within a smoke filled Eurotunnel or Eurostar carriage. In addition office and mess facilities for staff and training personnel are provided.

Client: Eurostar



## Stratford DLR Station

*Detailed design and construction support for striking Alsop - designed faceted platform canopy .*

From an original design by Alsop Architects, Acanthus LW carried out detail design of the platform and canopy, including canopy cladding, platform screens and furniture. The design was developed using a fully detailed three dimensional CAD model that was used to resolve complicated and varying junctions, and integrate building services systems. The first platform opened on 18th June 2007.

Client: TGP Rail for Hochtief for DLR





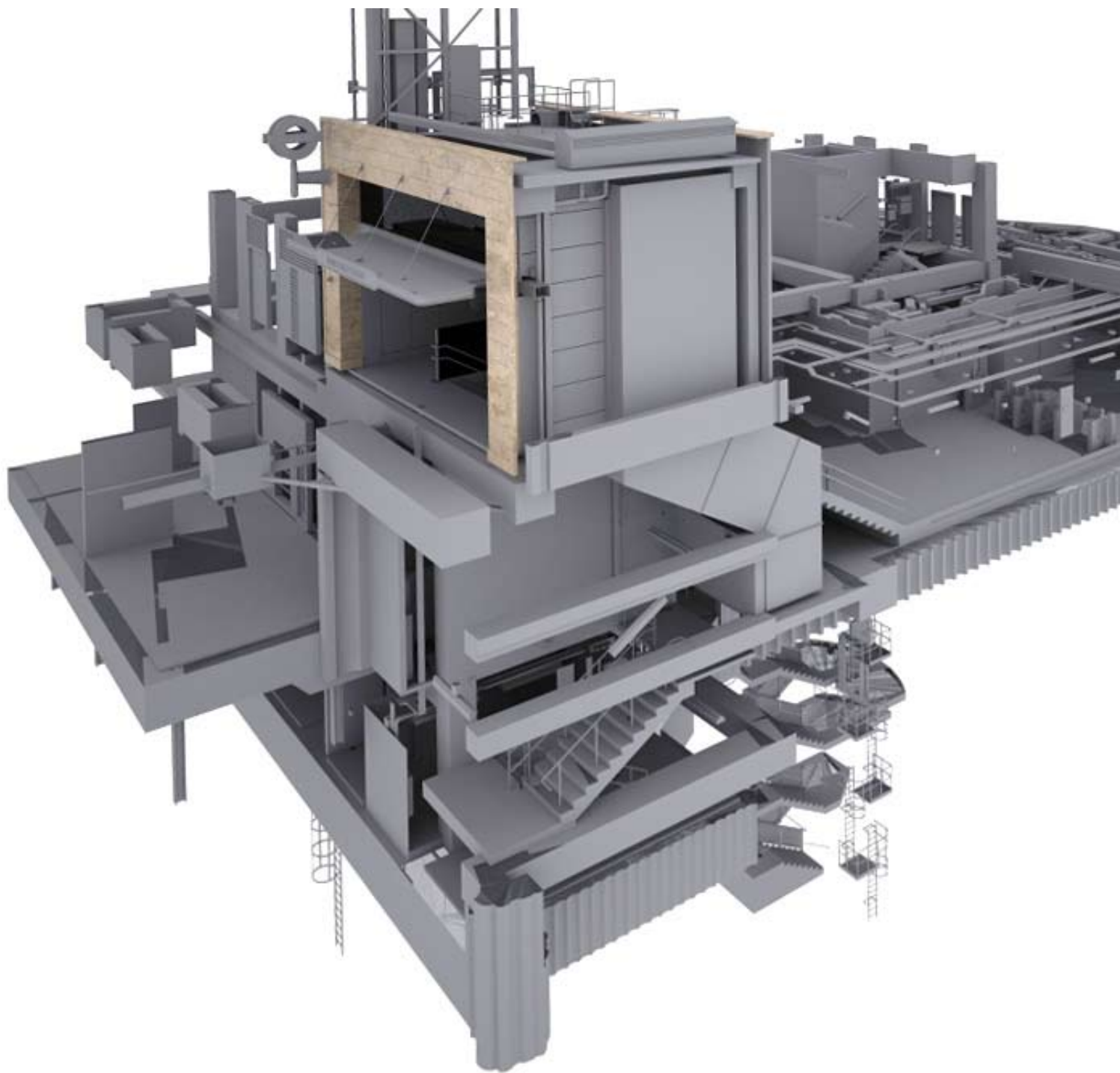
Watford

Way out  
Alarm

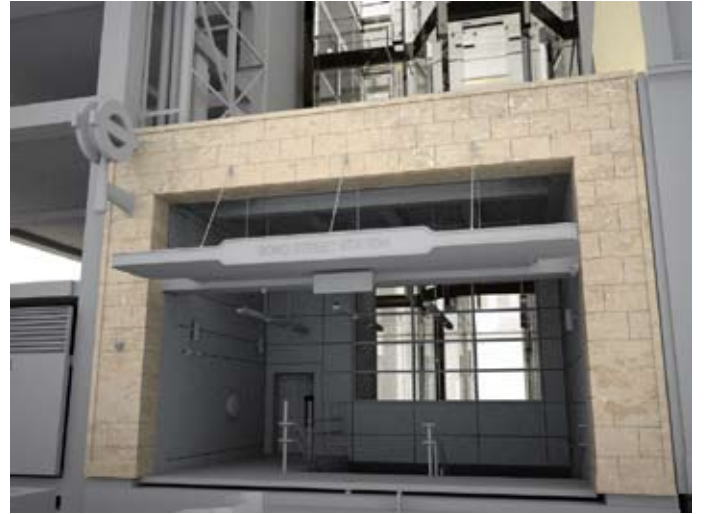
Information

BUILDING...  
a better railway

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## Bond Street Station Upgrade

*Specialist design support services, Urban Realm design and three dimensional modelling for this important central London station upgrade project.*

The project remodels the station ahead of the new Bond Street Crossrail interchange, increasing capacity, providing a new entrance north of Oxford Street, adding escalators, station and improving interchange and step free access to the Central and Jubilee lines. We were engaged in providing design support through 3D modelling the tunnels, the design of the urban realm about the new entrance on Marylebone Lane. Our conservation department provided advice on the condition and likely effects of engineering works on adjacent listed properties.

The station upgrade is due to complete in 2017.

Client: CH2M Hill / Atkins JV for Costain / Laing O'Rourke JV for London Underground



## Bolton Station Refurbishment

*Extensive refurbishment of a Victorian main line station for Network Rail introducing contemporary new build elements with a remodelling of public areas.*

The work comprised a completely reconfigured booking hall with a new ticket office facility, refurbishment work to platform surfaces, platform buildings and canopies plus a section of completely new platform canopies. These were designed with cantilevered structure avoiding disruptive foundation excavation. Acanthus LW worked closely with Tony Gee to discharge planning conditions and keep the project on programme.

Client: Tony Gee for Barhale for Network Rail

## Covent Garden Congestion Relief

*Remodelling of a Leslie Green Grade II listed station building.*

Due to exceptional passenger loads, the layout of the station was significantly remodelled to ease congestion and introduce a controlled one way system with extra gatelines and a wider station exit onto James Street. The Acanthus LW team provided technical support and detailed design services to the Tube Lines construction team, and were involved with stakeholder consultations agreeing details with the Local Authority.

Client: Tube Lines for London Underground





PLEASE WAIT IN THIS  
AREA UNTIL PLATFORM  
IS INDICATED

4 PLATFORM 3

Platform 1  
Upcoming Trains  
11:15, 12:00

Platform 1  
Upcoming Trains  
11:15, 12:00

Please remain in this  
area until platform  
is indicated

← Platforms 3 and 4  
Platforms 1 and 2 →





## Station Modernisation & Enhancement Programme

*20 London Underground station upgrades including sensitive modernisations of important listed buildings.*

We have been involved in projects throughout the extensive station Modernisation and Enhancement programme, developing great experience and technical knowledge of London Underground infrastructure and processes. Many involved listed buildings and sensitive conservation issues requiring negotiations with English Heritage, local authorities and London Underground. The project scope usually involved renewing architectural finishes and services and integrating new lighting and communications systems. Southgate station modernisation won best station refurbishment project at the National Railway Heritage Awards 2008.

Clients: Tube Lines, Metronet & various contractors, Joint Venture with URS, Partnering with Morgan Est, now Morgan Sindall



## New Cross Gate Depots

*Major new East London Line depot buildings providing a range of support facilities.*

A complex of new train shed support buildings comprising the maintenance facility building, the wheel lathe and heavy clean facility and the carriage wash building. The buildings feature orange cladding reflecting the line colour and dynamic angled profiles at the end elevations of the sheds. Acanthus LW worked closely with Balfour Beatty Carillion, TfL and the Local Authorities to discharge a number of planning conditions in order to keep this project on programme. Construction and handover was completed in March 2010 in time for the new train service which started in May 2010. At the 2011 ICE London Civil Engineering Awards, the East London Line was awarded the Greatest Contribution to London Award and the Community Award.

*Client: TGP for Balfour Beatty/Carillion JV for TfL*





## Hounslow East Station

*Award-winning new build copper-roofed station building using innovative exposed timber roof structure.*

Our design for a new station building at Hounslow East was won in competition against three other London Underground framework architects. The redevelopment of Hounslow East represented a unique opportunity for a virtually new station within the existing infrastructure. The scheme required the excavation of the existing embankment and provides a new ticket hall with ancillary accommodation, interchange passageway and stairs to each platform. Step free access for disabled passengers is achieved through the provision of a new lift to each platform. The station won the HSBC station Excellence of the Year Award 2005 and was shortlisted for the Wood Awards 2003

Client: London Underground Ltd.





UNDERGROUND

HOUNSLEY EAST STATION

STIRLING GROVE

Station

020 85



## Crossrail Stations, Ventilation Shafts & Portals

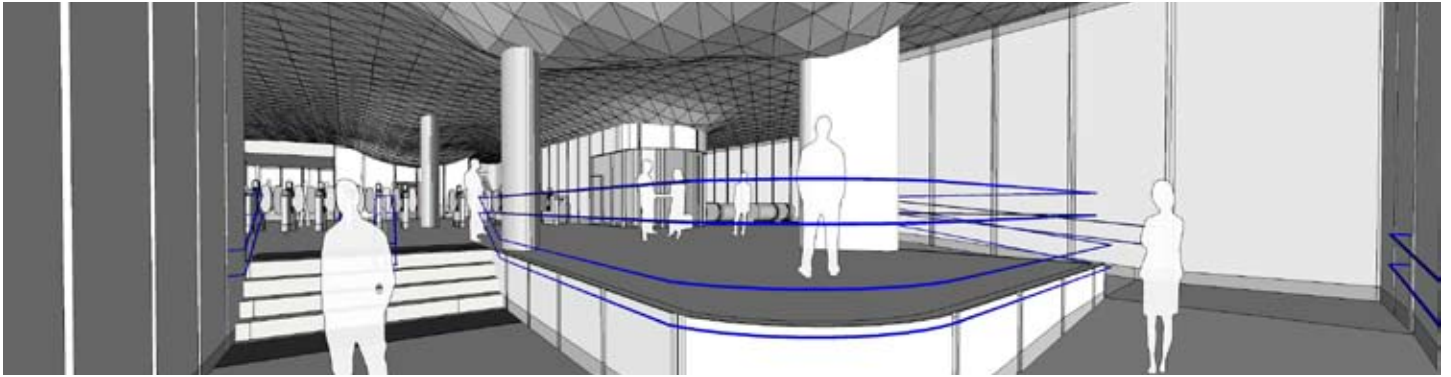
*Design work for several clients supporting Crossrail throughout the design development stages leading up to and beyond the Crossrail Act of 2008.*

With a challenging mix of architecture, landscape and civil engineering, Acanthus LW have provided architectural inputs in the design of the structures and landscape serving the portals, ventilation and intervention shafts for the underground section of Crossrail. Our role included providing specialist staff to work as part of Crossrail's in-house team, as well as supporting engineering lead designers on specific contracts. While the structures are designed and positioned in strict compliance with the operational requirements of the railway, many are located in environmentally sensitive areas.

Acanthus LW were commissioned in 2008 to provide a scheme design for the new Crossrail station at Custom House. The proposed station consisted of an island platform served by Crossrail with links to the adjacent DLR station and 24 hour access to Excel Centre and Silvertown.

Clients: Crossrail & Mott MacDonald & CH2M Hill for Crossrail





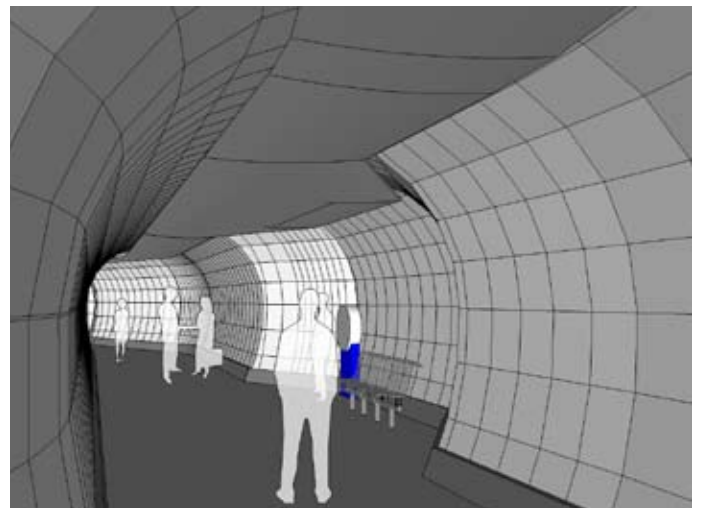
## Paddington Bakerloo Line Future Stations Project

*Innovative VE station design solving technically difficult functional brief*

Acanthus LW were commissioned directly by LUL to develop to RIBA stage B a new concept for meeting the needs for the future stations developments at Paddington Bakerloo Line station. We developed a new ticket hall below street level with ramped access from both the Network Rail concourse and existing Bakerloo line ticket hall reducing the requirements for mechanical vertical circulation present in previous feasibilities. Construction methodology and programming was provided by Parson Brinkerhoff.

Subsequently Acanthus LW were further engaged, as part of a multi-disciplinary URS led team, to develop the proposals through RIBA stage C, with the final draft report being delivered to LUL in October 2013.

Client: LUL & URS for LUL

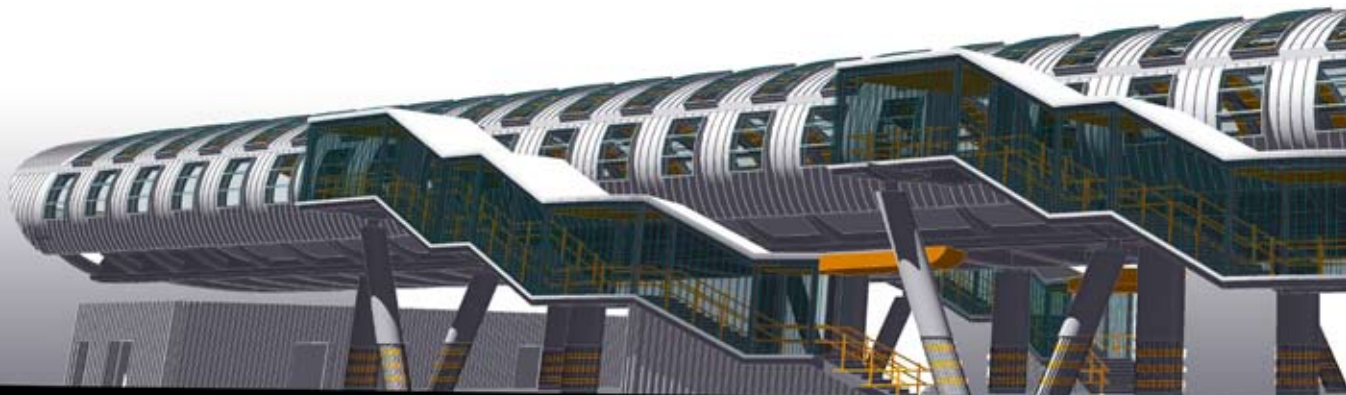


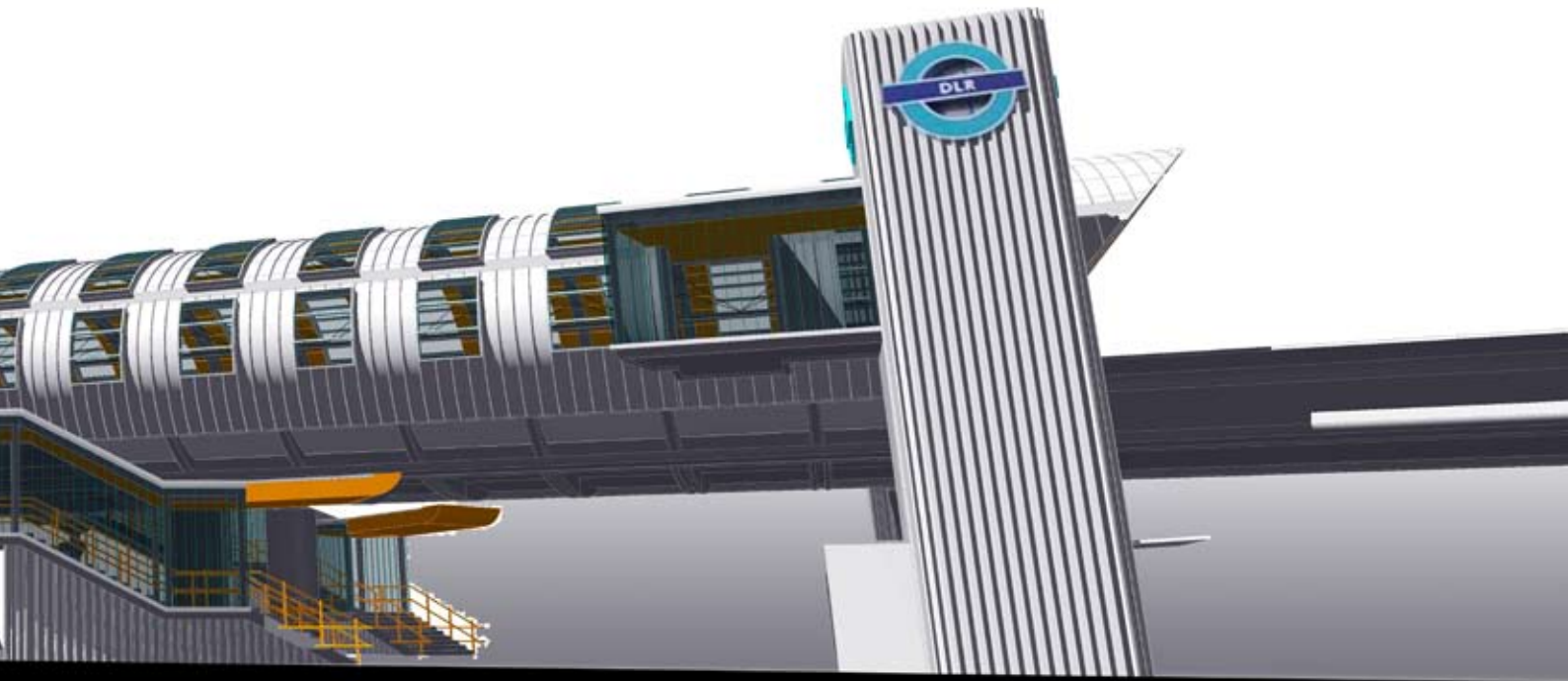
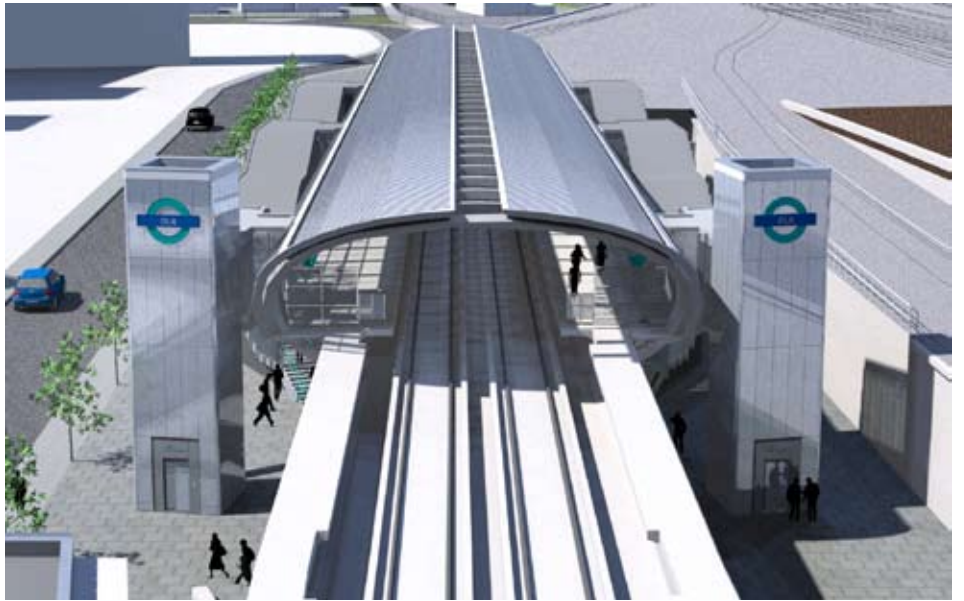
# Pudding Mill Lane DLR Station & Viaduct

*New DLR station and associated Crossrail infrastructure next to the Olympic Park.*

A flagship DLR station immediately south of the 2012 Olympics Park, designed to cater for the crowd loads from the nearby Olympic Stadium. Acanthus LW were responsible for the project from 2004 - 2010 as the design progressed through the Crossrail design stages leading up to the authorisation of the Crossrail Act in 2008. In 2009 Acanthus LW were appointed architects for the URS team through RIBA stages C-F with a collocated team based at Crossrail's office for 15 months. The design was based on a union of architecture and engineering with an elliptical station enclosure.

Client: Mott MacDonald and URS for Crossrail





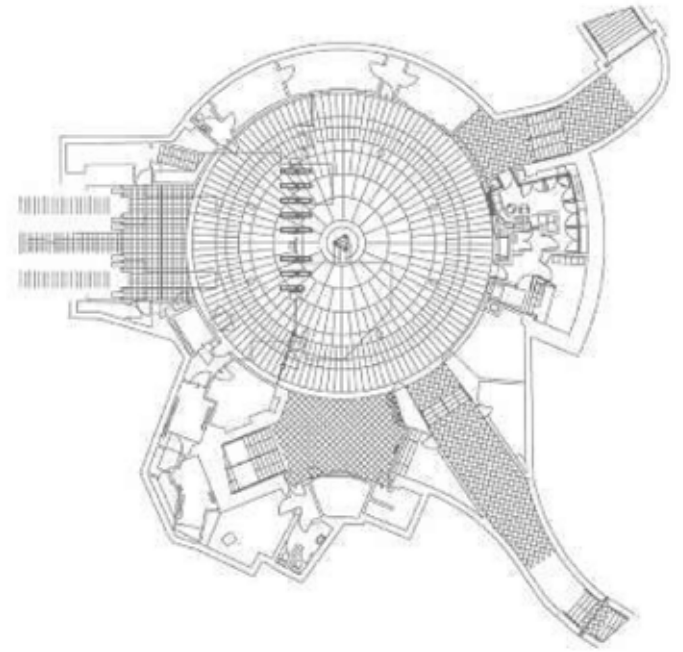
KNIGHTSBRIDGE

← Sloane Street  
Knightsbridge

→ Sloane Street  
Knightsbridge

KNIGHTSBRIDGE





## Knightsbridge Station Modernisation

*Bold station upgrade adding contemporary finishes to this remodelled 1930s station.*

A significant station upgrade and remodelling project to a 1930s Charles Holden station. Unlike many station upgrade schemes, the design team were given wide scope to introduce contemporary materials and lighting and to remodel the public areas. The design employed innovative stainless steel cladding to the trackside walls and limestone panelling and tiling. In the circular Sloane Street ticket hall, the original setting out and illuminated columns were retained but refaced in contemporary materials with a new lighting scheme and bespoke circular ceiling.

Client: Tube Lines for London Underground



## Green Park Station Step Free Access

*Detailed design and construction support for this £48m upgrade providing accessibility for a key Olympics interchange station*

A station extension and remodelling providing step-free access with new lifts and a ramped access from Green Park into the ticket hall. A new copper and Portland Stone clad canopy fronting Piccadilly featuring public artwork provides shelter for the lift entrance and a new staircase. Our colocated team worked with the contractor to develop the conceptual designs by Capita and Fielden + Mawson into workable details, providing landscape design, detail design packages, overseeing design coordination, integrating public artwork and responding to site queries. The project was officially opened in January 2012.

Client: Tube Lines for London Underground







GREEN PARK STATION



## Pont Briwet Bridge Replacement

*New £20 million bridge crossing the River Dwyryd near Penrhyndeudraeth.*

The project replaces a listed timber viaduct structure in an area of outstanding natural beauty as one of the gateways into the Snowdonia National Park. The commission included the architecture of the bridge design, a new station, a small visitor centre explaining the history of the bridge and landscape architecture.

Client: Tony Gee and Partners LLP for Network Rail



## Bank Station Operations Room

*Control room for fourth busiest station complex on the underground network.*

Bank – Monument is an interconnected station complex with the two separate stations being connected at low level. The proposed relocation of the station Operations Room was a complex project with many varied challenges and a significant number of differing engineering disciplines and multi-stakeholder interfaces. Designs were developed to BIM Level 2.

The Bank station control room is now an integral element of the station improvement being undertaken within the Bank station capacity upgrade project due for completion in July 2011

Client: CH2M Hill for London Underground





## West Ham Station Capacity Enhancement

*Pre-Olympic capacity enhancement studies revisited.*

Acanthus LW were commissioned by Tube Lines to carry out studies for the capacity enhancement of West Ham station. The project involved providing additional capacity for the existing District Line platforms to accommodate passengers visiting the 2012 Olympic Games; the station is located near the south-eastern corner of the Olympic park area. A number of options were proposed, including construction of an additional permanent new platform and temporary ticket hall facilities.

In 2013 we were approached by Transport for London to revisit the brief to identify lower cost options for promotion and to support development of the Parcelforce site.



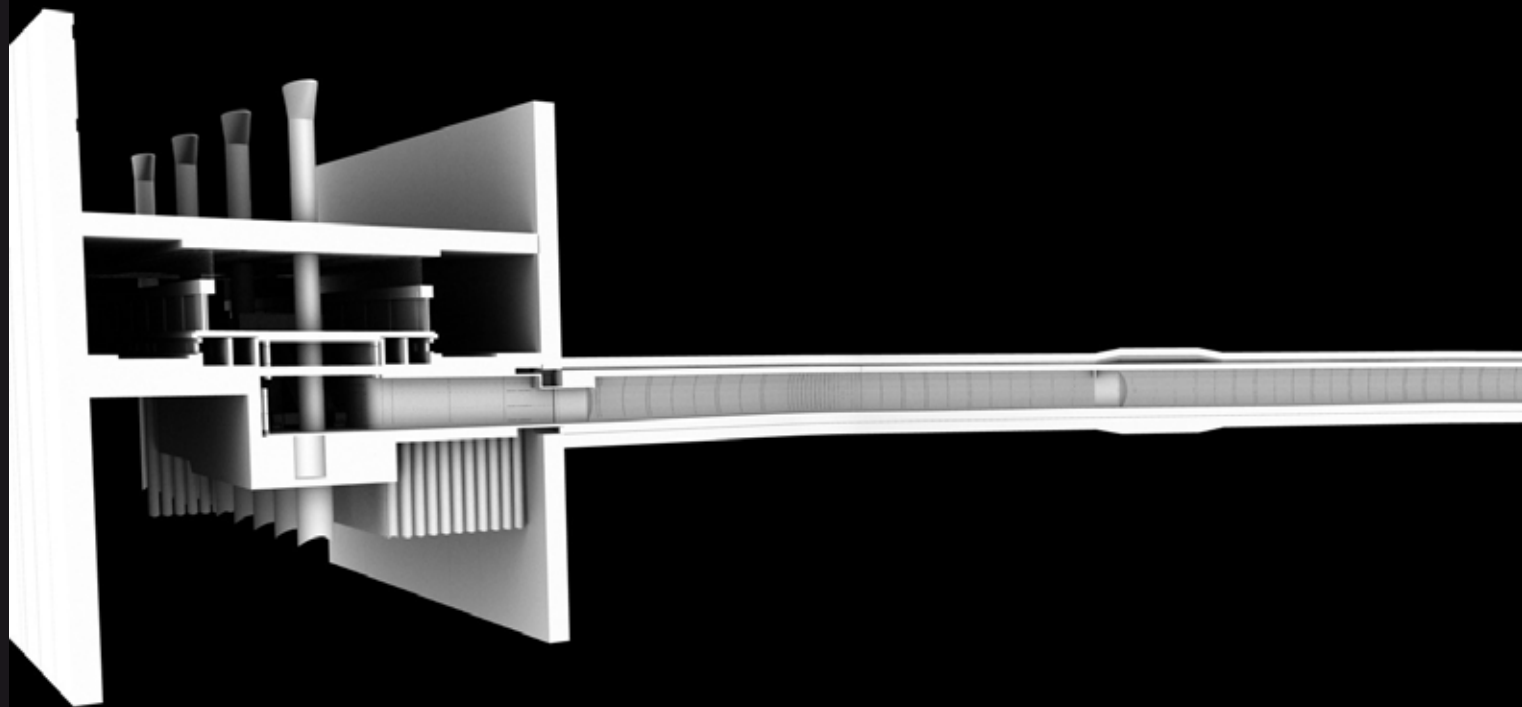
## Northampton Traincare Facility

*£190 million purpose built traincare facility*

Acanthus LW were the architects for the new Northampton Traincare Facility for Siemens. The depot building which contains five inspection pits plus an underfloor wheel lathe, bogie drop, stores and regional offices for 125 staff was procured as a design and build contract with Mowlem PLC. This building was completed to a fast track programme which required a close working relationship between client, contractor and designers. This contact was incentivised such that the client and contractors shared pain or gain.

Client: Mowlem PLC for Siemens





## Paddington Bakerloo Line Link

*Complex underground link connecting Crossrail station with London Underground Bakerloo Line platforms.*

The project provides a tunnelled link beneath the Grade I listed Brunel Paddington Network Rail station creating a new step-free route between the new Crossrail station and existing Bakerloo Line platforms. The scheme was developed from inception to RIBA stage E using 3D modelling as a design generator which was essential due to the constraints due to existing complex infrastructure including RMG Mail Rail tunnels below Paddington station. The final delivery included a fully co-ordinated BIM level 2 CAD model with structures and MEP, clash detection was carried out at regular intervals during the project to ensure that the design was buildable and maintainable..

Client: URS for Crossrail



## Other Sectors

Acanthus LW architects is an RIBA Chartered Practice of architects, historic building consultants and landscape architects, with an experienced staff.

As well as Infrastructure, the practice operates across many other sectors. Often projects involve input from several sectors and disciplines.

Based in West London, Acanthus LW is part of the Acanthus network of independent practices with a dozen offices throughout the UK.



## Healthcare

Acanthus LW has specialist skills in the health sector, gained from long-term involvement in the development of care homes, hospices and primary care buildings, including design for users with learning difficulties, dementia and other disabilities.

The approach in health projects is to focus on the well being of the building users: patients, staff, and visitors. Our designs aim to create facilities that combine comfortable domesticity with the security of a competent medical environment.

## Housing

We work in a variety of roles from Lead Designer to construction support within a Design & Build contract.

Acanthus LW has a dedicated housing team with a wide range of experience both through the feasibility stage to the production of construction level information. Our skilled staff take a pragmatic approach to construction and design based on experience and awareness of the latest standards.

Sustainability and good urban design are key generators in our approach and Acanthus LW Architects are proud to have completed one of the first Code for Sustainable Homes Level 5 developments in London.





## Education

We passionately believe that good design can enhance every school environment and can benefit the learning experience by inspiring and engaging students. We have a collaborative working method, striving to fully understand the needs and opportunities in every project. We view projects holistically and work to find the best design solution and believe in building positive and long lasting relationships with clients and consultants.

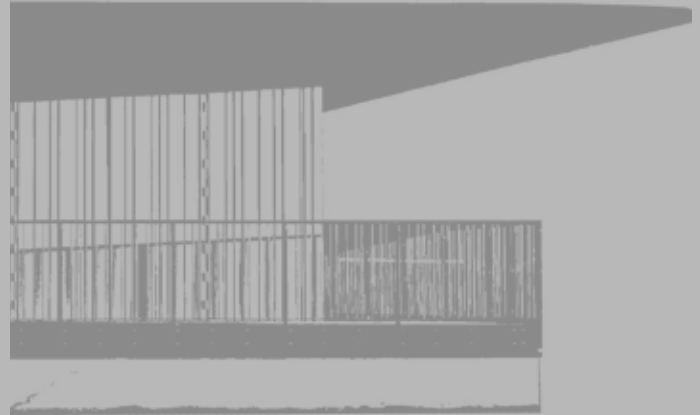
Through our approach we consistently produce optimal solutions respecting the school's economic, functional and aesthetic constraints. Accessibility for all and environmental responsibility are taken as an essential part of our approach.



## Landscape

Acanthus LW Landscape Architects is an independent landscape practice that works within the administrative and management umbrella of Acanthus LW architects. As 'in house' landscape architects we are involved from early stages in a full range of projects carried out by the architectural practice.

The landscape practice also carries out projects commissioned independently by clients and other architectural consultants and has developed a broad range of specialist landscape and urban design experience. These projects include public and private residential schemes, Healthcare, Education, Transport and Environmental Improvement projects.



## Conservation

In our work on historic buildings we apply a non-doctrinaire approach based on analysis, generation of strategy and implementation.

Analysis is the foundation of the whole process. It includes a thorough examination of the building's form, history, condition and physical and social environment. Where it is available, documentary information is cross referenced with building archaeology to develop a coherent history and an assessment of cultural value. Where necessary, detailed examinations by specialist consultants are recommended and incorporated. Once analysis is complete, a strategy is generated and tailored to the individual conditions.





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