

We build... the greatest show on Earth

isg

London 2012 –
Our Olympic legacy





**We build...
the greatest show
on Earth**

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David Lawther, CEO



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Foreword from David Lawther, CEO

The world-class delivery of the London 2012 Olympic Games was a great achievement for the UK construction industry. In particular, it was a landmark in the history of ISG.

Our Olympic journey started with the construction of the Velodrome - a much-loved and multi-award-winning venue, which was voted the nation's favourite building. From this beginning, our involvement grew to working on 120 venues, both on park and off park, right across the UK. It is one thing to build a series of venues, but a fully functioning and successful Olympic Games is only possible through the Overlay works in which all temporary venues are constructed and adjustments are made to existing builds. When it came to delivering this 'event architecture' we felt confident that we had the right mindset, people and systems in place to achieve a great result.

London 2012 is a major milestone in our history and for our people. When ISG was formed in 1989 our focus was on office fit out and property services. Some 24 years later we can lay claim to staging the greatest show on Earth. We are now a diverse

company undertaking construction, fit out, and specialist services for international and local companies across the world, with 49 offices across 27 countries. The Olympics proved our ability to manage the diverse and complex brilliantly - skills we are transferring to other projects and customers across the globe.

Our performance across the Games was underpinned by our long-established values. ISG's employees are passionate about their work, dedicated to getting the detail right and deeply committed to customer relationships. The varied challenges associated with working on this project provided an ideal platform for our people to fulfill their potential. But regardless of these challenges, we always focused on delivering responsibly and safely – and this is supported by our outstanding health and safety record across every venue.

In the run up to, and during, the Games we were not allowed to make public what we were doing. A year on, it feels good to finally collate everything in one place. This book was produced to record and commemorate a great achievement for the company.



ISG's Directors visit the Velodrome during construction
From left to right – J R Stevenson, J S P Cranney, S D Lawther, J C B Houlton, R M Dantzie, M J Barnes, J L Jeremy

LONDON
2012



**We build...
the greatest
show on Earth**

Our Olympic
legacy

A large crowd of spectators is visible in the background, seated in a stadium. The crowd is diverse in age and appearance, with many people wearing casual summer clothing. In the foreground, the back of a person's head wearing a white cap and sunglasses is visible on the left, and the profile of a young woman with brown hair is on the right. A large black rectangular text box is centered over the image, containing white text.

In August 2012, with the eyes of the world on the London Olympics, ISG was living out the final phase of an epic challenge. Our Olympic journey, which began in 2009 with the construction of the London 2012 Velodrome, had taken us to this moment – providing the £300 million plus ‘event architecture’ for the greatest show on earth with the biggest Overlay project in the history of the Olympic Games.



Making London's Olympics the biggest and best

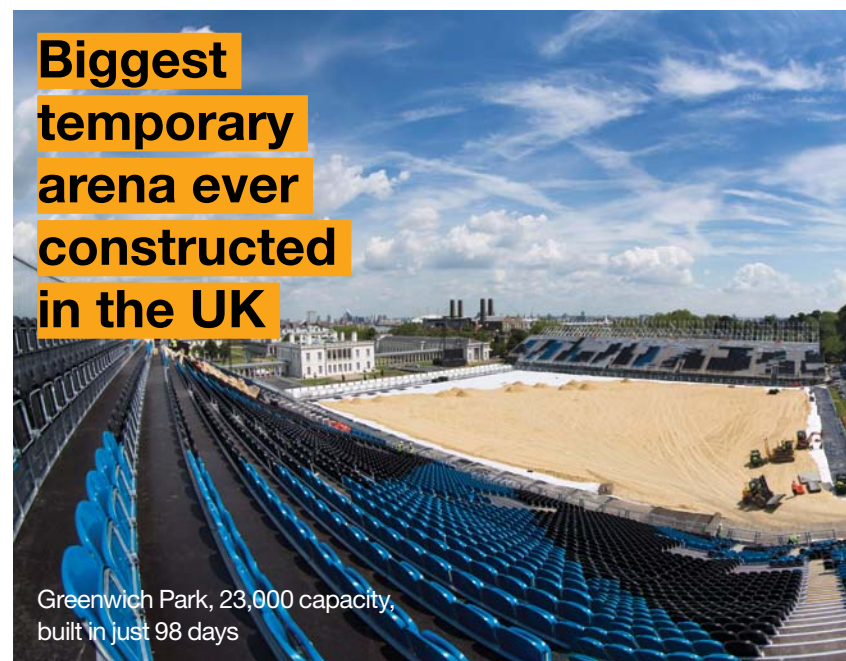


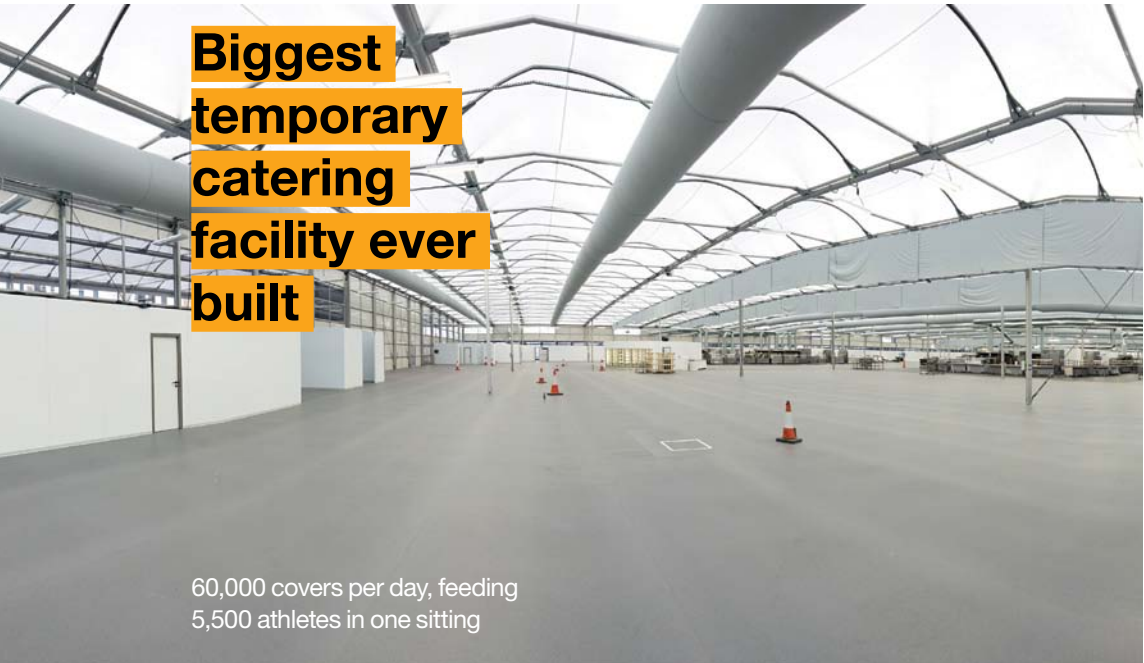


London 2012 – The biggest and best

As the only construction company to work on Olympic venues right across the UK, we delivered a six month build programme in a little over four months. Our team accomplished the incredible: award-winning facilities, ahead of programme, within budget and providing a spectacular backdrop to London's glorious and unforgettable summer of sport.

Supporting the Games' organisers 24/7 throughout the event and in the ensuing period, one year on we've caught our breath and can look on with pride at our Olympic legacy.





Delivering the incredible

Working on Olympic venues right across the UK, our team delivered a combination of new and temporary installations, and additions to existing facilities, that defined the environment of London 2012.



Hampden Park, Glasgow
Fencing, cabins, shipping containers, water supplies, broadcast facilities and branding.



City of Coventry Stadium
Fencing, cabins, shipping containers, water supplies, broadcast facilities and branding.



Wembley Arena
Managed the erection and fit out of training tents, installed cable road bridge, set up the field of play and rebranded arena.

Wembley Stadium
Fencing, cabins, shipping containers, water supplies, broadcast facilities and branding.



Weymouth and Portland
Venue entrance area, back of house, OBS compound, water supplies, security facilities and containment for technology.



Weymouth and Portland Sailing Village
Road construction, tents and cabins, utilities, washdown and waste areas, power, commercial kitchen and dining tent.



Millennium Stadium, Cardiff
Fencing, cabins, shipping containers, water supplies, broadcast facilities and branding.



Hampton Court Palace
Set up of broadcasting and logistical compounds, cycling offices and front-of-house facilities.



Wimbledon
Rebranding of venue and temporary removal of some sections of seating to increase scope of press area.



Eton Dorney
7.5km perimeter fence, 350 tents, 250 cabins, grandstands to seat 32,000, world's longest Skycam and transport hub.

Royal Holloway Rowing and Canoe Sprint Village
Welcome centre and bus depot, recreation tent including gymnasium and café, workforce diner, screening areas and security facilities.

- Key:**
- Competition venues
 - Training venues
 - Football training venues
 - Football hotels
 - IPC family hotels
 - Transport
 - Screening
 - Ceremonies and rehearsals



Main Stadium
Cable net roof structures, broadcast gondolas, west stand fit out, 40 food units, river pontoon generator farms and photographers' platform.



Common Domain/Live site
Erection of Park Live aluminium structure including two back-to-back 100 sq m screens.



Velodrome
We built the Velodrome. Delivered ahead of schedule, on budget and most sustainable venue on park.



Water Polo Arena
Installation and fit out of 48 double-stacked temporary cabins to form accommodation for the media.



Aquatics Centre
Installation of screens, scoreboards, timing screens, communications equipment and press tribunes.



Hockey - Riverbank Arena
Building of the 16,000 capacity grandstand plus the building of all other temporary facilities.



Handball
Back of house works and the erection of the large warm-up tent.



Common Domain
Food concessions, sponsor areas, wayfinding signage, broadcast facilities, back-of-house areas, logistics, vehicle security points.



Basketball Arena
Constructed shared back-of-house facilities and managed changes to the media areas.



BMX Track
Built original track, then following the test event we changed and remodelled parts of the track



Media Centre
Constructed high street, catering village and car parks. Managed fit out of the Media Press Centre.



Eton Manor
We installed three large tents to contain the costumes and props for the opening and closing ceremonies.



Athletes' Village
Construction of the dining tent involving one of the largest roof lifts ever undertaken, plus welcome areas, vehicle areas and medical facilities.



Old Trafford, Manchester
Fencing, cabins, shipping containers, water supplies, broadcast facilities and branding.

Earls Court
Set up of field of play and practice courts, additional lighting and back up generators, additional seating and venue rebrand.



Greenwich Park
Build of a fully-contained 22,000 seat grandstand with concessions within a UNESCO World Heritage Site.



Lee Valley White Water Centre
Construction of a 12,000 seating bowl, large catering tents, family lounge, plus a broadcasting hub compound.



St James' Park, Newcastle
Fencing, cabins, shipping containers, water supplies, broadcast facilities and branding.



Lord's Cricket Ground
Stands erected, field of play set out, practice areas created plus broadcast compound and facilities for the Olympic family formed.



North Greenwich Arena
Set up for Gymnastics, Basketball and Wheelchair Basketball plus temporary infrastructure and landscaping.



The Royal Artillery Barracks
Managed set up of temporary roadways, parking and hardstands plus final fit out and outside broadcast installation.



Brands Hatch
Installation of 20 tents, 12 containers, 15 cabins, 2,000 sq m of trackway, fencing, steps/ramps and cabling.



Hyde Park
Managed the build and dismantlement of the entire temporary sports venue including a 3,000 seat grandstand.



ExCel
Set up required for 13 events with fast-track reconfigurations to the fields of play, lighting, signage and branding.



Hadleigh Farm
Installation of site perimeter fencing plus a 1,000 seat stand. Multiple use of large crane lifts to install cabins.

Project deliverables:

Design and construction of the London 2012 Velodrome

Temporary site works – infrastructure and civil engineering to form the basis for venues

Fit-out of temporary venues – including 700 rooms at the Stadium alone

Non-competition warm-up and training venues

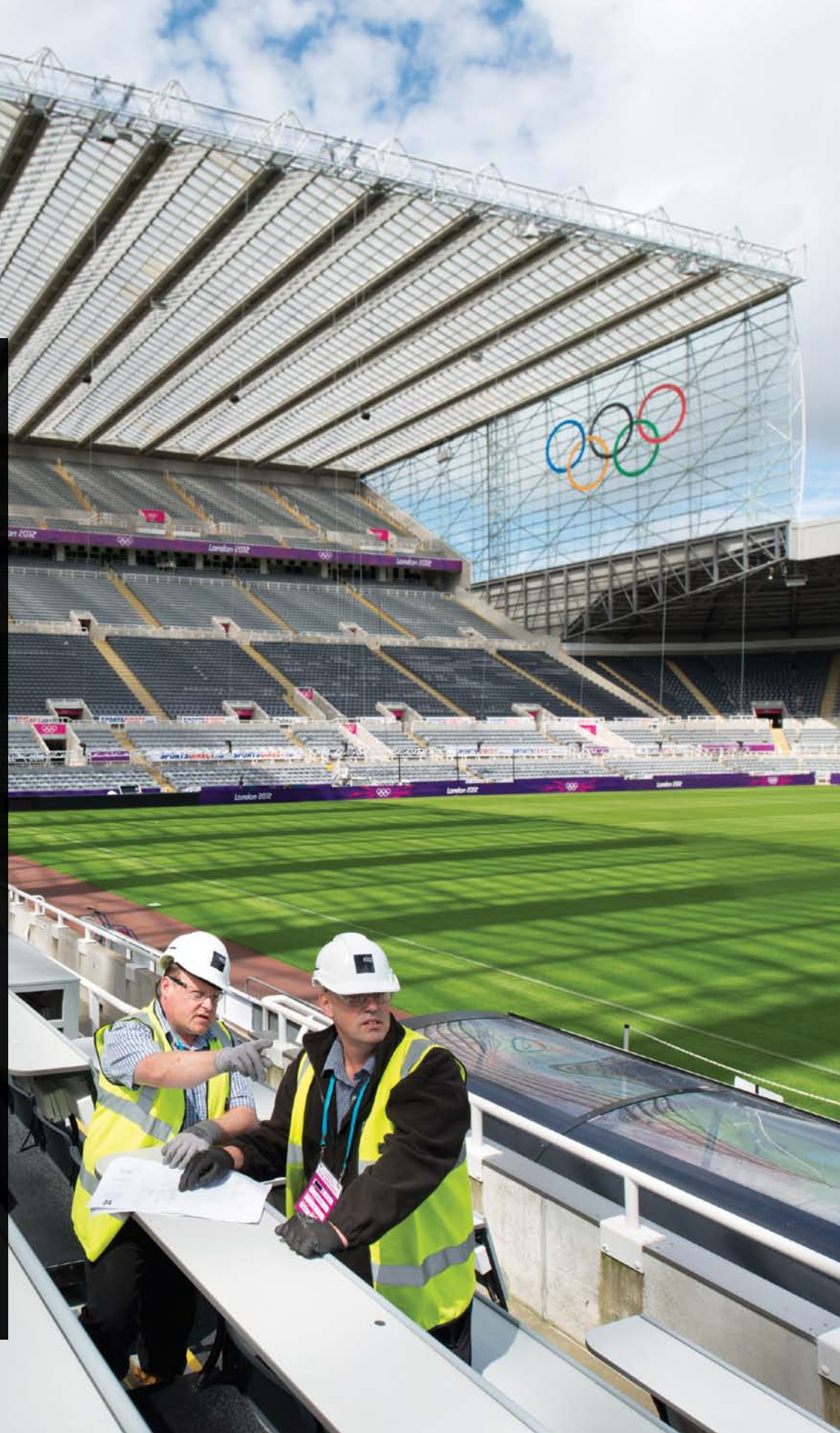
Containment – 200T at the Stadium

Tents – the largest being the Athletes' Dining Tent, which was the size of three football pitches

Temporary buildings / back-of-house facilities – including the installation of 200,000 temporary seats and the Media Village, home to 20,000 broadcasters and journalists

Hospitality facilities – catering for 4.6 million spectators on-park

Temporary services – water, power, waste management, HVAC and lighting



It was challenging, exhilarating, exhausting but ultimately an amazing showcase for ISG's unique skills – not simply 'builders' but sharing our customer's vision; understanding, planning and being flexible to do whatever it takes to deliver a successful project

All construction has its challenges but this was way beyond a traditional building project. Winning the work in competitive tender, our successful proposals combined construction with events management to integrate the highest levels of safety, sustainability and quality. We adopted a flexible approach, yet achieved certainty of delivery in some of the most demanding conditions imaginable.

Key issues

- Merging construction with event management
- Numerous interdependent, Games-critical deadlines within tight timescales, including test events and post-Games deliverables
- Weather - the UK's wettest summer in 100 years
- Logistics – managing and providing welfare for large numbers of people across diverse, geographically spread venues
- Managing divergent stakeholder groups - LOCOG, the Olympic Broadcast Service (OBS), Sodexo (catering) and major sponsors
- 'Debranding' - protecting key stakeholders and sponsors' rights when it came to advertising. We had a team of people whose role was to 'police' and 'debrand' any item supplied by the commodity contractors that was not from one of the key partners or sponsors
- Interface with the general public at some venues, particularly the Royal Parks
- Managing constant media scrutiny
- Limited access to venues
- High levels of security.

When it comes to the scale of the project, the statistics speak for themselves but the key to success, under the glare of the cynical British media, was our understanding of LOCOG's complex and challenging requirements. Our focus was on a seamless and trouble-free Games experience for athletes, staff, organisers and visitors – offering value for money, identifying and hitting critical deadlines, planning for all eventualities and meeting exacting standards.

ISG quite literally topped and tailed the Olympic spectacular - from creating the infrastructure for the memorable opening and closing ceremonies, to managing way-finding signage, timing and scoreboards, and transforming venues between events. We provided a 24-hour response crew throughout the Games and, post-event, ensured that Lord's Cricket Ground was ready for a test match just 13 days after it hosted the Olympic archery.

Our approach

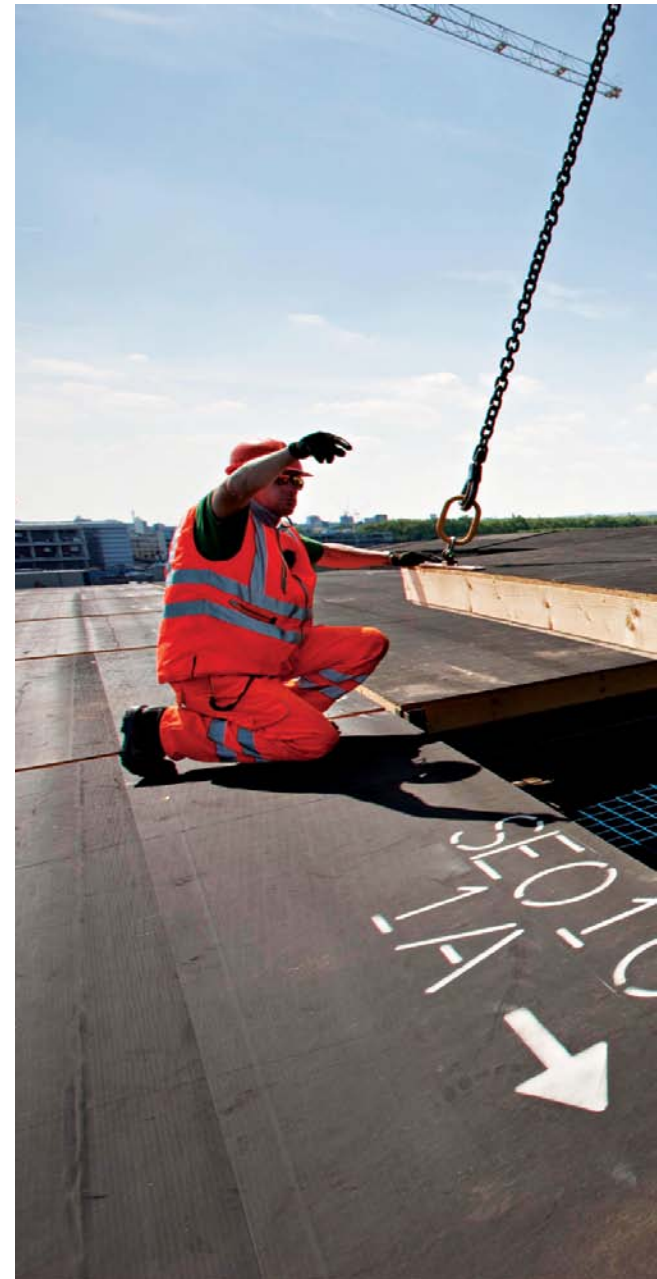
Our focus for delivery was based on consistency and reliability.

At the heart of this was a central management hub, responsible for the key functions: project direction, commercial management / procurement, health and safety, sustainability, planning, design management, building services and logistics.

This central team then directed national delivery through seven ISG regional offices, using our mature supply chain with a proven track record, working alongside LOCOG's commodity and events suppliers. This dynamic structure maximised team strengths in a shared project context and ensured consistency across venues and the services provided. To ensure that we provided a comprehensive delivery, we undertook a skills audit on a venue-by-venue basis, looking at both the chemistry and skills base within the team, and developed and honed our service to make sure any gaps between ISG and LOCOG were plugged.

Transparency, forward planning and good communication were vital tools. In a project where a huge number of operations were taking place at any given moment across so many locations, in a compressed period of time, there was no room for procrastination. Our team was led by positive decision makers, experienced enough to know when to act and when to hold.

In what was an incredibly unique situation, flexibility underpinned our simultaneous delivery of both CM and fixed price work within a single, consistent service. During the Games, ISG staff were seconded to LOCOG to help the smooth running of the event. We worked with the venue response team to react to any issues arising, to step in to remedy problems and provide confidence to the organisers.

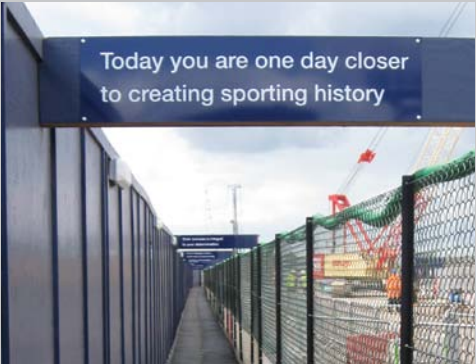




Constructing the roof at the Olympic Velodrome

Keeping the team on track

The welfare of the construction and event operatives was important to the success of the project. We demanded a high level of focus and commitment from the teams on site, so convenient and good quality facilities for them were a given. At some sites, we provided welfare facilities for around 500 operatives, ensuring a clean and comfortable environment to keep them performing, like the athletes, at their very best.



Health and safety

We raised the standard of health, safety and sustainability performance by integrating the events contractors, whose industry is regulated differently to construction.

ISG introduced measures that are common to all our projects, including 5-point PPE (hard hat, goggles, gloves, hi-vis, safety boots), incident spotting, near-miss reporting, permits and inductions – all of these being proven means to a safer project.

The safety induction was a key tool and built on LOCOG's BeSafe 2012 e-learning package, which introduced a base level of health and safety knowledge to all contractors. By using this to lead the cascading of information, we were able to focus on venue-specific briefings of approximately 20–30 minutes duration rather than mixed generic/specific inductions lasting typically more than two hours.


To shift the events team to a 'construction' mind-set and to foster a team atmosphere, we held daily meetings to look ahead to the next 24 hours and identify any emerging risks. This allowed us to share our combined construction and events experience to achieve a common goal.

With the potential for health and safety risks so great – from the large numbers of operatives, the spread of venues, tight timescales and combination of construction and non-construction operatives – positive dialogue with the Health and Safety Executive (HSE) was imperative. We involved them in our planning and management and made sure that best practice was incorporated, risks minimised and lessons learned.

Evolving best practice

When it came to dismantling the roof of the temporary athletes' dining tent, the method, which had virtually eliminated work at height, was reviewed following lessons learned on the build and dialogue with the HSE. We reduced the requirement for mobile cranes and instead used MEWPs to dismantle the roof in smaller pieces. Two bay cranes were used at each end of the structure to keep it stable.





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Sustainability

Sustainability was a key deliverable of our contract, focussed on the prevention of pollution and protection of biodiversity, the responsible sourcing and selection of materials, and minimising waste.

Prevention of pollution and protection of biodiversity

As Principal Contractor across 87 sites, we were responsible for work in areas ranging from the Royal Parks, to coastal beaches and lakes, to brownfield sites in East London. We implemented best practice environmental protection measures across all of these locations, underpinned by detailed training and communications.

Making use of relevant in-house expertise with input from external specialists, risks were identified and mitigation plans developed, then delivered to all staff through a bespoke training programme. This was supplemented by site-specific workshops for project teams, which detailed the issues affecting their immediate working environment. Local teams were given support to develop solutions appropriate to their site location with emphasis on applying the best approach for each situation.

Protecting biodiversity in the London parks:

Building temporary Olympic venues in and around Hyde Park, Hampton Court Palace and Greenwich Park, a World Heritage Site, presented unique challenges. ISG worked closely with the Royal Parks and LOCOG's sustainability team to identify risks to the existing environment and develop suitable strategies to address them. This included protecting historic buildings, monuments and features as well as trees and grassland. We created vehicle and pedestrian routes together with safe working zones to guard against direct harm to structures, flora and fauna, and to prevent damage to tree roots from vibrations or overloading of the ground.





Anti-pollution measures in Weymouth and Portland: Working in environmentally sensitive areas, Chesil Beach – designated a Special Area of Conservation, Ramsar Site and Special Protection Area – and Portland Harbour Shore Site of Special Scientific Interest (SSSI), protection measures were critical. Together with experts, we implemented safe handling procedures to avoid contamination from fuels and chemicals to maintain water quality and protect sensitive wildlife.

Sensitivity to all kinds of residents: At Eton Dorney, ISG worked in partnership with the Local Authority to ensure that nearby neighbours at a residential boat and caravan park were treated with care and consideration throughout the delivery of the rowing venue. Similarly, at heritage site, Hadleigh Farm, Natural England helped us to protect resident badgers in line with best practice guidelines whilst we transformed the landscape into the Olympic mountain bike course.



- 01 – Hampton Court Palace
- 02 – Hyde Park
- 03 – Weymouth & Portland
- 04 – Greenwich Park
- 05 – Hadleigh Farm

Responsible sourcing and selection of materials

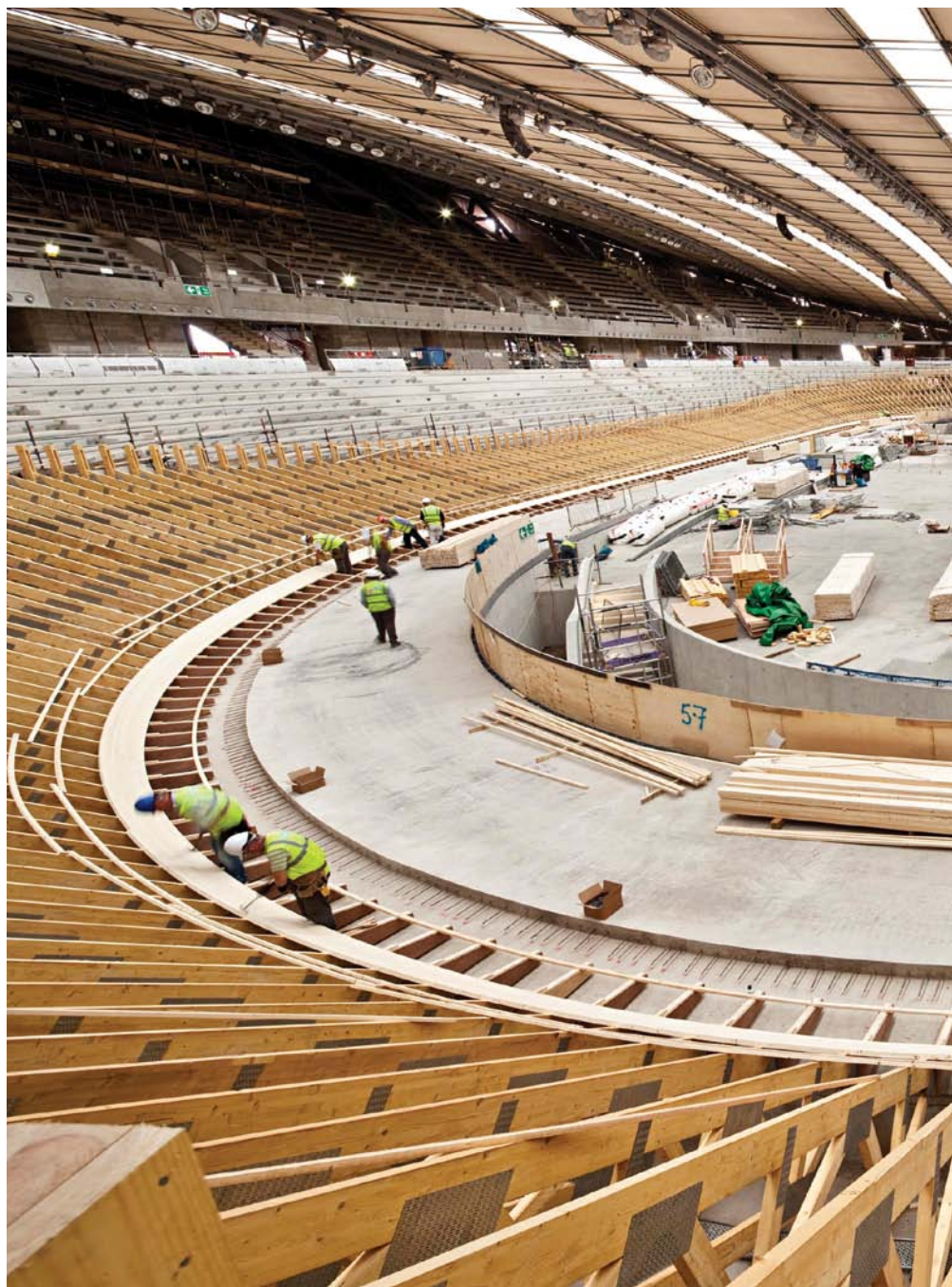
The procurement of 'sustainable' temporary materials and products was challenging, given the short lifespan of the Overlay works and the typical medium to long-term payback of sustainable choices. To allow for this, our teams followed the blueprint set by LOCOG and focussed on minimising materials with a high environmental impact and maximising those with recycled content or high reuse potential.

All procurement staff undertook detailed training to understand the drivers and explore the ways in which we could identify alternative materials. We produced an Alternative Materials Datasheet to identify the non-sustainable materials detailed in the original specification and list suitable, more sustainable alternatives.

Suppliers were brought into the process both contractually and culturally. They all signed a Sustainability Declaration that set out specific procurement policies. We reinforced the cultural shift using supplier engagement workshops, through which we shared our criteria for materials selection and introduced the Alternative Materials Datasheets as a procurement tool. ISG's sustainability team reviewed suppliers' tenders to ensure that materials had been chosen in line with principles set out.

Measuring sustainability

All ISG suppliers completed Sustainable Commodities Datasheets that detailed the sustainable credentials of the materials used and their source, where applicable. This information was reported using a Sustainable Procurement Tracker to enable ongoing benchmarking of our progress.






We produced an Alternative Materials Datasheet to identify the non-sustainable materials detailed in the original specification and list suitable, more sustainable alternatives

Constructing the track at the Olympic Velodrome

Achieving Zero Waste to Landfill

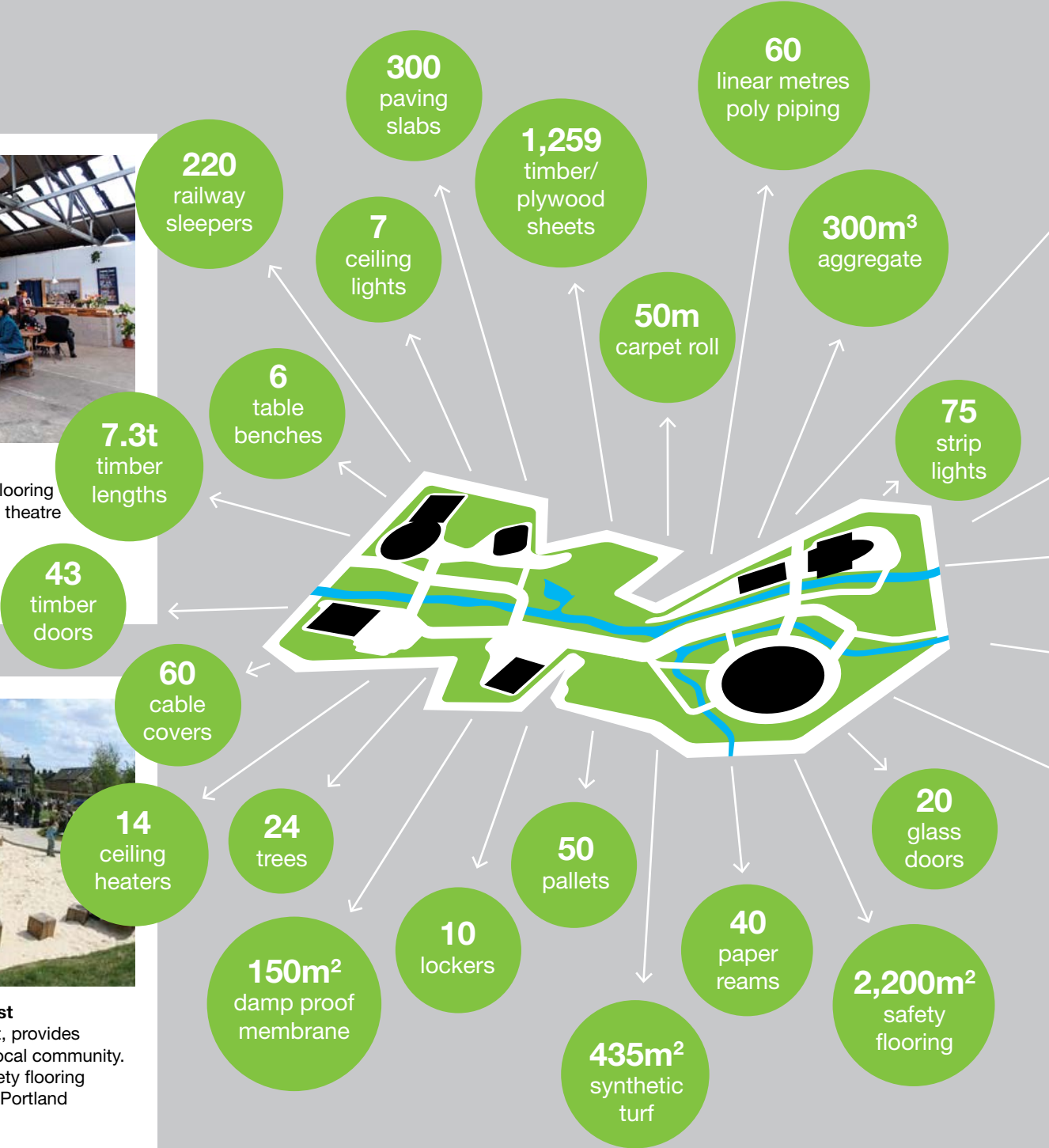
In total, 99% of materials were reused or recycled.
The remaining 1% was sent for energy-from-waste recovery



Arcola Theatre, Hackney
Plywood, doorsets, timber and carpet flooring were re-used by this community-based theatre to help refurbish its new premises.



South Dorset Community Sports Trust
Osprey Leisure Centre, run by the Trust, provides recreation and sports facilities for the local community. Materials including carpet tiles and safety flooring were donated from the Weymouth and Portland Overlay works.



Materials donated

120m³
sand

71
advertising
hoardings

2
air
conditioning
fans

4,250
carpet tiles

2,500m²
raised access
floor



Bonnybridge Fishing Club and Riding for the Disabled, Scotland Materials used at Hampden Park, Glasgow, were donated to these two organisations to help upgrade their facilities and increase access for users.



Canning Town Caravanserai

As part of the Olympics' Legacy Learning project, we worked with The Institute of Sustainability and WRAP to produce a case study on minimising waste in construction. Waste materials from our Overlay works on the Olympic Park were sent to Canning Town Caravanserai. These were re-used to make shops, market stalls, stands and tables, amongst other items.

Minimising Waste

The end use or disposal of the temporary materials installed as part of the Overlay works was crucial to meeting sustainability targets, which included:

- Reclaim 90% of materials installed by direct subcontractors for reuse or recycling
- Zero waste to landfill.

To meet these targets, we prioritised four key areas:

- *Planning* – Prior to construction, we produced Resource Management Plans to identify materials suitable for reuse so that site teams could plan for their careful removal. This also enabled Waste Managers to identify suitable end users early in the process, through links established with reuse networks, local communities and charitable projects.
- *Management of waste handling* – ISG appointed a specialist waste management partner as a dedicated resource to help create and administer site-specific waste strategies. Our partner set up a dedicated facility in London to handle non-segregated waste from LOCOG sites, allowing accurate measurement and sensitive waste disposal.
- *Communication with suppliers* – During the procurement process, we asked suppliers to support waste targets through rental or buy-back schemes, wherever possible. This buy-in was reinforced on site with regular toolbox talks to ensure that operatives understood how and why we were managing waste.
- *Management on site* – We provided facilities on every site for waste-stream segregation, including areas to store materials for reuse. Bins were weighed on changeover to obtain accurate data for waste reporting.

Sustainability on the Olympic Velodrome

As Main Contractor for the design and construction of the Velodrome, ISG was able to influence sustainability from an early stage. The outcome is the greenest venue on the Olympic Park and one of the most sustainable projects in the UK. World-class design and innovative construction techniques have left a lasting legacy, illustrated by betterment in every category of ODA environmental targets.



Environment and sustainability indicators	ODA Target	ISG Actual
Energy efficiency (better than Part L)	15%	35%
Potable water reduction	40%	75%
Waste - reused or recycled (construction)	90%	95.5%
Timber from legal and sustainable sources	100%	100%
Key materials responsibly sourced	80%	98%
Recycled content by value (using WRAP toolkit)	20%	28%
Recycled aggregate by weight	25%	20.2% Additional obtained in BMX works
Healthy materials (low VOC/water based)	80%	82%
BRE Green Guide rating	A+ to C	All
Biodiversity - invasive species management	100%	100%
BREEAM (permanent venues)	Very Good	Excellent
Considerate Constructors Scheme	4 in each section	Average 4.47 in each section
Sustainable transport (deliver 50% of materials by rail/water)	50%	78%
Environmental incidents (EIFR)	-	0.46
Compliance with Code of Construction Practice	Yes	Yes

The Velodrome is the most energy efficient building on the Olympic Park with highly insulated walls and roof, and an energy efficient concrete structure. Around 1,000 tonnes of structural steelwork was saved by our redesign of the roof in conjunction with Hopkins, the architects, and Expedition, the engineers. The venue's distinctive and compact form creates a 'bubble' above the track, which helps maintain the cyclists' ideal race environment at 26 degrees centigrade, minimising the energy consumed to heat the main arena.

The building uses 35% less energy than the Part L requirement and saves 75% of water used in a typical build. This is partly due to rainwater, harvested from the roof, which is used to flush the toilets and urinals and for landscape irrigation. Unusually, for a building of its size, the Velodrome is naturally ventilated.



Learning from the Olympic experience

ISG's Paul Gransby (PG)
in conversation with
LOCOG's Paul May (PM)

PG: What had you heard about ISG?

PM: My main impressions of ISG were driven around your work on the Velodrome and I only ever heard positive feedback about the work you were doing. We were obviously concerned around delivery programmes and the ODA's delivery schedule but you seemed to be eating that for breakfast!

PG: So what was it like actually working with ISG?

PM: You were the right type of company to do that role. I saw it as a positive that you were a business that was growing that would come with a slightly less corporate approach. I sensed you would have a real 'can do' attitude, and would come and join the team and work with us, as opposed to coming in and saying 'we do it our way'.

PG: I think that was something we latched onto at a very early stage - that we knew we were going to have to adapt to play to everybody's strengths.

PG: So what was your view on what ISG brought to the Overlay?

PM: You brought a very professional approach, you brought a discipline to the delivery of Overlay that was much needed. Part of the reason for us deciding to use a construction manager (CM) from a construction background as opposed to an events background is because we knew the level of scrutiny that we were under and the level of expectation that was on us in terms of the way in which we had to deliver - I'm thinking of health and safety in particular. We needed a CM from a construction background to have facets of

the construction world in our delivery mindset. You absolutely brought that and that was really important to us.

PG: I think on the project that was always going to one of the biggest challenges, building that relationship with the commodity suppliers, you know, mutual respect. We knew that they were obviously skilled and experts in their particular field but it was getting the right message across that, irrespective of how they operated on other events worldwide, there were particular standards that had to be achieved.

PM: If you were to approach it again, instead of approaching it cold, how would you do it, and would you be able to go further?

PG: One of the challenges in that respect was that whilst we had a lot of events Overlay work going on, we also had a lot of site works going on, so there was still construction activity whether that was civils work, infrastructure work, working with services, even things like wayfinding signage, there were some big foundations underneath those temporary signs. We were always going to be in a situation where we had construction operatives working alongside events contractors and when we were looking at our own procedures and standards it was difficult to see how we could find some common ground which wasn't relaxing procedures too much with regards to construction.

PM: The challenge when you've got a multi-venue programme as opposed to a project is how you maintain consistency...

PG: That's it, and that was one of the biggest challenges we had across the many venues.



ISG's Paul Gransby (left)
in conversation with
LOCOG's Paul May (right)

It all happened without
compromise, it all
looked fantastic, it was
all done on time...



The safety record
that we achieved
was absolutely
incredible.

PM: At the end of the day never ever lose sight that our biggest achievement on the project is arguably, the safety record that we achieved. You had a major responsibility for that and deserve a lot of credit. It's incredible, absolutely incredible.

PM: There is no doubt we had the biggest uphill challenge probably three months ahead of the Games with the work to be done. There were some venues which we still didn't have access to because being commercial venues we didn't have the access until quite late, so we had a big programme of works still to deliver, we had the worst weather on record for that period, we did have the challenges with supplier performance and we were working in an environment where we had so much change it was a very dynamic world in terms of the brief that was being delivered. Despite all of those things we pulled together and made it happen and that is to a large degree, due to your team's willingness to get the job done and to work with us to do whatever it took to make it happen. It's just incredible that despite all of those challenges we still managed to get the whole thing over the line, and nothing was left hanging. Nothing. Everything was there without compromise.

PG: Talking about delivery without compromise, how do you think London 2012 compares to other Games?

PM: Compromise is not unusual unfortunately but here we didn't compromise anything. It was incredible, a huge achievement. We came a long way from where we were at the beginning of the project and you were a part of how we made that happen by being at our daily programme meetings, hearing some of the challenges we were facing and taking them away and actioning them.

PG: I think one of the important things there was that by getting involved in that way it became a lot clearer to me who were the really powerful stakeholders. I understood very quickly where the real pressure was coming from, and in understanding that I could get a very clear message out to our team members.

PM: Absolutely. So I think that was good and you were in a position to take quick decisions because decisions had to be taken on the ground. I think in terms of flexibility during that period and being light of foot I think you were, you did exactly what was necessary.

PG: From the point of view of sustainability do you think that the team has delivered in that respect?

PM: Yes, I do. I think that it was really good to have you on side and on board from a sustainability point of view because I think you helped us with the Overlay suppliers and helped articulate actually what we meant and what we expected people to do.

PM: Do you think that from a sustainability point of view you will operate slightly differently? Is there stuff that you've learned?

PG: I would say undoubtedly there is stuff that we've learned. Sustainability was always very high on our agenda anyway and I think it has given us the opportunity to explore other avenues that we can develop with our supply chain and has given us the springboard to take those initiatives to the next level.

PM: I would like to think that some of the stuff we've done together ends up getting carried on for the benefit of future work.

Did we get what we needed to get out of you? Yes, absolutely. And that equals value for money.



PG: Personally I never felt - even with all that time pressure - that we talked about compromise. There's no compromise in health and safety, no compromise in sustainability, and no compromise in the actual product that was being delivered. I think at the outset if you'd looked at it cynically you'd think as pressure builds, sustainability's going to take second place, well it never did. And so as an industry, and as contractor, we've actually demonstrated it can be done, you don't have to make a compromise. And the one thing you couldn't do on the Overlay was deliver late. So why can't it be applied to everything we do in our business day to day? That's a very strong message that's gone out across the business, that we've delivered in this arena, on time, it's a fantastic product, it's been done safely, it's been done sustainably...

PM: Yes, when you summarise it like that it's just a massive achievement, isn't it?

PG: Yes, you look back and think what was different about what we did on the Olympics, what can we harness to ensure that our close

out on our construction projects is more effective? You know, everybody talks about zero defects, zero accidents and environmental incidents and so on, well, here, genuinely, we've met those targets. So we will definitely look at what we can take away and apply to the day-to-day running of the business.

PM: Collaboration's key isn't it? You know that does require you to have good insight into what's important, what's not important, how do we actually work together to make that happen.

PG: During Games time we obviously provided a number of DSMs (Deputy Site Managers) and I think that that is the ultimate example of collaboration, our team working with the LOCOG team. Do you think that was a success?

PM: That worked really well because for us it meant that we had people who had a good knowledge and understanding of the venues, and had built the relationships with our team and others working there. It was a natural progression to keep them involved in

operations and I hope that your team would have benefitted themselves from learning and getting some experience of seeing the Games from the inside as well.

PG: What will you be telling Rio about the secret of a successful Games?

PM: For me it's all about being as planned and organised as possible because things don't ever go to plan...

PG: Overall, do you feel you got value for money from ISG?

PM: Yes, I do. I think the proof of the pudding is the fact that we've delivered it, we nailed it didn't we? You nailed it, it all happened without compromise, it all looked fantastic, it was all done on time, we didn't kill or seriously injure anyone and the sustainability results are very good. Everyone's talking about it in very positive terms. Did we get what we needed to get out of you? Yes, absolutely. And that equals value for money.

The image is a composite of two photographs. The left photograph shows a massive, tiered crowd of spectators filling a stadium, with a blue banner at the bottom left displaying the year '2012'. The right photograph shows a white-water rafting competition in progress, with a blue raft carrying several people navigating a turbulent section of a river. A person in a blue shirt stands on a grassy bank in the foreground. A blue banner with the 'London 2012' Olympic logo and the word 'London' is visible on the right bank. The background of the entire image is a dark, semi-transparent rectangle containing white text.

The legacy of our teams' amazing efforts was seen by around 180,000 visitors each day and a potential worldwide television audience of 4 billion. We have surpassed targets for health and safety performance and sustainability, and delivered a complex package of high quality construction works on time and within budget. This success has been recognised globally, with London 2012 a winner in 7 out of 11 categories at the International Sports Events Management Awards, including Event Overlay & Facilities.



On Park venue overviews





100% OF THE GREENWAY GA



Olympic Stadium



Copper Box



Water Polo Arena



Aquatics Centre



Riverbank Arena



The Olympic Stadium

The 80,000 capacity Olympic Stadium hosted the spectacular opening and closing ceremonies, as well as some of the Games' most iconic track and field events.



Top – installation of the cable net roofs - an integral part of the spectacular opening and closing ceremonies

Bottom – preparing the venue for the track and field events after the opening ceremony

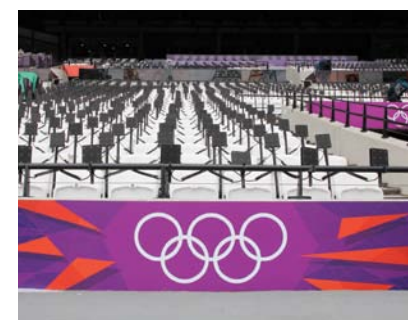
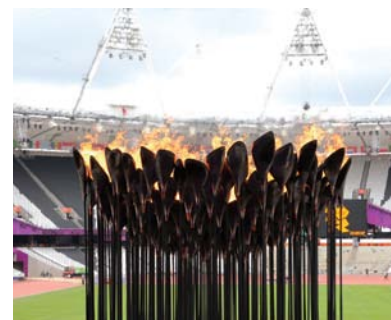




Complex construction and conversion works were carried out to provide spectator facilities, accommodate the ceremony requirements and make the Stadium event-ready.

Three cable nets, designed and installed by Pfeifer in

partnership with ISG, and critical to the opening and closing ceremonies, were installed. We developed efficient and innovative methods of working – with 500 people on site each day – to solve potential problems and hit Games-critical deadlines.

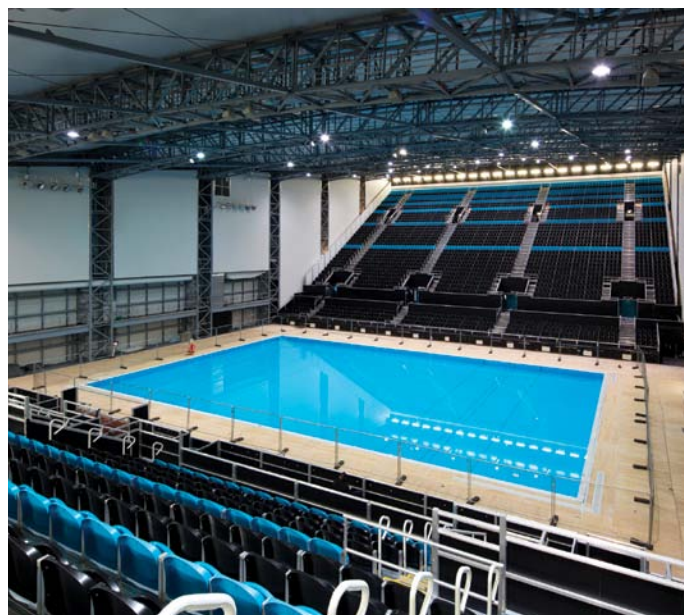


Water Park

The Water Park, housing the Aquatics Centre and the Water Polo Arena, was the second largest venue on the Olympic Park. The Overlay in this area saw us install 106 cabins and 45 tents of various sizes, managing LOCOG commodity suppliers and carrying out direct works. At peak times, there were 250 people per day working on the Water Park, with an average workforce of 120 people each day.

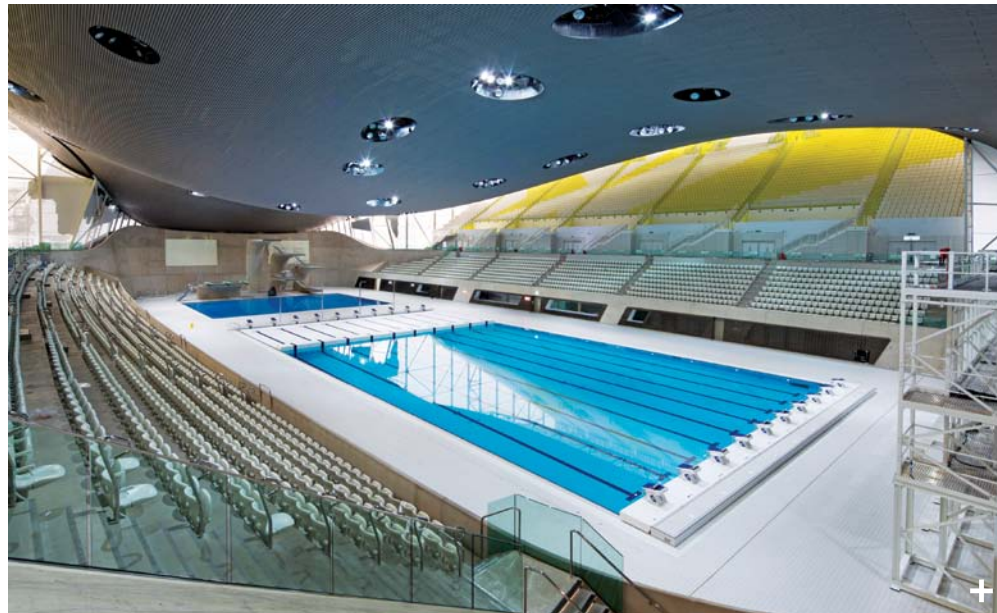
The Water Polo Arena

The 5,000 seat Water Polo Arena contains a training pool and a 37m competition pool, which hosted 107,000 visitors during the Games. We constructed a new two-storey building as one of the first Overlay projects on park, which as such led health and safety benchmarking across all of the schemes. A number of potential risks were present including manual handling, working at height, fire plans and traffic management plans, the details of all of which were constantly changing. This enabled us to develop robust strategies for further works and start to build on best practice across projects.



The Aquatics Centre

The 17,500-seat Aquatics Centre formed part of the gateway to the Park, with more than three-quarters of all spectators entering via this route. We oversaw the installation of ticketing tents, toilet blocks and merchandise units, a back-of-house workforce compound and a media area. As a late instruction, we built a 160 sq m freestanding structure at the end of the Aquatics Centre, undertaking the scope, design approval, fabrication and installation in just 18 days. This amazing achievement demonstrates ISG's capability to respond as a 'one stop shop', made possible as a result of long-standing relationships and close collaboration with our suppliers.



The North Park cluster included the Velodrome, the BMX track, the Basketball Arena and Eton Manor (wheelchair tennis). Behind the scenes, the venues share some facilities to make the most efficient use of space and resources.

General Overlay works included the creation of back-of-house and front-of-house areas comprising numerous tents and cabins, plus the creation of a large security office. We were directly contracted to undertake infrastructure works including drainage and laying tarmac. At peak times we managed 200 people per day on the North Park cluster. The average number of people working on the cluster was around 75. This cluster was the most challenging in terms of removal because of the tight deadlines for legacy delivery.

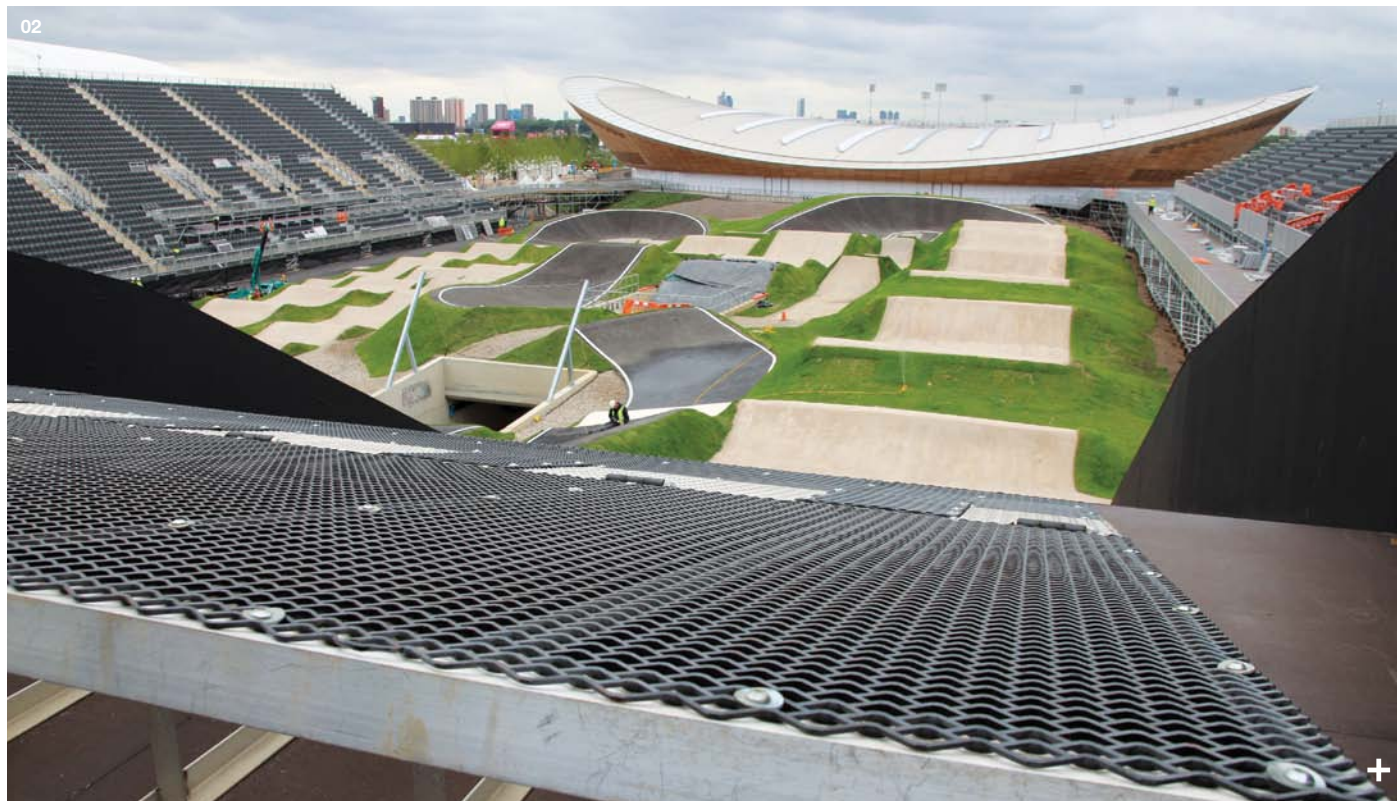
The Velodrome

Having designed and built the Velodrome, we returned to create a large media centre, ready for the test event on 17 February 2012. We put in temporary partitions, a new raised floor, services, IT and air conditioning. LOCOG's suppliers installed the data as a separate contract. ISG demonstrated flexibility, having less time than originally planned to undertake these works and without a full set of information when we started on site. Nevertheless, we successfully delivered the media centre in time for the test event, despite facing a number of challenges along the way.

The BMX track

Following the test event at the BMX track and feedback received from athletes and the UCI (the International Cycling Union), parts of the track were changed and remodelled. Our team had a four week turn around, in wintry conditions, to re-profile the track using existing materials so that specialists directly employed by LOCOG could undertake the final shaping under ISG's management. Temporary seating stands for 6,000 spectators were then installed.





01 – The Velodrome
02 – The BMX track
03 – The Basketball Arena

The Basketball Arena

This was one of the most-used venues within the Olympic Park, with competition events taking place almost every day. Inside the Arena, we rebuilt the media tribune stands to meet the Olympic Broadcast Service's (OBS) strict specifications. We managed the sequence and worked alongside OBS, handing finished areas back

to them in phases so that they could install the cables simultaneously, due to programme constraints.

Eton Manor

During the Games, Eton Manor was used as a storage area for the opening and closing ceremonies and housed temporary training pools for participants in aquatics events. During the

Paralympics it hosted the wheelchair tennis. In the lead-up to the Games we managed the installation of three large tents, which were set up over the tennis courts and contained all of the costumes and props for the ceremonies.



Hockey and Handball

This cluster of projects encompassed hockey (The Riverbank Arena) and handball (The Copper Box)



Handball (‘The Copper Box’)

We were involved in bringing the ‘copper box’ up to Games-ready mode, and making sure the test event happened. Back-of-house works included managing the installation of over 50 tents and cabins. Among these were the workforce dining tent and one of the largest structures on the handball Overlay, the warm-up tent.

Inside the 12,000 seat arena, we installed concession units, a judges’ table and technical tables, and we were involved in rebuilding the media tribunes, which were altered to meet the OBS’s strict specifications. We acoustically treated the warm-up tent for the Paralympics to enable a partially-sighted goal ball to be played.



The Riverbank Arena (Hockey)

At the Riverbank Arena, we supervised the building of the grandstand, which surrounded two existing pitches. In a major logistical operation, and using the largest cherry picker in the UK in terms of span, 18 cabins were craned into position on the top of the 18m high grandstand scaffold structure. 16 cabins formed

the family and friends VIP lounge, and two cabins were for the camera crews at the end of the pitch. Following the installation, we used a self-erecting tower crane to put a temporary roof over the structure and oversaw the fit out of the cabins.

Health and safety was a key challenge across the Overlay works. For the complex grandstand lift, we worked

closely with LOCOG's events contractors to devise a method statement and worked with them throughout to ensure that agreed procedures were strictly adhered to.



Above – cabins being craned into position on top of the grandstand using the largest cherry picker in the UK in terms of span



Athletes' Village

Accommodating 16,000 athletes and officials during the Olympic Games and 7,000 during the Paralympic Games, the Olympic and Paralympic Village also included shops, restaurants, a medical area, media facilities, security, support and leisure facilities. It boasted the largest temporary catering facility in the world – the size of three football pitches – capable of catering for 5,500 athletes at once, and serving 1.2 million meals during the Games.



Opposite – lifting the roof onto the Athletes' Dining Tent. Over a quarter of a kilometre in length, it involved one of the largest roof lifts ever



Works carried out by ISG included:

- Construction of the main dining tent which involved one of the largest roof lifts ever
- Catering facilities to provide 60,000 covers per day
- Construction of temporary retail and support facilities
- Office fit out

The construction of the main dining tent included one of the largest roof lifts ever. Over four weeks, we built the quarter of a kilometre long roof at one metre above ground level and fitted the canvas covering. The whole structure was then raised in three individual sections, each 80.0m x 80.01m, over three days

to a height of 6.01m, using six 300-500 tonne cranes.

Alongside the main dining tent, we oversaw the construction of the Welcome Plaza, the Welcome and Accreditation Centre, a large tented area where vehicles were screened, a transport mall (with gazebos used as

bus shelters) and sponsors' storage areas.

A key area of the Village was the Polyclinic. All of the medical facilities were housed in single-storey containers, which were dropped in by crane after we had built the cases. The MRI scanners were a large part of this build

and involved large cranes and tricky logistics to manoeuvre them into place.

This was the first venue on the Park to receive a 100% score in health and safety from LOCOG, who sent their own auditors to appraise the project.

Media Centre

This permanent complex accommodated 20,000 broadcasters, photographers, and journalists in 52,000 sq m of office space. A temporary catering facility provided 60,000 meals per day during the Games.



A combination of Overlay and direct works saw ISG deliver:

- The 'High Street' - 16 retail units including banks, hair salon, gym and café
- MPC - the main media centre providing 29,000 sq m of office space over four floors
- IBC - 52,000 sq m of studio space over two floors
- Catering Village – a 4,000-seat restaurant serving 60,000 meals in any 24-hour period
- Car Park and Media Traffic Mall

Overall, we managed the installation of 24 tents in various sizes and changed the signage in readiness for the Paralympics. There were 500 operatives per day on site at peak times, with an average workforce of 250 per day. 2,732 people underwent the induction process on the Media Centre project alone.

Logistically, this was a very challenging project involving the erection and simultaneous use of over 200 mobile cranes. As the most sensitive area on park, in a riverside location close to private residences, we carefully controlled noise and light pollution to minimise disruption to neighbours.



Common Domain and Park Live

The spectator areas of the Olympic Park between the venues were known as the common domain. They included 'Park Live' - two massive TV screens, sponsored by British Airways. At peak times we managed 700 people per day on the common domain site.

The average number of people working on the site was 450. Due to the huge number of permits needed to be able to start work, we held a daily meeting with Park Operations. Each day threw up new challenges including, midway through the scheme, being faced with the mammoth task of moving one of the wayfinding beacons, and on another day we had to stop site operations to accommodate Princess Eugenie on a charity run.

Common Domain

Common Domain was one of most diverse projects across the Overlay works. It comprised an outer and inner area, within both of which we managed the construction of all temporary structures, including:

- Vehicle security points
- Civilian check-ins
- Security on the periphery
- Vehicle inspection areas
- The Westfield Media Centre
- Food and drink concession units





- Sponsor areas, such as the BMW floating pontoon, prestige dining areas, BP exhibition stand and 'Walk in the Olympic Park' experience stands
- A news studio and tower.

Wayfinding signage was a significant part of the project. There were 11 beacons, spread across the Park. Each one was the size of a house and had to be built in its entirety. We also

built two main gantries and oversaw other signage.

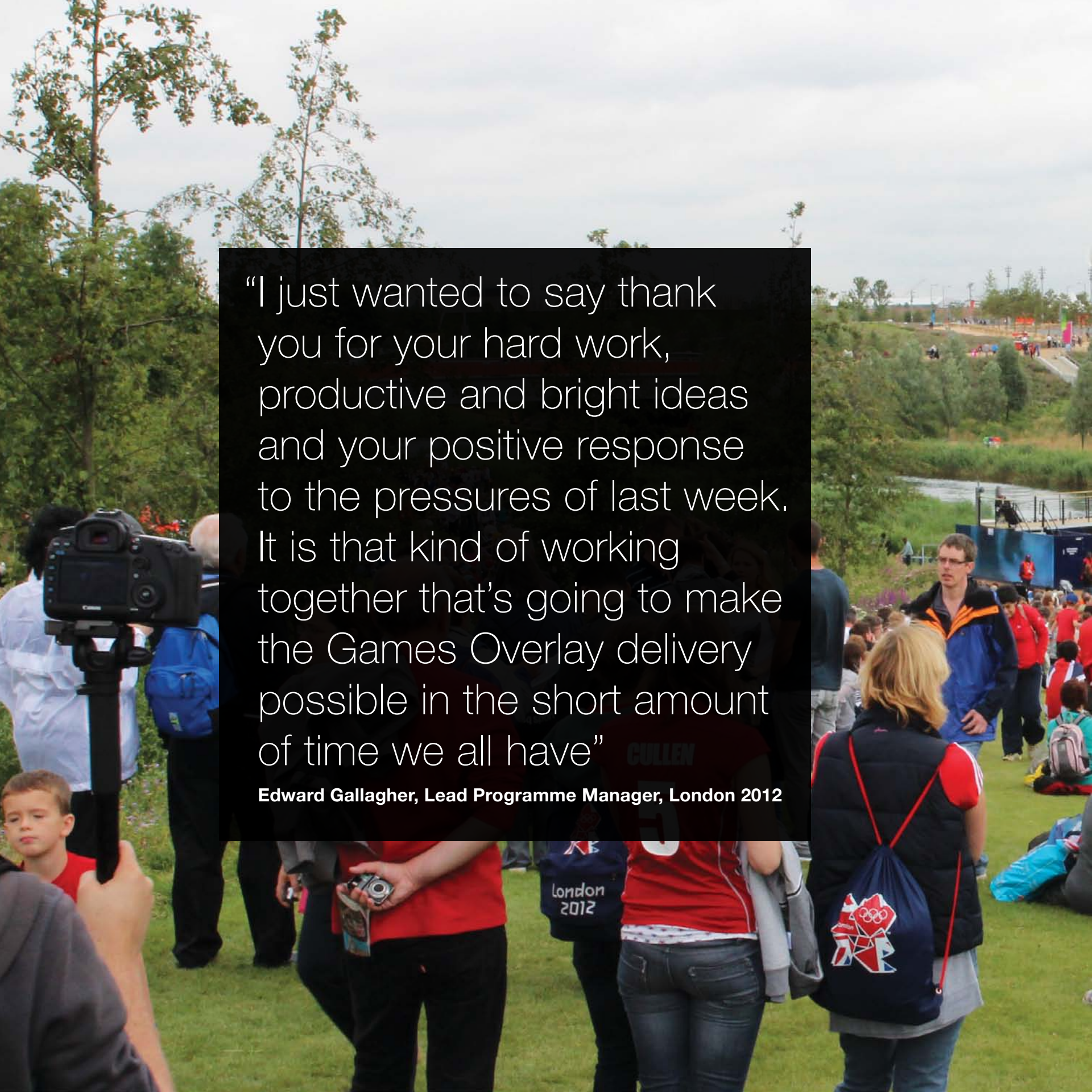
Park Live

Park Live consisted of two back-to-back 100 sq m screens situated on a barge on the River Lee. The structure, built in partnership with LOCOG and British Airways, had a roof and also contained offices and a back-of-house area. We oversaw the build and took the lead on

safety, facing some unique environmental and health and safety challenges.

We liaised with a number of different stakeholders and specialists, including the Environment Agency who were on site nearly every day.





“I just wanted to say thank you for your hard work, productive and bright ideas and your positive response to the pressures of last week. It is that kind of working together that’s going to make the Games Overlay delivery possible in the short amount of time we all have”

Edward Gallagher, Lead Programme Manager, London 2012



Off Park venue overviews





Royal Artillery Barracks

The Royal Artillery Barracks hosted the Shooting, Paralympic Shooting and Paralympic Archery events. The main event structures were built by the ODA prior to ISG building the relevant infrastructure to make the site operational.

To accommodate a major test event in April 2012, the majority of the works were carried out in advance of the other off-Park sites. We installed temporary roadways, parking and hardstands to enable the construction of the facilities. These included 45 tent structures, 15 large service bridges (one over the Ha-Ha road) and five grandstands to seat 12,500 spectators, linked by a temporary M&E infrastructure.

The grandstands were designed and installed to achieve an independent category three structural sign off. Following the test event, we carried out final fit out works and installed the outside broadcast equipment ready for the Games. Our team reinstated the Barracks, after the Paralympics, to the condition stipulated by LOCOG, the ODA and the Ministry of Defence.



Hampton Court Palace

This Grade I listed former royal residence, on the banks of the River Thames, provided the spectacular setting for the Road Cycling Time Trial.



In just six weeks, we installed the LOCOG management infrastructure, the Olympics Broadcasting Services (OBS) compound, logistics compound and management offices for the Time Trial events. We also set up resource and welfare arrangements, plus the traffic management storage centre. At the Palace itself, we constructed VIP and Olympic family areas, ticket concessions, athletes' preparation facilities, start line and race podium structures. After two days of competition, our team reinstated the venue and handed it back.

The project posed specific and unusual challenges, particularly as the site remained open to the public during the Overlay works. With restricted vehicular access and the health and safety of the general public of primary concern, we strictly scheduled deliveries for early mornings and evenings access, and installed temporary accesses to restrict disruption to the Palace and gardens. Five overnight road closures were obtained to enable crane lifts to install the necessary equipment and units, and a 24-hour late works programme ensured that the venue was ready for the sporting action.



Greenwich Park

Greenwich Park is London's oldest Royal Park and a UNESCO World Heritage Site. ISG was appointed as the Principal Contractor to oversee the build of the Greenwich Park Equestrian and Modern Pentathlon venue for the London 2012 Olympic and Paralympic Games.



Our role involved the planning, programming and on-site coordination of the complete build. This included additional direct contract works, provided by ISG, such as ground works, road works, fit out, surveying and security. Over four months, we created the infrastructure to accommodate over 50,000 spectators, including a raised field of play steel deck, grandstands, over 150 tents, six raised equestrian training

areas, stabling for 300 horses and a 1.6km camera rig.

We also undertook extensive fit out works including a full turnkey design and build solution for the Games-time concession units, ceremony rooms and disabled WC facilities. Our team managed a large number of last minute variations and led the building control sign-off process for the venue.

As an existing UNESCO World Heritage Site and public park, and as the largest off-Park Games venue, the project required careful planning and sensitive construction techniques. Considerable emphasis was placed on keeping the Park open and accessible to the public at all times during the works.

The customer used our expertise in managing and



coordinating the build of the venue in the deconstruction and reinstatement phase. Our team drafted the comprehensive removal programme in consultation with all commodity suppliers and the existing venue owners. This programme met stringent contractual dates.

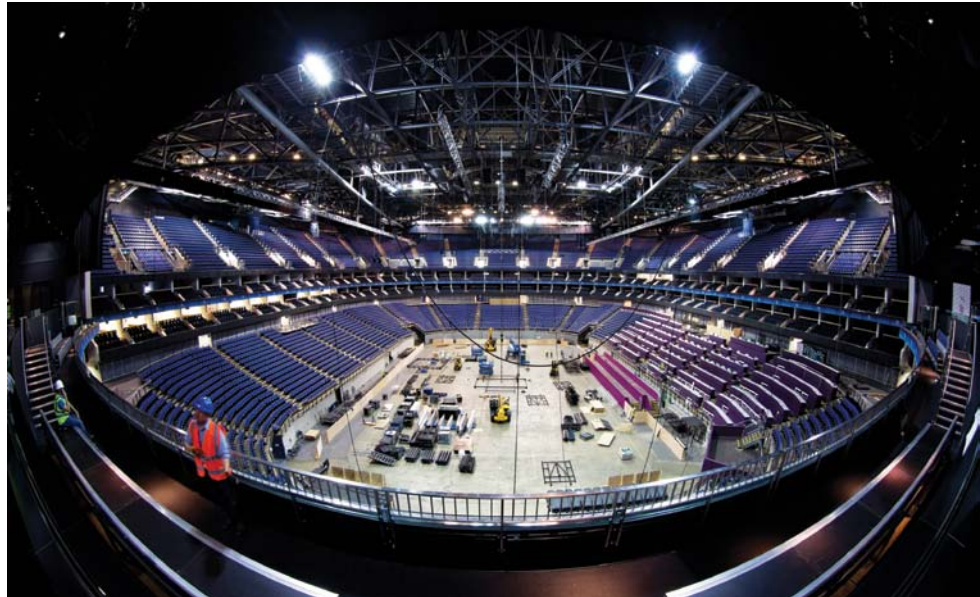


Below – Series of images showing the project's development, from starting on site to a packed grandstand during the event



North Greenwich Arena (The O2)

The North Greenwich Arena (more widely known as the O2, outside of the Games period) hosted the Artistic Gymnastics and Trampoline events as well as the Quarter Final stage of the Olympic Basketball and the full schedule of Wheelchair Basketball competitions.



ISG's team set up the field of play for the Men's and Women's Artistic Gymnastics and Trampoline competitions. The field of play and back-of-house facilities were then changed again for the later stages of the Olympic Basketball and the Paralympic Basketball competition. The transition required the removal of all the gymnastic equipment and the raised access floor, along with sections of seating to enable the installation of the temporary basketball floor and related equipment.

We created temporary infrastructure to enable existing shops and restaurants

to remain operational whilst we set up for the OBS. This comprised additional power requirements, media set up, LOCOG offices and the infrastructure required to manage and run the event. Our team managed the construction of 28 temporary structures to control access and egress from the Arena. We also made improvements to the landscaping, updating large areas of fencing around the venue and transforming wasteland into new hard landscaping.

The existing changing areas and event suites were stripped out and replaced with desks and IT for LOCOG

staff to use during the Games. We also managed the removal and replacement of all O2 and non-sponsor branding, which required stickers to 15,000 seats and branded fixtures in the arena and Olympic-controlled areas. The Arena was reinstated in a four day, 24 hour timeslot for an O2 event to start two days later; the works taking over a year to set up and just four weeks to strip out.



Hadleigh Park

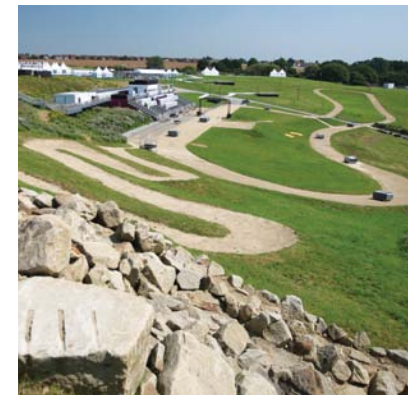
Hadleigh Farm is set within the grounds of Hadleigh Castle and hosted the Olympic Mountain Biking events.

ISG managed the works to enable 21,000 spectators to watch the events live. Works involved the installation of a 1,200 seat accredited grandstand with 200 screw piles, 8km of perimeter fencing, 30 tent structures and temporary cabins. We installed a power network across the site with security cameras and lighting around

the perimeter. Civil works were carried out to enable roadways around the venue and access paths for spectator entry through woodland areas.

The undulating topography of the course and surroundings presented us with our greatest challenge at this venue. We worked with Natural

England to ensure that large badger setts, scheduled monuments and areas of high scientific interest were protected in accordance with their guidelines. The venue was reinstated following the event.



Lee Valley White Water Centre was specifically constructed to host the slalom canoe events at the London 2012 Games. The 10-hectare site covers an area the equivalent of 25 full-size football pitches and was the first off-Park venue completed.

ISG began by increasing the overall footprint of the venue to accommodate the requirements for the Overlay works. We then successfully managed the construction of a 12,000 capacity seating bowl, secured by 1,500 screw piles, which ran the length of the 250m long course. Additional facilities included large event tents for

catering, a media centre and a family lounge for athletes' use. Cabins were installed to provide office space and toilet facilities along with temporary power, water and waste connections. A compound was provided to hold the broadcasting hub, along with provision for all cables and camera positions across the site.

Extended working hours and night shifts ensured that the venue was handed over to LOCOG on 7 July 2012 and following the Games we managed the full reinstatement works programme, which was completed by 7 September 2012.





Hyde Park

The largest of London's Royal Parks, Hyde Park was the stunning backdrop for the Triathlon and Marathon Swim events. ISG managed the build and dismantle of an entirely temporary modern sports venue.



The main site comprised a 3,000 seat grandstand, athletes' accommodation, competition management structures, and venue management tents and cabins all built within a forested area of London's busiest Royal Park. Two separate floating pontoon structures were built to accommodate the different sports, with a raised transition deck and finish chute for runners and cyclists stretching the full length of

the grandstand. A number of large ramps were built around the park for the cycling and running routes in addition to numerous camera platforms, lighting, and welfare facilities for over 100,000 spectators. An overhead cable camera was installed, spanning the length of the Serpentine lake.

We used our experience gained on earlier Royal Parks' venues to ensure we minimised disruption to daily

operations at Hyde Park. Our team developed a vehicle management system to receive deliveries to the Central London site and introduced a unique 'mole plough' technique to install a critical BT fibre route through the Park. This innovative approach realised a significant customer saving and satisfied the Park's requirement for a less intrusive method of installation.





Whilst with careful management and segregation from the general public, it was possible to carry out much of the works whilst the Park and its lake were in use, some night working was required to minimise risks and allow efficient progress.

We managed and validated the installation programme for the entire venue and, following the Games, developed the full dismantle and deconstruction

programme. The works were managed in accordance with our schedule and handed back a month earlier than envisioned by the customer, at the end of September 2012.

Right – works in progress to the grandstand and finish chute for the runners and cyclists



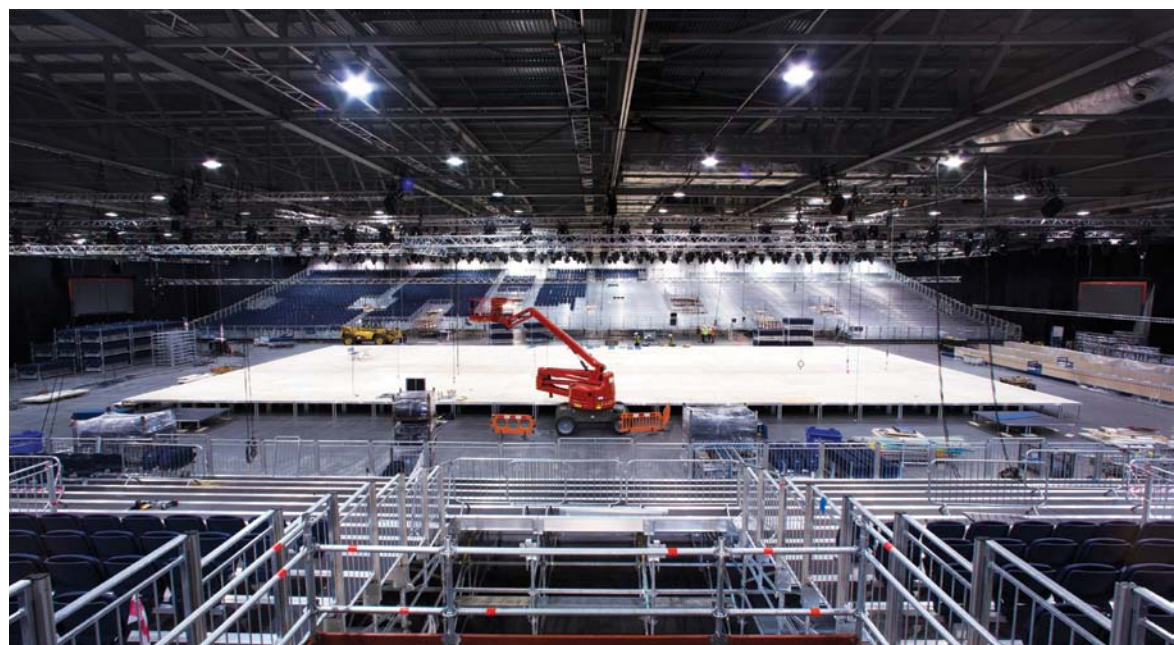
ExCeL, an existing arena complex located in the heart of London's Royal Docks, was the largest competition venue at the London 2012 Games. Its five different arenas each hosted a different sport; 13 Olympic and Paralympic events in total.

ISG delivered a fast-track programme of Overlay works, with the majority carried out in the first three weeks on site. We installed approximately 45,000 seats, 250 cabins and the major broadcast lighting and cabling. With several events being hosted across the venues, we also managed the important transitions between individual sports and between the Olympic and Paralympic Games. Reconfigurations were made to the fields of play, lighting

installations, signage and the overall look and feel of the arenas in terms of the branding.

Much of the work took place alongside 'live' events and exhibitions. We developed a good relationship with the ExCel management team - we segregated work areas, devised traffic management plans and coordinated day-to-day activities with them, scaling down and even stopping work during their key events.

The venue was reinstated and handed back following the Games, in time for ExCel to host the London Triathlon in September 2012. Adaptability and coordination were key issues, with numerous changes accommodated at short notice by night shifts and a flexible workforce of over 1,500 operatives at peak times.



Weymouth and Portland

Weymouth and Portland hosted the Olympic and Paralympic Sailing events and was also the home of the Sailing Village.

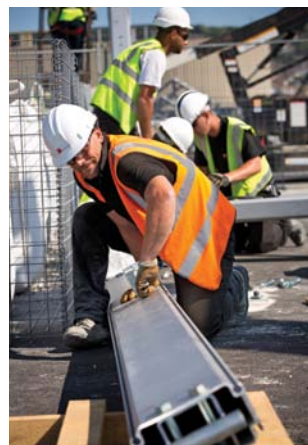


Weymouth and Portland hosted the Olympic and Paralympic Sailing events and was also the home of the Sailing Village.


formed from tents and cabins providing accommodation for technology, media operations and a workforce diner/kitchen all with associated water and drainage infrastructure.

We were responsible for the Construction Management to facilitate adaptations of the existing site and sailing village. The venue and village works comprised the formation of a secure venue entrance, back-of-house facilities and security fencing. The entrance was created using tented structures and steel cabins housing scanning equipment and toilet facilities. The back-of-house area was

Security fencing was erected, which incorporated CCTV cameras, movement detection and hostile vehicle measures. We also provided containment for all Overlay services including technology, power, communications and water plus the installation of the OBS compound.







“Many congratulations on the delivery of the Overlay – a monumental task – and ISG rose to the challenge, really understanding the difference between Overlay and construction”

James Bulley, LOCOG

Earls Court

Earls Court played host to Volleyball at the London 2012 Games. ISG managed the set up of the field of play, two practice courts and additional grandstand seating to increase the capacity from 8,000 to 24,000 spectators. We installed a broadcast compound, additional lighting and back up generators.

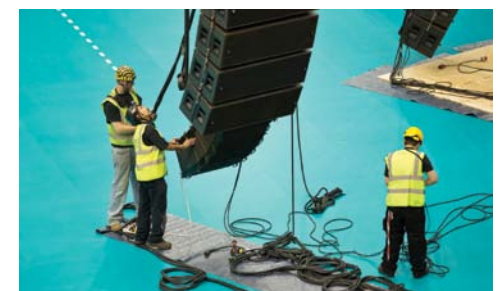




The fast-track Overlay took place over a mere 10 days, to enable Earls Court to honour existing bookings prior to the start of the Games. This required a significant amount of out-of-hours working, including evenings and weekends, with guidelines restricting noise outside the venue between 8pm and 8am.

We operated a red and green access plan, which determined restricted and safe zones across the site.

This controlled safety for the occupants of nearby offices and enabled tours and daily operations to continue simultaneously. The perimeters of these zones were marshalled and we created a marshalling point at the nearby Seagrave Road car park, which acted as a consolidation area for deliveries to avoid congestion.



Lord's Cricket Ground

Lord's was the venue for the London 2012 Olympic Archery event, with archers shooting across the cricket square towards the iconic Media Centre. Our works included the installation of temporary seating structures to enable spectators to get closer to the action.

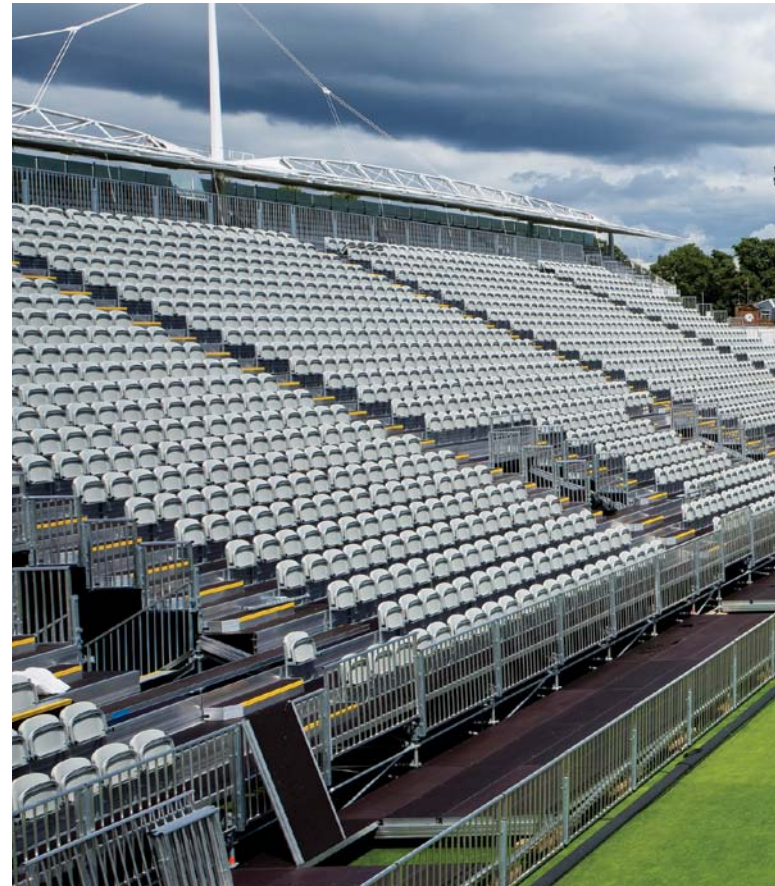
ISG managed the construction of two large grandstands to accommodate 40,000 spectators as well as the set up of the field of play on the outfield cricket pitch. Over a period of 20 days, we provided a number of practice areas, a broadcast compound, press tribunes

on the upper tier of the existing pavilion, technical rooms within the pavilion itself and facilities for the Olympic family.

Lord's remained 'live' throughout the works, with visitors taking regular tours of the Ground. We operated

a red and green access plan to delineate restricted and safe zones across the site, which enabled the tours and construction works to continue simultaneously.

We used an innovative weighting method to secure large tents on the concrete



concourse and built robust aluminium trackways across the pitch to protect the grass from traffic movements.

The reinstatement of the venue took just 10 days and was up against an immovable deadline – the hosting of a Test Match

just 13 days after the end of the Archery competition. Working out of hours to ensure that the venue was ready, our team removed two stands from the field of play to enable specialist grass repairs so that the ground was to the required standard.



ISG carried out a four-week package of Overlay works to accommodate the Olympic tennis at Wimbledon. Our team rebranded the venue and removed some of the seating on Centre Court to increase the capacity of the press area to accommodate 200 people.



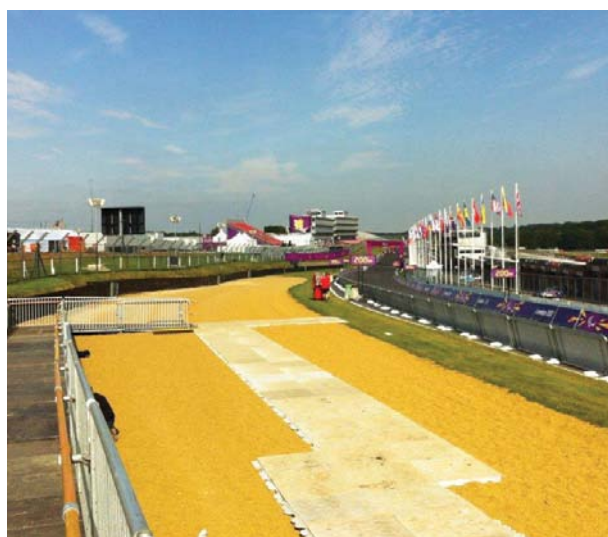
The works were successfully completed in a short timescale by effective management of the supply chain and some out-of-hours working was also required. We were working in a live environment throughout as office and ground workers were based on site, and tours of the venue were also continued. We operated a red and green access plan with restricted and safe zones across the site, which enabled the tours and works to co-exist safely.

The venue was reinstated in just two weeks, and involved the removal of both the Olympics infrastructure and the facilities that had been left in place for its use following the Wimbledon Tennis Championships. Our team's prior knowledge of the venue, and relationships built up with personnel on previous projects at Wimbledon, was invaluable.



Brands Hatch

Brands Hatch hosted the four days of Paralympic Road Cycling events and was the only venue specifically used for the Paralympics.



ISG installed 20 tents, 12 containers, 15 cabins, 2,000 sq m of trackway, temporary water and power connections, working around large numbers of visitors whilst the world-renowned motor-racing circuit remained in operation.

Our team took possession of the pit lane just four days prior to the Paralympic Games and fitted out six garages to convert them into Games-ready facilities.

The venue was reinstated in just 12 days.



Wembley Arena

London's second largest indoor arena, after the O2, Wembley Arena played host to Badminton and Rhythmic Gymnastics at the London 2012 Games.





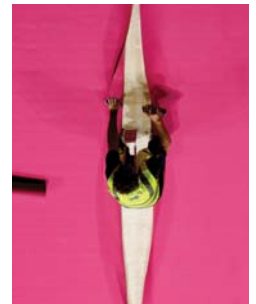
This was a fast-track project with a significant scope of works completed during the Overlay period of 1 May – 30 June 2012. It was the first of the off Park venues to be handed over to LOCOG, which allowed time for rehearsals and it provided a functional area for the athletes to train in.

Overlay works included the erection of warm up/training tents for competitors, the installation of a cable road bridge and setting up the field of play. To facilitate this, we levelled the site and carried out the required groundworks. A retaining wall was also installed to separate the outside broadcast compound and the first two warm-up tents. We used a specialist decking system to level the site, allowing for a third warm-up tent and catering compound to sit above the existing car park. £500,000 of major ground strengthening works ensured that the wasteland forming the back-of-house area was able to withstand the weight of the large broadcast trucks.

Our team constructed a tarmac roadway within the compound, forming an access road and large turning circle for deliveries, plus a cable road bridge. The large

40 metre, 11 tonne bridge was expertly positioned using a complex tandem crane lift and was used to transport cables between the Arena and outside broadcast compound.

Other works involved the installation of a new lighting system to enable the events to be filmed in high definition for TV audiences around the world. A sports floor was installed along with setting out the field of play for each event. The training tents were fitted out with the relevant equipment, including an innovative lightweight reflective screen to act as a mirror for the gymnastics training. Extensive security systems were also incorporated with airport style screening facilities for site personnel and visitors plus Hostile Vehicle Mitigation (HVM) systems. Finally, Olympics branding replaced Wembley Arena branding.



Football venues

We were tasked with the Overlay works to transform some of the UK's most notable football stadia into Olympic football venues to host the world's top sides.

Work was carried out at:

Old Trafford,

Manchester

Hampden Park,

Glasgow

Millennium Stadium,

Cardiff

St James' Park,

Newcastle

Ricoh Arena (The City

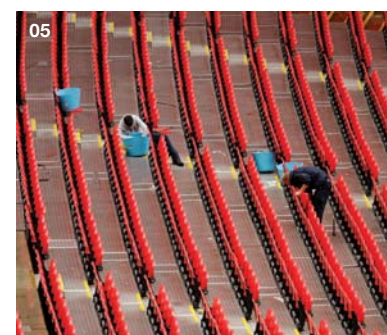
of Coventry Stadium),

Coventry

Wembley Stadium,

London





01 – Ricoh Arena (The City of Coventry Stadium)
02 – St James' Park
03 – Hampden Park
04 – Old Trafford
05 – Wembley Stadium
06 – Millennium Stadium

ISG managed the installation and erection of fencing, cabins and tents and all associated works, stadium camera positions, broadcast containment and cabling plus CCTV and perimeter lighting. Welfare and waste management facilities were also provided for LOCOG commodity suppliers and direct subcontractors.

Additional project works included press tribunes, camera platforms and hostile

vehicle mitigation (HVM), which comprised the introduction of bollards and rams for security.

Our team also managed the overlaying of the existing football club branding with the Olympic designs. Erecting the flags of nations over the stadia to confirm their status as Olympic venues completed the preparations for the Games. In most cases, the works were carried out whilst

the venues remained operational, carrying out their day-to-day maintenance routines and conducting stadium tours. Our team worked closely with venue management to plan works around their ongoing operations and minimise disruption to staff and visitors. We also accommodated the venues' closed-season events programmes by carefully coordinating works and meeting target dates.

A number of staff members remained on site in a support role during the Games period and the venues were reinstated following completion of the football events.

Eton Dorney

Set in a 400-acre park within a nature conservation area, Eton Dorney played host to the Canoe Sprint and Rowing events. Although their facilities were already world class, improvements were needed to ensure the venue met the particular requirements of the Games.



ISG installed a 7.5km perimeter fence around the site, 350 tents, a 75m x 25m workforce diner, 250 cabins for offices and toilets, and the world's longest Skycam at 2,600m, covering the length of the lake and positioned 90m high. We also managed the construction of grandstand seating for over 32,000 spectators. The grandstand included a building constructed underneath for dignitaries and the Olympic

Family. The site also featured the largest transport hub connected to any venue. All works were carried out whilst the site remained operational, hosting a number of triathlon and regatta events.

A transition also took place to prepare the venue for the Paralympic Games, which included moving the start tower. We also made changes to some of the tents to improve disabled access

and constructed a completely new venue access point at the opposite end of the site.

We managed the strip out and reinstatement process, which took place from 9 September to 7 November 2012.



Royal Holloway – Canoe Sprint Village

Royal Holloway, University of London was selected as the official Rowing and Canoe Sprint Village for the London 2012 Games. It was one of only three Olympic and Paralympic Villages and played host to the world's elite rowers and sprint canoeists.

In total circa 1,500 competitors and staff stayed in university accommodation during the Olympic and Paralympic Games and were transported by coach to nearby Dorney Lake, in Eton, where the Rowing and Canoe Sprint events were held.

ISG provided a large Welcome Centre tent plus an additional recreation tent including gym equipment and a café. Two further tents housed a workforce diner and Pedestrian Screening Area (PSA), and a Vehicle Screening Area (VSA). There was also a large laundry facility with toilets.

We worked during the summer vacation period to avoid disruption to the University's term-time activities. We also accommodated the University's conference and events schedule; summer being their busiest period.

This involved a significant amount of out-of-hours working and complex programme sequencing. Additional works undertaken to fill gaps identified in the original LOCOG work scope totalled over 500 items and these were accommodated into the programme with a flexible management style and extensive out-of-hours working.

Training venues/hotels/non competition venues

In addition to the Overlay at some of the country's most notable football stadiums, we also undertook works at various nearby hotels and sports facilities to provide accommodation and training venues for the competing nations' teams.

We prepared locations to provide suitable training facilities at:

- Partington Leisure Centre and Manchester Grammar School
- Strathclyde University
- Cardiff University
- Newcastle University
- Warwick University
- Long Lane Junior Football Club and Eltham College, London

- Chesford Grange and Hilton Hotels, Coventry
- Hilton, Intercontinental and Grosvenor Hotels on Park Lane and Grange Hotel, St Pauls, London.

All venues were returned to their original condition following the Games.

At the hotel sites, we carried out ground levelling and associated civil work plus the installation of tents, security equipment and fencing.

Works took place at:

- Marriott's Victoria & Albert Hotel and Worsley Park Hotel & Country Club, Manchester
- Marriott Hotels Glasgow
- Hilton and Marriott Hotels, Cardiff
- Hilton and Marriott Hotels, Newcastle



“ISG nailed it....it all happened without compromise, it all looked fantastic and it was all delivered on time, safely and sustainably...an incredible achievement”

Paul May, LOCOG

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