



Residential **Hotel & Resort** Leisure Healthcare Heritage Retail Industrial Mixed use Office

Company profile

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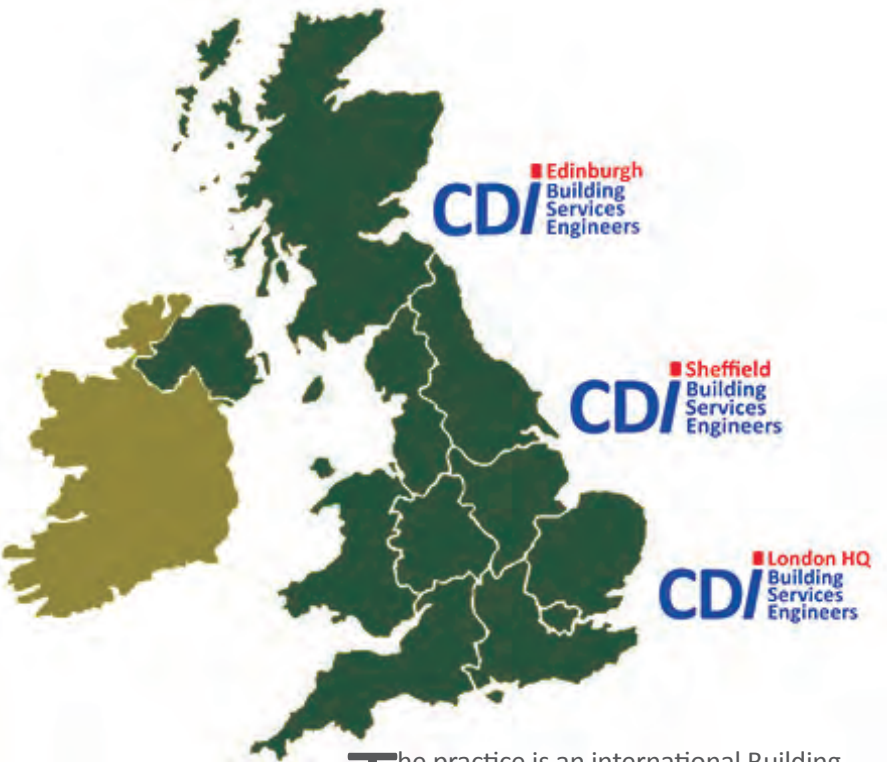
SHEFFIELD

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About CD International /



The practice is an international Building Services Consulting Engineers having completed award winning projects throughout Europe with construction values up to £300 million.

Location

The company has offices in London, Edinburgh and Sheffield with associate partners throughout Central and Eastern Europe, Central Asia and the U.S.

Sectors

Market strategy has been committed to developing consultancy appointments throughout all areas of the commercial sector including:

- Mixed-use & Retail
- Leisure and entertainment
- Office & tech hubs
- Hotel & Resorts
- Residential
- Listed & Heritage

The business strategy is also focused on a European and worldwide operation with a number of major projects successfully completed in continental Europe, Africa and the Middle East.

Working with lead architects and local partners on international schemes, we developed unique experience and ability to combine knowledge from various practices and implement it into the real project.

Services

The company offers a full range of professional services which can be individually tailored to meet specific client needs as follows:

- Mechanical Design
- Electrical Design
- Public Health Design
- Fire Protection and Life Safety
- Vertical Transportation
- Infrastructure
- Low energy design
- IT communication
- Low Carbon Energy assessment
- BREEAM assessments
- Thermal Modelling
- Energy audits and energy appraisals

Structure and Experience /



Working closely with architects and local specialists, we implement the latest technologies and modern approach to deliver comfortable and sustainable living environments.

Structure

- Project Directors remain an integral part of the design process.
- Shortened communication channels ensure a fast response time
- Project teams capable of handling a wide range of project types
- Individual groups draw upon the shared experience and resources within the company.

Mixed use projects

CD International engineers have been working under the multiple projects in mixed use and residential environment for the past 25 year.

We have highly qualified team, with experience in design of building services for developments in Europe, including Russia, Ukraine, Bulgaria, Albania and the UK.

Experience

We have got strong technical engineering understanding of the projects in all building sectors and across many countries.

Geography of works

- Albania
- Armenia
- Belarus
- Croatia
- Czech Republic
- France
- Germany
- Macedonia
- Moldova
- Montenegro
- Poland
- Russia
- Serbia
- Ukraine
- England, Scotland & Wales
- Kyrgyzstan
- Kazakhstan
- Lebanon

Sectors /

Mixed Use Developments



Shopping centres & Retail Parks



Business Centres & Offices



Private & multi storey residential



Hotels & Leisure Parks



Energy Programmes and assessments



Leisure / Montenegro

Montenegro/ Lido



▲ *"A paragon of beauty, the exclusive Lido Pool at Porto Montenegro offers a distinctive and exceptional experience for all who visit the unique infinity pool that is the meeting point of the mountains and la mer. Lined with lavish white loungers, pock-spotted with cushions and a seafront bar with an unforgettable view, the Lido Pool is one of Montenegro's greatest opportunities for an ease-filled day in luxury."*

Read full story at www.portomontenegro.com

A part of big master plan of elite residential village, located on a picturesque shore of former naval base. Lido, luxury open pool with entertainment area, restaurant and open-air club zone is built on site of dry submarine dock. CD International completed MEP design for swimming pool and adjacent premises in a very short time.

Project outline

CDI acted as lead MEP consultant with aim to create successful solution to the whole project: developing building services design for Lido pool and surrounding buildings, including, bar and restaurant, changing rooms and arrival pavilion.

We have delivered Concept, Schematic, Detailed Design stages and undertook construction site supervision.



Design: Studio RHE

Main Contractor: Cijevna Komerc d.o.o.

Structural Engineer: Glanville Consultants

Services Design: CD International BSE

Pool consultant: Aquascapes UK



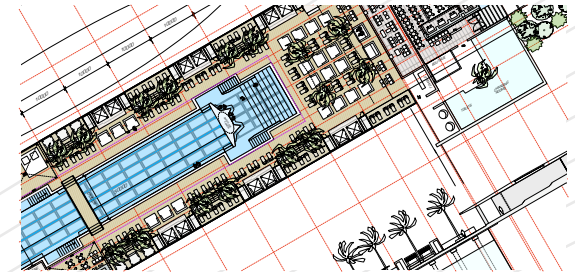
Location

Open swimming pool was constructed on a basis of submarine dock.



Interior Design & Services

Due to high profile of the development, it we made ensure that all services, communications are hidden and silent.



Lido equipment

Another successful collaboration with Aquascapes, UK.



Leisure / UK

Somerset / Cheddar Woods Resort & SPA



The Cheddar Woods Holiday Home Park has opened in 2013 following a 9-month period of redevelopment. The Darwin Leisure Property Fund has invested £8m to upgrade the infrastructure of the park to transform it from a predominantly tenting and touring site into a luxury lodge park with extensive leisure facilities.

Project outline

The Cheddar Woods Holiday Home Park has opened in 2013 following a 9-month period of redevelopment. The Darwin Leisure Property Fund has invested £8m to upgrade the infrastructure of the park to transform it from a predominantly tenting and touring site into a luxury lodge park with extensive leisure facilities. The new holiday homes park site features 167 plots, including a mix of 117 holiday rental holes and 60 lodges for sale.



 **CIBSE BUILDING
PERFORMANCE
AWARDS 2015**

SHORTLISTED

Client: Darwin Properties

Architect: NBDA

Contractor: Midas Group Ltd

QS: Lavingtons

Interior: Symms Revill Design Consultants

MEP Engineer: CD International BSE, UK



The newly built central leisure building features high quality facilities, including a bar, bistro and restaurant; farm shop; gym and golf simulator spa and indoor swimming pool. The development has strong ecological credentials, with communal facilities designed to work intuitively with the environment.

CD International has provided full design package for MEP. Due to constant energy demand from leisure facilities in the Complex building, we have specified a CHP installation, air source heat pumps (ASHP) to serve under floor heating and heat recovery system for the mechanical ventilation.

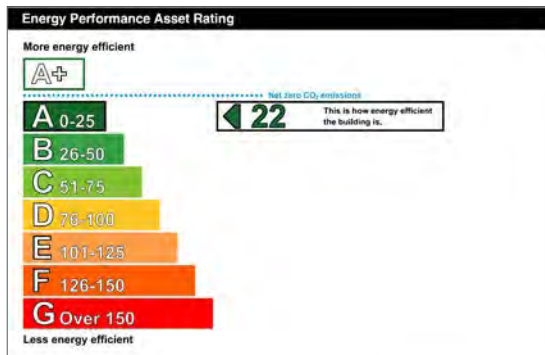
Where possible we have maximised the use of natural ventilation via installation of 22 No. Windcatchers. Sunpipes were installed with daylight dimming for light sources to work efficiently in combination. On the construction material side: low U-values materials used and Green Roof was installed, producing a EPC "A" rated building,

The building also had a comprehensive energy monitoring system with energy targets set and continually monitored with a live energy display screen for the public in reception. The energy metering has demonstrated a 10% improvement in energy consumption compared with a typical new build.



Leisure / UK

Devon / Hawkchurch Resort & Spa



Redeveloped in 2015 this former tenting and touring caravan park, known as Hawkchurch Country Park, has been transformed into a relaxing sanctuary with views of the Axe Valley.



"We are immensely proud of what the whole team has achieved with the refurbishment of Hawkchurch Resort & Spa and we are confident that it will prove to be a real asset to Axminster and the surrounding area."

Darwin Escapes MD Lindsey Bamford
to Western Morning News

Project outline

The client's brief was a design for a low carbon amenities building for the new build caravan park. This was quite a complex challenge. Firstly, SPA and leisure facilities were making this building energy intensive. Secondly, provided under one roof were zones of different functionality, such as gymnasium, relaxation and treatment SPA, including indoor pool with Jacuzzi, sauna and steam room. To complement the offer, there are restaurant with full size commercial kitchen, shop, staff office, admin and hub room.

Traditionally this type of building is serviced with mechanical ventilation, comfort cooling, and display lighting, making the building energy intensive. In order to achieve a low carbon building alternative solutions were required.

Client: Darwin Escapes

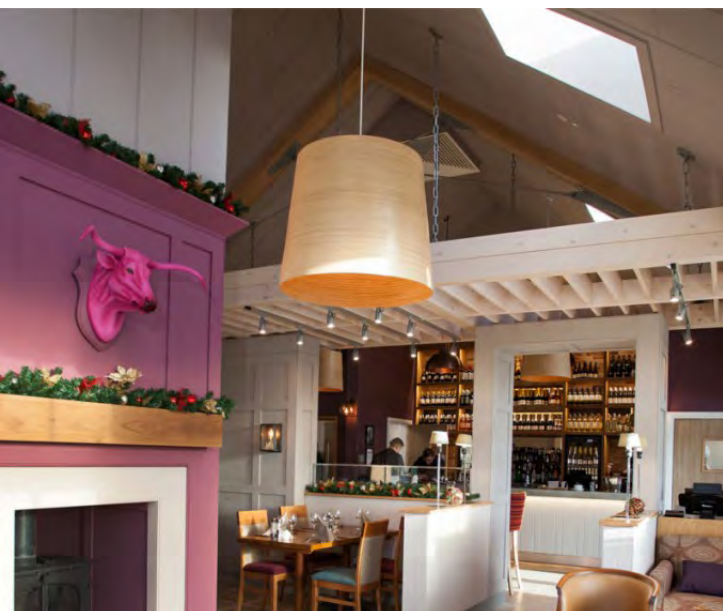
Architect & PM: NBDA

QS: Lavingtons

Main Contractor: Phelan Construction

Mechanical Contractor: Lamont

Services Design: CD International BSE



►► Technical Overview

Potential for natural ventilation was explored and by working together the design team has found an optimal solution. The use of comfort cooling and mechanical ventilation was minimised by using actuator driven openable windows and rooflights and Windcatchers. Solar PV installation 16.50kW was completed on the south roof.

Artificial lighting was reduced by the incorporation of sun tubes to enhance natural daylight levels. We have also included daylight dimming, presence detection switching, and LED lighting.

The heating demand, which predominantly generated by ventilation heater batteries, domestic hot water supply, swimming pool plate heat exchanger and underfloor heating, was reduced by the inclusion of 25 - 50% improvement of building regulations Part L2a 2013 U values. 12KWe CHP was installed to service swimming pool heating load.

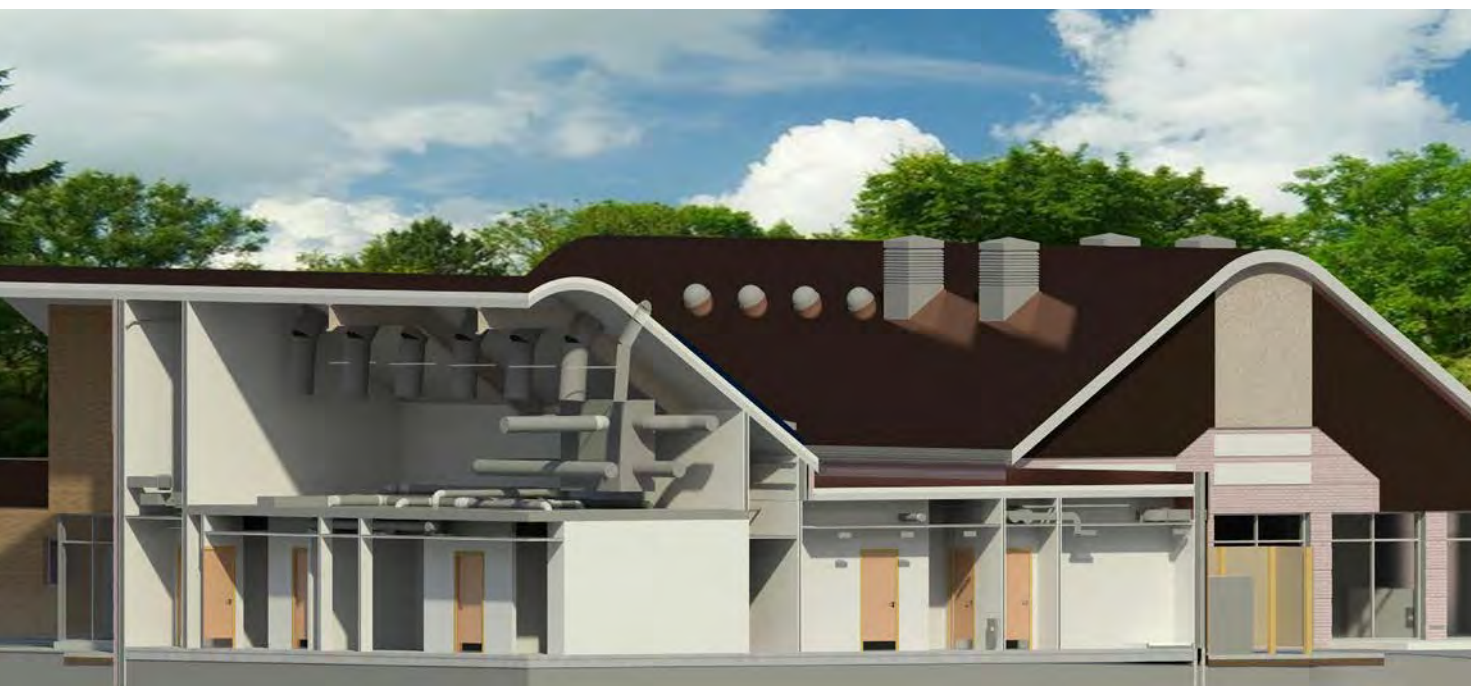
Summertime overheating was tackled by the use of solar control glass.

The building is equipped with a comprehensive energy monitoring system with energy targets set and continually monitored.

Scope of works

CDI has provided mechanical and electrical engineering services consultancy for a new leisure centre and associated maintenance building.

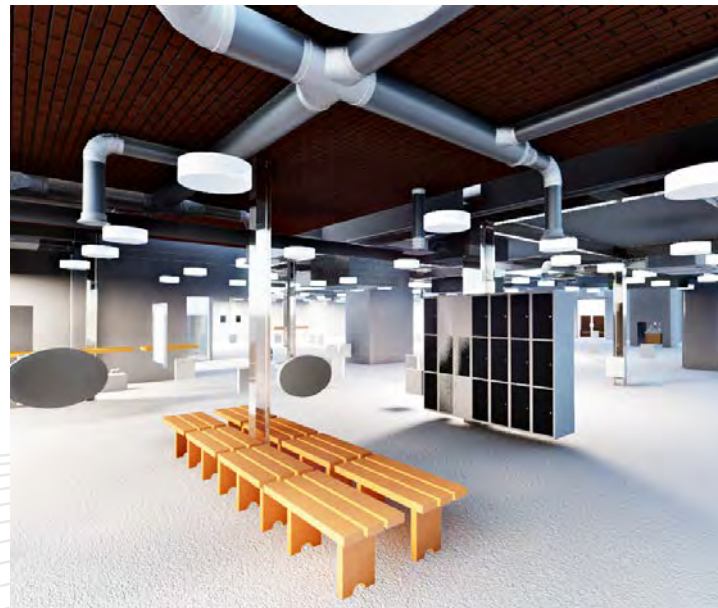
Our design duties included initial assessment of the utility supplies; MEP strategy and scheme design, provision of the ER specification for tender. During the construction stage, our engineers were on site to monitor installation, testing and commissioning to ensure compliance.





► Commissioning

A number of seasonal commissioning visits were organised together with the commissioning engineer to validate and adjust the control settings of plant, mainly the CHP. There were early challenges to overcome such as, optimising CHP run time, requiring the alteration of CHP flow and return temperatures, pump flow rates, all of which were resolved. Automated sub-meter monitoring helps to establish that the gas fired boilers were being enabled even though the building heat demand was below the maximum heat output of the CHP unit. This issue was quickly resolved by increasing the time lag of the gas fired boilers, allowing CHP run time to be increased and heat to be removed from the buffer vessel.



Collaboration / BIM

The project involved working with the Architect in order to maximise the use of natural ventilation and enhance the performance of the building fabric. This involved the use of dynamic thermal model to demonstrate to the Architect on the merits of enhancing the thermal performance of the building fabric and inclusion of solar control glass. In addition collaboration was required with the Contractor and his design team, to ensure the scheme design proposed by the clients design team was implemented to meet the clients Brief.

Project was designed to BIM Level 2, where one single model was used in order to coordinate collaboration with design team. The model was then passed to the contractor.



Investor: DF Group, Kiev
Project Manager: Gardiner&Theobald, Kiev
Architect: Perkins Eastman, New York
General Planner: Capman Taylor, Kiev
Interior Designer: SM Design, Paris
Services Design: CD International BSE, London
Structural Engineer: Conisbee, London

Leisure. Hotel / Ukraine

Crimea / Boutique Hotel



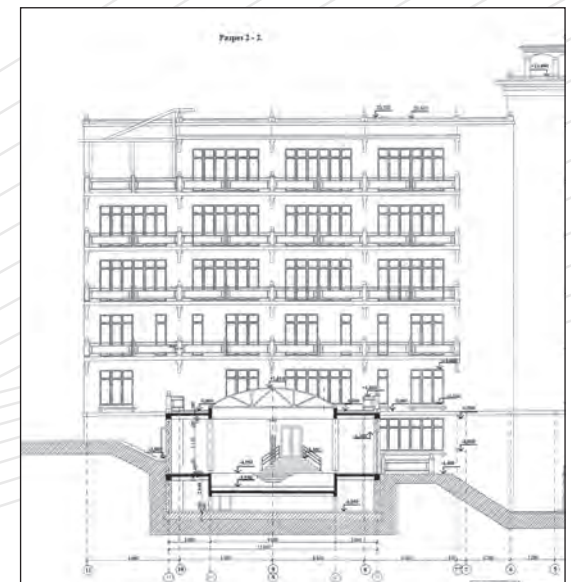
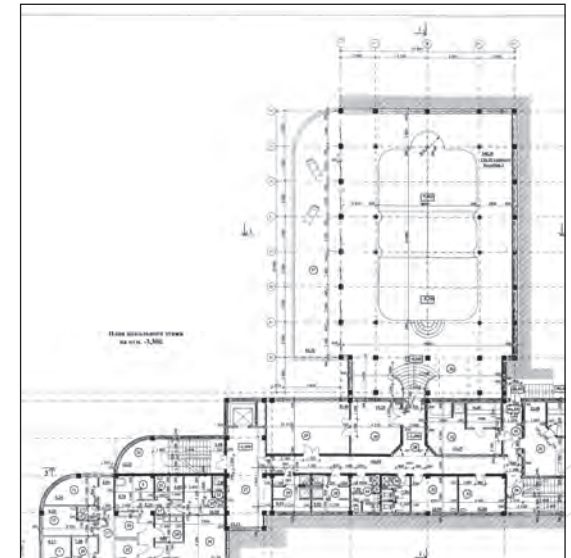
The hotel building is located in Lower Oreanda area, village with luxury resorts and picturesque view over the Black Se.

Building will be approximately 5,000 sq.m over 5 floors with 2 levels of basement.

Project outline

CD International is undertaking Concept, Schematic and Detailed Design for the hotel with swimming indoor and outdoor pools, sauna and private penthouse with Jacuzzi on the open roof.

It has been converted from existing core, build by previous owner for sanatorium. Engineering services has to be fitted into the limited space of existing construction and new sub-station built, providing required additional power.





*Location: London Borough of Hounslow
Consultant: CD International BSE
Architect: Upchurch Associates*

Mixed Use / UK

London / Hanworth House Hotel

The proposed development consists of refurbishing the existing listed building and providing an extension to create a four star luxury hotel with 166 guestrooms over four floors and a basement. The existing proposed hotel grounds will be landscaped, which will complement the adjoining landscape in Hanworth Park.

CD International have produced the report that explores available low energy and renewable energy options and proposes the sustainable energy strategy for the proposed development.

Energy efficient technologies, de-centralised energy systems and renewable energy technologies have been considered to comply with the Hounslow Council's Planning Policies (Environmental Issues Best Practice) and the Sustainable Design and Construction Documents (SPD) together with policies stated in the London Plan 2011,

Chapter 5 London's Response to Climate Change and in particular to this proposed development.

The process of energy efficiency calculations and renewable energy contribution evaluations has been undertaken in line with the London Plan Document 2011.

The integration of each technology has been assessed, addressing key architectural and planning issues such as structural, sight and noise implications.



Developer: Dreamstar Ltd.

Architect: Design Board – Architectural Service

Services Design: CD International BSE, London

Hotel / UK

London / Poplar Hotel

The Project consist of convention of the existing building of former Poplar Town Hall to the hotel.

Project outline

CD International has explored available low energy and renewable energy solutions and proposed a sustainable energy strategy for the hotel development at Poplar Town Hall, Tower Hamlets, London.

Energy efficient technologies, de-centralised energy systems and renewable energy technologies have been considered to comply with the Tower Hamlets Council Planning Policies – Core Strategy (Environmental Issues Best Practice) and the Sustainable Design and Construction

Documents (SPD) together with polices stated in the London Plan 2011, Chapter 5 London's Response to Climate Change and in particular to this proposed development :

- Policy 5.2 Minimising Carbon Emissions
- Policy 5.6 Decentralised Energy in Development Proposals
- Policy 5.7 Renewable Energy

The process of energy efficiency calculations and renewable energy contribution evaluations has been undertaken in line with the London Plan Document 2011.



*Investor: Aitch Group
Architect: Studio BG
Services Design: CD International BSE, London*

Leisure. Hotel / UK

London / West India Quay

The new hotel development at West India Dock Road falls under the Greater London Authority's (GLA) initiative for a sustainable energy strategy.

Project outline

CD International was appointed to undertake Concept Design for Phase 1 of the 4* hotel, located in London business district Canary Wharf. Building will be 16 storey, accommodating 220 suites with public facilities comprising meeting rooms, restaurants, gym.

Design will incorporate London plan directive of renewables, by generating renewable energy 20% on site.





Client: Darwin Properties
QS: Lavingtons
MEP Engineer: CD International BSE, UK

Leisure/ UK

Darwin Escapes / Holiday resorts

CD International has been working with Darwin Escapes for more than 5 years, providing building services design, provided sustainability strategy and energy efficiency for holiday parks across the UK. Cheddar Wood, Woodside Bay, The Springs Golf Club, KP Club, Cretingham Club and other resorts have been transformed recently.



The Cheddar Woods Holiday Home Park has opened in 2013 following a 9-month period of redevelopment. This was our first collaboration with Darwin Escapes and the project has been short-listed for CIBSE Awards.



Next successful collaboration. The client's brief was a design for a low carbon amenities building for the new build caravan park. With all energy efficient technologies implemented, the building achieved EPC rating A and was also short-listed for CIBSE Awards.





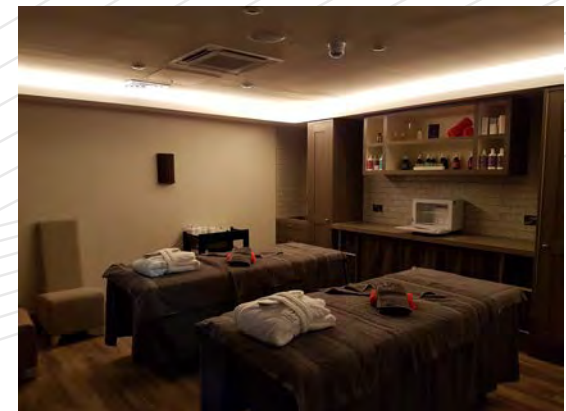
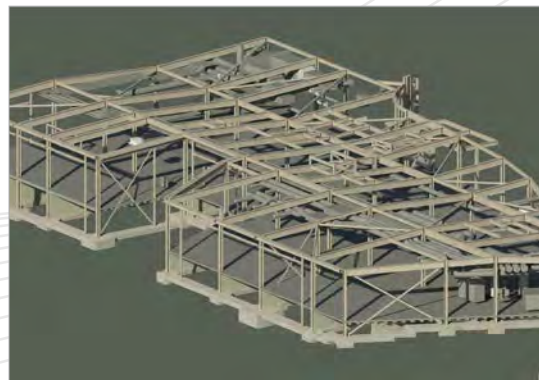
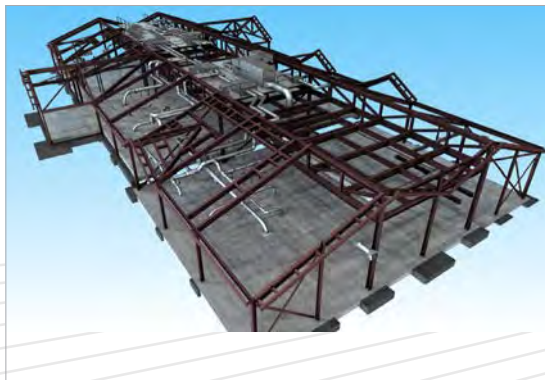
The redevelopment of a former caravanning, tenting and touring park transformed into Piran Meadows Resort & Spa.

The site is the newest park to be launched by Darwin Holiday & Leisure Resorts, who aim to transform the site and provide a premium holiday destination, which will be open year round for luxury lodge & Spa.



CDI have provided mechanical and electrical engineering services consultancy for a new leisure building. The scheme included the construction of a new single storey leisure centre building and associated maintenance building.

We were required to provide Mechanical and Electrical Engineering services, scheme design and general advice regarding our proposed M&E strategy; Ensuring compliance of tender submissions; Monitoring on-site installation; and Testing and Commissioning to ensure compliance.



Mixed use Retail Office Residential Hotel & Resorts Leisure Industrial Healthcare Heritage



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