

SPECTRUM



SPECTRUM
Consulting



Introduction



SPECTRUM MEP CONSULTING LTD

Spectrum MEP Consulting is a consortium of three leading UK Building Services Engineering Consultancies, united to provide effective design services solutions to property development and construction professionals.

The collaboration partners are SI Sealy, Gill Massey and Hannan Associates with a combined 96 years in business. The partners have extensive experience in a number of sectors and of a variety of project type and size. Together they have the capability to manage and deliver projects ranging from building surveys to projects valued in excess of £300m with international design teams.

With offices strategically located in the UK and also the United Arab Emirates, we have a total staff base of over 200 and have a combined turnover of £6.5million in 07/08. We pride ourselves on providing our clients with unparalleled service quality, innovative design solutions and customer focus!



S I Sealy were founded in 1949 by Sidney Inwood Sealy and have since grown into one of the foremost building services engineering consultants in the North of England.

S I Sealy is a building services and environmental consultancy with knowledge and experience across all market sectors. Our flexible consultative approach allows us to exceed our clients' expectations across all market sectors from government to leisure from independent to international property developers.

Our clients trust us to bring creativity and skill to delivering projects on time and in budget.

Dedicated teams, dependable planning and practical monitoring of costs, excellent quality control and outstanding project management are all part of the S I Sealy approach.



Gill Massey are a practice of building services consulting engineers operating throughout the UK specialising in the design and project management of mechanical and electrical systems.

The practice is headed by Chartered Engineers experiences in the various disciplines and is committed to the training and the development of staff in order that they can achieve their full potential.

From inception to commissioning and practical completion of projects, Gill Massey provide a comprehensive and professional service.

Gill Massey believe in providing a fully integrated multi-disciplined approach to building services engineering and in doing so provide a professional and quality services to suit the clients' needs and expectation whilst developing close relations with our clients and fellow professionals.



William E Hannan & Associates was formed in 1983 to provide Building Services Consultancy. The company is led by Ian Joyce and John Walker.

The company today continues to focus exclusively on Building Services Engineering and operates from offices in Manchester, London & Edinburgh. We work successfully throughout the UK and abroad and the business has grown consistently.

Hannan Associates is committed to creating successful buildings through attention to detail utilising our breadth of experience, technical skills and with levels of personal attention not provided by our competitors. Our design solutions are renowned for pushing beyond current thinking whilst controlling risk and delivering on the key essentials of client and end user satisfaction.

Hannans have developed a solid track record in a number of sectors and have the capability to manage and deliver projects ranging from building surveys to projects valued in excess of £300m with international design teams.



Project Experience

The Co-operative Group Headquarters, Manchester

As a member of the Spectrum MEP Consultancy consortium, Hannan Associates are delighted to be providing detailed design work for the new Co-operative Headquarters currently being built in Manchester.

The design of the building has been driven by the Co-operative Group's desire to create a Carbon Negative building. The 320,000 sq ft, 16 storey office building has therefore been designed to achieve a BREEAM Outstanding rating as well as an EPC 'A' rated, net zero carbon building with cutting edge integrated design. Plans for the detailed design include:

- Active Facade
- Chilled Beams – Passive and Active
- Labyrinth Cooling and heating of Supply Air
- Biofuel CHP
- Absorption Chillers
- Hybrid Chillers
- N+I Power Supply





Number One First Street, Phase 1, Manchester

This project which has recently reached practical completion is the former BT building at Grand Island. This seven-storey building comprises 180,000 sq ft of office space, including a green rooftop garden. This office building forms the beginning of the Manchester City Council endorsed 3 million sq ft masterplan to develop the area around Whitworth Street West in the city centre of Manchester. So far we provided enhanced performance duties for the refurbishment of No. 1 First Street and we are currently working on the fit-out of the building for Manchester City Council.

Vulcan House, Sheffield

This 13,650 sq m project in the heart of Sheffield set a challenging brief to create a new government building that would combine the perfect working environment for 1000 people with a landmark design in terms of environmental awareness and responsibility.

The finished building is the successful culmination of seven years regeneration work at Riverside Exchange and the first project in Sheffield to be BREEAM 'Excellent' rated.

For the staff moving to the site from five offices scattered across Sheffield, these purpose-built Home Office headquarters represent an ideal working space designed to reduce energy consumption:

- The building is orientated to reduce heat build up from solar gain whilst optimising natural daylight.
- Heating and cooling is supplied by highly efficient condensing boilers and HFC-free chillers which serve 4 pipe fan coil units incorporating DC motors.
- Heat recovery on ventilation systems reduce energy consumption.
- A green roof absorbs solar energy and reduces rainwater run-off, which is harvested or recycled within the building.
- Interior materials – including recycled carpets and timber from sustainable forests – has been chosen to maximise conservation while minimising waste and cost.



Fire Control Centre, Merton for the ODPM.

The Fire Control Centre in Merton, South London is one of eight national infrastructure strategic command centres. With security and services resilience resembling that of a Tier 3 Data Centre and the Main Control Room constructed as the critical focal point, emphasis on functionality and efficiency are of paramount importance. A £13million project with a services value of over 50% of the build value, constructed for the Central & Local Government on a restricted Programme with sequential IT Fit-out.



ODPM Fire Control Centre, Lingley Mere, Warrington, UK

A two-storey bespoke building designed to accommodate a call centre for the fire service with air-cooled VRF heat pumps including rainwater capture for irrigation purposes. BREEAM excellent rated and Part L2A compliant.





Greater Manchester Police Offices, Ashton Moss, Manchester, UK

This is a new 100,000f2 building on remediated land close to the M60. The original client requirements were for a standard office development, fitted with four pipe fan coils, gas boilers and electric chillers etc. We worked closely with the architects at the outset of the project to set the building at the most efficient aspect ratios and orientation to the sun to optimize energy usage. During the detailed design phase our input was used to determine glass and fabric materials and specifications. This building is expected to attract a very high BREEAM rating.

We carried out initial assessments of the building and suggested a sustainable approach could benefit the users. Further detailed studies were undertaken and financial appraisals carried out on the proposed scheme. The NPV calculations demonstrated a payback of about 4 year by adopting a sustainable approach. The building will be fitted with a ground source Variable Refrigeration Flow fan coil system. This type of system can offer extremely high seasonal efficiencies of up to 6. Heat recovery from the exhaust air will add to the overall efficiency of the building.





PTT Building Riyadh – Kingdom of Saudi Arabia

We provided full MEP detailed design and site supervision for the construction of the new Ministry of P.T.T head quarters building in the late 1970's

Working with a full UK based design team, the entire development was fully designed and tendered in under 9 months

This 30 story, 4 tower development would have a construction value circa £250M at today's costs, and the entire development was successfully delivered on time and on budget



Riverside Exchange, Sheffield, UK

A 102,000 sq ft office build with an M & E budget cost of £2.5M upon a 9 acre riverside development adjacent to Sheffield City Centre. Our duties have involved enhanced performance & monitoring duties.



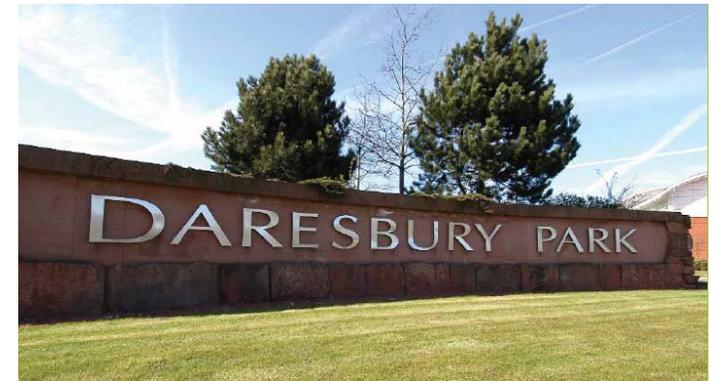


Daresbury Business Park, Cheshire, UK

The Daresbury Park Development is located in naturally undulating Cheshire countryside and has planning consent for 1.6 million sq ft of office and related facilities.

The site is situated on junction 11 of the M56, one of the northwest regions main arteries, linking Chester in the west with Manchester and its airport in the east.

Hannan Associates were responsible for the building services design of 1.6m sq ft multi building, commercial office project including new infrastructure roads and major diversions for individual buildings for Aegon UK, Eutech, Vistorm and BNFL. The offices benefit from an environmentally friendly energy efficient cooling system





Walker Business Park, Blackburn

A 2.0m sq ft multi building industrial, warehousing and office project with new and upgraded infrastructure and diversions. 1.5m sq ft let and operating and still under development. Our duties have included full Mechanical and Electrical Design Duties and Site Infrastructure works.





Lingley Mere Business Park

Lingley Mere is an established business park in the North West. The park currently provides over 450,000 sq ft of existing business space within a secure environment and extends across some 100 acres of open parkland. Lingley Mere is already home to over 3,000 office workers and is to be taken forward under a masterplanned development programme to provide 1.25m sq ft of business space and related amenity facilities within an outstanding landscaped environment.

The phased programme of development will provide office space and bespoke commercial and leisure facilities to occupiers' specific requirements. Buildings will be provided for sale or to let from 6,000 sq ft to over 100,000 sq ft.

Joint venture partners for the development are United Utilities, a major landowner and service provider and Muse Developments, an international developer with extensive experience in the delivery of high quality developments including Quayside in Newcastle and Cheadle Royal Business Park in South Manchester.

Hannan Associates provided the following:

- Site wide infrastructure services
- Performance duties for 4 no. office buildings comprising of 50,000 sq ft of office accommodation.
- Detailed design duties for the design of the new ODPM Fire Control Centre
- Performance duties for the design of a 46,607 sq foot three storey Contact Centre
- Feasibility studies for the development of a Hotel scheme, Amenity Building and another small office building.



NCR - Eurocentral – Highbridge Properties

This project had involved the construction of a two storey call centre of 50,000 sq.ft. net internal area, and two office buildings comprising a three storey building of 45,000 sq.ft. net internal area and a two storey building of 30,000 sq.ft. net internal area with associated car parking facilities.

Eurocentral is one of Scotland's key commercial developments extending over an area of 650 acres. A high profile location on the M8 corridor between Glasgow and Edinburgh.



City Square, Liverpool

The development comprises of a quality office building totalling more than 144,000 sq ft, of which 106,000 sq ft has been pre-let to the Department of Constitutional Affairs. The building will be used as the new Liverpool Family and Civil Justice Centre and includes 27 courtrooms, judicial offices, staff amenities and facilities and public areas. The development is situated in the prime commercial sector of Liverpool. The building provides 6 floors of offices plus basement car parking.



Princes's Exchange, Leeds

Hannan Associates were responsible for providing the Performance and Monitoring Duties for the 10,000 sq metre office development located in City Square area of Leeds.



Exchange Quays, Salford

A commercial development of 14 buildings of 500,000 sq ft for Charter Group in Salford. Hannan's were responsible for both phases.





Harbour Exchange, London

A 500,000 sq ft two tower building in London docklands with VAV air conditioning. Includes the government Export Credit Guarantee Department





Ship Canal House, King Street, Manchester

Ship Canal House is an existing 10 story (Ground to 9th Floor) office building situated on King Street in Manchester City Centre. The building has been refurbished in two separate phases. Phase One of the works incorporated the refurbishment of the ground floor reception area, third and eighth floors. During the Phase 1 refurbishment, the existing Mechanical & Electrical services were stripped out and new Mechanical & Electrical services were installed on these floors.

The Phase Two works incorporated the full refurbishment of all the remaining floors excluding the two remaining tenanted areas on the fourth floor.

Cobbetts HQ Buildings, Leeds & Manchester

The Manchester office scheme comprises of 8 floors totalling 10,600 sq m s involved. Our duties involved the mechanical and electrical fit out works associated with the 3rd, 4th, 5th 6th and 7th floor of the newly developed office accommodation at Mosley Street, Manchester.

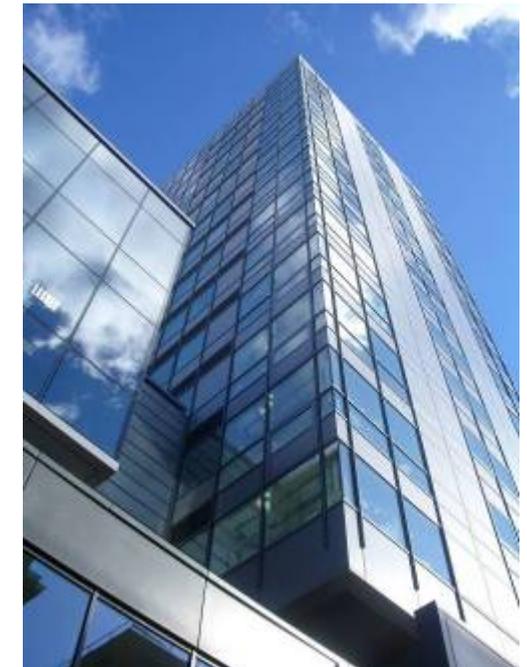




80 Mosley Street, Manchester

This office refurbishment includes an exterior strip back to the existing primary structure (concrete frame) to allow a complete face lift in terms of the buildings appearance, while also increasing the overall height of the building by an extra four storeys.

The refurbished scheme will provide approximately 27,000sqft of lettable office space, along with a ground floor coffee shop or similar retail unit. Our duties have involved the provision of Detail Design duties.



St James's House, Manchester

Eight storey, 107,150sq.ft office building located in central Manchester. Our duties involved Detailed Design Duties for various refurbishment phases.

Neptune Marina, Ipswich, United Kingdom

The development at Neptune Marine consists of 113, one and two bedroom luxury apartments together with 4 penthouses overlooking the Marina, including 2 levels of car parking. The ground floor includes areas for restaurant, retail unit, chandlery, boathouse and marina office.



Qubba Mosque, Medina, Saudi Arabia

We provided building services consultancy for the design of this mosque incorporating residential accommodation, office space, prayer halls, retail areas, classrooms and outside courtyard space and can accommodate up to 10,000 worshippers.



Alexander Court Apartment Scheme, Manchester, UK

A multi-storey residential apartment block complete with crèche and leisure centre. A combined heat and power installation is being provided to serve apartment heating and swimming pool in conjunction with high efficiency gas fired boilers.



Heyescroft Village, Liverpool, UK

The project comprises of the construction of approximately 92 units of Retirement Apartments together with the associated communal facilities. The units will comprise either a one bed or two bed apartments distributed over three floors of accommodation.



Ministry of Defense Residential Units, Saudi Arabia.

Design, build and furnish 149 villas each 350 m² area. Including all infrastructure works; sewage, potable water, rain water, landscaping, fire fighting, telephone network and PABX, high voltage and low voltage electrical power distributions System, roads and pavements.



Brookside Extra Care Housing Scheme, Ormskirk, UK

The project comprises of the construction of approximately 108 units of Apartments together with the associated communal facilities and accommodation. The units will comprise either a one bed or two bed apartments distributed over three floors of accommodation



Pickmere Sheltered Housing Scheme, Crewe, United Kingdom

The project comprises of the refurbishment and new build extension to an existing Extra Care Housing Development in Crewe to create retirement apartments.



Ministry of Hajj Residential Accommodation, Saudi Arabia

We provided building services consultancy for the design of a residential building for the Hajj Festival in Mecca, incorporating 1000 apartments.



Parkhaven Village, Liverpool, United Kingdom

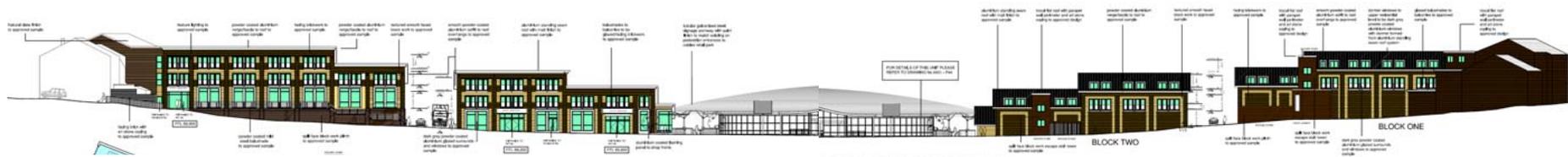
The project comprises of the construction of 24 apartment blocks, and a Day Centre with the associated communal facilities and accommodation which staff can operate and cater for a recognised community need. The units will comprise of one bed and two bed apartments. External works for the scheme shall include all necessary incoming services connections, pavements, car parks, foul and surface water drainage and all hard and soft landscaping.



Winnington Urban village, Northwich, Cheshire, UK

This project involves the construction of 1,200 homes to be built on a 56ha derelict site on the outskirts of Northwich. The development will generate 10% of its energy needs from on-site renewable power sources. We provided design for the site utilities infrastructure.





Sewell Street Regeneration, Prescott, Merseyside, UK

The project comprises the construction of a new mixed use residential and commercial development in the Prescott area of Merseyside, which is to be completed over two separate phases.

Buckshaw Village, Chorley, Lancashire, United Kingdom

A 10 year residential project and commercial development site including 2000 houses and a 50 acre commercial development with heavy infrastructure strengthening.



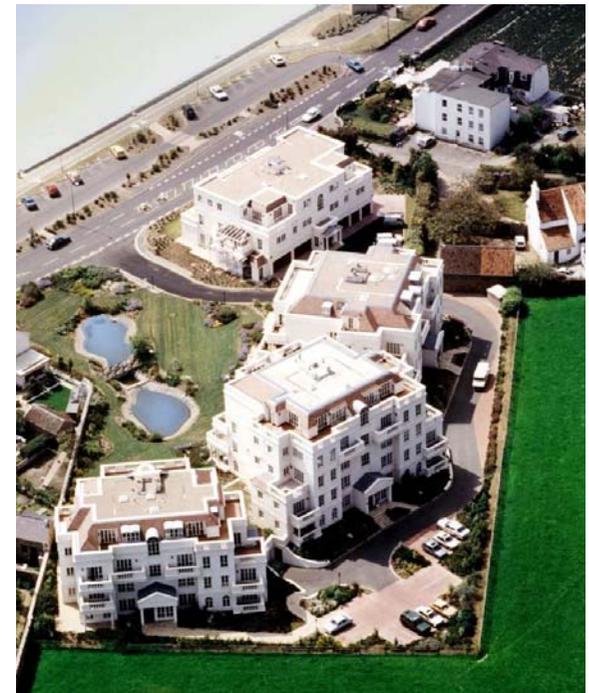
Apartment Schemes, Northenden & Didsbury, Manchester, UK

The development consists of the construction of a new apartment block located on Palatine Road in Northenden, Manchester. The building comprises 40 no. We



La Mielle Apartment Scheme, Jersey, Chanel Islands

4 luxury apartment blocks on the island of Jersey with high specifications.



LJMU Student Accommodation



Hannan Associates were part of the team that won a Civic Trust Award for their 'Valuable Contribution to the Quality and Appearance of the Environment' for this building.

The project involved the conversion of the grade II listed North Western Hotel. John Moores University converted the building into city centre student accommodation.

The building forms an important part of the collection of 19th Century buildings on St Georges' Plateau, and the work involved extensive restoration of the exterior and parts of the interior where surviving original elements were retained.

Hannan Associates provided full Mechanical and Electrical detail design services for this projects.



Blackpool Re-generation Scheme - Talbot Gateway

We are currently working for Muse Developments on this £220m Talbot Gateway scheme in Blackpool. The proposed mixed-use development will regenerate the north eastern part of the town, around Blackpool North Station and Talbot Road. The current scheme includes 914,600 sq ft of new office and business space, along with a food superstore, hotels, shops, cafes and restaurants. The aim is to create a “civic and cultural quarter set within a large, mixed-use, pedestrian friendly development”

Our involvement with the project currently focuses upon the new 85,000ft² headquarters offices for Blackpool Borough Council which is planning to move more than 1,200 staff to the Talbot Gateway site.



Wakefield Town Centre Redevelopment

Trinity Walk is an exciting and ambitious project which will bring new life to the city centre.

This is a huge development for the centre of Wakefield and will open up the city to exciting new retail opportunities, as well as a new city centre library. Completion in 2010 will see the opening of new retail units for Sainsbury's, Debenhams, Next and New Look, alongside some 50 other retail units together with offices, a new Council public library and 72 residential apartments. As part of the contract major work is to be carried out to reconfigure their high, medium and low pressure gas facilities.



Wakefield Westgate Development, Yorkshire, UK

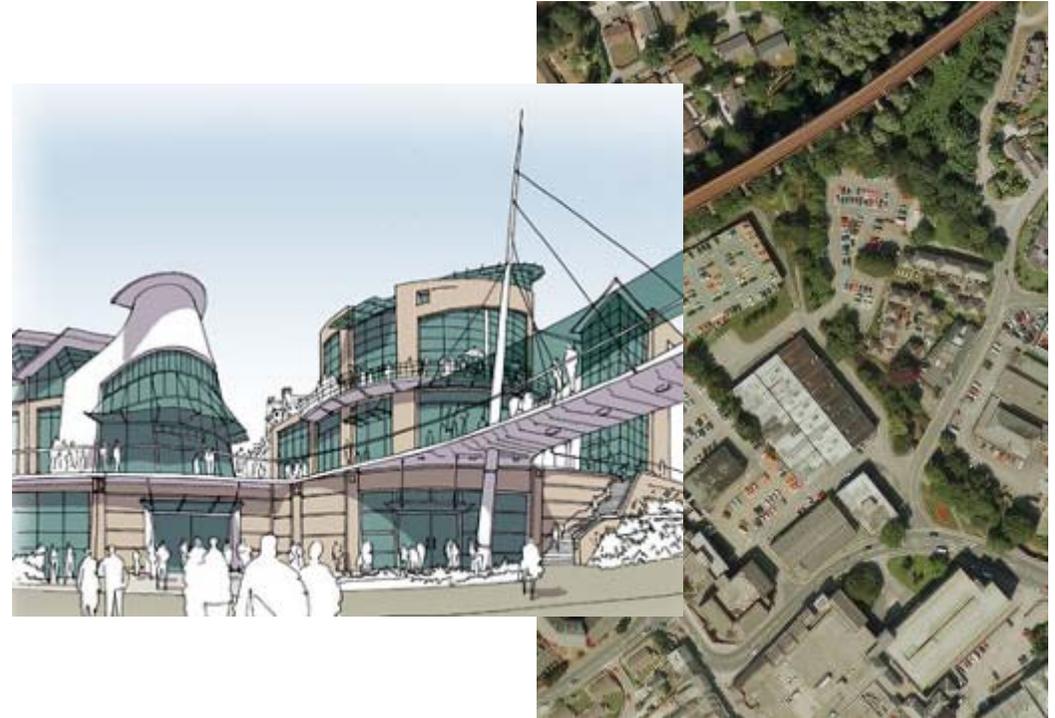
Hannans have been working for English Cities Fund upon Phase 1 of this project since June 2006, considered one of the most important City Centre development sites in Yorkshire. This mixed development project designed by Carey Jones Architects comprises of office, retail, residential and car parking.

The key drivers behind the Mechanical and Electrical Design were: A requirement to give ten percent renewable energy to the office area imposed by the scheme funders a requirement to meet both BREEAM and EcoHomes Very Good Standard. A desire to provide a quality development where people will want to live and work in the middle of Wakefield. The development successfully includes 10% renewables providing closed loop boreholes and meets ECO homes 'very good' rating.



Pydar Street, Truro, Cornwall, UK

Town Centre mixed development scheme, including new build office buildings, apartments, retail units and heavy infrastructure.



Regional Car Sales Outlets – Saudi Arabia

Design of M&E Services and Bills of Quantities for regional sales outlets for Alhamrani United Company car dealerships in Gizzan, Hail, Qaseem, Najran, Bisha, Raas and Taif – Saudi Arabia.



St Paul's Square, Phase II, Liverpool, UK

St Paul's Square Development totals 1,650,000 sq ft of mixed-use development, incorporating offices, retail, cafes/restaurants and 285 new homes in the city centre of Liverpool. Hannan Associates were appointed to provide the enhanced performance specification and monitoring for phase 2 of the development which comprises the construction of a 170,000 sq ft Grade A office building.

Phase 2, Building 5 has been designed specifically to minimise energy usage, associated carbon production and utilises its own infrastructure to obtain a minimum of 10% of the buildings energy requirements from an on site renewable source. This has been achieved via the use of ground water source heat pumps which provide the buildings heating and cooling requirements in addition to the incorporation of further energy saving features such as:-

- Enhanced building fabric 'U' Values.
- External solar shading.
- Solar control glazing.
- Heat recovery ventilation.
- Intelligent lighting controls systems.
- Building Management System.
- T5 Lighting Technology.

Building 4 will achieve a 32% reduction in carbon production when compared to a building constructed to comply with the 2002 Building Regulations. This reduction in the production of carbon is the result of the enhanced building fabric and the high energy efficiency of the systems installed, which will also be reflected in the operating costs.

The building and associated services will achieved a BREEAM rating of 'Excellent'.



The Core Shopping Centre, Leeds, UK

This project involves the redevelopment of the existing Headrow shopping centre in Leeds City Centre, for developers Propinvest Ltd. The centre will be renamed The Core and will consist of four above ground levels and one basement level, covering an area of approximately 6,670m².

As part of their services, Hannans carried out a detailed condition survey to establish what equipment was suitable for reuse within the centre and where appropriate the replacement of existing equipment with better energy efficient systems to reduce the landlord's life cycle costs and carbon footprint for the building.

Sustainable design has proved an important element of the project and after considering all possible renewable technologies for the project it is considered that energy recovery is the better option for the centre since the CO₂ reduction target can be achieved by utilising heat recovery technology alone. For example, heat recovered from the shop units and mall will be used to heat the new residential accommodation





JD Group Nationwide Store Expansion

Working directly for the JD Group, to date we have been commissioned to design the mechanical & electrical services associated with nearly 200 stores, comprising new fit outs, refurbishments, expansions and alterations. The JD Group includes the JD Sports, Size, Scotts and Banks brands, and are one the high streets most successful retailers.

The practice has consistently delivered in the most demanding of working environments, and has a team of dedicated engineers who often attend site late at night and at weekends if required. The range of stores worked on is vast and includes flagship stores, Airport stores (such as Heathrow, Gatwick, Manchester, Stansted, Newcastle & Luton), Aintree Racecourse and high street store up and down the country and Southern Ireland.

Due to the level of service consistently delivered, the practice will be appointed to undertake a significant number of store schemes during 2009 / 2010



Newbury Racecourse Development

We have been appointed to provide Building Services, Sustainability/Renewable Energy and Utilities Engineering Services for the redevelopment of Newbury Racecourse.

The £20 M redevelopment plans include:

- A new 4/5* 120-bed hotel.
- Better access to the racecourse via a new bridge that already has planning approval.
- The creation of a more impressive entrance providing a real 'sense of arrival'.
- New Ticket offices.
- New weighing room and parade areas.
- Upgrade external lighting, landscaping and car parking.
- Refurbishment of the stable block.
- New accommodation for the 'stable lads.'
- Improvements and additions to the current racing and golfing facilities at the racecourse.
- A new building for the children's nursery at the racecourse.'

The site will also have up to 1500 new homes of which up to 450 will be affordable, shared equity housing or available to rent.



JJB Leisure Centres

We have been undertaking contracts with JJB Sports PLC for five years now. We continue to provide building services M&E consultancy work upon a high number of JJB leisure clubs, 'Soccer Domes' and 'Superstores' throughout the UK and Ireland.

JJB Soccer Domes

JJB soccer domes are provided with a mixed mode mechanical ventilation system and a gas fire radiant heating system. Spectrum carried out thermal modelling and operational comparisons to decide on the correct amount of ventilation to maintain comfort.



Brunel University Indoor Athletics Centre

Completed in 2005, Brunel's Indoor Athletics Centre (IAC) is the centerpiece of the University's performance sport facilities. The Centre is one of only four High Performance Athletics Centres (HiPACs) in the UK and is the home of the UK Athletics World Class Performance Programme for London and the South East.

Facilities include: 132m, 6-lane sprints and hurdles straight, Two netball courts, Two long jump/triple jump pits, Pole vault, High jump, Throws nets, Strength and conditioning area, Medical and rehabilitation facilities, Meeting room, Coach's and administration offices,

The halls are both naturally ventilated/cooled and modelled to maximise the use of natural daylight. The facilities were part funded by Sport England and are designed to meet their requirements.



Bishopsgate Premier Lodge Hotel, Manchester

Hannan Associates carried out a Detail Design and Monitoring duties for the 147 bedroom Hotel, Health Club and Cafe Bar. Bedroom services were to the clients Premier Lodge standard including electric heating.

Services to the Health Club included VRF comfort cooling/heating, fresh air ventilation and feature lighting installations.



The Piazza, Manchester

This project involved the development of a 350 bedroom hotel, Retail, & Leisure Development with two storey parking structure below the hotel accommodation. We provided detailed design duties.





Holiday Inn Hotel, Heathrow Airport

We provided Performance and Monitoring duties for this hotel development at Heathrow Airport. The hotel comprises of 232 bedrooms, 17 meeting rooms and leisure and restaurant facilities.



Staybridge Suites, Newcastle-upon-Tyne

The development consists of the construction of a new hotel including 88 studio suites and 40 one bedroom suites and common areas. The development comprises of a ground and five upper floors all to be fully fitted out.



Staverton Park Hotel, Daventry

The project comprised of the development of the hotel including conference suites and leisure facilities. The purpose build leisure club features an indoor pool, sauna, steamroom, beauty treatment room and solarium.

Conference Facilities: 23 meeting rooms & 47 syndicate rooms with main rooms offering natural daylight and a maximum capacity of 400

Bedrooms: 244 en suite rooms, 170 featuring new stylish design, free high speed internet access, LCD TV with Sky Channels, personal safes, DDI Telephones.

Leisure Facilities Indoor pool, gym, solarium, spa and sauna and steam rooms, 2 beauty treatment rooms, pool table, golf - 18 hole championship course, driving range, pro shop.





Bosworth Hall Hotel, Nuneaton

Bosworth Hall Hotel is a grade two listed William and Mary mansion. The hotel has 192 bedrooms, conference and private dining suites.

Hannan Associates carried out the refurbishment of the bedrooms and conference facilities to a 4 star standard.

Recreational amenities at Bosworth Hall Hotel include a fitness centre or room and a pool. This Market Bosworth property also offers a restaurant, lounges, and conference facilities rooms.



Quadrants Development – Manchester United Football Club

Spectrum have been involved in various stadia and associated building refurbishments & extensions for Manchester United Football Club for over 15 years. Ongoing Duties have included, Detailed Design, Infrastructure Services, Major Services Diversions, Monitoring, Surveys, Maintenance, Energy Performance Certificates and Condition Reports.

One of the most recent projects at old Trafford was the Quadrants Development, which involved the infill of the North East and North West Quadrants, for which we provided Detailed Design Services. This development has provided additional spectator terracing of 7,000 extra seats and 2,300 extra places for corporate dining. The design was complicated by the myriad of existing buried services which needed to be diverted to accommodate the piling required for the structure.

An enabling diversion and investigation works contract was required to be carried out in the closed season before the main contract was awarded. This required very careful and close coordination with the design team and structural engineer to integrate the design of the structure with the services to develop the design of the building and the services together enabling as many services as possible to remain in place around the structure.

To facilitate this Spectrum managed the location and excavation trial pits and ground imaging surveys directly with on site staff in a site based design and coordination role.

Spectrum's micro managed the specialist sub contract engineers and the infrastructure companies, who carried out the investigation works and succeeded in completing the diversions and design during a closed season prior to the commencement of the main contract.

The main contract required close scrutiny of the costs on a regular basis with monthly reporting regime ensuring that budgets and timescales were adhered to during this demanding in fill to an existing building. The scheme was value engineered to meet demanding budget targets set by the club.

The build team were finalists in the major project section of the CIOB awards. Old Trafford has subsequently received a Green accreditation for sustainable achievements.





Welford Road Ground Refurbishment, Leicester Tigers Rugby Club

Spectrum Consulting are currently undertaking the design team for the redevelopment of Leicester Tigers stadium. Current works include the design of the new 10,500 seat 'Next Stand,' with future phases planned to develop a new 30,000 seat stadium, 200 bedroom hotel, college and multi-storey car park. Fellow project team members include Frank Whittle Partnership as Project Manager and Quantity surveyors and AFL as Architects.

Our initial task on this project was to carry out surveys to enable a master plan for the development in relation to the building services systems. The systems affected by the phased redevelopment included incoming services, floodlighting, safety systems, control room and renewable energy strategy. From these surveys and master plan, the phase 1 scheme was developed and tendered.



Commonwealth Games Stadium Manchester

The City of Manchester Stadium was built for the Commonwealth Games held in Manchester during 2002 and converted to a football stadium for Manchester city following the games.

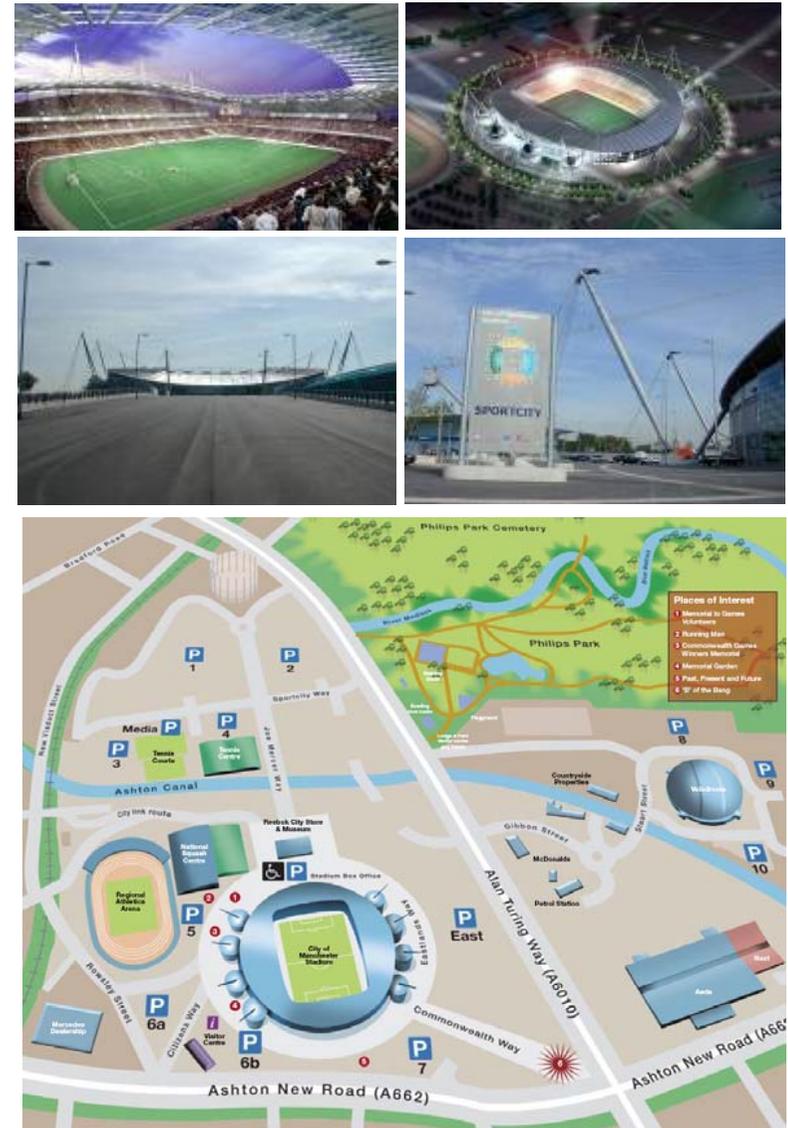
Spectrum provided checking duties and advice based on the wide experience gained in the design and execution of major stadia schemes. Spectrum acted for the city council throughout all phases of the scheme. From design development, to installation and commissioning both for the commonwealth games and the occupation by Manchester City Football club. Spectrum's services also including the provision of on site engineers for the duration of construction and fitting out.

The engineers provided support for the building services maintenance contractors during the games including advice on problem solving.

Part of the appointment was to identify deficiencies or over design in the scheme to provide value engineering advice to the design and build team.

Spectrum were part of a team which included an architect and structural engineer; we worked together to provide a strategically coordinated design services approach.

Following the successful completion of the main scheme Spectrum were appointed to design of the building services for the regional Athletics Arena and the management suite.



**Commonwealth Games Stadium Regional Athletics Centre,
Manchester, England**

Spectrum designed the services for the Manchester Regional Athletic Stadium at the City of Manchester Stadium.





Liverpool Football Club New Stadium

Spectrum Consulting is the Building Services Designers for Liverpool Football Club's new stadium.

Spectrum is working very closely with Architects HKS together with the rest of the design team including Davis Langdon Everest, Mott Green Wall and Ramboll Whitby Bird.

Following the sale of Liverpool Football club to the new American owners. Spectrum were appointed to design the building services for the new unique stadium design. As part of our role we are responsible for managing sub consultancies for Information Technology and Acoustic advice and also Pitch Advertising, Large Screens and Outside Broadcast. We also were responsible for integrating the outside broadcast company's requirements with the pitch consultants.

Design development and progress was structured using the RIBA stage reporting process and carefully managed through coordination meetings. Spectrum's team was supplemented by a coordination engineer with a specific task of integration of the many complex technology and physical services. Using 3d modeling and design coordination meetings the services were integrated in and around the complex structure.

The team instigated and developed Value engineering workshops and worked closely with sub contractors to achieve budget targets.

Sustainability was at the forefront of the design development process and was reviewed on a regular basis. The design includes many good practice sustainable technologies such as maximization free cooling and natural ventilation where possible. Spectrum experience gained in stadia developments resulted in best practice methods of servicing the high occupancy spaces included in these stadia schemes. Reports provided the client with options to incorporate sustainable and renewable technology options including running and cost in use. These included options for inclusion of Biomass boiler plant, Ground source heat pumps, Wind Turbines and Rainwater recovery. The current scheme is at stage E and is planned to commence on site shortly.





Liverpool Football Club New Stadium Infrastructure

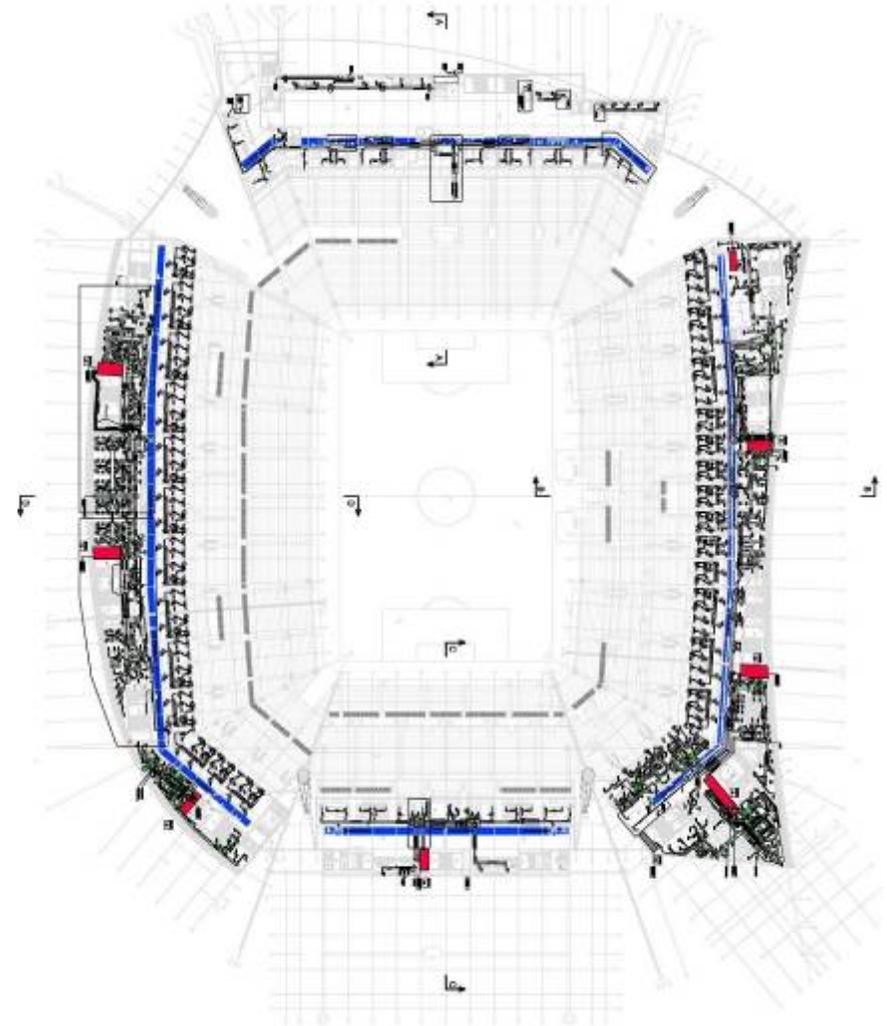
The infrastructure for the new Liverpool football club stadium includes major gas water electricity and telecommunications requirements for a new 73,000 seat stadium. The services load requirement involved making network connections up to 3 km from the stadium site. We carried out load assessments and calculations to establish the services requirements which were sense checked, tested and compared to known data from other stadia schemes completed. The established loads included 5.5 Mva of electrical load, 90 Litres per second of water, 1600 M3 per hour of natural gas and telecoms and Fibre optics requirements to the stadium.

The ICT design was included in the services consultancy role. The ICT requirements for the stadium operation included a review of all opportunities and requirements including wireless network access, catering requirements, business requirements. Swipe card access, police communications, safety and emergency systems, building management, outside broadcast and ticketing. The infrastructure to the stadium was designed to accommodate the requirements including diverse network routing and entry points for security of supply.

Offsite infrastructure issues included coordination with traffic and matchday access requirements, an unexploded bomb from WWII and liaison with the infrastructure companies to manage the works to achieve completion in the closed season. The electrical supply required the establishment of a new twin 10 Mva primary sub station which was specified tendered as part of a combined utility bid by Spectrum Consulting.

The on site coordination on a tight site included close integration between each incoming service with integration of existing and proposed ground levels, together with consideration of temporary hall roads phasing and diversions. European funding sources were used to support the scheme. The enabling contract was let on a design and build basis and the team were novated to the main contractor to complete the commissions.

All off site mains incoming services were completed on time and to budget as an enabling package for the soon to be commenced stadium.



Reebok Stadium, Bolton Wanderers FC

The Reebok stadium is the home of Bolton Wanderers Premier league football. The stadium designed by Spectrum incorporates 25,000 seats for football together with executive facilities and a hotel, conference facilities and an exhibition hall.

Spectrum Consulting conceived, designed and completed the stadium building services to all areas for the stadium.

The stadium incorporates a number fully equipped commercial kitchens to serve the large corporate matchday requirements. With over 3,000 executive places provided with suites of varying sizes from boxes for 8 people to banqueting for 500 providing buffet style menus through to silver service al la carte dining.

All of the stadium executive facilities are designed as multifunctional non matchday spaces which are utilised throughout the year for conferences and exhibitions as well as parties, weddings and banquets.

The stadium incorporates an extensive and wide variety of safety systems to protect the 25,000 people using the stadium on a matchday and the non matchday occupants. These systems include standby power generators and battery cubicles, emergency lighting, automatic fire detection, fire fighting shafts and lifts, crowd monitoring, exit gate release, cctv and public address throughout.



Trafford Council HQ, Sale Waterside Offices

Completed in September 2004, the New Council Head Quarters building at Sale is another successful project where M&E services have been provided by the practice via its longstanding framework agreement.

We were responsible for compiling the highly detailed Schedule of Employers requirements, vetting Contractor's proposals, monitoring Construction Standards on site and acting as the clients technical advisors.

The practice was able to instigate substantial changes to the developers proposals to help reduce the capital cost, reduce the running cost and greatly reduce the Carbon footprint, such as omitting large amounts of air conditioning in the original portion of the building, which was extensively refurbished.

The project was delivered on time and on budget and the building is used extensively by the local community and has proved to be a great success.

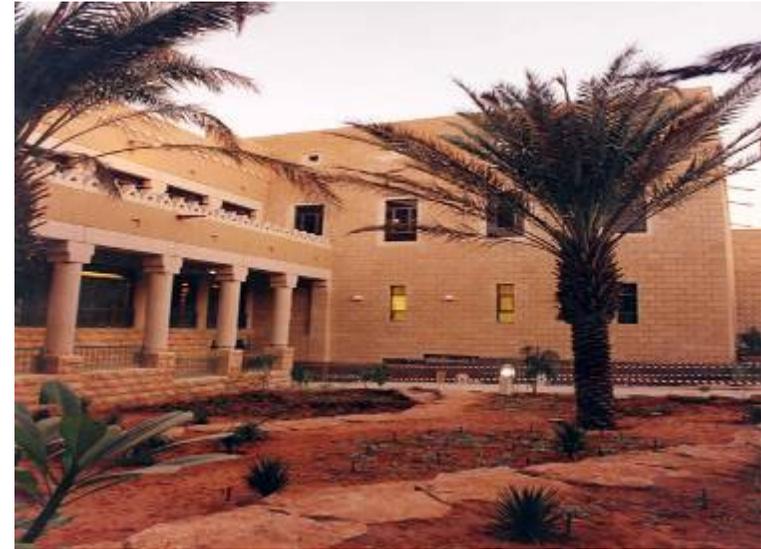


Royal Technical Military Training institute - Al Qassim Region, Kingdom of Saudi Arabia

The project was a 40,000 m2 development constructed on an 80,000 m2 site over 3 years to provide a technical military training centre for the Ministry of Defence and Aviation MODA. The project was designed as a turnkey contract by MODA and incorporated on site potable water treatment, sewerage treatment and HV generator power plant for the supply of services to specialized training equipment housed within technical workshops including electrical & electronic laboratories, Mechanical & Automobiles workshop consisting of class rooms, Training laboratories. The buildings contained full mechanical HVAC, plumbing and electrical Installations.

Al Riyadh Main Court Project - Riyadh, Kingdom of Saudi Arabia

The project was a 15 storey 36,000 m2 development constructed over 2 years for Arriyadh Development Authority (ADA) to house the Main Judicial Courts of Riyadh Area and included 28 Judicial Courts with Judges rooms and a multi-purpose hall. The project also incorporated holding cells, a mosque, underground car parking and substantial infrastructure and landscaping works. The buildings contained full mechanical HVAC, plumbing and electrical Installations, including air conditioning, ventilation, fire fighting, high voltage and low voltage electrical power distributions systems, lighting, telephone network and PABX.





HMCS, Cambridge County Courts

Completed in September 2005, the Cambridge County Court Development is another New Build Court Service Complex undertaken through the PDS Framework Agreement with the Court Service.

We were responsible for compiling the highly detailed and complex Schedule of Employers requirements, vetting Contractor's proposals, monitoring Construction Standards on site, etc. In consultation with HMCS, the Schedule of Employers Requirements was enhanced to incorporate the latest voice and data requirements of the Court Service, a requirement which at the time was more advanced than that detailed in the Court Service Design Guides, hence this project gives the practice cutting edge expertise and experience of the very latest design requirements for Court Service Buildings.



Welsh Assembly Government, Llandudno Junction Development

Following extensive competition, Pochin Contractors Limited were awarded the highly prestigious contract to build the new Welsh Assembly Government's regional headquarters building at Llandudno Junction in October 2008. As an integral part of the bidding team, we have been appointed to undertake the detailed M&E design and complex thermal modeling. The £20M+ development is due to be completed in March 2010, and in order to meet the client's strong desire to occupy a low carbon footprint / BREEAM Excellent building the development incorporates a number of low and renewable energy technologies (or LZC's).

At the heart of the low carbon footprint technologies is the on-site energy center housing the large scale Biomass boiler plant and Ammonia Chiller plant. In addition to Chilled water, the facility also benefits from a small scale pond water cooling loop, to provide free cooling to the air handling plant.

As would be expected, the building will encompass many state of the art technologies for BMS control, lighting control, alarms, access control, etc all of which are fully integrated to provide a truly intelligent building capable of off-site control & monitoring.



Doha Post Office

We provided full MEP detailed design and site supervision for the construction of the new Post Office head quarters building in the late 1970's

Working with a full UK based design team, the entire development was fully designed and tendered in under 6 months

This Iconic development would have a construction value circa £25M at todays costs, and the entire development was successfully delivered on time and on budget



Abha Airport Saudi Arabia

Hannan Associates designed the complete mechanical and electrical services for this regional airport in Saudi Arabia

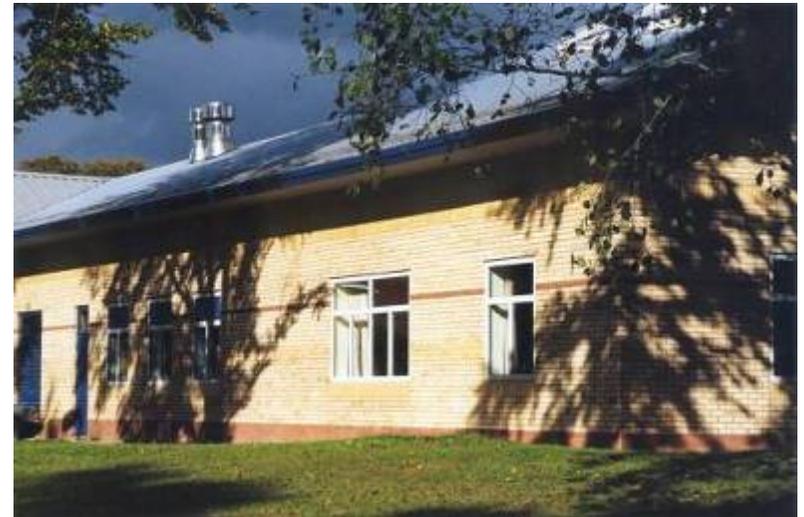




Barton Moss Secure Care Centre

We have been involved with Barton Moss since the mid 1980s when we designed the services for the initial secure accommodation. We are currently designing the M&E services for the next major development at Barton Moss which will see the removal of all the non-purpose built accommodation and the creation of an additional 12 secure bedrooms, with the option to extend to a further 6 bedrooms; and incorporating vocational facilities and extensive staff facilities at first floor level. The project is being designed to BREEAM "Excellent" rating, and will include renewable and energy saving technologies such as rainwater recycling, air source heat pumps and solar hot water heating.

Upon completion the whole building will operate as one, with specialist systems such as the staff alarm and tracker system being updated to incorporate the whole site and the CCTV system which itself was upgraded to our design 18 months ago also being extended to form a site-wide system.



St Catherine's Secure Unit

We carried out a complete detailed design for the Mechanical and Electrical Services for a new purpose built 12 bed secure unit complete with all educational and sports facilities for the Nugent Society on their existing St Catherine's site in St Helens.

The project was successfully handed over in 2002 and was based upon the principles laid down by "Design Guide 2000", together with our experience from the development of Barton Moss Secure Care Centre some years earlier.

In some instances, changes were guided by improvements in technology or by the adoption of an alternative engineering approach, such as the wide-scale use of compact fluorescent fittings in secure housings. Under-floor heating was also adopted as the norm rather than ceiling mounted radiant panels which had been prescribed on previous schemes but which caused practical difficulties in ensuring a secure mounting and junction with the ceiling without offering opportunity for ligature.

A further significant issue is that the services are not standalone within buildings of this nature. They must work hand-in-glove with the Unit's operational procedures, to provide the necessary level of safety and security for the young people within.



King Saud, Qiblatain and Qubba Mosques Medina, Saudi Arabia - Ministry of Hajj & Architect Abdelwahed El Wakil

We provided building services consultancy for the design of several mosques in Saudi Arabia incorporating residential accommodation, office space, prayer halls, retail areas, classrooms and outside courtyard space.

The largest of these are King Saud, Qiblatain and Qubba Mosques which can accommodate 2,000 to 10,000 worshippers several times per day.

The King Saud mosque located in Jeddah incorporates a 5,000m² prayer hall. The building is air conditioned and provided with air movement fans.

The Qiblatain mosque is located in Medina and of historic importance as tradition holds that the prophet Mohamed received divine orders in the mosque. The mosque was rebuilt incorporating a 4000 sq M site incorporating a two storey prayer hall.

The Qubba mosque is also located in Medina and of historic importance as it rests on the site of the first mosque built by Mohamed in Medina. The mosque was in poor condition and was rebuilt with the site being 13,500m² and incorporating a central courtyard, residential areas, offices, ablution facilities, shops and a library. The central courtyard is used as part of the prayer hall with a canopy providing shade in the summer months.



St Georges Hall Liverpool



We are very proud to be part of the project team that won a Civic Trust 'City of Culture Award' during 2008 for our contribution towards the refurbishment of St George's Hall in Liverpool. Hannan Associates also won a Merseyside Award for Architecture and Urban Design for 'Best Architectural Lighting Project' for this project.

St George's Hall opened its doors to the public in 1854 over 10 years after it was commissioned. It's been a central feature of Liverpool's architecture ever since, and has been called 'The best example of Neo-Classical architecture in Europe'

Commencing in 1995 Hannan Associates were engaged in three phases of the refurbishment of this grade 1 listed building to fully design and integrate the services seamlessly and invisibly.

After successfully completing Phase 1 of restoration works at St Georges Hall, Hannan's were awarded Phase II and III refurbishments which were completed from 2003 to 2007.

The building is a public venue capable of holding 800 people in its large concert hall and smaller capacities in the small concert hall. It also houses magistrates and Crown courts



Eureka National Children's Museum

230,000 people a year visit the national Children's Museum in Halifax, Since opening Eureka! has won more than 15 awards, for its 'learning by stealth' educational philosophy and outstanding visitor experience, as well as awards for customer service, architecture and facilities for disabled people. These have included awards from the Museum and Heritage Awards for Excellence, the Royal Institute for British Architecture, the Tommy Parent Friendly Museum Campaign and several Yorkshire Tourist Board awards as well as the English Tourist Board's Visitor Attraction of the Year.

Hannan Associates designed the complete mechanical, electrical and public health installations. The project involved refurbishing an old railway station into an open plan themed museum targeting those aged 4 – 16 years. Themed areas include TV studios, mind and body and search and rescue areas.

Designing the mechanical and electrical services for the building was not just about creating a comfortable and practical environment, but also concerned enhancing the visitors' interactive experience with the various themed areas and displays. Our designs were to become an integrated part of the main themes surrounding Eureka.

The various interactive displays relied upon the use of relevant services to complement the particular themes. In particular, the lighting schemes that we designed were of great importance to the success and appeal ability of the displays available; encouraging visitors of the museum to look, listen, touch and feel. Permeable membranes were incorporated in the scheme and coloured for interest.



Tameside Hospital

Members of Spectrum consulting have undertaken a large number of commissions for Tameside District General Hospital, commencing with the Geriatric Block and Ward 27 in 1994. We have provided engineering expertise for a large number of challenging engineering related projects, acting as lead consultant, such as Laundry refurbishments, replacement Surgical Air & Vacuum plant, Pathology Laboratory and Mortuary alterations. In addition we have worked on a number of architect led schemes such as Ward upgrades, mental health, Consort Building, Stamford Building & new wheelchair centre

More recently we have provided healthcare expertise to design the complex engineering services associated with a number of smaller commission through its current framework agreement with Tameside & Glossop PCT.

The Royal Oldham Hospital

The hospital, formerly Oldham & District General Hospital, has had a major redevelopment over the last 10 -15 years with the 4 block 3 storey 'Nucleus' template modular design phase 1 blocks forming the larger part at the front of the site.

Phase 1, with associated design of MEP services, consists of 5 acute 36 bed wards, A&E department, 8 operating theatres including a Charnley-Howarth laminar flow suite, outpatients department including X-ray, audiology and ultrasound, pharmacy and aseptic suite. Subsequently a dedicated building for a CT scanner was dovetailed between A&E and O.P.D.

Enabling schemes for the phase 1 development included a new dual fuel 28,000 kg central steam boiler plant, central incinerator plant and central liquid oxygen plant, and the most challenging scheme of replacing and re-routing all steam and condense distribution throughout the whole site whilst maintaining operation of the various departments and buildings.





Royal Blackburn Hospital

We were employed to undertake the detailed design of the complex Mechanical & Electrical Engineering services associated with the major refurbishment and remodelling of the Grade 2 listed historic Victorian building stock to create a state of the art 21st Century Learning Resource Centre.

The development included a full rewire, replacement heating & ventilation plant and extensive data network cabling linked to the UCLAN teaching network.

The practices experience & expertise in the Healthcare sector covers every area of specialism, from energy centres to operating theatre's.

Christies Hospital

Having been entrusted with over 60 commissions at Christie Hospital since 1986, we continue to work on development project right up to the current day. Many commissions relate to key research and diagnostic facilities, critical to the success of the institution.

Recently, the practice was engaged to undertake the detailed design of the highly complex Transitional Research Facility (T.R.F) Phase 2, which incorporates Cat 2 containment laboratories, tissue culture rooms and research & office accommodation

The Patterson Institute for Cancer Research forms part of the Hospital & S.I.Sealy have recently being engaged to provide M&E design expertise for the new Chemistry Laboratory complex together with the updating and refurbishment of the institute's Tissue Culture facility.

The practices experience & expertise in the Healthcare sector covers every area of specialism, from energy centres to operating theatres.



The Christie **NHS**
NHS Foundation Trust





Stepping Hill Hospital

A number of commissions have been completed at Stepping Hill Hospital, commencing with the new Laundry in 1973. More recently the practice has provided its healthcare expertise to design the complex engineering services associated the remodelled A&E Department and Operating Theatres.

Keele MEDIC 3

Working on behalf of Keele Park Developments (a JV between Keele University & Pochin Developments Ltd), the practice was appointed to provide full Mechanical & Electrical engineering consultancy services for the new medical research developments Med ic 3 & Med ic 4. For each phase the practice provided a full design and site monitoring service, and each phase was completed on time and on budget, with the final phase being completed in late 2007.

Med ic 3 & Med ic 4 together provide a combination of research & medical manufacturing space in the form of containment laboratories, write up areas and workshops together with flexible open plan office spaces. Both buildings are constructed to a high specification and are fully air conditioned.





Hope Hospital

We were employed by the Mechanical Services Sub-Contractor to undertake the detailed design of the highly complex Mechanical & Electrical Engineering services associated with the new build Neurosciences building at Hope Hospital, Salford.

The development included an MRI Scanner suite, treatment rooms, wards and minor operating theatres.

The practice's experience & expertise in the Healthcare sector covers every area of specialism, from energy centres to operating theatres.

Westmorlands District General Hospital

Working on behalf of Ramsey Healthcare, the practice was appointed in 2007 to provide full Mechanical & Electrical engineering consultancy for the new £2.5M operating theatre suite located at Westmorlands District General Hospital. The works included the formation of new Wards, an endoscopy Theatre and a general purpose Operating theatre suite. The project was completed on time and on budget in the summer of 2008.

The practice's experience & expertise in the Healthcare sector covers every area of specialism, from energy centres to operating theatre's.

Salford Royal 
NHS Foundation Trust



University Hospitals
of Morecambe Bay 
NHS Trust



Brunel University Framework Agreement

£100m Framework Master Plan. Works have included:

Infrastructure

Appraisal, upgrading and enhancement of the campus utilities, security and IT infrastructure, to improve reliability and enable the new development on the site. The project includes enhancement of the campus environment and formation of a statement gateway to access the site.

Energy Centre

Replacement of the campus central heating system which provides heat to all buildings on the campus. The project has included the evaluation of a range of sustainability measures;

including biomass fuelled heating, micro CHP and Solar heating. The replacement programme is 3 years and Hannan Associates are lead consultants.

Indoor athletics centre

The project includes a new indoor 130m running track with support conditioning/science facilities and a new netball hall, both of which are naturally ventilated/cooled and modelled to maximise the use of natural daylight. The facilities were part funded by Sport England and are designed to meet their requirements. Also included is the refurbishment and upgrading of an existing sports centre for student and community use.

Tin Institute

The conversion of existing laboratory and workshops to IT workshops and support areas.

Bio Science.

Refurbishment of workshop and laboratory areas and the formation of a hazardous experiment laboratory.





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TIS

Alteration and refurbishment of the Engineering Complex to provide a range of facilities for departments being relocated from another campus. These include laboratory facilities, engineering workshops, display spaces, IT workshop and storage facilities.

CHP Facility

The installation of an 80kw combined heat and power unit for experimental purposes.

Central Lecture

Refurbishment of the front of house areas incorporating internet café, scenic passenger lifts, audio visual facilities and interactive study space

Heinz Wolff Building, Uxbridge Campus

This scheme included the part refurbishment of the 2 storey Heinz Wolff Science Building at the Uxbridge Campus of Brunel University to provide new heating, ventilation and laboratory services whilst the building remained part occupied by PHD research students. Study spaces and research laboratories were brought up to modern standards to provide new fume cupboards, high quality lighting and IT/Data services throughout.





AMS Tower, Whiteknights Campus, Reading

De-commissioning part of a 1960's built research faculty whilst retaining the existing services and infrastructure to the Bio-science lab, science museum and refectory. Refurbishment of the building services to the basement ground and first floors. Duties include survey of existing, recognition of high levels of asbestos, maintaining services to lower floors, roof area and all fire escapes, design of the refurbished areas.



Mid Cheshire College

The project incorporated the construction of a new build 2 storey Art Block within the existing college campus. For Hannans the work package includes the complete design and installation of new systems within the building. Our duties involved providing a Performance duties service.





West Cheshire College Redevelopment

The project involved the construction of a new nursery block, the refurbishment and expansion of an existing arts block, demolition of existing teaching buildings, and construction of a new teaching building and renewal of the site utilities infrastructure.

The project was centred on a fixed budget and space requirement, with very tight deadlines that has to adhere to secure funding. The team focused upon accelerating the agreement of the brief and the production of information for tender. Speed of response by the team as a whole and value engineering were a very important aspect of the project. Natural ventilation with minimum mechanical assistance where necessary was a major feature of the design.



Stratford-upon-Avon High School New Build

The project involved the construction of a ground, first and second floor school, separate sports hall, external all weather pitch, a caretaker's house and car parking facilities. There were existing school buildings, which were demolished upon the completion of the new school complex.

The building was designed in a way that would ensure the end result was environmentally friendly, energy conserving and maintenance minimising.



Manchester Mesivta High School New Build

This project involved the construction of a new build 3 storey Boys Secondary School and 6th form block. Acting as Principle Services Designers, our work package included providing the design of all new mechanical, electrical, public health and lift systems within the new building. These systems included mains distribution, lighting, general power, fire and security systems, communications, heating, ventilation and comfort cooling.



Wigan and Leigh College

New hair and beauty facility for the college.



St Mary's College, Blackburn

This development involves the erection of a two storey build which will provide modern and well needed teaching and student accommodation. This building will become the new Social Science block for the college, and will be designed to meet the requirements of an ever increasing student population and an important collaboration with Liverpool Hope University.



Middlewich CPS

The project involved the construction of a new classroom block. The procurement route is contractor design and build and we are engaged on a performance and monitoring basis. The building is being fitted with Passivent natural ventilation, which has mechanical assistance in some areas.



Navigation Primary School

The new Navigation Primary School, which re-opened its doors to its existing pupils for the first time after the November half term 2007, is a good example of a successful partnership between the community, local authority, designers and contractor.

Trafford Council, who engaged S.I.Sealy through their long standing Framework Agreement, were keen to ensure that the new £ 3.25 million school incorporated as many low energy and renewable energy technologies as possible, with the primary aim to educate and inform the staff, pupils and local community about low energy design and sustainability.

The new one and a half form entry school comprises a nursery classroom, two reception classrooms, three Key Stage 1 and 2 classrooms and six Key Stage 3 and 4 classrooms, together with ancillary teaching areas, music room, ICT room and staff rooms. A large hall and adjacent studio have been specifically designed for both school and community use, allowing the school to lock down a lobby, lavatories and small kitchen before entering the hall or studio for after hours use.





Jennie Lee Building

The Jennie Lee Building, a major new building at The Open University's (OU) Walton Hall campus at Milton Keynes was completed in March 2008. A partnering team made up of Swanke Hayden Connell Architects (SHCA), Galliford Try Construction, Buro Happold (concept) and S.I.Sealy (detailed mechanical design) successfully delivered the building, which houses the Faculties of Maths and Computing and the Institute of Educational Technology.

The Jennie Lee building has 5000m² over three floors, an atrium and a 600m² state of the art Ambient Technology Lab. A Partnering procurement process ensured immensely productive teamwork for this innovative education environment.

A key element of the brief required a focused community environment encouraging departmental interaction for free flowing ideas and academic cross fertilisation.

The second key element was also an illustration of educational enhancement. The whole building is to be a lab of human and technological interaction, a live ambient experiment, facilitating and inspiring their learning and research.

A third issue, a mutual passion, was sustainability. It is naturally vented throughout, by single sided perimeter openings in the clusters and draws cooled fresh air via a concrete undercroft (labyrinth) to both the cellular Honeycomb and the Nexus, utilising the atrium's natural stack effect. The façade has only 35% transparency, balancing insulation and daylight. It uses night time cooling and rainwater harvesting.



Beckfoot School Bradford Bradford BSF Phase 2

The new Beckfoot school is due to open its doors to pupils for the first time in the summer of 2011. It is an excellent example of a modern, highly serviced educational building.

Each classroom benefits from individual CO₂ controlled fan coil units, with LPHW heating fed via high efficiency low NO_x condensing boilers.

Domestic hot water is provided from a central gas fired unit, with separate systems for classrooms, kitchens and laboratories.

As one would expect, the building is highly serviced, with sophisticated CCTV, ICT, Intruder & Door Access systems, and is highly energy efficient, with a TER of 36.03 & a BER of just 30.31



The University of Salford, SEE Programme-The Think Lab

In 2003 the practice was appointed to provide detailed M&E design services for the University of Salford's SEE Restructuring programme. This complex series of relocations resulted from the disposal of the meadow road Campus, resulting in the reconfiguration of the Peel Park Campus to accommodate the displaced faculties.

As an operational educational facility, it was critical that each and every phase was completed on time and on budget. This was achieved, and the works included the relocation of Physics, Chemistry, OHSS & ICD, general teaching spaces, pool rooms, lecture theatres and the innovative and world class "think Lab"

In the words of Professor Peter Brandon, the Think Lab provides state of the art facilities in a futuristic environment enabling researchers to engage in research that harnesses the leading developments related to Information and Communication technologies. The interactive "Light Wall" pictured below was designed entirely by S.I.Sealy following extensive research into current lighting technology.

The total M&E spend was in excess of £4M, with a final account within £5,000.00 of the original budget.



Manchester Grammar School, New Junior School

The new MGS Junior School, Beswyke Lodge, opened its doors to pupils for the first time in September 2008. It is an excellent example of a truly sustainable building with an embedded carbon footprint significantly lower than that of a steel, concrete or masonry building. Total carbon reduction compared to a traditionally constructed building over 10 years is 68 Tonnes.

MGS, who appointed S.I.Sealy to act as Project Managers, Contract Administrators and M&E Designers were keen to ensure that the new school was environmentally sustainable, constructed to a budget and critically, as a new venture, be completed on time.

The new one form entry school comprises five classrooms, together with ancillary teaching areas, heads office, ICT room and staff rooms.

➤ building has proved a great success in achieving its aims, to provide a secure and friendly environment, and an energy efficient solution with a sustainable design.



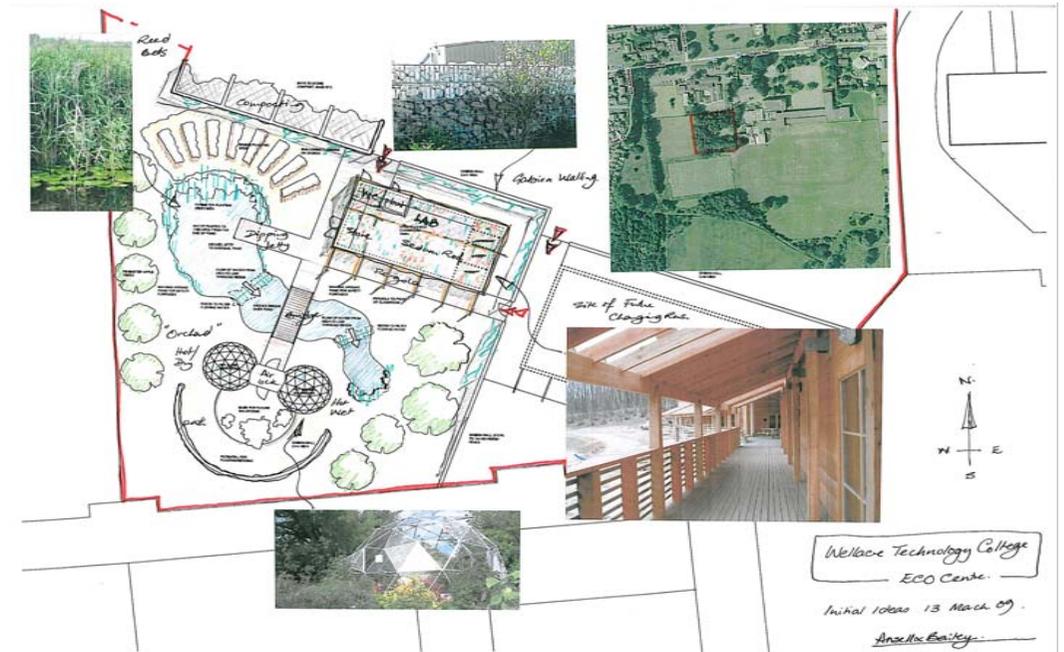
Wellacre Technology College, New Eco Centre

The new Wellacre Technology College “Eco Centre” is due to open its doors to pupils for the first time in the summer of 2010. It is an excellent example of a truly sustainable building with an embedded carbon footprint significantly lower than that of a steel, concrete or masonry building. Total carbon reduction compared to a traditionally constructed building over 10 years is expected to be in excess of 25 tonnes.

Wellacre Technology College, who have appointed Ansell & Bailey as Architects and S.I.Sealy to act as BREEAM Assessors and M&E Designers are keen to ensure that the new Eco Centre is as environmentally sustainable as possible, both in terms of embedded Carbon and operational Carbon emissions, whilst being constructed to a budget.

After an in depth feasibility study, a number of low and zero carbon technologies (or “LZC’s) have been incorporated into the design of the centre, which includes a reed bed and two Biodomes. Technologies incorporated into the design include Biomass boiler plant, solar thermal collectors, wind turbine, rain water harvesting, heat pumps, natural ventilation and mechanical ventilation with heat recovery, all closely monitored and evaluated by the use of a sophisticated BMS control system incorporating heat meters.

The project is currently in design, due to commence on site late in 2009 and complete in the summer of 2010 in readiness for the September term.





Project Team Leaders

Team Leaders

Ian Joyce



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Company Director /
Principal Mechanical Design Engineer

Qualifications:

Incorporated Engineer (I.Eng).
Building Services Diploma.
Higher Certificate in building Services.
Higher National Certificate in Building.
Ordinary National Certificate in
Mechanical Engineering.

David Stafford



Profession:

Company Director /
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Qualifications:

B.Eng (Hons)
Building Services Engineering
C.Eng

Tony Massey



Profession:

Company Director /
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