

Architecture Mechanical

■ Structural ■ Public Health ■ Construction ■ Management

Major Laboratory Investment in Wales

Electrical

Life Sciences | Pencoed Technology Park

Austin are currently providing Design and Construction services to fit-out the ground floor of a former call centre in Pencoed Technology Park, South Wales owned by the Welsh Government to encourage the further development of Life Sciences within Wales.

The Welsh Government is developing a new Welsh Advanced Therapeutic Medicinal Products (ATMP) facility in south-east Wales within the M4 corridor, easily accessible to the Cardiff area, airport and rail connections. The facility will be capable of being multi-tenanted to encourage the development of a specialist centre for this sector.

The project involves the review of the concept design, developing the detailed design and fit-out of ATMP manufacturing areas up to MHRA Grade B, Grade C, and Grade D along with specialist laboratory spaces (including some non-classified cleanrooms and containment rooms) with ancillary support areas.

The building ground floor area is approximately 2,700m² of which:

- 1,665m² is Grade B/C/D, Laboratory and specialist spaces
- 1,035m² is ancillary, building services and general space

Austin will handover a facility complete with utility connections and building services to suit the specialist fit-out programme: and which has passed Installation Qualification (IQ) and Operational Qualification (OQ) stages and is therefore ready for the occupier to commence Performance Qualification (PQ) and Process Validation to suit the current product clinical trials, materials production and process development timeline. Austin are also procuring and supplying a large number of specialist process equipment on behalf of the Welsh Government.



POSITIVE RESULTS FOR AUSTIN

We can look back over the last year with a degree of satisfaction having increased the number and value of design and construction projects undertaken.

In the process we have satisfied our existing clients and have also added new quality names to our portfolio of successful projects.

Our work continues to focus on the more technical buildings, particularly in the life science, food, further education and general manufacturing sectors worldwide.

The increase in activity of the design and construction industry this year has also been experienced in our supply chain and staff recruitment. This has put pressure on costs and programmes, which in turn has added to project management pressures.

If you have any facility issues to resolve give Austin a call on 01923 432658 or contact enguires@austin.co.uk.

Parash Dardy

Prakash Davda, Managing Director

DESIGN BEST PRACTICE

Austin continues to contribute to the Design Best Practice with a submission on Simple Clean Room Edge Protection. Read more on page 6.

BIM | MOVING FORWARD

the In preparation for Government's 2016 mandate, Austin have embraced BIM to enhance design and construction delivery for heavily serviced and complex facilities.

Anglia Ruskin University

Multi-Purpose CL2 Teaching Laboratory

The Austin Company was commissioned to carry out concept design, detailed design and construction services to convert an existing art teaching facility into an 80-person, multi-purpose teaching laboratory at the university's Chelmsford campus.

The project consists of a main teaching laboratory space of approximately 300m² in addition to a support preparation laboratory, change lobby and a physiology laboratory.

The primary requirement for the project was the ability to teach multiple courses at the same time, using an IT and audio visual solution provided by the university's incumbent AV specialist (Snelling Business Systems Ltd.). Austin worked with the client to develop a layout that offered a flexible solution to this requirement as well as an attractive, inspiring space for learning.

Construction on the project took approximately three months, with The Austin Company liaising with the university's IT and audio visual services teams, in addition to their role as principal contractor.



Quotient Clinical

Repeat assignments from Quotient Clinical

Following previous successful commissions for Quotient Clinical, Austin were appointed to undertake a concept and preliminary design study for the fit out of their analytical and formulation laboratories and associated activities. The analytical laboratories comprise primarily of open plan laboratories, HPLC laboratory, radiation laboratory, inhalation laboratory and associated support rooms. The formulation laboratories and ancillary support rooms.

The report provided Quotient Clinical with a cost estimate of \pm 10% and a design solution to a challenging building configuration. As the existing two storey building has been designed primarily for office use this imposed a number of constraints for the conversion to laboratory use. Mobile bench units were positioned adjacent to windows to allow separation and access for cleaning.

The design report also provided a comprehensive specification document that Quotient were able to use to tender out the detailed design and construction.

Ipsen Ltd

Flagship Superlab

Ipsen intend to relocate its R&D Bioinnovation research group, from Abingdon to a new facility at Milton Park. The research group works closely with its counterparts in Les Ulis, just outside of Paris and in Cambridge, MA. In addition to meeting UK Regulatory requirements, the new facility will also need to meet compliance with Ipsen Corporate Standards.

The building at Milton Park is a newly constructed, contemporary designed three storey office building. The Austin team has developed the design from a given concept study working collaboratively with stakeholder interest groups to identify potential synergies between functions, optimise adjacencies, work flow patterns and to create a research environment to facilitate the new ways of working in which the stakeholders will pursue their research activities.



Bio Products Laboratory

Historical Challenges

The project requires existing facility modifications, mechanical and electrical services systems, including validated utilities, upgrades and some structural alterations to enable an additional filling line for injectable products to be incorporated into a live pharmaceutical production facility.

The filling line will increase the output of the existing facility. The works are being integrated over various shutdowns which are very brief and incorporate 24 hour working to reduce production down time.

As part of mitigating production loss, Austin's have been set the challenge to separate access and to create independence in operation from component in, through to finished product out, including the relevant critical utilities so that business interruptions can be minimised.



Austin's role is to continue from the production of the preliminary design into detail design and manage the construction including validation of modifications.

The shutdown periods are very brief and require micro managing through each phase consisting of several areas within the building. As such the project management approach is to divide the scope into small areas creating mini projects within the project. This approach facilitates the assignment of an order of precedence to each mini project which is critical and proven successful for managing float reductions during execution of the works.

One of the greatest challenges of detailed design is information gathering of the existing facility systems in terms of capacity relative to new requirements. Part of Austin's scope has been expanded to address some historical challenges of the building operations which have been recognised as successful by the client's microbiological department.

Queen Mary University of London

Charterhouse Square Research Facility

Faced with the challenge of updating their major research facility located within the Charterhouse Square Campus in Central London, Queen Mary University London (QMUL) turned to The Austin Company.

Austin was chosen by QMUL based on their experience of undertaking similar projects and for their ability to provide a comprehensive planning, design and construction service from concept to completion.

The refurbishment project presented Austin with a variety of challenges including; requirement for QMUL scientific users to have access to a key item of equipment located within the construction area; live operational areas above construction site; restricted building access and congested external plant areas. In addition the project had to be designed and constructed in compliance with Home Office Standards.

"The Austin team worked closely with QMUL User representatives and Project Management group to provide a well-considered and robust solution for this upgrade of the facility" - Sean Donnely, project manager and Fraser Darling, user representative.



Procter & Gamble

Laboratory Refurbishment

Procter & Gamble are proposing to refurbish The West Laboratory located in their R&D facility in Egham, Surrey. The laboratory provides testing and write up facilities to support their fast moving consumer products portfolio. With the exception of some individual suites the laboratory was previously refurbished in 2001 and has subsequently grown through receiving products for analysis and testing from across Europe.

Owing to a combination of the need for a more effective medium to long term solution to the functional layout of the laboratory and the growing demands for space and regulatory compliance P&G have sought a design solution that meets future laboratory needs.

The design improves the people and material flow within the constraints of the existing building. It also addresses the separation of the laboratory areas associated with the identification of contaminants and the purity of the product. The design incorporates a new materialsin extension and waste-out extension. Due to limited load capacity for the roof all new plant is positioned at ground level and existing services removed from the roof.

Particular attention has been paid to the implementation of the project as the operations have to be maintained during construction. A multi-phase solution has been adopted.

AstraZeneca Building 900 Cambridge

More work in Cambridge

AstraZeneca are continuing to develop research facilities in the Cambridge area and as part of this expansion have leased an existing laboratory on the Chesterford Research Park in Saffron Walden. The science undertaken will include Bioscience, Molecular Pathology, PHB, Chemical Synthesis, Analytical Chemistry and DMPK. The current laboratory building has existing bioscience and chemistry laboratories together with associated write up offices. The challenge has been to accommodate 120 scientific and administrative support personnel into the laboratories and offices with the minimum interaction to the existing building or services. A concept design was developed with the user groups by analysing detailed information relating to laboratory equipment in order to test the existing space. Some re-configuration was required in order to accommodate the functional requirements and adjacencies. The existing building services strategy was analysed and modifications designed utilising the existing plant. Working closely with the user group and with careful analysis of functional requirements a "Light Touch" solution was successfully developed.

Cancer Research Institute, Cambridge

BRU Upgrade and Mass Spectrometry Proteomics Remodelling

Austin was commissioned to provide a detailed design and construction service to their BRU Upgrade and Mass Spectrometry Proteomics Remodelling facility within the Cancer Research Institute, Cambridge Institute, Li Ka Shing Centre.

Cancer Research Institute reviewed the two feasibility reports issued by Austin and a number of changes were incorporated into the design layouts at the commencement of the detailed design. The project was divided into a number of elements, BRU upgrade (Basement) and Mass Spectrometry Proteomics (Ground Floor). Austin worked closely with the Client and an amended proposal for design services covering the basement area modifications B24D AZ Laboratory and B24 Laboratory only was agreed. Construction, commissioning and handover took place over a four week period.

Awards

RoSPA

The Austin Company has been awarded seven consecutive Gold Awards from ROSPA for achievements in health and safety. The company prides itself on its integrated SHE management systems with the foundation for excellence embedded in its strategy for continuous improvement and the promotion of a positive health and safety culture. Through this management strategy a behavioural based management system has led to extremely successful performance in health and



safety. The company's operations are focussed on providing clients with exemplary health and safety management practices and actively promotes worker engagement in site based initiatives.

Health and Safety Review

CDM - (The Construction and Design Management)

The HSE have revised the CDM regulations and they came into force on 6 April 2015. The regulations have been revised to make legal compliance more easily understood throughout the construction industry. The transition period from the 2007 regulations came to an end in October 2015 and the new regulations are now fully in place.

Salient revisions include:

- Removing the role of the CDM Coordinator.
- Increasing the duties of the Client.
- Creating a new duty holder of "Principle Designer", as well as maintaining the role of "Principal Contractor".
- Clients' duty to appoint a principal designer and principal contractor is to be based on the number of contractors, rather than on the notification threshold as at present.
- Increasing the duties of the design and the project team.
- Revising the requirements for The Construction Phase Health & Safety Plan.
- Extending to domestic clients' projects

Austin are ready for the change, are you ...?

BIM Update

Catering for the future

For The Austin Company, Building Information Modelling (BIM) is a collaborative way of working which is supportive of our established multidiscipline design and construction service. In preparation for the Government's 2016 mandate, Austin have embraced BIM to enhance design and construction delivery for heavily serviced and complex facilities. This has been achieved in part by our adoption of industry recognised BIM based standards and protocols, and implementation of leading model authoring tools.

On recent projects, BIM has proven invaluable in appreciating fabric and building services constraints within existing facilities. This has been achieved through visualisation of designs earlier in the project, resulting in greater programme and quality benefits for our clients.



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Design Best Practice

Austin's contribution

Austin are one of the founder members of Design Best Practice and continue to participate in the support and governance of the site. Its objectives are to establish through the Design Network to share, internally and externally, their Design Experiences.

Key aspects of this site include Design Best Practice, CDM, and general safety through Design as a whole. Case Studies of existing and completed projects can be submitted to demonstrate ideas generated through the Design Process.

One of the most valuable aspects of the site are the case studies providing a very useful data base of examples of good design with a focus on safety in construction.

The following is an extract from a recently uploaded contribution from Austin. Log in to the website (www.dbp.org.uk) to view the full case study.

The installation of pre-fabricated Cleanroom Partition and Ceiling systems is common practice in the Pharmaceutical, Electronics and Food and Drinks Industries. Working at height remains one of the biggest causes of fatalities and major injuries both during construction activities and throughout ongoing maintenance during the life of a facility. One method to mitigate the risk of fall is to install a perimeter/ edge guarding and handrail system such as a proprietary tubular rail system, together with a toe plate and perhaps, mesh infill.

There is however an alternative and simpler method which is to design the external wall panels to extend vertically 1,100mm above the roof level. This simple concept provides an instant protected edge, during both the construction stage and throughout the life of the installation.

Key points:

- Eliminate the risk of falling.
- Potentially eliminates the need for temporary edge protection
- Provides a very cost effective and simple solution to a high risk situation.
- Minimal impact on, and potentially reducing installation time.
- The edge protection is provided by a solid panel, thereby eliminating the risk of tools and other small items being "kickedoff" the roof and presenting a further hazard to workers below.
- Aesthetically more pleasing than conventional edge protection system

Medical Research Council

Operations in Africa

The Medical Research Council (MRC) is an organisation dedicated to improving human health. The organisation supports research across the entire spectrum of medical science, in universities and hospitals, in its own units, centres and institutes in the UK, and in units in Africa.

The MRC's main Unit in The Gambia is situated in Fajara, Kombo St. Mary's, approximately nine miles from the capital Banjul. The Unit operates over a 100 acre site which consists of research and clinical laboratory facilities (up to ACDP containment level 3), the Unit is also home to a busy clinical services department, as well as approximately 40 residential units of various sizes.

As well as maintaining existing site services, the Unit has a requirement to add new facilities in order to continue the MRC's commitment towards leading scientific research. These new facilities will introduce a greater demand on the site utilities, specifically the electrical services which is the Unit's primary energy source.

The MRC and The Austin Company have worked together for over 10 years and now in Africa for over 3 years. Founded on Austin's previous knowledge of the site in The Gambia, MRC recently commissioned The Austin Company of UK Limited to undertake a survey of the existing electrical infrastructure and prepare a report of findings. This initial stage of the commission included assessment of peak demands, the likely uplift in electricity demand as a result of the new facilities, and the limitations within the existing infrastructure to accommodate such additions.

With the survey phase complete in August, the findings and recommendations from this stage are being captured and addressed as part of the final design which will detail the necessary upgrade works to the electrical infrastructure across the Unit. The detailed design will include a phased upgrade of the main high/low voltage transformer, primary and secondary switchgear and the addition of standby diesel generator plant with associated control systems.

