Engineering Consultants

Cattedown Regeneration Enterprise Centre (CREC)

Description

- Cattedown Enterprise Centre is an ERDF funded, multi-tenancy 3-storey development project
- It was commissioned by Plymouth City Council to provide offices for new enterprise in the city
- The 1,300m^2 scheme is sub-divided to create individual tenancy areas. There are 19 standalone office units, ranging from 15m^2 to 132m^2 together with reception, exhibition space, café, training and meeting rooms.

Part of an award winning urban design and civic regeneration project in Plymouth, Devon

Involvement

- Design and specification of the M&E services included:
- Full site survey to establish the site infrastructure, its condition, capacity, necessary diversions, and street lighting. Quotations were arranged for the provision of new supplies
- Development of an electrical strategy, in conjunction with the client and WPD, to provide separate metering to each tenancy
- Water and heat meters were provided on the communal distribution systems
- A natural ventilation strategy was introduced to overcome the potential overheating problem in the south stairwell
- An LZC study was completed, resulting in utilising air source heat pumps and heat recovery systems, to reduce the building's carbon footprint
- A daylight model was prepared to demonstrate a good daylight factor and achieve further BREEAM credits
- Daylight switching was incorporated to ensure that the lighting operates in an efficient way and reduce internal gain in the summer
- Thermal modelling ensures that the internal condition of the spaces was not excessive in summertime conditions. The model output resulted in the specification of solar glazing to overcome the issues identified and the planning restriction which negated the use of Brie Soleil
- The heating system incorporates under-floor heating from air source heat pumps that also recover heat from the server room and open plan office cooling cassettes. The heat pump allows the use of under-floor cooling if required in the future
- An extensive security, CCTV and access control strategy was adopted to suit the recommendations of the local police liaison of services and co-ordinated with other site services and construction programme.

Benefits Delivered

- Preparation of performance mechanical and electrical specification and design criteria to enable tendering of the services as a design build contract and realise a BREEAM rating of 'Very Good'
- The full external lighting design was modelled to achieve BREEAM credits and in order to satisfy planning conditions
- High level of renewable energy integration, including heat pump technology and heat reclaim systems
- Project was awarded "Regeneration and Renewal Awards Mixed Use Project of the Year 2008".