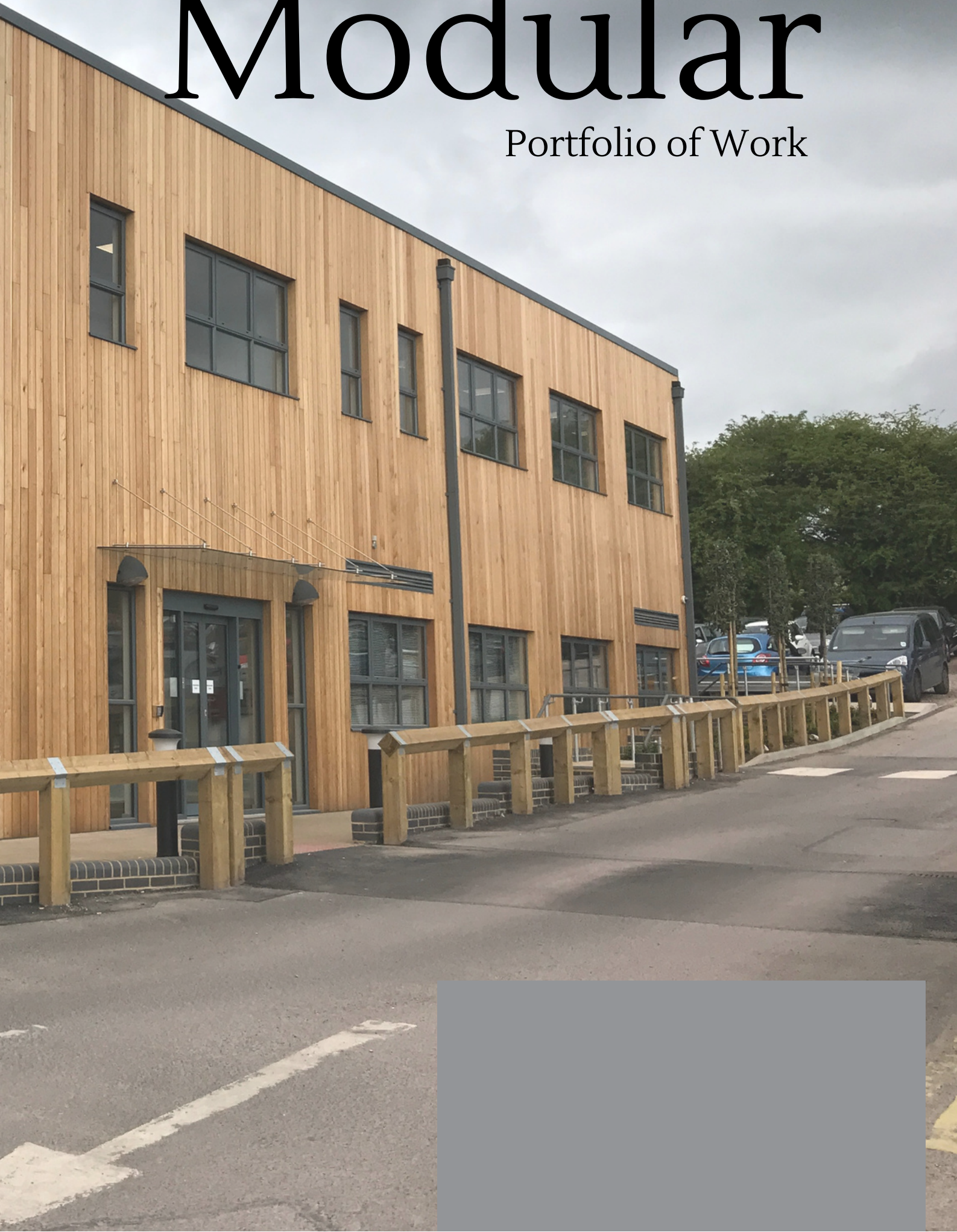


# Modular

Portfolio of Work





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# The Company...

Sutcliffe Consulting Engineers were formed in January 2000 and transformed to a Limited Company in February 2001. The Consultancy specialises in Mechanical and Electrical Building Services Engineering.

Sutcliffe Consulting Engineers has significant expertise in the design and supervision of building services required by the Public and Private sectors. We have developed a high reputation by providing a proactive personal service meeting the demands of our clients with responsive yet innovative solutions.

# Energy Performance Certificates & Building Regulations L2

Our company performs Building Regulations L2A 2013 (Conservation of Fuel and Power) calculations to the latest building regulations for many Modular Building companies. These calculations are undertaken in IES VE, which utilises the SBEM calculation engine, and is approved for interfacing with the SBEM engine as part of the National Calculation Methodology approved by the Secretary of State for the purposes of the Building Regulations.

Sutcliffe Consulting Engineers have employees accredited through CIBSE to produce both Level 4 SBEM calculations and Energy Performance Certificates . We can also perform Dynamic Simulation Modeling which allows early consideration to Energy and Carbon Performance of concept and design Architectural Proposals as well as reviewing natural ventilation rates to BB101.

We are accredited to use the Hevacomp and IES VE interface for Part L2 Calculations. Dynamic Simulations are carried out in the IES VE suite.

## Quality Assurance



Sutcliffe Consulting Engineers Ltd. are currently undertaking ISO 9001 as part of their quality Management system.

ISO 9001 is the internationally recognised standard for the quality management of businesses. It applies to the processes that create and control the products and services an organisation supplies. It prescribes systematic control of activities to ensure that the needs and expectations of customers are met.

The Quality Management System motivates staff by defining their key roles and responsibilities. Cost savings are made through improved efficiency and productivity, as product or service deficiencies are highlighted. From this, improvements are developed, resulting in less waste, inappropriate or rejected work and fewer complaints. Our customers notice that orders are met consistently, on time and to the correct specification.

Registration to ISO 9001 by an accredited certification body shows committed to quality, customers, and a willingness to work towards improving efficiency.

It demonstrates the existence of an effective quality management system that satisfies the rigours of an independent, external audit.

## Health and Safety



As part of Sutcliffe Consulting Engineers commitment to Health and Safety our company has achieved Safe Contractor approval.



## St Lukes CE Primary

Project Value: £5,700,000

Sutcliffe Consulting Engineers were appointed to deliver the Mechanical and Electrical design services working on behalf of a local based contractor for St Luke's Church of England Primary School in Manchester. For the Mechanical works, the design included Radiant panels to provide a safe working environment, Hot & Cold water services throughout, and Mechanical & Natural Ventilation Strategies. For the Electrical works, the design included the Lighting design, Small Power, Fire Alarm Systems and Security.

# PAR Maintenance

## Delivery Unit

M&E Value: £80,000

Sutcliffe Consulting Engineers were employed by a Modular building company to produce drawings on behalf of their client Network Rail for the Maintenance Delivery Unit in Par, Cornwall. Work included producing several drawings outlining the Mechanical and Electrical works. The Maintenance Delivery Unit's provided modern amenities for rail workers and included meeting rooms, kitchenettes and facilities.

The project included the co-ordination of the Mechanical and Electrical elements with the complex structural design due to it's trusses and low ceilings. Sutcliffe Consulting Engineers contended with these difficult structural elements by communicating regularly with the project team and client to ensure no design clashes and successful completion of the project.



# St Giles & St George C of E Academy, Newcastle

M&E Value: £150,000

St. Giles & St. George Academy School project is a new classroom block extension at the St. Giles & St. George C of E Academy in Newcastle. The buildings largely consists of classrooms, with staff offices, circulation areas, and WC facilities.

Sutcliffe Consulting Engineers were employed to produce detailed designs, thermal modelling calculations and an SBEM/EPC for the project.

For this project we first carried out a thermal model to determine available fresh air through openable windows, peak temperatures reached, and expected comfort levels within the classrooms. Once thermal modelling and concept design and strategy were complete, this allowed us to progress on to the SBEM calculation, producing a design stage report and draft EPC. We designed a natural ventilation system, hot and cold water services, and low surface temperature radiators throughout with a natural gas boiler system.





# Farnham University of Creative Arts

Project Value: £185,000

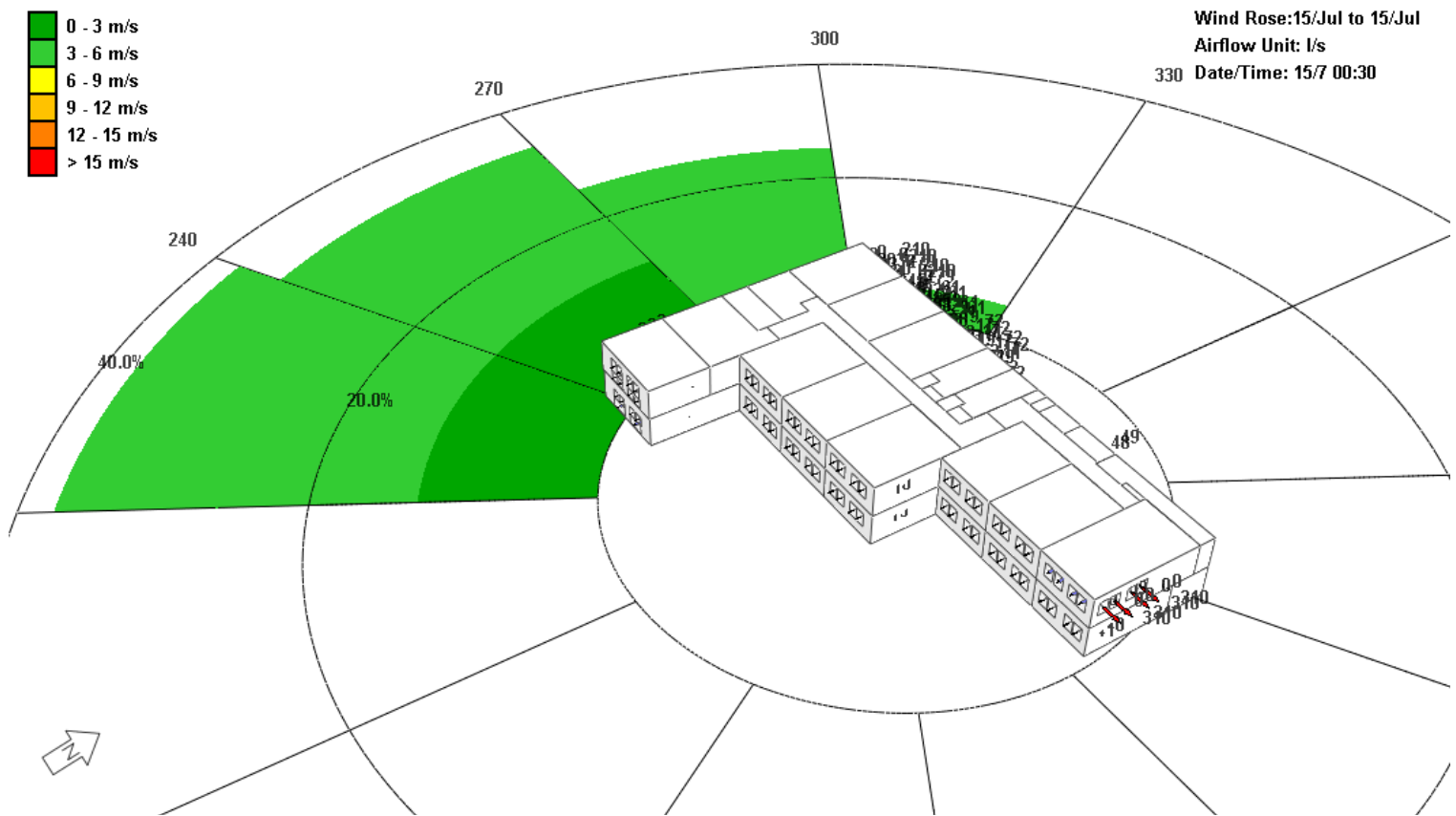
The Farnham project was a new 2-storey office block at the University for the Creative Arts in Surrey. The building largely consists of open plan office space with meeting rooms, staff facilities and circulation areas.

Sutcliffe Consulting Engineers were appointed to deliver the Mechanical and Electrical design services working on behalf of N&P Electrical who are a local M&E contracting company here in Hull.

For this project we first carried out a thermal model to determine available fresh air through openable windows, peak temperatures reached, and expected comfort levels within the offices and meeting rooms. Once thermal modelling, concept designs and strategy were complete, this allowed us to progress on to the SBEM calculation, producing a design stage report and draft EPC.

The Mechanical design also included split package Air Conditioning, Hot & Cold-Water services, and Heat Recovery Ventilation Systems. For the Electrical works, the design included the LV Distribution, General Lighting & Emergency Lighting, Small Power, Fire Alarm and Security Systems, Photovoltaics and Lightning Protection.





# Wellington College, Berkshire

M&E Value: £185,000

The Wellington College project is a new classroom block at the Wellington College Queens Court Annexe in Berkshire. The buildings largely consists of classrooms, with staff offices, circulation areas, and WC facilities.

For this project we carried out a thermal model to determine available fresh air through openable windows, peak temperatures reached, and expected comfort levels within the classrooms. Upon finding the majority of classrooms would significantly fall short of fresh air and fail overheating due to the necessary window opening restrictions combined with high occupancy levels.

As we were also employed to produce detailed designs for the project we designed a mixed-mode ventilation system and client-requested air conditioning to operate on CO<sub>2</sub> and room temperature sensors. When re-running the simulation we found all educational and staff areas complied with the relevant overheating and ventilation criteria, with AC and ventilation only operating as required to supplement natural ventilation.

The thermal modelling then allowed us to progress on to the SBEM calculation, producing a design stage report and draft EPC. The full set of calculations were also submitted as part of the BREEAM assessment for ENE01 and HEA04 credits.



## OMFS, Castle Hill Hospital

Project Value: £800,000 (fit out only)

A new Oral Maxillofacial Clinic situated at Castle Hill Hospital in Cottingham.

This scheme involved the relocation of an existing modular building owned by Hull & East Yorkshire NHS Trust from a site in East Hull to Castle Hill Hospital and a full refurbishment internally to create an Oral Maxillofacial Clinic. The Clinic included seven new Treatment Rooms, X-Ray Room, Laboratory, three Consulting Rooms, Reception and Waiting Area and ancillary spaces.

We were employed directly by the Trust and liaised closely with the Estates Department, the End Users and with specialist equipment suppliers to produce a detailed design and specification for the mechanical and electrical services in line with HTM guidelines. The services design included mechanical ventilation with heat recovery, domestic hot & cold water with separate tanked and mains cold water supplies, low surface temperature electric heating, dental grade compressed air, natural gas, internal & external lighting, small & general power including supplies for specialist X-Ray equipment, LV distribution, fire alarm, nurse call, door access, intruder alarm and CCTV.

# Richard Onslow Court Shrewsbury

Project Value: £TBC

Sutcliffe Consulting Engineers were appointed to produce a performance specification for the mechanical and electrical services, apply for and fully coordinate all the incoming services, associated with a new two storey 8 apartment retirement housing development. Sutcliffe Consulting Engineers worked on behalf of a local modular build company for Housing and Care 21 on one of their existing sites in Shrewsbury.

Working closely with Housing and Care 21 Sutcliffe Consulting Engineers interpreted the client requirements for each space and developed the principles for the mechanical and electrical scheme, including gas fired LTHW heating for each flat, domestic hot and cold water services, mechanical ventilation, above ground drainage, LV distribution, small power, lighting, Sky Q television, telephone, fire detection linked to the existing site infrastructure and technology enabled care services. Incoming gas, water and electrical supplies were fully coordinated on a heavily serviced site, with a metering strategy which included individual gas, water and electrical metered supplies to each apartment and very limited plant space.



