



**Constructing Excellence Wales
Demonstration Project
Final Peer Review
Wednesday 9th June 2010**



Llandudno Junction office



Introduction

Jonathan Pochin

Managing Director

Pochin Construction Ltd.



Office Development
Llandudno Junction
Datblygiad Swyddfa,
Cyffordd Llandudno



Presentation Team

- | | |
|---------------------|-----------------------------|
| Jonathan Pochin | -Project Overview |
| Kim Owen | -The client and the Project |
| David Stafford | -Sustainability |
| Lara Da Rocha-Faria | -Commitment to People |



Office Development
Llandudno Junction
Datblygiad Swyddfa,
Cyffordd Llandudno



Project Overview

- History: Hotpoint factory
- Type: Government Office (650 capacity)
- Value: £22 million
- Contract: Design and build (JCT10 – 2005)



Project Overview



•Design team

- Architects: Austin Smith Lord
- Engineer: Tier Consultants
- M&E Engineer: S.I. Sealy
- Client PQS: David Langdon
- Client Supervising Officer: Tweeds

•Subcontractors

- Steelwork: Solway
- Groundwork: Thomas Plant Hire
- M&E: Rotary NW
- Slate: Cerrig- Granite
- Glazing: Parry Bowen



Programme

Re-procurement April 2008

Contract Award October 008

On site January 2009

Construction Completion
April 2010

Client fit out May 2010

Occupation 2010



What makes this a Demonstration Project?



The Client

“ We are a complex client and we are your major challenge.....

“What Mr. Pochin do you see as your major challenge on this project? “

There are never winners and losers on a particular project. We either work together, collaboratively and the project is a success or we don't and we all fail “

Richard Wilson
Construction Programme Director
Welsh Assembly Government

Richard Wilson
Construction Programme Director
Welsh Assembly Government





The Client

Kim Owen

Client Project Manager

Welsh Assembly Government



Office Development
Llandudno Junction
Datblygiad Swyddfa,
Cyffordd Llandudno



Welsh Assembly Government – Location Strategy

The Vision :

- “By 2010, the Welsh Assembly Government will establish new centres at Merthyr Tydfil, Aberystwyth and Llandudno Junction. These will bring the full breadth of Assembly Government services closer to the people of Wales by being located across the country.



Office Development
Llandudno Junction
Datblygiad Swyddfa,
Cyffordd Llandudno



Client Drivers



- Location
- Access
- Economic Growth
- Environment
- Transport
- Value for money



Office Development
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Datblygiad Swyddfa,
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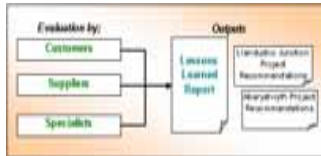
Client Drivers in construction:

- Lessons Learned and applied knowledge
- Collaborative approach
- Sustainability
- Communications
- Building a difference



'Lessons identified' become 'lessons learned'

- Not just a building project. - People issues and organisational change
- Development HR policies
- Innovative Building and ICT design
- Organisation of Communication events with staff, the public and key stakeholder groups
- Programme and Project Management standard have been introduced based around MSP, Prince2 and Management of Risk.
- Gateway reviews and mobilisation plans.
- Financial modelling and budget management.



'Lessons identified' become 'lessons learned'

The Collaborative - One Team Approach



- Co-located
- Relationship
- Project management
- Meeting schedule
- Conflict resolution

'Lessons identified' become 'lessons learned'

Sustainability

- Sustainability targets in construction
- Well ventilated
- Well light
- Low carbon emissions
- Renewable energy
- BREEAM Excellent rating
- Welsh Economy



'Lessons identified' become 'lessons learned'

Sustainability

Design

Construction

Economy

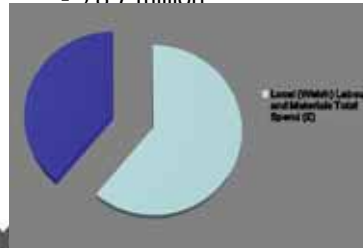
Local spend and local employment

Total local spend

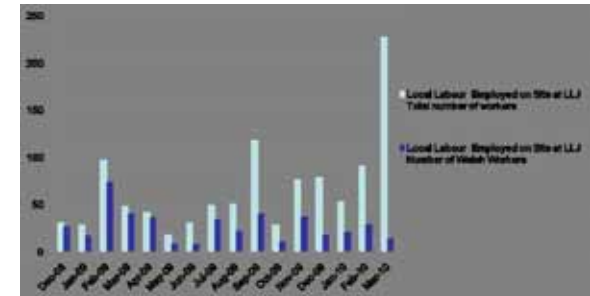
- 64% labour and supplies
- £8.7 million

Meet the buyer event

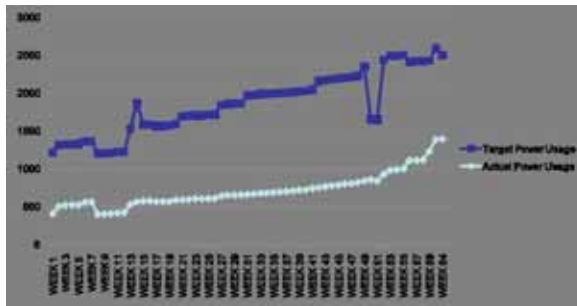
- 130 attendees
- 5 contracts awarded
- Resultant spend £421,500



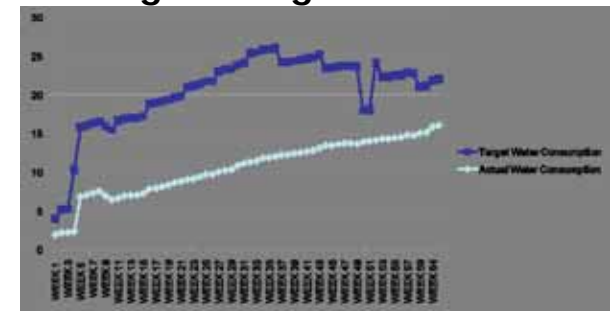
Local Labour employed – 42%



Energy usage during construction



Water usage during construction



Sustainability

- Recyclable materials – 25% on aggregate
- Waste Management plan – 80% recyclable waste



'Lessons identified' become 'lessons learned'



Sustainability barriers overcome

- Site links during construction phase
- Travel Plan
- Cycling and walking
- Public transport
- Car sharing.



'Lessons identified' become 'lessons learned'



Communications

- Clear lines of communication
- Internal communications strategy
- External communications strategy
- Continuous information (media)



'Lessons identified' become 'lessons learned'

Building a difference

- Accessibility
- Green travel plan
- Y-bont
- Mobilisation
- Community benefits
- Continued best practice
- Education
- Arts



*'Lessons identified' become
'lessons learned'*

Health and Safety – beyond compliance

- CDM regulations incorporated into the building
- Dedicated permanent roof access
- Full parapet edge protection to roof
- Man safe wire
- Permanent floors within riser ducts
- Window cleaning plan



Health and Safety

- Site waste management and WRAP
- 2 minor incidents on sites throughout programme
- Behavioural Safety Policy
- Ecology
- CSCS cards – 100% compliance
- All Sub – contractors to complete PQQ



The Design Specialist

David Stafford

Director

S.I.Sealy & Associates Limited



Sustainability and the design

More than just a BREEAM rating

- Design incorporates many sustainable, renewable and energy saving technologies



Sustainability and the design

Passive Measures

- Natural ventilation
- High Thermal Mass
- Passive Solar Gain
- Night Cooling
- Fixed Solar Shading

Active Measures

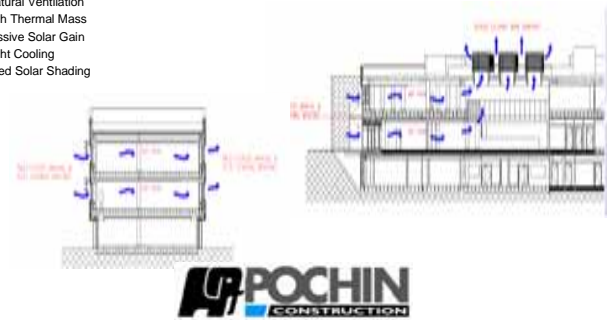
- Auto Solar Shading
- Biomass Boiler Plant
- Rainwater Harvesting
- Pond Water Cooling
- Ammonia Chiller Plant
- Daylight Dimming
- DC Fan Coil Motors
- Inverter Drivers



Sustainability and the design

Passive Measures

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Sustainability and the design

Passive Measures

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Sustainability and the design

Active Measures

- Automated Solar Shading
- Fixed in the winter to encourage passive solar Gain
- Track the sun in the summer to limit overheating



Sustainability and the design

Active Measures

Pond Water Cooling

- Pond water circuit provides pre-cooling of fresh air to Main AHU

Rainwater Harvesting

- Recycled water stored in 32,000 litre tank
- UV pasteurisation
- 7 day storage
- Utilised for toilet flushing and irrigation
- Harvesting tank overflow into pond



Sustainability and the design

Active Measures

Biomass Boilerplant

- Serves 90% of annual heating & hot water demand
- Commissioned on Chips – capable of conversion to pellets
- 45m³ Fuel Tank Provides 2 weeks storage
- 100% Modular Gas Boiler back-up & Peak Load Top-up
- 2 No 160KW Biomass Boilers
- Size Up to G50/moisture content W30 (20-29.5%)
- 3 No 250KW Condensing Gas-Fired Boilers



Sustainability and the design

Active Measures

Cooling Utilising Ammonia

Chiller Plant

- Chiller Seasonal EER 3.7
- Zero Ozone depleting gases
- Inverter Drives
- Chiller Water pumps – inverter driven with pressure independent FCU control valves
- CT & VT heating pumps – inverter driven



Sustainability and the design

Active Measures

Daylight Dimming

- Peripheral zone control
- Dali control system



Sustainability and the design

Active Measures

Heat Recovery

- Frost Proof Filters allows Omissions of frost coils
- Up to 85% Heat Recovery



ECDC FCU Motors

- EC (electronically commutated) Direct Current fans provide Variable air volume
- Over 60% electrical energy saving



Building Envelope

	Notional Specification:	Improved Compliancy Design Specification:
U-Values:		
External Walls	0.35 W/m ² K	0.27 W/m²K
Ground Floor	0.25 W/m ² K	0.18 W/m²K
Roof	0.25 W/m ² K	0.20 W/m²K
Vehicular Access Doors	1.5 W/m ² K	N/A
Personnel Doors	2.2 W/m ² K	2.19 W/m²K
Glazing	2.2 W/m ² K	3.24 W/m²K
Air Tightness		
Air Pressure Test Result	10 m ³ /h/m ² @ 50Pa	8.52 m³/h/m² @ 50Pa



SBEM Analysis

	Notional Specification:	Improved Compliancy Design Specification:
Lighting		
Design lighting efficacy	Compact Fluorescent of linear fluorescent >45 lm/circuit W	fluorescent >45 lm/circuit W
Heating & Cooling		
Heating to open plan offices and toilets by radiators	Gas boiler 0.84	Bivalent System Gas boiler 0.865 Efficient Biomass boiler 0.915 Efficient
Fan coil system serving all areas	Gas Boiler 0.84 Chiller 2.0	Bivalent System Gas boiler 0.865 Efficient Biomass boiler 0.915 Efficient Chiller 3.7 Efficient
Controls	Standard	Per the CIBSE non-domestic heating compliancy guide

SBEM Analysis

	Notional Specification:	Improved Compliancy Design Specification:
Domestic Water Production		
Heat Source	Gas 0.84	Bivalent System Gas boiler 0.865 Efficient Biomass boiler 0.915 Efficient
Controls	7 day, two periods on/two periods off for all plant fed	As per the CIBSE non-domestic heating compliancy guide
Energy Metering		
Energy sub-metering	Energy Metering for at least 90% of energy usage	Energy Metering for at least 90% of energy usage
Building Log Book		
Provision of Log Book	Building log-book to be provided with O&M Manuals and Health & Safety File	Building log-book to be provided with O&M Manuals and Health & Safety File.

SBEM Results Energy Efficiency

Notional Building	= 52.6kg CO ₂ /m ² /yr
Target Emission Rate (TER)	= 38.9kg CO ₂ /m ² /yr
Building Emission Rate (BER)	= 20.6kg CO ₂ /m ² /yr
EPC Rating	A 24

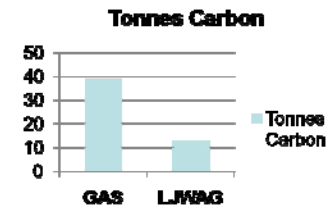


- 60% Carbon Reduction
- Complies with 2010 proposed changes to Part L



Sustainability Targets Achieved

Carbon Footprint



ANNUAL HEATING & HOT WATER DEMAND

- 178,000 KWHrs

GAS CONSUMPTION EQUIVALENT

- 205,000 KWHrs

PREDICTED CONSUMPTION

- 195,000 KWHrs Biomass Fuel
- 20,000 KWHrs Gas



BREEAM 2006 'Excellent' rating Achieved

- Management
- Health and Wellbeing
- Energy
- Transport
- Water
- Waste
- Materials
- Land Use & Ecology
- Pollution
- Innovation



Sustainability Target Achieved

- Achieved BREEAM excellent (75.8)
- Highest rated building in the Assembly estate
- Sustainable design throughout



BREEAM 'Excellent'

BREEAM Wales Awards
2010

- BREEAM Winner of the Bespoke Category

BREEAM AWARDS WALES 2010



Sustainability and the design

Summary

- Naturally Ventilated Building
- High levels of User Comfort Anticipated (Post Occupancy Study)
- Low Carbon Footprint - 60% reduction
- Predicted Biomass Carbon footprint is 13 Tonnes (1/5 of conventional office building)



The Educational and Community

Liaison

Lara Da Rocha-Faria

CSR Manager

Pochin Construction Limited



Commitment to People

Corporate and Social Responsibility



Commitment to People

Community

- Kidz and Teenz
- Junior Rugby Tournament
- WREN Support Llandudno Junction Community Centre
- Local Community Groups
- Access groups
- Arts project



Commitment to People

Community

- Visitors centre
- Open day
- Newsletters
- Site visits
- Considerate Constructors



Commitment to People

Considerate Constructors

- 1st Visit = 36/40 score
- 2nd Visit = 38/40 score
- Highest ever score in the company
- CCS Campaign and Champions



Commitment to People

Considerate Constructors Monitor's Report 20 April 2009

"Pochin Construction and their team are displaying a strong commitment to the Code of Practice. Particularly pleasing was to learn of the engagement with local suppliers and contractors at the 'Meet the Buyer' event coupled with the provision of work opportunities for the unemployed and also the exceptional level of engagement with schools / colleges. An exceptionally good site."



Commitment to People

Education Targets

- Time capsule
- Engage with local schools and colleges
- Site visits
- Health and Safety Awareness



Commitment to People

Education

- Business Enterprise days
- Girls into Construction
- Careers Convention
- Teacher exchange day
- University Projects
- H&S talks
- K'nex Activities
- Site visits



Commitment to People

Education Target Achieved

- 6 student site visits
- 3 teacher placement days
- 3 work experience placements
- Professionals into the classroom
- 4 'Construction sites are not Playgrounds' talks
- 4 primary schools K'nex activities
- 4 secondary schools



Commitment to People

Construction

Lessons Learned

- Client Workshops
- Conwy County Council
- Denbighshire County Council
- Construction Industry
- Pochin Construction Ltd.



Corporate and Social Responsibility

- **PEOPLE** - committed to continuing development and safety of our people.
- **PENNESS** - fair, open and trustworthy in our communications and actions.
- **COMMITMENT** - honour our commitments to our people and partners.
- **HIGH QUALITY** - fulfil our customers' expectations by delivering quality and value
- **INNOVATION** - produce creative solutions and introduce new ideas to continually improve our service.
- **NEIGHBOUR** - professional and caring in managing the impact of our business on the community and the environment.



Corporate and Social Responsibility

▪ CNQ10 CSR Awards Finalist shortlist

"Pochin Construction Ltd were contracted by the Welsh Assembly Government to undertake the construction of the £22.0m 8800sqm office development at Llandudno Junction.

They were selected from a strong field of bidders on the basis of a 70%/30% quality/cost matrix and one of the main criteria when selecting them was their commitment to collaborative working, local engagement and in particular their emphasis on Corporate & Social Responsibility.

As the Programme Director I have found their proactive approach, engagement and commitment to the 'spirit' of the contract to be quite exemplary; their involvement with the local community has been led by their quite outstanding CSR Manager who has worked tirelessly with the Welsh Assembly Government and the local community.

They have had a comprehensive programme of engagement and their effort in this area has been both sustained and exemplary.

I have been involved in a number of major capital projects and I am extremely impressed with them, they have been quite outstanding in the area of CSR and this is, in my view, one of the main reasons for the on-going success of the project.

At tender stage they promised to deliver a first class building in an open and collaborative manner and frankly they exceeded all my expectations; I have been extremely pleased with them. "

Richard Wilson
Construction Programme Director
Welsh Assembly Government



What makes this a Demonstration Project?



Any Questions?

Visit: www.wales.gov.uk www.pochins.plc.uk





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