

AJ

01.06.06
LE CORBUSIER/
STUTT GART

FEI COBB FREED & PARTNERS
LIBRARY

ISSN 0003-8466



9 770003 846103

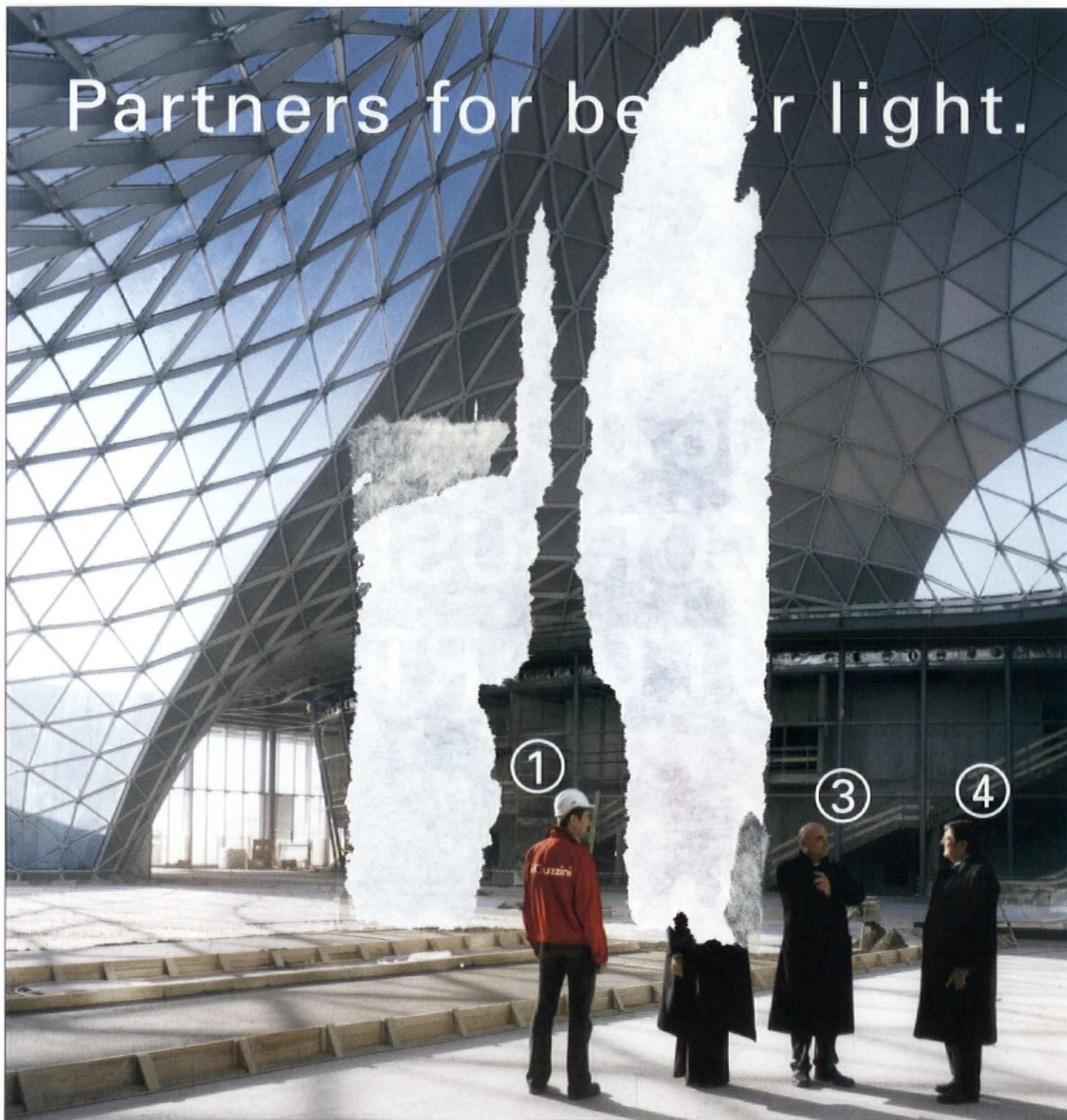
THE ARCHITECTS' JOURNAL WWW.AJPLUS.CO.UK

£3.25

Info: iGuzzini Illuminazione UK, Unit 3, Mitcham Industrial Estate, 85 Streatham Road, Mitcham Surrey CR4 2AP,
Tel. + 44 (0) 20 8646 4141, Fax + 44 (0) 20 8640 0333, www.iguzzini.co.uk, info@iguzzini.co.uk

STZ

Partners for better light.



New Fiera Milano Complex, Rho-Pero, Milan. As wise men used to say: wares displayed in the right light sell better. The same is true of a huge exhibition centre like this. For over 30 years, iGuzzini has been working alongside great designers, architects and lighting designers (as well, obviously, as clients sensitive to this issue) to give the world better light. Architectural and lighting design: Massimiliano Fuksas ③ and Doriana Mandrelli ②. Clients: Fondazione Fiera Milano and Sviluppo Sistema Fiera, President Luigi Roth ④. iGuzzini Partner Assistance: ①. iGuzzini used: Lavinia, design by Massimiliano Fuksas and Doriana Mandrelli. www.iguzzini.com, iGuzzini Illuminazione spa, Italy.

Better Light for a Better Life. **iGuzzini**

ENQUIRY 11 ON CARD
WWW.AJPLUS.CO.UK/AJDIRECT

Magazine of the Year
Best-Designed B2B Magazine
Redesign/Relaunch of the Year
Magazine Design Awards 2005

THE ARCHITECTS' JOURNAL
151 Rosebery Avenue,
London EC1R 4GB

Editorial enquiries
020 7505 6700
Editorial fax number
020 7505 6701
Email
firstname.surname@emap.com

Editor
Isabel Allen
News editor
Ed Dorrell (020 7505 6715)
Senior reporter
Richard Waite (020 7505 6636)
Working details editor
Susan Dawson (015242 21692)
Reviews editor
Andrew Mead (020 7505 6717)
Technical editor
Hattie Hartman (020 7505 6711)
Art editor
Sarah Douglas (020 7505 6705)
Assistant art editor
Eriko Shimazaki (020 7505 6704)
Chief sub-editor
Angus Montgomery (020 7505 6708)
Sub-editor
Katie Bacon (020 7505 6707)
Editor, AJ Specification / Online
Ruth Slavid (020 7505 6703)
Assistant editor, AJ Specification
Will Hunter (020 7505 6716)
Managing editor online
Barrie Evans (020 7505 8609)
Editorial administration
Angela Newton (020 7505 6700)
Anna Robertson (020 7505 6700)
Marketing executive
Tara Ryan (020 7505 6745)
Publishing director
Jonathan Stock (020 7505 6744)
Managing director
Ben Greenish (020 7505 6827)

Regional sales managers
Samuel Lau (020 7505 6746)
Katie Deer (020 7505 6743)
Account manager
Brad Davies (020 7505 6706)
Telesales manager
Lucy Herdsman (020 7505 6873)
Senior account executive
Robert Warnock (020 7505 6835)
Account executive
Gemma Knight (020 7505 6662)
Group sales manager
Midge Myatt (01902 851645)
Commercial manager
Malcolm Perryman (020 7505 6698)
Business development manager
Toby Redington (020 7505 6634)
Recruitment
Laura Tilling (020 7505 6803)
Advertisement production
Leanda Holloway (020 7505 6741)

Back issues: 01344 404 407

emap communications

The Architects' Journal is registered as a newspaper at the Post Office. ©2005. Published by Emap Construct, a part of Emap Communications Ltd. Printed in the UK by Headley Brothers Ltd. Origination and colour reproduction by Graphics (Kent), Sidcup, Kent

IF THE GOVERNMENT HAS MADE THE RIGHT DECISION IT HAS DONE SO BY CHANCE

By Isabel Allen

The plight of the Commonwealth Institute (see page 14) is a reminder that the most simplistic platitudes occasionally turn out to be right.

1. *Nobody seems to like it so it can't be any good.* It is commonplace for great buildings to be reviled in their own time. But the Commonwealth Institute never managed to overcome the early indifference despite numerous attempts at reinvention, including two failed Lottery bids and one failed Millennium bid. Even its own project architect, Lord Roger Cunliffe, feels that it falls short of contemporary standards of health and safety, accessibility and energy use and has clearly had its day.

2. *Iconic public buildings detract money from more pressing social needs.* Occasionally it doesn't hurt to listen to this blanket justification for substandard government buildings. Even the most militant architectural custodian has to be affected by the institute's claim that the financial burden of owning a listed building directly undermines

its attempts to provide funding for education for 75 million children from the world's poorest countries.

3. *Good buildings don't leak.* The odd technical hiccup is an inevitable side effect of architectural experiment. But the Commonwealth Institute didn't just leak when it opened. It leaked after its copper roof had been replaced, and has scarcely stopped leaking since.

The listing process can only remain culturally relevant if it is subject to constant review, and it may be that the Commonwealth Institute has simply had its day. But delisting is not to be undertaken lightly. The government's hasty *volte face* on this particular building's fate demonstrates a lofty disregard for procedure or for potential precedent. If it is the right decision, it appears that the government has fallen on it by chance. It may not have the appetite to rewrite all the rules, but it is perfectly willing to break them if they get in the way.



CONTRIBUTORS



Jonathan Foyle, who writes about architecture in the 19th century on pages 39-41 as part of his series on the history of architects, is an archaeologist and TV presenter

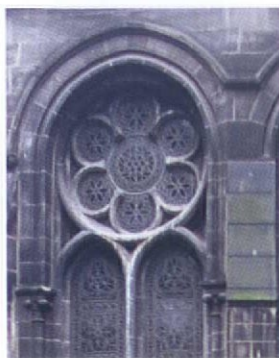


Ian Cox, who writes the leader about precast concrete on page 44 in the Concrete Quarterly supplement, is the chief executive of The Concrete Centre



Jim Mumby, whose work (with colleague John Pearson) is featured on the Sketchbook on page 74, is an architect with The Goddard Wybor Practice

CONTENTS



P. 39 HISTORY OF ARCHITECTURE



P. 18 EDINBURGH



P. 25 LE CORBUSIER

NEWS

7
Weekly digest/online news

11
Museum of Africa plan dumped

12 – 13
MJP revamps Bangkok embassy

16 – 17
John Lyall in Liverpool plan

AGENDA

14
The listings system is under threat with government plans to demolish the Grade II*-listed Commonwealth Institute

18
Innovative architecture is being held back in Edinburgh due to fears of losing the city's World Heritage status

BUILDING STUDY

25 – 37
The restoration of *Le Corbusier's* 1927 double villa in Stuttgart

TECHNICAL & PRACTICE

39 – 41
History of architecture

42
Planning

43 – 58
Concrete quarterly



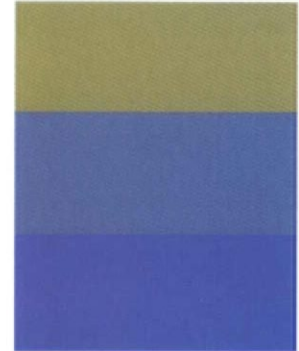
P. 43 CONCRETE QUARTERLY



P. 12 MACCORMAC JAMIESON PRICHARD

SUBSCRIBE

- Go to www.ajplus.co.uk/subssignup;
 - Call 0870 830 4959; or
 - Email aj@subscription.co.uk
- A £129 subscription (students £89) includes:
- The AJ every Thursday;
 - AJ Specification every month;
 - Access to www.ajplus.co.uk and www.ajspecification.com;
 - Six breaking stories in a daily email alert



P. 62 JOSEF ALBERS

REVIEWS

61

The work of *Erich Mendelsohn*; *Graham Ellard* & *Stephen Johnstone*; and *Bridget Smith*

62

Josef Albers' screenprints

63

Working with *Le Corbusier*.
Critic's Choice

REGULARS

20

Astragal and *Hellman*

22 – 24

Letters

74

Sketchbook: *Jim Mumby*

JOBS & CLASSIFIED

64

The latest vacancies

71

Classified advertising

AJPLUS.CO.UK

- Peter Davey takes issue with architecture in Paris at www.ajplus.co.uk/peterdavey
- Daily breaking news at www.ajplus.co.uk/news
- More than 550 buildings at www.ajspecification.com
- More than 70 events at www.ajplus.co.uk/diary
- Competitions at www.ajplus.co.uk/awardscomps
- The latest jobs at www.ajplus.co.uk/jobs

Building Heritage

13th June 2006, 09h00–16h30
RIBA CPD Accredited Course

Robert Adam, DipArch (PCL) RIBA FRSA, will lead this Prince's Foundation education event, teaching the demonstrable quality and value of development that reflects heritage contexts.

Gorton Monastery is one of Manchester's most important landmarks, not only appreciated by architects and academics as one of the finest examples of High Victorian Gothic architecture, but by a much wider local, and regional community.

The Prince's Foundation will hold a one day seminar at the Trust's site headquarters, examining the implicit value of heritage assets and their power as a focus for wide-ranging urban regeneration. By interpreting such rich architectural vocabulary, designers, developers and regeneration agencies can shape the form of new buildings, articulating local urban character for wider gain.

With support from:

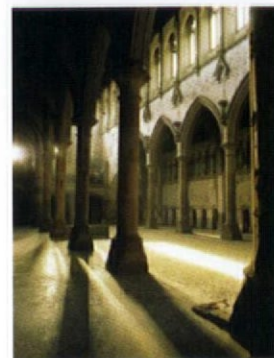
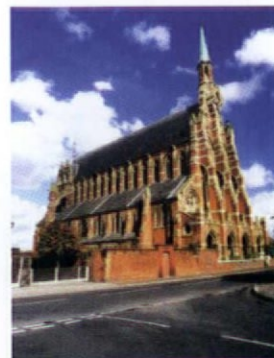


The seminar will be held at:
The Monastery of St Francis & Gorton Trust
The Angels, Endcott Close
Gorton, Manchester M18 8BR

Registration fee for this event, including lunch and a Monastery tour is £100 + VAT.
Limited scholarship places are available.

For a full programme
please contact Amy Lemire:
T +44 (0)20 7613 8546
E education@princes-foundation.org

www.princes-foundation.org



© Lee Grant Photography and The Monastery of St Francis and Gorton Trust

ENQUIRY 13 ON CARD
WWW.AJPLUS.CO.UK/AJDIRECT

11th July 2006 - 27 Sussex Place, London NW1



Historic Buildings

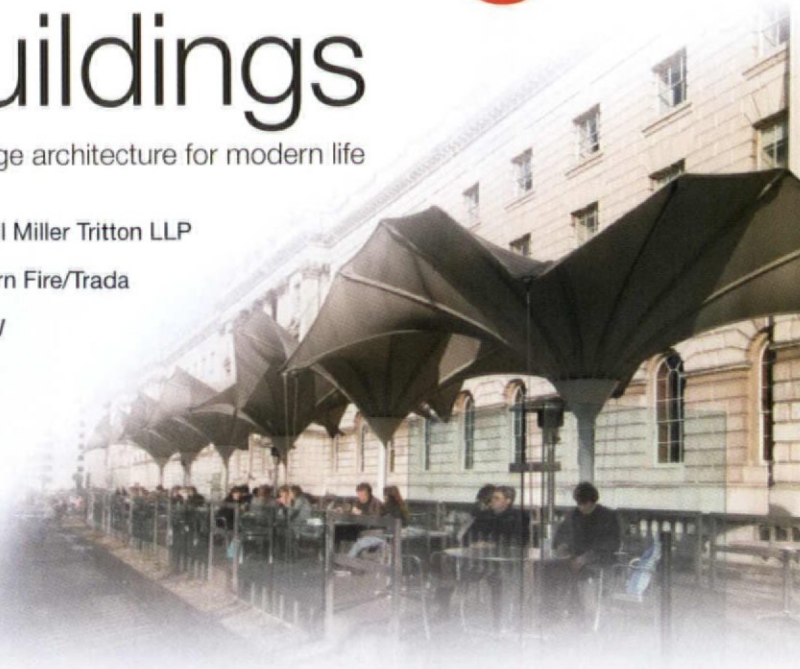
Inspirational approaches to adapting heritage architecture for modern life

- English Heritage
- Heritage Lottery Fund
- BRE Construction Division
- Purcell Miller Tritton LLP
- Chiltern Fire/Trada
- DEGW

Endorsed by:



To register - Tel: 0845 056 8069
Email: constructconferences@emap.com
Online: www.ajhistoric.co.uk



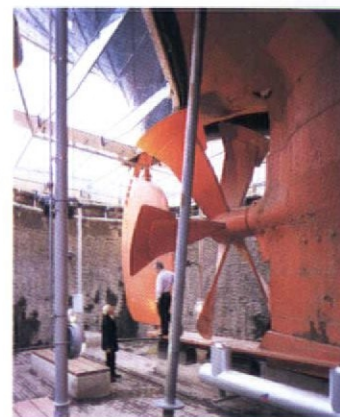
All the news you need from the world of architecture breaks daily on www.ajplus.co.uk. To get your news first activate your online subscription at www.ajplus.co.uk/activate For login details call 020 7505 8623

THURSDAY 25 MAY

- ARB secures two public convictions for abuse of title
- Gaunt Francis starts afresh after CABE slams St Katharine Docks scheme
- **Hopkins' new power of veto in Jersey leaves Kuhne project in question**
- From Najaf to King's Lynn – Llewelyn Davies Yeang takes on Norfolk masterplan

FRIDAY 26 MAY

- Birmingham forced to reveal Richard Rogers' fees on aborted library project
- West London-based practice Hemingway Cumbo faces £700,000 negligence claim
- Designers hit back as fresh heritage row strikes Edinburgh (see page 18)
- **Alec French's SS Great Britain museum scoops prestigious Gulbenkian Prize (right)**



PAUL RIDDLE

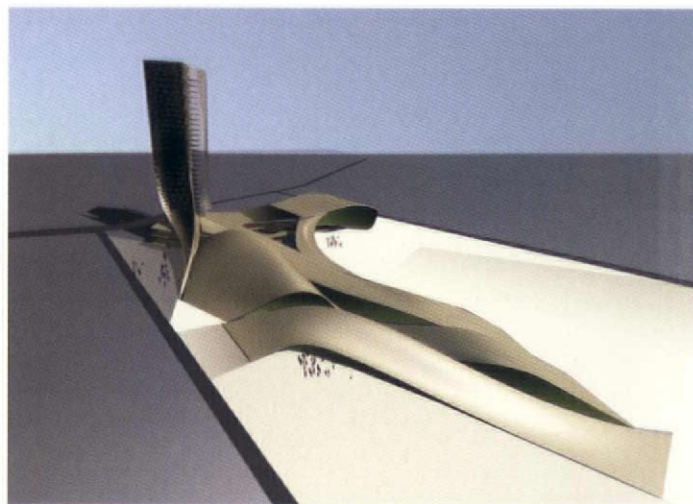


TUESDAY 30 MAY

- **Reiach and Hall wins contest for new Dundee council offices (above)**
- Government U-turn leaves Commonwealth Institute under threat (see page 14)
- SMC promises even more takeovers as it buys Charter Consultant Architects
- Housing warning: Britain needs to build up to '57 new Lutons' over next 50 years

WEDNESDAY 31 MAY

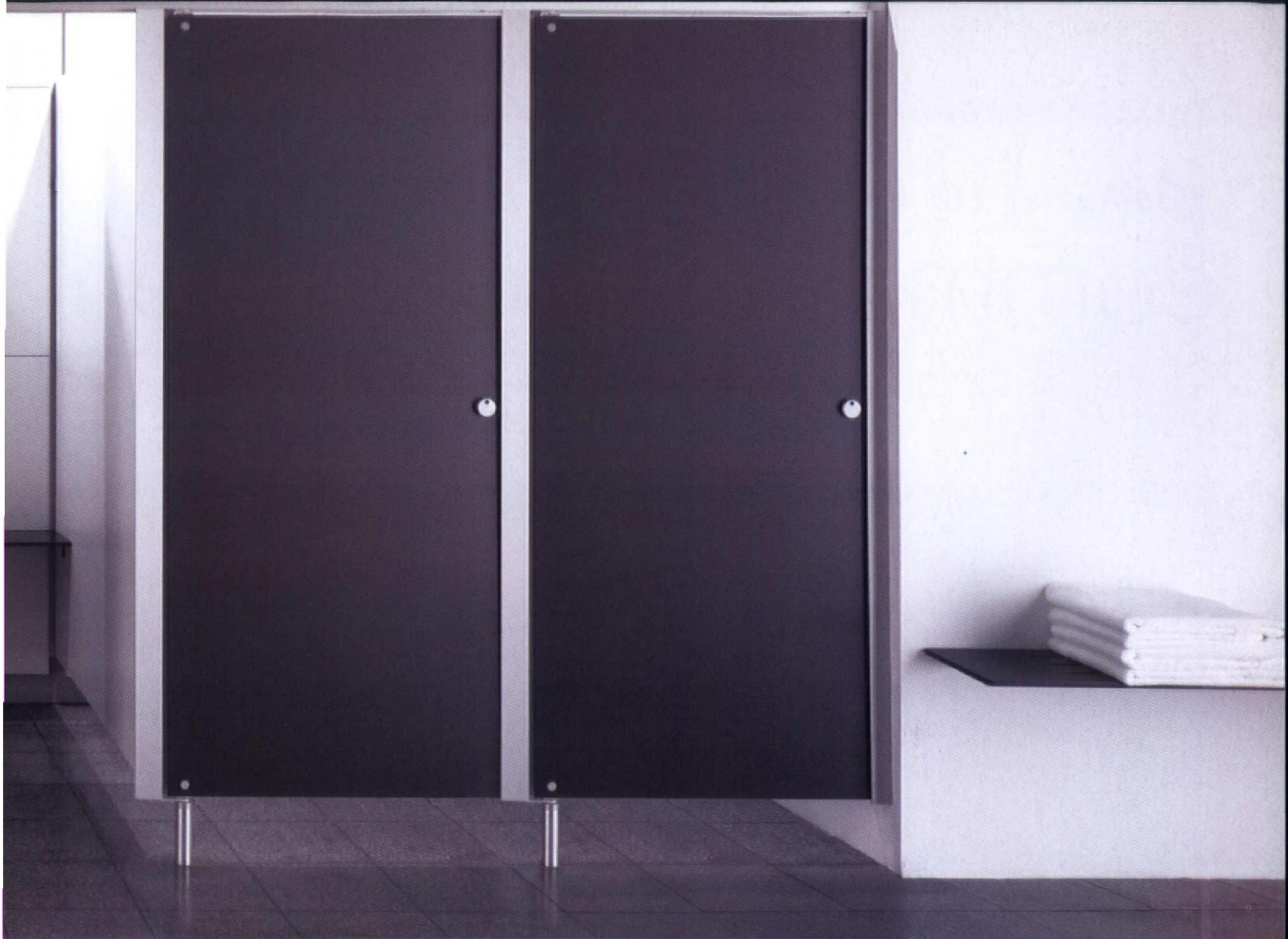
- **Mangera Yvars narrowly misses out on massive Islamic centre scheme (right)**
- President Pringle to give Public Accounts Committee evidence over PFI problems
- Government Office decides against calling in Viñoly's 'golden banana'
- Demolition of one of two remaining Festival of Britain buildings to get green light



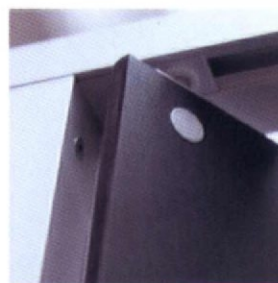


icon leisure. Loves water sports.

The changing room, with high humidity and heavy usage, is a demanding environment. So icon leisure features solid grade laminate panels, which are unaffected by water. And all the usual Thrislington features remain making it better value than ever.



Engineered aluminium lock, concealed fixings through door, with replaceable hard nylon shear tip.



12mm solid grade panels, polished on all edges, through fixed to aluminium frame.



thrislington cubicles

Product: icon

Scale: nts

Contact: t +44 (0)1244 520 677

w www.thrislingtoncubicles.com

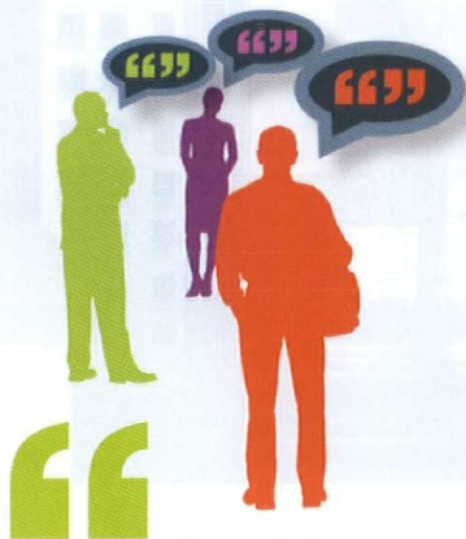
e info@thrislingtoncubicles.com

ENQUIRY 14 ON CARD
WWW.AJPLUS.CO.UK/AJDIRECT

Wednesday 7th June 2006 / Millennium Gloucester Hotel, London SW7

community engagement and public consultation

Innovative approaches to public participation in the design process



People are not there to be planned for; they are to be worked with... There must be one golden rule... we all need to be involved together – planning and architecture are much too important to be left to the professionals

Community Engagement and Public Consultation is a one-day conference exploring best practice in setting up and executing public consultations. Hear from specialists actively involved in public consultation work, and understand how to approach this vital aspect of bidding for work and winning planning approval.

Get to grips with the statement of community involvement

The Government is pushing for architects and planners to be more open and responsive to local people when planning the built environment. To this end, a statement of community involvement must now be submitted as part of the planning application, demonstrating how the stakeholders have been consulted. **Attend this essential new conference to find out how this affects you.**

Key topics to be addressed:

- An explanation of the Statement of Community Involvement and its impact on the planning process
- How to set up and get the most from public consultations
- How to avoid negative feedback and cultivate a positive response
- An in-depth look at consultation projects across a number of different sectors
- How to get 'buy in' from the community for your sustainable scheme

Sponsorship and Exhibition Opportunities

For full details please contact:

Malcolm Perryman on

Tel: 020 7505 6698

Email: malcolm.perryman@emap.com

Featured speakers include:

Bob West, Manager - Kings Cross Team, **Camden Borough Council**

Nick Johnson, Director of Development, **Urban Splash**

David Chisholm, Managing Director, **John Thompson & Partners**

Matthew Goulcher, Managing Director, **Levitt Bernstein**

Chris Horn, Elephant & Castle Development Director, **Southwark Council**

HRH The Prince of Wales*



To Register:

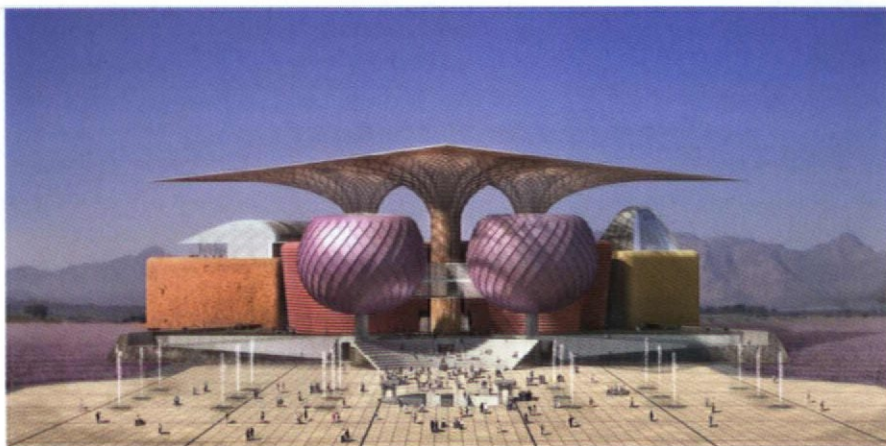
Tel: 0845 056 8069

Email: constructconferences@emap.com

www.ajcommunity.co.uk/2006

*A Vision of Britain, 1989





WILFORD AND DYSON OUT OF AFRICA

By Richard Waite

Michael Wilford and Chris Dyson's extraordinary proposals for a new Museum of Africa have been ditched by landowner Spier Holdings.

The £47 million scheme, planned for South Africa, provoked a barrage of criticism when it was first unveiled 18 months ago (AJ 25.11.04).

Wilford and Dyson were asked to design a museum and cultural village (*pictured*) as part of a major transformation of a wine-growing estate in Lynedoch Valley.

However, Spier Holdings has rejected the proposals and launched an open international competition for an alternative.

The move has prompted questions about whether Wilford and Dyson's vision was sufficiently 'sustainable' for the famously forward-thinking South African landowner.

Speculation continues to mount following the release of the new competition brief, for which all designs must demonstrate a 'new spatial approach... to create a community that will serve as a model for sustainable living elsewhere on the continent and beyond'.

Yet Tanner Methvin, a director of Spier Holdings and a competition judge, was adamant that the scheme's environmental and sustainable credentials played no part in its demise.

Methvin said: 'Wilford and Dyson's concept has been dropped. The list of reasons [behind the decision] is very long, but it was not related to the sustainable nature of the design.'

The new two-stage contest seeks an architect to masterplan

a scheme for around 3,000 people which features 'internationally significant' facilities for visual and performance art.

At least 350 practices from 54 countries have already registered for the competition, including 10 British entrants.

Dyson admitted he was disappointed by the move but argued he and Wilford had done everything asked of them.

He said: 'Our brief... was to produce a fine and memorable building and series of spaces representative of African people – this was admirably achieved.'

'However, there have been many changes on the client side which are complex – the consequence of which has been a redrafting of the brief.'

Michael Wilford was unavailable for comment.

NEWS IN PICTURES



1.



2.

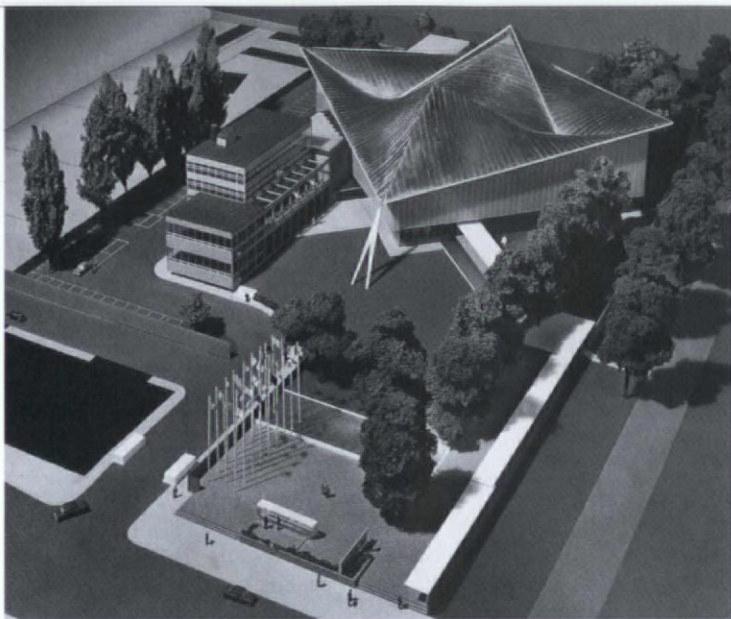
1. All apartments will face inwards to the gardens
2. Sketch of the new development
3. Site plan



MJP FLIES THE FLAG IN THAILAND

MacCormac Jamieson Prichard has been given the go-ahead to overhaul the British Embassy compound in Bangkok, Thailand. The Foreign and Commonwealth Office has approved proposals to build 6,000 sq m of new residential accommodation and leisure facilities on the lush 3.8ha site. All the apartments will have views inwards towards the gardens – described as ‘an oasis of calm in the heart of the city’ – and will boast a number of environmental features, such as solar-shading canopies. Designed in collaboration with structural engineer Adams Kara Taylor, there are also plans for a new gym, a swimming pool and a clubhouse, which will ‘float’ in the middle of the existing pond. The scheme includes a reworking of the approach to the ambassador’s residence following the sale of the land in front of the house. Work is expected to start on site in the next few weeks and is due to complete in early 2008.

By Richard Waite



Planned legislation could see the Grade II*-listed Commonwealth Institute knocked down

JOWELL THREATENS LISTING SYSTEM

By Ed Dorrell

The government is preparing to push legislation through parliament that could endanger one of London's finest post-war buildings and jeopardise the entire listing system.

A bid by two of Prime Minister Tony Blair's closest Cabinet colleagues to delist the 1962 Commonwealth Institute on Kensington High Street, west London, was revealed in a secret document leaked to the press last Friday, 26 May.

Not only would the bill – sponsored by Culture Secretary Tessa Jowell and Foreign Secretary Margaret Beckett – clear the way for the bulldozers, it would also put listed buildings nationwide in danger.

The pair are keen to force through the measure as a way of supporting the Institute's trustees, who want to maximise the value of the land the

building is sited on by allowing for its demolition.

Campaigners argue that the legislation to delist – for economic reasons – Robert Matthew, Johnson-Marshall and Partners' Grade II*-listed Institute would set an extremely dangerous precedent.

And the move comes just a year after Jowell herself supported an English Heritage report which rejected an earlier bid to delist the building, described by Pevsner as 'informal and inexpensive, and full of post-war optimism'.

In July 2005 Jowell said: 'The advice from EH could not be clearer. Our experts on the historic environment believe that this is one of the most important post-war buildings of that period in London.'

EH boss Simon Thurley responded to the plan with

horror, describing it as 'a demolishers' charter'.

He warned that it would undermine the existence of such masterpieces as London Zoo, the Royal Festival Hall, the National Theatre and the British Museum.

'This proposal to alter the law in order to make delisting the Commonwealth Institute possible is muddled, dangerous and completely unnecessary.'

'Historically priceless buildings occupying valuable sites everywhere would be put at risk from demolition if it could be shown that maximum profit could be achieved for any good cause.'

'There is already a constructive and democratic way of resolving cases like this.'

'This undermines the fundamental principle that our best and most culturally

valuable architecture is worth keeping,' Thurley added.

And, unsurprisingly, the Twentieth Century Society (C20) agreed, launching a personal attack on Jowell.

'If the Foreign Office values the work of the Commonwealth Institute Trustees then they should consider grant-aiding them from their own funds,' said C20's Catherine Croft. 'They should not try to help them raise money by depriving us of a major cultural asset.'

'Tessa Jowell's job is to protect our heritage, not to help her friends in other departments find ways around the legislation that she is supposed to defend,' Croft added.

This story appeared as it broke on Friday 26 May on www.ajplus.co.uk

OUTSTANDING DESIGN THAT DOESN'T STAND OUT.



The TrimLine range of accessories brings outstanding, streamlined, architectural style to commercial and public washrooms. Designed to be wall-recessed and robustly constructed in satin-finish, type 304 stainless steel, it is both functional and practical, providing a clean, unobstructed environment, which is especially appreciated by people with disabilities.

A range of options accommodates all essential services from toilet tissue, soap and paper towel dispensers to waste receptacles, napkin/tampon vendors and disposals. The TrimLine range is also available in conventional, surface mounted versions.

Bobrick has set the standard in commercial washroom equipment since 1906 with a quality of service that's every bit as impressive as its products. Durable and easily maintained, the TrimLine Series Washroom Accessories, recessed or surface mounted, will always be outstanding.



BUILDING VALUE SINCE 1906
Celebrating 100 Years

FOR FURTHER INFORMATION CALL FREE.
UK: FREEPHONE 0800 214568 OR FREEFAX 0800 783 0493
©2004 BOBRICK WASHROOM EQUIPMENT LTD.



ENQUIRY 15 ON CARD
WWW.AJPLUS.CO.UK/AJDIRECT

NEWS IN PICTURES



1.



2.

LYALL HAS PLANS FOR KEY LIVERPOOL SITE

John Lyall Architects has submitted this new scheme on a pivotal Liverpool site for planning permission. The £100 million proposed development will be on a plot immediately to the west of the Three Graces on the Mersey waterfront. It sits just in front of Allford Hall Monaghan Morris' Unity development, which is nearing completion. According to Lyall, the project has so far faced just 'minor local planning controversy because of the height' and has been largely welcomed by planners and CABE. The scheme comprises two elements: a U-shaped medium-rise building and a thinner tower. The 25-storey tower will be largely occupied by a hotel. At the top it will also house a viewing platform for the general public. The U-shaped building will include 360 apartments, the ground floor being made up of double-height retail units. These units, which will face into a courtyard, will also be able to look out to the River Mersey beyond. Lyall is particularly keen to emphasise the facade treatment on both buildings. On the lower building it will be a mixture of fritted and non-fritted glass, while the effect of the facade treatment on the tower should make it appear 'white-ish' during daylight hours, but translucent at night.

By Ed Dorrell

1 & 2. The scheme comprises a medium-rise building and a thinner tower

3. View of the proposed plot, just west of the Three Graces on the Mersey waterfront

4. Elevations of the two buildings



3.



4.



Foster and Partners' plans for Quatermile have encountered opposition from conservationists over the Scottish capital's World Heritage status

TIME FOR EDINBURGH TO SAY YES

By Clive Walker

Should Edinburgh ever need a witty marketing slogan Richard Murphy has a suggestion: 'The city that likes to say no.' His cynicism stems from years battling conservationists who claim radical architecture in the Scottish capital's New Town and Old Town will threaten its World Heritage status.

Murphy is only one of many whose visions for Edinburgh have had anti-development campaigners scrambling for their placards. Foster and Partners' plans for the Quatermile; BDP's proposal to replace Waverley station with a retail complex and underground terminus; Allan Murray Architects' Caltongate project – all have been mauled by conservation heavyweights the Cockburn Association and Edinburgh World Heritage Trust (EWH).

To what extent radical architecture threatens Edinburgh's World Heritage status is open to conjecture. There's no precedent for stripping a city of the title. So are conservationists simply crying 'wolf'?

Murphy is convinced there is an entrenched aversion to Modern architecture. 'Suggesting Edinburgh might lose its World Heritage status is a hollow threat,' he says. He also claims that designs in the city are 'being nibbled and nibbled into lowest-common-denominator architecture'.

This is illustrated by the tortuous nine-month journey Gordon Murray + Alan Dunlop's Calton Road mixed-use development took through the city's planning department. Although the project is finally on-site, Murray admits it is not

the innovative scheme he originally envisioned.

Murray agrees the heritage lobby is too quick to stamp down new architecture. 'The meaning of a World Heritage Site and what would detract from it is not fully understood,' he says. 'Remember, the New Town and Old Town would have been radical for their time.'

Naturally, both the Cockburn Association and EWH claim to not oppose Edinburgh's regeneration. Yet just last week the Cockburn Association attacked Gillespies' multi-million rejuvenation of Grassmarket as 'bland and corporate' (ajplus 26.05.06). And in March the two groups issued a joint statement damning the Caltongate project as, yes, a threat to Edinburgh's World Heritage status (ajplus 10.03.06).

But Historic Scotland – in a response that may have conservationists spitting out their cornflakes – believes Caltongate is a prime example of 'informed change' that enhances cultural assets.

Historic Scotland chief inspector Malcolm Cooper adds: 'Bold new architecture is the heritage of the future. We need to be brave otherwise we create mediocre development.'

Edinburgh's status has increased pressure on architects to adopt a contextual approach to design. And rightly so. But heritage should not be an immovable roadblock to progress. New architecture is the signature of an economically confident city – if Edinburgh can't commit to radical regeneration it risks alienating future inward investment.

Annie Spink Award for Excellence in Architectural Education

Call for Nominations

The Royal Institute of British Architects is pleased to announce the fourth biennial Annie Spink Award, presented in recognition of an outstanding contribution to architectural education.

The Annie Spink Award is open to teachers (individuals or groups) working on any internationally recognised RIBA course who are involved in the development of architectural education and engage with the process of teaching and learning.

The award is financed by the Annie Spink Trust Fund, which was established in 1974 by the architect Herbert Spink FRIBA. He bequeathed the trust as a lasting memorial to his wife Annie, and conceived it as an honour for the 'advancement of architectural education'.

The winner will receive the Annie Spink trophy and a cheque for £10,000 on Wednesday 6 December 2006, at a ceremony presented by the President of the RIBA.

For further information contact:
RIBA Education Department
T +44 (0)20 7307 3678
F +44 (0)20 7307 3754
E john-paul.nunes@inst.riba.org

www.architecture.com

'Given the vast investment that all of us are being called on to make, it seems only reasonable to ask for a great park and some great architecture as well as a great Olympics'

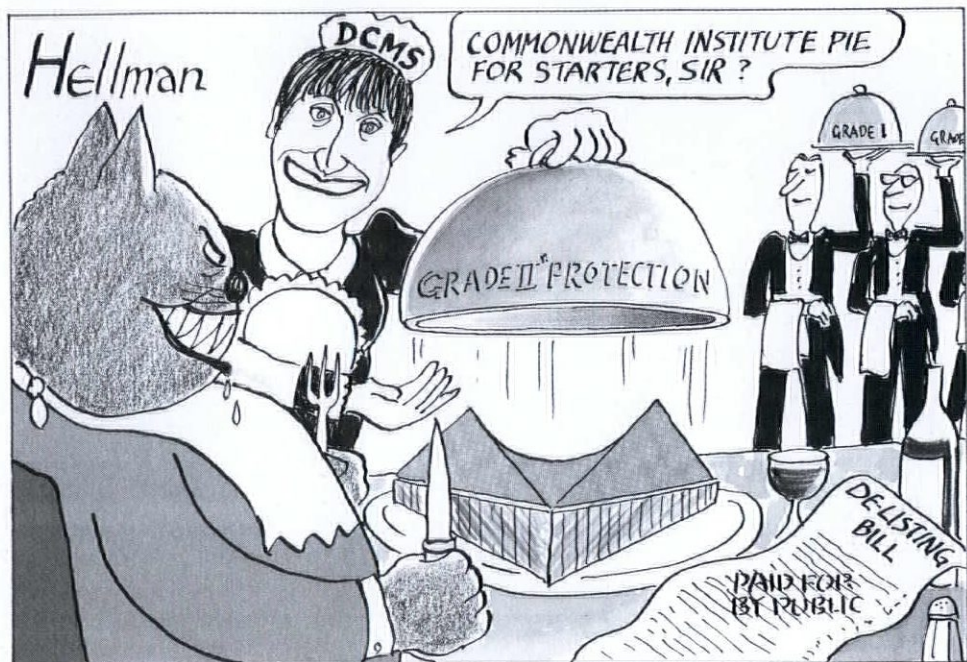
Degan Sudjic. *Observer*, 28.05.06

'Sorry, but this attempt to make an office building look groovy is excruciating'

Rowan Moore on Foster's City Hall. *Evening Standard*, 24.05.06

'You have to be modest because you never know when your 15 minutes are going to be up'

Zaha Hadid. *Cincinnati Enquirer*, 25.05.06



HOW THE WEST WAS WON

What a week for parties. The flow of booze really started on Tuesday with the launch of **Lifschutz Davidson Sandilands'** new office all the way over in Chiswick, west London. It was quite a bash. The thing that left Astragal somewhat surprised was just how many of architecture's big names made it over to this western frontier. **Paul Monaghan**, **Amin Taha**, **Sarah Wigglesworth**, **Crispin Kelly**, a group of planners from Southwark, a coterie of senior AA bods and the AJ's old friend, **Ken Powell**, were among the many names who had ventured outside their usual central and north London beat to attend **Bob Marley's** former recording studio. The District Line back to civilisation resembled a veritable architectural zoo.

NOISES OFF

The launch of the Building Centre's 75th-anniversary celebrations and exhibition on Thursday also went with a bang – rather too literally. Just before **Norman Foster** stepped up to the podium to give the keynote speech at the opening, a loud noise made the assembled company jump. Fortunately it was merely the battery blowing in the microphone and normal service was quickly restored to allow Foster to say how impressed he was by the exhibition. And every cloud has a silver lining. The Building Centre Trust received permission the next day to invest in a more up-to-date microphone.

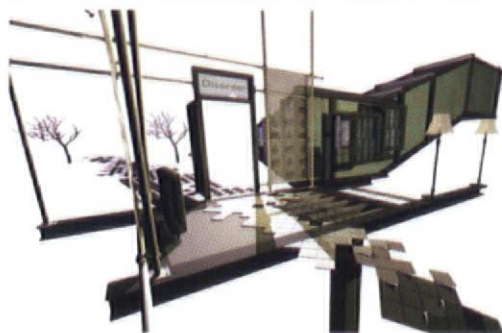
AVANTI'S ADVANCEMENT

Denys Lasdun's Royal College of Physicians was the perfect

place for a party to celebrate **Avanti Architects'** 25th year. Astragal was struck by how diverse the guests were – not just the capital's usual freeloaders, but a rich mix of clients, academics, conservationists and friends – and how much warmth there was towards the practice and its achievements. As **Ken Powell** said when he proposed a toast, Avanti really has kept its social ideals alive. Here's to the next 25 years.

TOKEN BOOK

Oh, and let's not be forgetting the bash on Wednesday for the RIBA Bookshop's 2005 International Book Award, supported by the AJ, which was won by *Constructing Architecture*, edited by architect and ETH teacher **Andrea Deplazes**. Well done.



School of Architecture & Construction
Diploma ARB/RIBA Part2
Exhibition & Open Day

'One of the best part-time and full-time diploma courses in the country – tackling theory, practice & sustainability in the Thames Gateway & beyond'

Friday 9th & Saturday 17th June

11am Queen Anne Building
Greenwich Maritime Campus
<http://digitalstudio.gre.ac.uk/exhibition2006>
Exhibition runs from the 7th to 17th June

For further information please contact:-

Pauline Newell – Admissions Secretary
School of Architecture and Construction
Tel: +44 (0)208 331 9100
Email: P.A.Newell@gre.ac.uk



the
UNIVERSITY
of
GREENWICH

Providing Higher Education in London and Kent for over 100 years

ENQUIRY 18 ON CARD
WWW.AJPLUS.CO.UK/AJDIRECT

sikkens

BUILD YOUR PERSONAL COLOUR COLLECTIONS WITH THE 4041 Colour Concept

This inspirational concept comprises a professional system for presentation and colour filing for your projects with a package of tools and services:

- Flexible-spined swatch for easy colour comparison and compilation
- Personal fans for individual colour collections
- A5 reference folder for colour sample storage
- CD-Rom with downloads

A5 colour samples of 1624 Rubbol opaques, 36 Cetol Natural Balance translucent and 10 Alpha Metallic shades are available to order from

www.sikkenssamples.com



4041 Colour Concept Box Set



4041 Colour Swatch



4041 Personal Samples



the right colour

Contact Sikkens Technical Advice Centre
on 01480 484275

Akzo Nobel Specialist Coatings
Meadow Lane, St Ives, Cambridgeshire PE27 4UY
E-mail: sikkens@sis.akzonobel.com
www.sikkens.co.uk

Akzo Nobel Specialist Coatings is a trading division
of Akzo Nobel Decorative Coatings Limited.

ENQUIRY 17 ON CARD
WWW.AJPLUS.CO.UK/AJDIRECT



a roof for all seasons

www.Onduline.net

Register today for your free copy of the new Onduline
product information CD ROM.

Onduline Building Products Limited
182-184, Campden Hill Road, London W8 7AS.
Telephone: 020 7727 0533. Fax: 020 7792 1390.
E-mail: enquiries@onduline.net



Onduline Roof Sheets

Market leading lightweight
roofing system with proven
durability and weathering.
Also used as part of
the Ondutile slate and tile
underlay system.

Bardoline Tile Strips

Versatile and lightweight roofing
system ideal for creating original
roof designs, which
require a traditional and
long-lasting finish.
Available in a range of colours

OnduSTEEL Tile System

Lightweight & tough.
Manufactured from
galvanised steel protected
with an anti-corrosion
system. Available in a range of
exciting colours.



ENQUIRY 20 ON CARD
WWW.AJPLUS.CO.UK/AJDIRECT

THE RIBA WILL IMPROVE COMPETENCE PROFESSIONALLY

Following the points made by the ARB's Alan Crane (AJ letters 25.05.06), it is worth noting that the RIBA has been concerned that CPD on an hours-and-points-only basis – in which CPD was generally unplanned – was not serving its overarching purpose of helping members to maintain competence. The way forward for us was therefore to establish a defined core curriculum focusing on key competencies and skills based on common learning outcomes.

When we began this work, we became aware that the ARB was also looking at the issue of competence of registrants. To avoid an undue burden on members, who may have had to follow two systems, we were pleased to work with the ARB to look at a curriculum that would give enough rigour to CPD to allow it to be used to maintain competence. The new core curriculum, written by the RIBA and supported by the ARB, has been based on the RIBA parts 1, 2 and 3 – rewritten and made flexible for the qualified architect. The overall requirement of 35 CPD hours remains the same – but we now stipulate that just over half of that total comes from this curriculum. This is a positive step forward for the profession, our membership, the consumer and the construction industry in general.

If the ARB does proceed with a new regime for registrants' competence, we are keen that it should be as easy as possible for our members to take part in, and that systems not be duplicated. We are happy to allow non-RIBA architects access to our CPD courses and systems in order to help them maintain their competence.

Jack Pringle, RIBA president

THE GAMES WILL NOT PROVE TO BE A WASTE OF ENERGY

Your article stating that plans for a £6 million revolving fund for investment in renewables and energy efficiency were aborted earlier this year by the London Climate Change Agency (LCCA) (AJ 25.05.06) is misleading.

It is simply not true to say the fund has been dropped. In reality, a decision was taken for each of the Greater London Authority functional bodies to set up their own individual funds as a more effective way to encourage energy efficiency. Savings from their projects will be directed back into these funds. To date, the Metropolitan Police has set aside £370,000 and the London Fire and Emergency Planning Authority (LFEPA) £3 million. The LFEPA expects to reduce greenhouse gas emissions by 23 per cent from their 1990 levels by 2010. The LCCA is completing discussions with Transport for London over its allocation. The London Development Agency has £1.7 million in its budget for capital projects that aim to increase energy efficiency.

In addition, the LCCA recently announced a partnership with EDF Energy, which includes an initial £25 million of investment in decentralised and renewable energy across the London area.

Rather than diverting resources away from sustainability measures, the Mayor has made clear that he expects the 2012 Olympics and its legacy to be a beacon for environmentally responsible development.

Allan Jones, chief executive, London Climate Change Agency

BREEAM CAN SUSTAIN ITS MOMENTUM

Barrie Evans' article on sustainability (AJ 13.04.06) provided a valuable analysis of the current position of sustainable development. However, the article erroneously suggested that BREEAM had 'lost some of its momentum' – in fact the opposite is true.

During 2005, 554 non-domestic buildings were registered for assessment. This year 809 buildings have been registered to date – an increase of 45 per cent, with over seven months of the year remaining. The domestic scheme, EcoHomes, has also shown a similar percentage increase in the number of assessments, with over 96,000 homes registered in 2005 and 138,000 registered to date in 2006. Furthermore, the article suggested that there were questions about whether a UK Green Building Council (GBC) 'should be in the hands of a private company – BRE'.

Firstly, BRE is not a private company, we are owned by a registered research and education charity, the BRE Trust. Secondly, the draft prospectus for a UK GBC states that it should be an independent 'non-profit-making body with no private ownership'. BRE has no desire to own or manage the UK GBC – indeed we endorse the recommendation that it should be an entirely new entity – owned and funded by industry (for further information see www.ukgbc.org).

Prof David Strong, managing director, BRE Environment

WE CAN DEAL WITH NEW REGS USING GOOD PRACTICE

Having read your article 'Architects take a hammering from quantity surveyors' (ajplus 22.05.06). I must say that I am quite shocked that the AJ and your sister website www.qsweek.com would countenance publishing such utterly unprofessional drivel.

The statements made are totally ridiculous, suggesting that members of the quantity surveying profession are unable to properly assess costs of projects and implying that architects work in some kind of vacuum thinking up how to 'bust budgets'.

There has been much said over the problems of introducing the new regulations. All of us in the construction industry need to address the issue and in normal good practice we work as teams using the expertise of well-trained professionals to provide the most appropriate response to each brief.

Elizabeth Dabell, by email

Please address letters to: The Editor, The Architects' Journal, 151 Rosebery Avenue, London EC1R 4GB, fax 020 7505 6701, or email angela.newton@emap.com to arrive by 10am on the Monday before publication. The Architects' Journal reserves the right to edit letters.

Your new palette in permeable paving



The extended Piora range

If Henry Ford had been commenting on sustainable urban drainage he might have said "You can have any colour you like as long as it's grey". With more and more projects requiring a SUDS solution, you need a less monochromatic approach.

Enter the new, extended Piora range:

- Tegula Piora, with the traditional aesthetic qualities of Tegula
- Mistral Piora, with the modern aesthetic appeal of Mistral
- Olde Piora, with an authentic rustic look

More colours. More block sizes. With new Piora there are now many more ways to create inspiring landscapes that incorporate this innovative SUDS solution.

Piora is just one of the surface drainage solutions provided by Marshalls Water Management. It's one of the more colourful ones.



For your FREE Piora swatch book, call
0870 241 4725

or visit the new, interactive, Piora site at

www.marshalls.co.uk/piora

ENQUIRY 24 ON CARD

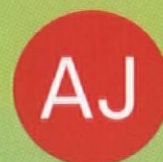
WWW.AJPLUS.CO.UK/AJDIRECT


Marshalls

water management

Transforming Britain's Landscapes

PARJ06A



CONFERENCES



12th September 2006 / Cavendish Conference Centre, London, W1G

designing with renewable energy

Successfully incorporating renewable energy into the built environment

Featured speakers include:

Brian Wilson, Non-Executive Chairman, **Airtricity**

Bill Dunster, Founder, **ZedFactory**

Alexandros N. Tombazis, Founder, **Alexandros N. Tombazis and Associates**

Christer Nordström, Founder, **Christer Nordström Architects**

Andy von Bradsky, Associate, **PRP Architects**

Dr Sue Roaf, Professor, **Oxford Brookes**

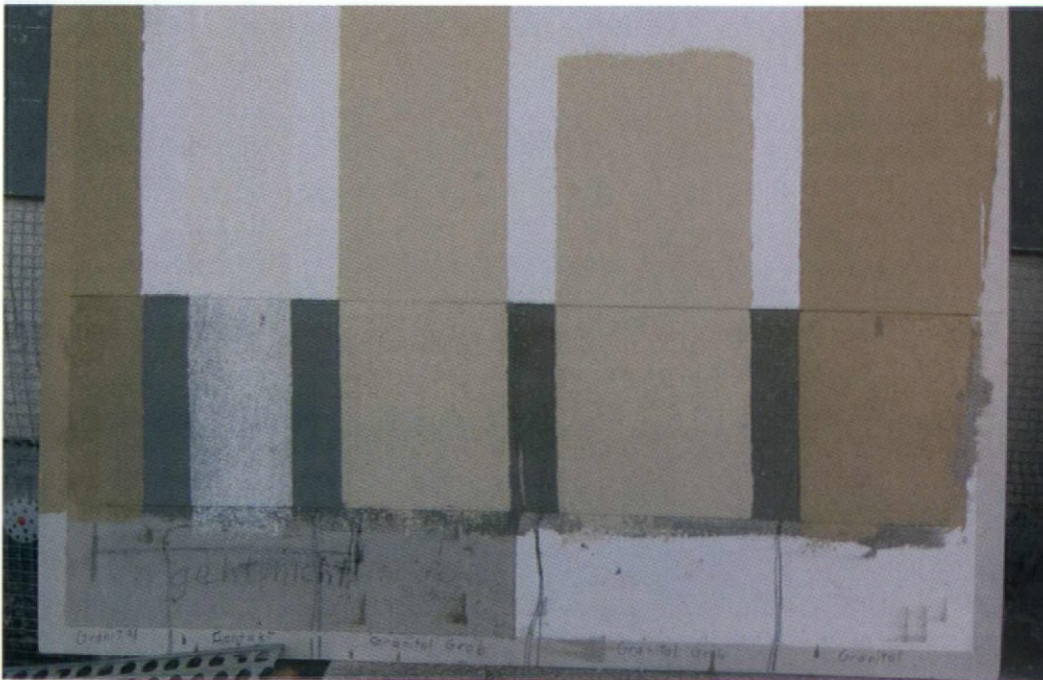
Assen Gasharov, Consultant, **Energy for Sustainable Development**

To Register: Tel: 0845 056 8069 **Fax:** 020 7505 6001

Email: constructconferences@emap.com www.ajrenewables.co.uk/aj



LE CORBUSIER/ STUTTGART



1. Restoring the original colour scheme of Le Corbusier's double villa

IT STILL LOOKS LIKE A VISION OF THE FUTURE THAT NEVER CAME TO PASS

By Andrew Mead. Photography by Thomas Wolf and Architektur 109

When Le Corbusier formulated his *cinq points d'architecture* – pilotis, free plan, strip windows, free facade and roof garden – he probably envisaged the roof garden as a suitable place for a leisurely *aperitif* or a spot of nude sunbathing, not as a machine-gun post. But that's what happened to his double villa at Stuttgart. Built as a model of Modern housing for the Weissenhofsiedlung, the city's famous exhibition estate of 1927, it's had a very chequered history.

Now, with funds from the Wüstenrot Stiftung – a foundation which has financed work on several Modern Movement buildings, including Mies van der Rohe's Villa Tugendhat – Stuttgart-based practice Architektur 109, Mark Arnold + Arne Fentzloff, has restored the double villa, half as a show-house and half as an information centre explaining the history of the estate. The result is of interest on three accounts especially: for its response to the questions such show-house restorations raise; for highlighting the role of colour in early Modern buildings; and for focusing attention on the whole topic of Modernist housing.

Though part of it was bombed during the Second World War and rebuilt in a mostly retro style, the Weissenhofsiedlung still looks like a vision of the future that never came to pass. Mies van der Rohe was the exhibition's director and he found a superb setting for the estate on a hillside north-west of the city centre. Such well-known names as Walter Gropius, J J P Oud, Bruno Taut, Peter Behrens and Hans Scharoun, as well as Le Corbusier (with Pierre Jeanneret), were among the chosen architects*.

Mies' own long apartment block was the backdrop to the estate, anchoring it on the west, but the plum site went to Le Corbusier. This is at the south-east corner, where Friedrich Ebert Strasse climbs to meet Rathenaustrasse, which runs north in a shallow S-shape across the hill. Here Le Corbusier built both a single-family house and the double villa – the house just south-west of the villa, a little higher up the slope, but the two forming a unified composition as you approach. Together they represent the basic house types Le Corbusier had proposed earlier – the family one a Citrohan House, the double villa the Dom-ino House – and serve as a manifesto for the *cinq points*.

Of all the dwellings built for the Weissenhofsiedlung, Le Corbusier's proved the most difficult for the Stuttgart authorities to let once the exhibition was over. In 1932–33, to attract reluctant tenants, they made some major changes to the double villa, which were not reversed until this present restoration. Then in 1938 the Nazis requisitioned it and went on to install those machine guns; a photo shows a swastika flag flying from a pole in the garden.

The double villa suffered damage during the war, and thereafter saw successive occupants and more alterations until the City of Stuttgart restored it in 1984, along with much else at the Weissenhofsiedlung (10 interiors and four interior layouts), whose importance was acknowledged at last. But the restoration was crucially flawed – hence, 20 years later, this scrupulous new one.

This time there was the luxury of two years' analysis of the property, everything from paint scrapes to an archaeological



2.

2. Weissenhofsiedlung site plan
3. The double villa today



3.

dig, before 15 months of building work. Mark Arnold explains the concept behind it. He says: 'On the basis of the research, there is a mixture of restoration and reconstruction, along with saving and making sound the original fabric where possible. Externally, we wanted to get the double villa as close as we could to its state in 1927. The same goes for the interior of the right wing – the show house. Meanwhile the left wing, which will be used for an exhibition on the Weissenhofsiedlung, gets a coat of white paint, but visitors can still see how it was altered over the years.'

Architektur 109 had to deal with structural problems – most seriously the lack of adequate foundations beneath the two cuboid blocks projecting at the back of the building, which house the staircases and small ancillary rooms. But the main visual consequence of the restoration is that the double villa has its original proportions again. The changes in the early 1930s included the construction of a cellar, which raised the base of the building by 30cm, and the addition of another 8cm to the parapet on the roof – matters which the 1984 restoration didn't redress. Now the levels are as they were at first.

The panoramic view from the roof terrace through the three-dimensional frame that spans the front of the building was prominent in *Bau und Wohnung*, the 1927 record of the exhibition. Up here, you see just how stunning the villa's site is, with Stuttgart in the valley below and a low range of hills in the distance – what a great place to relax. In another refinement of proportions, the pavilions on the roof now have the dimensions of the originals.

Doubtless the low parapet troubles Stuttgart's health and safety fraternity but visitors here will only be in small supervised groups.

Le Corbusier's sliding-wood windows were lost in Stuttgart's early changes. In mid-1930s photos you see conventional substitutes with additional lights whose verticality subverts Le Corbusier's intentions – they no longer read as a 'strip'. The 1984 restoration partly dealt with this and Architektur 109 has completed the job by reinstating the slit-like windows at the rear which illuminate the corridors.

At the point when the double villa was built, Le Corbusier was keen to prove the flexibility of quite small domestic volumes, taking as his model the Wagons-Lits railway carriage. So the living space, entered through a very tight, carriage-like corridor, can be reconfigured at night to form bedrooms, by means of sliding partitions that extend from fixed storage units (concealing the beds) and slot through bisected steel stanchions near the window. (Hence the choice of stanchions rather than concrete pilotis at the front of the house.)

The storage units, originally made of concrete and later removed, were rebuilt in wood in 1984 but wrongly detailed and proportioned. Because of the expected floor weights when the house is open to visitors, Architektur 109 couldn't reconstruct them in concrete as Arnold had hoped (instead there's a steel frame), but it has corrected the other errors. The loading issue also compromised restoration of the roof, where the concrete planters have been remade in fibreglass.



4.



5.



6.

Adding much to the impact of the double villa inside and out is its recreated colour scheme. The 1984 restorers approximated it, but lined the walls of the interior with a textured paper and painted on that, whereas the paint now is on newly smoothed plaster, as in 1927. Including red ochre, brown, blue, rose, three greys, pale green and white, the colours reflect the palette of Le Corbusier's Purist paintings of the 1920s, which he later codified in his wallpapers for the Swiss manufacturer Salubra. They're close to those he used in the Maison Guiette, Antwerp (1926), which were restored in the late 1980s**.

'If this or that wall is blue, it recedes; if it is red, it holds the plane... Architectural polychromy doesn't kill the walls, but it can move them back and classify them in order of importance. Here a skilful architect has wholesome and powerful resources to draw on,' wrote Le Corbusier in his essay *Architectural Polychromy* (1931). So colour was, for him, a tool for spatial manipulation, though possibly more relative and unstable than he acknowledged, as Josef Albers went on to demonstrate in both his teaching and his paintings (see *Review*, page 62).

At the double villa the results are intriguing but ambiguous. Following Le Corbusier's theories, the blue walls at either end of the living area in the restored right wing should appear to recede and increase the dimensions of an otherwise modest room, but what really gives a sense of spaciousness is the view through the long strip windows, dispelling any feelings of confinement. The grey on the outer face of the staircase,

accentuating its presence, makes the little study behind it feel more cramped, while the light green and blue at roof level seem only decorative. How scientific can colour application be?

What we have now, though, is another early Modern scheme accessible to the public: a place to contrast Purist theories with those of De Stijl (the Rietveld Schröder House, the Sonneveld House) or such individual solutions as those in the Klee/Kandinsky House at the Bauhaus.

So what to make of this restoration? Acknowledging the extent of reconstruction (not always in the original material), Arnold says: 'In a sense it's just a picture.' But if it's partly an illusion, it's an instructive one, especially when you go next door to the left wing and see the enlarged corridor, a repositioned wall, and other evidence of life after 1927. The white walls for the future exhibition make it all look very spruce but some areas of original paint are still exposed.

In the context of Le Corbusier's great houses, whether the Purism of Villa Savoye or the enriched qualified Modernism of the later Maisons Jaoul, the double villa is not exceptional. It's a rather terse demonstration of the *cinq points*, and spatially less interesting than the family house nearby. But it is full of eloquent traces.

There are details, such as the window sills, that are not by Le Corbusier but by his assistant, Alfred Roth, who oversaw the project. There are clear signs that the job was done in a hurry, by workmen who were probably none too skilled – the uneven concrete slab above the living room, for instance. In the 1930s



7.



8.

an opening was made in the party wall to connect the two wings and you can see where it's been refilled. On the ground-floor stanchions at each end of the villa, there is a small depression a few centimetres above the balustrade, which is where it was fixed when the cellar was constructed. All this adds up.

And the Weissenhofsiedlung, to which the double villa's exhibition will hold the key, is justly on the architectural tourist trail. The fact that it was partly rebuilt makes it look less an avant-garde ghetto than a place where Modernism has quietly triumphed, starting to eclipse its stolid traditional neighbours – another illusion. Around 90 per cent of it today is rented but, says Arnold: 'It takes a special person to live here; they have to be enthusiasts. It's still an island in the city.'

Flat roofs are about as popular in Stuttgart as they are here. With its clever planning by Mies and quite disparate housing, the Weissenhofsiedlung is the perfect place to consider Modernist ambitions and what became of them – a site which poses questions that still aren't answered today.

References

* For a full history see Richard Pommer's *Weissenhof 1927 and the Modern Movement in Architecture*, University of Chicago Press, 1991

** Docomomo Technology Dossier 5, *Modern Colour Technology: Ideals and Conservation*, July 2002

4. Excavation revealing the change in levels that occurred when the cellar was constructed in the early 1930s

5. The double villa in 1927

6. Alterations in the early 1930s affected the building's proportions

7. This photograph following the 1984 restoration shows that the change in levels had not been addressed

8. The double villa after the latest restoration, now with the same proportions as when first built



9.



10.

9, 10, 11 & 12. Much of the concrete of the roof-terrace 'frame' had degraded, partly because of shallow reinforcement, so this whole element has been rebuilt

12.

11.





13.



14.

- 13. View from the roof in 1927
- 14. Before restoration, with pavements of the wrong dimensions in place
- 15. The roof terrace today



15.



16.



17.

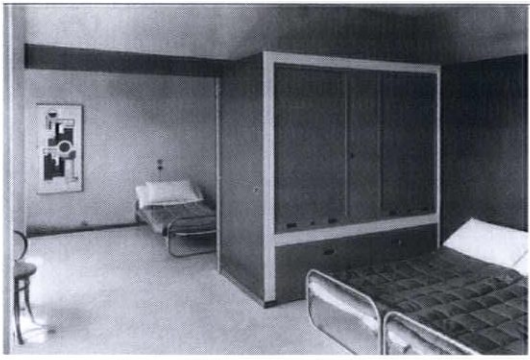
18.



16 & 17. The colours resemble those in Le Corbusier's Purist paintings
 18. Staircase during restoration
 19. Rebuilding the fixed units
 20. Living room in 1927
 21. View through to kitchen, 2006
 22. Restored colour scheme, 2006

19.





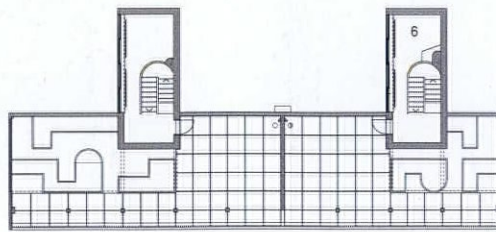
20.



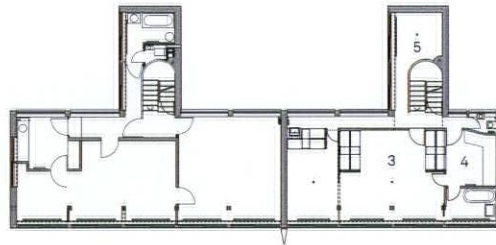
21.

22.

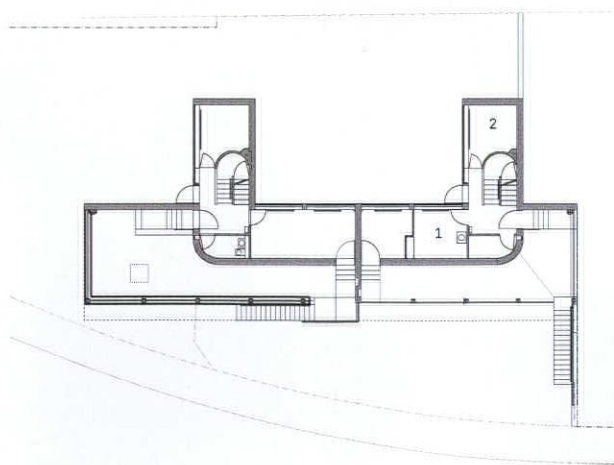




25. Roof plan



24. First-floor plan



- KEY
- 1 MAID'S ROOM
 - 2 LAUNDRY
 - 3 LIVING ROOM
 - 4 KITCHEN
 - 5 BREAKFAST ROOM
 - 6 STUDY

23. Ground-floor plan

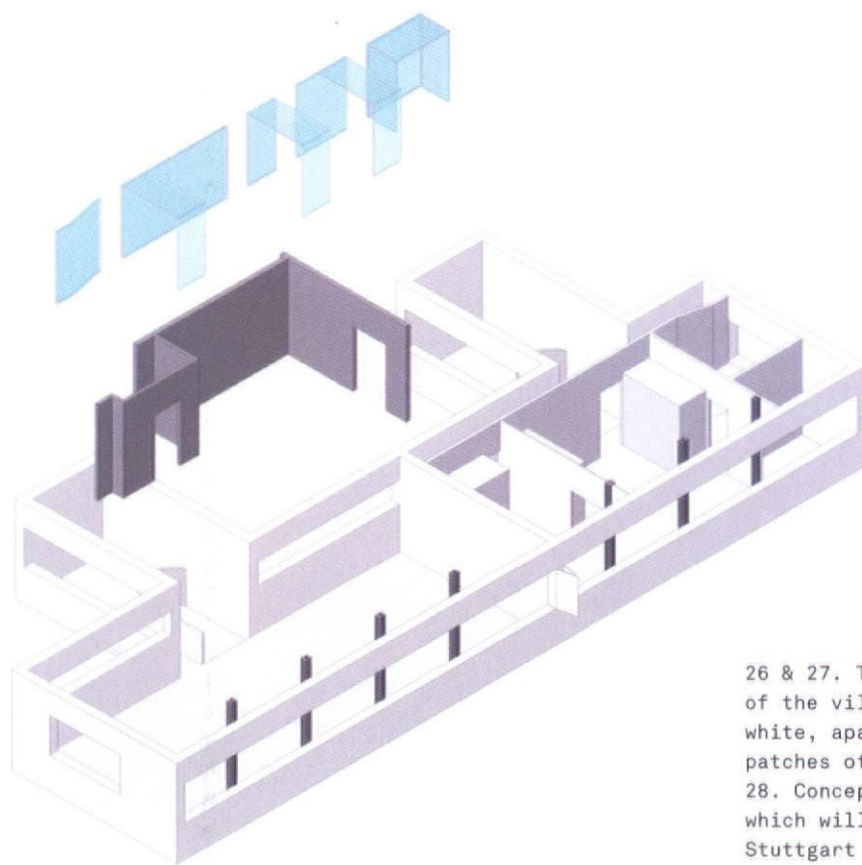




26.



27.



28.

26 & 27. The left-hand wing of the villa is finished in white, apart from some retained patches of original colour
 28. Concept for the exhibition which will be installed by Stuttgart firm space4

Credits

Client

Wüstenrot Stiftung

Architect

Architektur 109: Mark Arnold + Arne Fentzloff

Project manager

Sabine Schmidt-Rösel

Consultants

Prof A Gebessler, Prof B Burkhardt,
Prof N Huse

Restoration research

H F Reichwald,
Landesdenkmalamt Baden-Württemberg
(protection of historic monuments)

Dr Claudia Mohn

Landscape architect

Jochen Koeber

Structural engineer

Wenzel Frese Pörtner Haller

Air conditioning

Dipl. Ing K Graupner

Heating

Ing. Büro Zelano + Dohn

Electrics

Ing. Büro G Volz

Exhibition design

space4

WEBSITES

www.architektur109.de

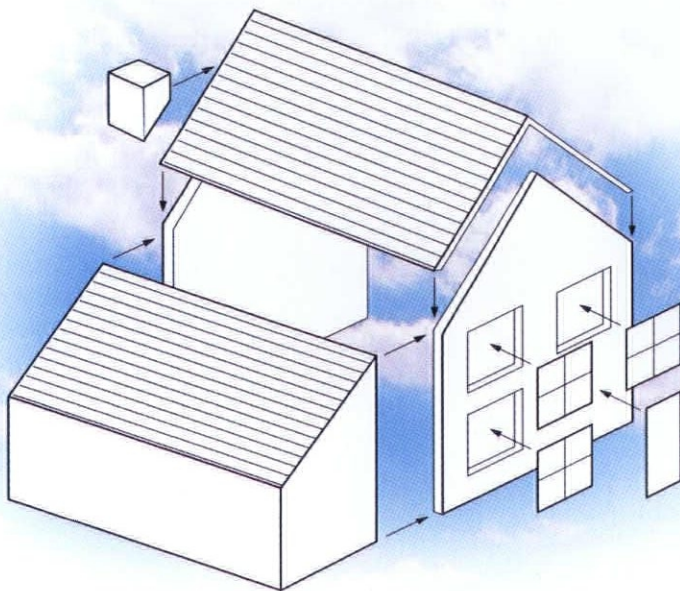
www.space4.de

www.weissenhof.de





29. The double villa together with Le Corbusier's 'Citrohan' family house



CONFERENCES

27th June 2006

Cavendish Conference Centre
London, W1

Network
with leading
executives in
MMC from
across the
industry

MMC for Architects

Designing outside the box: understanding your role in challenging the principles of design freedom vs. modularisation

Featured speakers include:

- **James Pickard**, Cartwright Pickard
- **Richard Ogden**, buildoffsite
- **Andrew Heywood**
Council of Mortgage Lenders
- **Martin Wood**, Bryden Wood
- **Kevin Scobell**, BRE
- **Professor Colin Davies**
London Metropolitan University

Make sure you have the all the latest information on:

- Supply chain integration
- Legislation
- Sustainable fabrication
- Design freedom vs. modularisation

For sponsorship opportunities, **please contact** Toby Redington on 020 7505 6634 or **email:** toby.redington@emap.com

To register - Tel: 0845 056 8069

Email: constructconferences@emap.com

Online: www.ajmmc.co.uk

Endorsed by:

bre



THE ARCHITECTURAL PROFESSION HAD TO REGULATE ITSELF DUE TO THIS VAST BUILDING BOOM

By Jonathan Foyle

Jonathan Foyle's history of architects reaches the Victorian age and the regulation of the profession with the formation of the RIBA.

Queen Victoria's reign witnessed an unparalleled diversity of architectural styles, and the creation of the RIBA. Both would last beyond the duration of her lifetime.

During the previous half-century, Britain had established itself as the global leader of technological progress. In 1804, Richard Trevithick's *Penydarren* was the first locomotive to haul a load. It and all subsequent engines required new architectural solutions for spanning and embracing improbable distances. From the 1830s to the end of the 19th century, as the railways spread between urban centres, competitively grand public buildings filled Britain's towns and cities in a crescendo of civic rivalry.

The phrase 'middle class' was first coined in 1811, and the *nouveau riche* spent much of their money on creating domestic idylls. With no aristocratic lineage, the architecture of the middle classes usually conveyed the impression of ancestral grounding with overblown historical references. For many of the lower classes the 19th century was an uneasy time: clamouring for work at docksides as ships came in or toiling at a machine for most of the daylight hours. Their houses were often shared back-to-backs with a common pump in a yard.

New industrial cities were founded from tiny nuclei: Manchester, Leeds, Bradford, Birmingham and Newcastle reshaped the Midlands and the north of England, while Glasgow, Belfast and

Liverpool formed the Irish Sea urban triumvirate. As town centres were cleared for the railways, the architectural profession had to regulate itself to meet the demands of this vast building boom.

The Institution for British Architects (IBA) was founded in 1835, with its *raison d'être* to create a professional identity and foster education for architects. In order to establish a prestigious public image, the transactions of meetings were published in the *Architectural Magazine* from 1834-37, the *Civil Engineer and Architect's Journal* from 1837, and the *Builder* from 1842.

The publication of the IBA's transactions allowed for open inspection of the mandate of the institute, which received a royal charter during the year of Victoria's coronation. Overseen by its inaugural president the Earl de Grey, the Royal Institute of British Architects in London (it dropped the last bit in the 1890s) increased its membership from 82 in 1835 to 159 within five years. It took seven years' practice to qualify as a fellow; an associate would seem to have had less than seven years' experience.

Nonetheless, Ruskin thought the whole enterprise pointless, and in *The Seven Lamps of Architecture* (1855) he barked that 'the suggestion of an independent architectural profession' was nothing more than a 'mere modern fallacy: isn't architecture the sum of diverse artisans' labours?'.

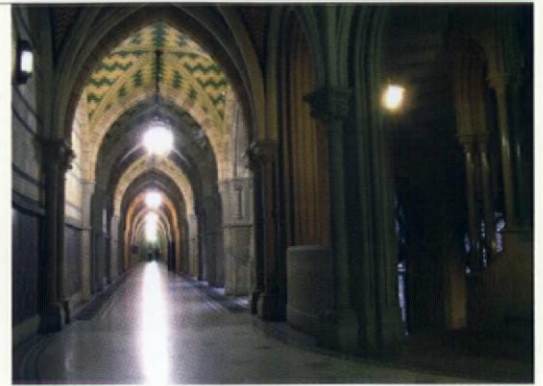
The Victorian designer differed greatly from his Georgian predecessor: in the 18th century the Palladian ideal was near-universal and there was little scope for falling out over style. But in the 19th century, style was a highly personal matter,



1.



2.



3.

1, 2, 3, 4 & 5. Manchester Town Hall
- a triumph of Gothic free planning

and cementing client trust became an important issue. An architect might favour Elizabethan over Perpendicular, Greek, Indian or Romanesque, but a client could have different enthusiasms in an age when style and politics had become powerfully connected. The RIBA promoted design competence within a broad church. The architect had to be able to understand various idioms and argue the merits of another matter; education was the key.

The problem was that the RIBA didn't provide a rounded education: the in-house topics stretched only to botany and geology. But the establishment of the University of London in 1836 brought about a professorship of architecture, and UCL offered a three-year course leading to a diploma in architecture and engineering. The curriculum was encyclopaedic:

- year one: junior mathematics, natural philosophy (experimental), inorganic chemistry, general geology and drawing;
- year two: senior mathematics, natural philosophy (mathematical), civil engineering, architecture, economic geology and drawing;
- year three: civil engineering, architecture, organic chemistry and drawing.

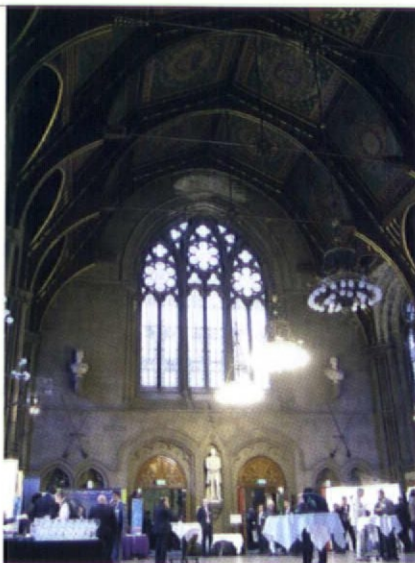
The professor, T L Donaldson, also happened to be the first secretary of the RIBA, and he provided two year-long courses of lectures for part-time students covering a syllabus of five pages, which cost £9. These courses were 'architecture as a science' and 'architecture as an art'. This dubious division between the functional and the aesthetic might well represent attitudes to Victorian design for the rest of the century.

Disenfranchised students have always created alternatives, and so it was with the young architects alienated from the RIBA. They founded the Association of Architectural Draftsmen in 1842, and would teach themselves through mutual criticism. By 1847, this renegade institution had shortened its name to the Architectural Association (AA) and met at Lyons Inn Hall in the Strand. Its fortunes wavered; however, a celebrity lecture by Ruskin boosted numbers after 1857 and, during the 1860s, in response to French practice, the AA established the first professional syllabus for architects, with testing and examination.

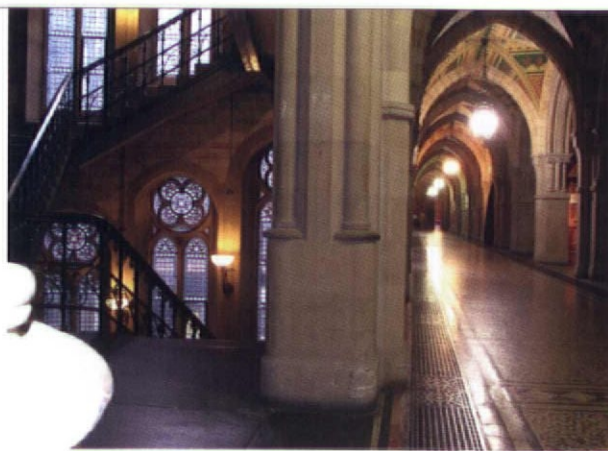
In 1840 the Institute of the Architects of Ireland was inaugurated, which sought parity with the RIBA in establishing codes of conduct. It estimated that 5 per cent was a suitable commission for design and superintendence; 1 per cent for a detailed estimate, and expenses at a fairly generous shilling a mile.

The Institute of Architects of Scotland was founded in 1840. Liverpool followed in 1848; Bristol in 1850; the Northern Architectural Association in 1858; and Nottingham in 1862. The Manchester Society of Architects followed in 1865.

The RIBA continued to attract some adverse criticism. In 1870 *The Times* declared it to be nothing more than a trade union; the charge was answered by the solidarity of the first general Conference of Architects in 1871. Its aims were to conform fees nationally, and to streamline the submission and judging of competitions, the basis of most large civic commissions. The latter was especially pressing since the debacle of George Gilbert Scott's



4.



5.

Foreign Office, which was designed in the Gothic manner and accepted as such in 1861, but was, at the insistence of Lord Palmerston, subsequently reclad in Florentine Renaissance garb.

Manchester Town Hall offers a case study of a major Victorian competition. The heart of Manchester had been established as Albert Square with its Albert Memorial of 1862. Manchester's civic pride made it the first city in Britain to ban back-to-back houses, while the town hall competition of 1867 was to be partly funded by profits from the municipal gasworks as a response to the gigantic halls of Leeds and Liverpool. The competitors were numerous but politics left few distinguished designers in the running. The winner was the Lancastrian Alfred Waterhouse, largely on account of the ingenuity of his plan, which made the best use of the triangular site. He put municipal offices around the perimeter and an elevated great hall in the centre. By using broken facades, oriel windows and stair turrets, he articulated the diverse functions and sizes of rooms, with the mayoral chambers expressed by large windows overlooking Albert Square.

The clock tower identifies the entrance at the centre of the square. It covers a vestibule rich in sculpture, where sweeping stairs rise to a great triangular-plan corridor with dramatically long vistas at each angle. Stairs interpenetrate, and bridges join the corridor to the Great Hall. In this design, Waterhouse had overcome the Foreign Office debacle and instead produced something that could never merely adopt a Classical skin because picturesque asymmetry was celebrated in the soaring and jutting

angles. Furthermore, Gothic free planning triumphed where Classical rectilinearity would have failed, a principle for municipal offices then promoted in the *Builder* in 1878. The reaction from the people of Manchester was that it symbolised not only 'the opulence of the city but also the great principle of self-government'.

In 1886, the RIBA attempted to create a registration system to account for would-be 'architects'. Though the phrase 'registered architect' might have softened the blow, few were convinced that even voluntary registration would be anything other than a first step to the statutory exclusion of anyone who called themselves an architect or practised as one without the RIBA's corporate blessing. This, thought Richard Norman Shaw and T G Jackson, editors of *Architecture: An Art or a Profession?* (1892), was an absurd situation: 'What then is an architect? [...] Put him into homely English and he appears simply a Master-builder – a chief craftsman – he to whom other workmen look to be told where to put their walls, how to shape their doors and windows, and how to cover them with the roof. [...] The profession of architect is an absurdity. [...] It is time the public should place the architect in his proper place, namely at the head of the arts, where he should be, and not endeavour to thrust him to the tail of the professions'.

Eight years prior to the 20th century, the idea of the modern architect was still a long way off.

Jonathan Foyle is an architectural archaeologist and TV presenter



A TAXING TIME

By Brian Waters

As the Treasury's move on planning gathers pace with Kate Barker's imminent report on possible reform of the system¹, so consultation on her Planning Gain Supplement (PGS) has closed with much gnashing of teeth.

Barker proposed a PGS in her review of housing supply. The consultation suggests:

- a self-assessed tax on the uplift in land value consequent on the grant of planning permission, payable upon the start of development;
- simplifying planning obligations to deal only with matters directly related to the proposed development – and affordable housing;
- a possibly reduced rate of tax in regeneration areas, a small-scale threshold to apply and householder improvements to be exempted; and
- tax to be recycled to fund strategic infrastructure at both regional and local levels.

In April's *Planning in London*² Barker wrote: 'In my

view the value the planning system places on undeveloped land is too high. In addition, the incentives faced by many players – local authorities; existing homeowners; the development industry – [are] such that they add up to encouraging undersupply, at the expense of the first-time buyer.'

While there is an urgent need to cut back on planning obligation agreements, Barker was on to something in suggesting that PGS receipts should pay for local infrastructure and community benefits. This could persuade planning committees to permit more development and help offset the generally conservative pressure from existing residents.

Ironically the Treasury seems to have translated this intention into a centralised tax with a vague suggestion that some of it would be recycled to the local and regional level.

The common complaint, especially for Housing Growth

Areas such as Ashford, is the apparent lack of finance for infrastructure needed to support such development. The initial hostility of developers to a 'roof tax' as a means of dealing with this has, with the emergence of the threat of a land tax, changed to loud enthusiasm.

Paradoxically, the consultation response representing the growth areas says that PGS 'would make delivery harder'. Martin Bacon, director of delivery vehicle Ashford's Future, says: 'Growth areas should be exempt from PGS. Its possible introduction is making it harder to agree a roof tariff deal with developers. It might work in average rural constituencies but it would be a "bloody mess" in the growth areas.'

Local authorities are also concerned PGS would reduce their ability to negotiate local community benefits.

The consultation has flushed out many legitimate concerns and demonstrates

the difficulty of using tax as an incentive. In reality it could end up operating to redistribute resources from areas in need of infrastructure with strong development pressure to areas where the market is calling for subsidy. The costs of managing valuation and collection would reduce resources, and the new tax would also diminish current taxable profits made by land sellers and developers, reducing the gains anticipated by the Treasury.

A solution might be to let local authorities collect a simple, locally determined, roof tax, keep more of the council tax on new development and deal with loopholes such as offshore developers, whose profits are not properly taxed.

1. www.hm-treasury.gov.uk
2. www.planninginlondon.com

Brian Waters is principal of the Boisot Waters Cohen Partnership, see www.bwcp.co.uk

A photograph of a modern building with large, dark, rectangular concrete panels. The building has a flat roof and a series of horizontal concrete slabs. The foreground is a grassy area with a concrete curb. The sky is white.

CONCRETE QUARTERLY/ SUMMER 06



The **Concrete** Centre



Precast concrete is well suited to meet the demands of today's construction industry, not only for faster, more productive construction of assured quality, but also for the demands that buildings, in the short- and long-term, are more environmentally sustainable and cost effective to use.

The benefits of precast concrete include those which are inherent in all concrete construction: thermal efficiency, fire resistance, sound insulation, enhanced vibration performance and long-term durability. In addition, precasting of concrete has its own specific advantages. Produced in a factory, the product is weather-independent, offers 24-hour working capabilities and attractive economies of scale and scope. Speed, quality and efficiency are all specific attributes.

Initiatives such as 'Rethinking Construction' have focused interest on the advantages of treating construction as an on-site assembly of factory-manufactured components. This is where precast concrete comes into its own. Columns, beams, floors and stairs can all be manufactured in a controlled factory environment. Installation on site is fast and provides an early weatherproof envelope that allows faster access for follow-on trades. There is also the possibility for whole rooms to be cast as a module or pod.

In addition to offering practical structural solutions, precast concrete offers an unrivalled range of finishes and with a little thought it also offers bespoke-looking buildings using standardised components. And the material has good environmental credentials. Precast production uses less energy than either structural steel frame components or curtain-walling systems while offering inherent thermal efficiencies.

With such a range of benefits it is little wonder that the potential of precast concrete is increasingly being realised.

Ian Cox

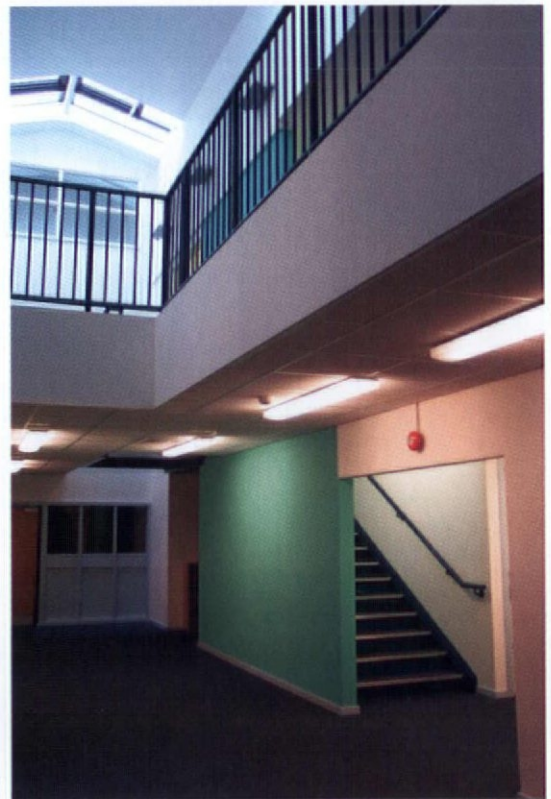
Chief executive, The Concrete Centre

Issue number 216.

For free downloadable archived copies of CQ since 1947, visit: www.concretecentre.com/cq

TEACHING A CONCRETE LESSON

Due to be published during the summer, a new report from The Concrete Centre, 'High Performance Schools: Using Concrete Frames and Cladding', outlines how concrete's free benefits of thermal efficiency, fire resistance, sound insulation, minimum vibration and robust finish facilitate cost-effective school building construction and use. In addition to fast construction programmes, concrete facilitates future flexibility and adaptability. Basing school layouts on columns with no beams, using the flat soffit of an in-situ concrete slab provides totally flexible design solutions particularly for future services changes. And with classroom sizes a key issue, concrete crosswall solutions allow flexibility in joining classrooms. Both normal and post-tensioned concrete slabs can easily accommodate holes for new services. The report will be available free from The Concrete Centre, tel: 0700 4 500 500, or download from the publications library at www.concretecentre.com





MADRID FIRE REPORT PRAISES CONCRETE'S PERFORMANCE

A survey of the fire-damaged structure of the Windsor Tower, Madrid, concluded that the concrete structure 'performed extraordinarily well in a severe fire'. The study, 'Fire in the Windsor Building, Madrid: Survey of the Fire Resistance and Residual Bearing Capacity of the Structure after the Fire', was carried out by the Instituto Tecnico de Materiales y Construcciones. It concluded that the 'need for fireproofing of steel members to guarantee their performance in the event of fire was reconfirmed'. The fire started on the 21st floor of the 32-storey building in February 2005. It spread quickly due to a lack of fire stops between the curtain wall facade and the concrete floor slabs. Designed and built in the 1970s, traditional design methods were used. Extensive refurbishment was under way at the time of the fire, including measures to bring the building's fire standards up to date with the installation of active fire prevention and fire-resistance measures. Structural failure happened with the collapse of the steel perimeter columns and the floor slabs collapsing as this edge support was taken away. The massive concrete transfer slab at the 20th floor prevented further progressive failure. The Concrete Centre is funding further research into the behaviour of the tower's concrete structure at the University of Edinburgh.



LIBESKIND TO GIVE 2006 LUBETKIN LECTURE

The 2006 BCA Berthold Lubetkin Memorial Lecture, sponsored by The Concrete Centre, will be given by Daniel Libeskind, on 9 November 2006 at the Kensington Conference and Events Centre, London. Bookings will be accepted from July via www.concretecentre.com/events

STUDENTS INVITED TO CONCRETE SUMMER SCHOOL

The 2006 Graduate Summer School is being run by The Concrete Centre in collaboration with the University of Kingston School of Architecture and Department of Engineering, on 21-25 August, at Kingston, London. The five-day residential workshop under the theme of Adventures Beyond Modernism will allow recently qualified architects and engineers to build on the basics with sessions on materials, structures and surfaces. These will extend to adventures which will explore the latest concrete developments. Activities will include lectures by designers and specialists, visits to notable London buildings, tests/demonstrations and 'hands on' construction with concrete. Contact The Concrete Centre on tel: 0700 4 500 500, email: seminars@concretecentre.com or go online to www.concretecentre.com/events

MASONRY ALLIANCE FORMED

A new organisation aimed at further improving the quality, efficiency and sustainability of masonry construction has been established. In particular, the alliance will demonstrate how masonry homes can provide future-proofed construction options against likely climate and ecological changes. It will also promote innovative development and improved productivity, like the tin-bed masonry illustrated, and underline how masonry construction offers a range of modern methods of construction. For further information visit www.modernmasonry.co.uk



PRECAST CONCRETE IS THE DOMINANT FORM OF CLADDING IN NORTHERN EUROPE

By David Bennett

Precast facades have the potential to be made very cheaply using high-volume, standardised components, or made bespoke and shaped by unique profiles at very high cost. So it is not surprising to find it is standardised precast panels that are the dominant form of construction for housing schemes and for medium- and low-rise commercial buildings in Northern Europe.

Precast concrete as an engineered and decorative material offers wide-ranging possibilities of expression, application and performance. The choice and range of colours and raw materials, combined with surface texturing and profiling, gives scope for designing with freedom and imagination. It continues to be the dominant form of construction in Northern Europe because the precast units are made in large volumes to standardised profiles to maintain their price-competitiveness.

There are numerous examples of multi-storey apartment blocks in Scandinavia specified with structural load-bearing panels of up to 12 tonnes that are fully insulated and architecturally finished. There are also many examples of lightweight precast units like GRC (glass-reinforced concrete) that can dramatically reduce dead load and integrate precast with high-tech curtain wall systems. The panels are easy to handle and do not require heavy craneage – they can be installed using a cradle system. They are resilient and a popular choice in Austria and Germany.

The economic advantages, the method of manufacture and the aesthetic quality of these two mass-produced facade options are highlighted in this review. Some of the research for

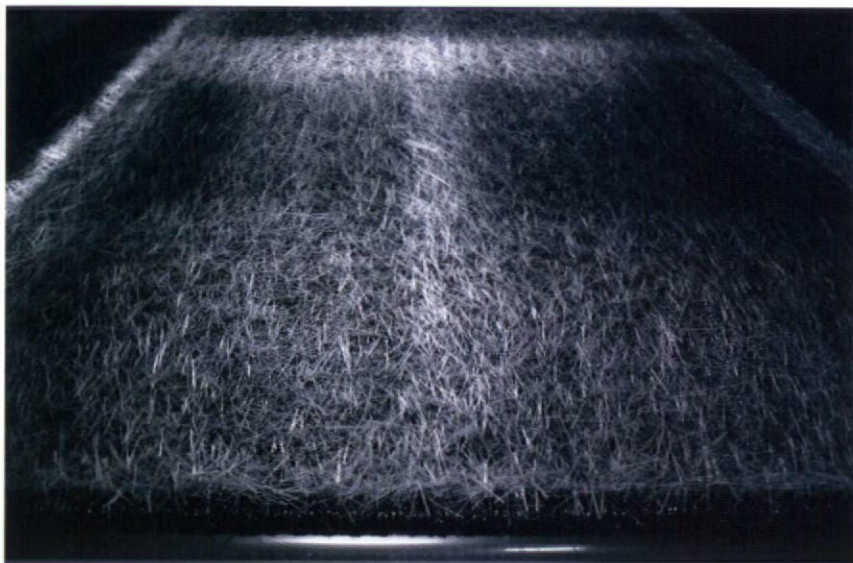
it has been taken from the book *The Art of Precast Concrete Architecture* published by Birkhäuser and available from The Concrete Centre (www.concretecentre.com).

SANDWICH PANEL CONSTRUCTION

This is the most structurally-efficient concrete building option and the dominant method of constructing residential buildings in Scandinavia. The sandwich panel is a storey-high precast unit that can be up to 8m long with an outer skin 60–80mm thick, a layer of insulation and then a backing leaf of load-bearing or self-bearing precast concrete 90–140mm thick. (Self bearing means it only supports its own weight.) When it is load bearing it can support the structural floor and the facade above it and is the more efficient and popular choice of panel.

The structural floors are usually precast hollow-core planks that are stitched to the top of the inner load-bearing panel. Load-bearing sandwich panels offer many advantages – for example they are fast to erect; they eliminate the need for columns and wet trades; they are self finished; and they are extremely competitively priced.

The two skins of the precast panels are interconnected by steel ladder reinforcement which acts as wind and shear connection. The thermal bridging through these steel connectors is minimal. The system has the advantage of providing structural integrity without placing any reliance on the insulation for load transfer. It can be configured so that an elevation can have solid



1.



2.

1 & 2. Preparing glass-fibre mats for linear flatbed casting by Reider in Salzburg

panels or long continuous spandrels, also known as band systems, or slender rib systems with built-in columns for highly glazed facades. The cassette modular system (*see SID Building, page 48*) developed by precasters offers scope for even more architecturally challenging designs using sandwich panel construction.

PRECAST LIGHT – GRC

The trend in modern building construction towards lighter weight 'high-tech' facades using glass curtain walling, resin-coated aluminium and steel fascias has some advantages over the heavier precast and reconstructed stone cladding unit. Typically, the skin thicknesses of GRC panels is 13–20mm, making them as much as 80 per cent lighter than the corresponding precast concrete unit. Weight reduction of this magnitude offers substantial savings in transportation, structure, handling and site erection cost.

GRC is composed of a mortar mix of cement, selected crushed aggregates, sand, fillers, admixtures, water and alkali-resistant glass fibre strands. The glass fibre is typically 6–51mm long and 10–30 microns in diameter. It obtains its alkali resistance from a coating applied over the glass strands in the manufacturing process. For sprayed GRC it is recommended that 5 per cent of fibre by weight of the total cement mortar should be contained in the mix, to optimise on the tensile strength. Combinations of fibre lengths and the production process will ensure that adequate bond strength develops between fibres and the cement matrix and encourages a quasi-ductile failure by fracture of the fibres.

The various techniques used to manufacture GRC products – manual and mechanised spray methods and linear flat bed wet casting – enable the material to be formed in a wide variety of shapes and profiles. It can be moulded easily to suit Classical or Modern architectural expression using thin flat sheets, curved pieces with embossing or angular surface profiles. Being cement-based with no metal reinforcement, it also has inherently good durability and chemical resistances. It is non-combustible and produces no toxic smoke emissions and has high impact strength. It is not susceptible to rust staining or corrosion, and can be used in combination with insulating material and sound-proofing. Constraining factors in performance are generally due to its relatively large thermal and moisture movement and low ductility.

The need for GRC cladding to be flexibly mounted on the supporting structure to accommodate thermal and moisture movement is therefore important. Many of the problems associated with GRC have resulted from the lack of mobility in fixing design, from errors of installations or as a result of introducing some other restraint to panel movement. Wherever possible, design GRC panels as independent skins to allow maximum freedom to shape, curve and profile panels. Good detailing of panel size; reducing horizontal flat surface areas like window sills which may collect surface water and create high moisture gradients in the panel; and avoiding panel shapes that wrap around a building corner causing large thermal movements, will ensure a longer service life.



1.



2.



3.

The following three examples feature precast sandwich panel construction:

RASTIPUISTO APARTMENT BLOCK

At Rastila, Helsinki, Finland, by Helamaa and Pulkkinen Architects.
Precast by Parma Oy, Nummela

The ribbed profile finish to the lower panels has been achieved using a set retarder, and water jetting has removed the surface laitance to reveal the small aggregates. To form the ridged horizontal bands plastic strips are fixed to the film-faced plywood in the moulds. Chemical retarder was brush-applied to the formwork and the profiled plastic strips before the concrete was cast. (For more on precast finishing, see pages 56-57.)

For the upper levels of the building, brick slips were placed carefully in the mould between the timber battens that form the recessed mortar joints. When the concrete panel was removed from the mould it was transported to the water-jetting area where it was cleaned under high pressure to remove all the retarder and the unset cement paste, revealing the fine aggregate finish. Using high-pressure washing avoids any cement fines streaking over the surface and leaving a dry, crusty film.

In the production of the sandwich panel, the exterior panel is compacted by an integrated shock-compacter which is built into the tilting table mould. The interior load-bearing element is compacted with a poker vibrator. Demoulding takes 12-14 hours.

SID BUILDING

At Aarhus, Denmark, by 3XNielsen Architects.
Precast by Dalton Precast, Aarhus

When pigmented precast panels are specified, customers are advised that colour consistency cannot be guaranteed. To achieve a very consistent black concrete, the only option is to use single-sized black aggregates and expose it on the surface. This can be done by retarding the concrete set in the mould and then water-jetting the surface to remove the cement paste to expose the coarse aggregates.

The panels on the SID Building were cast in five sizes – they were all 3.5m high, and either 1.2m, 1.5m, 1.8m, 2.2m or 2.7m wide. Special corner units were made which formed part of the returns for both elevations to avoid a vertical joint line at the edge, which the architect felt would not be as good. The edge was given a 10 x 10mm rebate to emphasise the corner line.

MUSTAKIVI SCHOOL & COMMUNITY CENTRE

At Vuosaari, Helsinki, Finland, by Ark-House Architects. Precast by Rajaville Precast Company, Oulu

The panels on the exterior of the school building have an outer skin 75mm thick, then 145mm of insulation and a 160mm inner skin of load-bearing concrete. To produce the stain effect of terracotta and green on the panels, a white concrete panel was cast on the outer skin and allowed to harden. Iron oxide chemical stain



4.



5.

1. Rastipuisto Apartment block
2. SID building
3. Mustakivi School & Community Centre
4. Stadtvilla Apartments
5. Private house, Ulrichsberg

in a dilute hydrochloric acid solution was applied over the surface for the brown-red colour and copper sulphate solution for the green effect. The iron reacts with the calcium hydroxides of lime in the concrete to create the colour on the surface. This finish will appear streaky because of the direction of brushing and patination owing to the varying absorbency of the surface.

For the white panels, white cement was used, plus white limestone fines and whitish sand; there were no pigments. For the black panels, grey concrete was used with black rock fines, 3 per cent black pigment and special black 0-8mm gabro aggregates. The surface set was lightly retarded and the water jetted to expose the black aggregates to ensure colour consistency.

The following two projects illustrate the use of GRC panels:

STADTVILLA APARTMENTS

At Untermuehlstadt, Kassel, Germany, by Alexander Reichel Architects

The in-situ concrete load-bearing structure was clad with insulated GRC elements, the GRC just 30mm thick to prevent thermal bridging. Each precast component was coated with a hydrophobic fluid to produce a consistent, water-repellent outer surface. This gave the surface a 'milky' two-toned shade.

The GRC panels were made by hand-spraying the concrete mix and the chopped fibres into the moulds. The unreinforced face mix of 5mm was colour-matched to

the grey concrete of the frame. This was overcoated with a reinforced backing mix which contained chopped fibres and was added at a dosage of 2 per cent of the concrete volume. The backing mix was applied in five layers each 5mm thick and compacted by rolling to build up the panel thickness of 30mm.

PRIVATE HOUSE

*At Ulrichsberg, Austria, by Habringer-Landerl Architects, Linz.
GRC by Rieder, Salzburg*

This private house is clad in thin sheets of smooth, colour-stable GRC panels. Rieder has been manufacturing GRC panels for over 20 years and recently invested in sophisticated automatic production methods for making 13mm flat sheets of GRC of exceptional quality using a continuous fibre strand feed and wet casting on a moving metal mould bed. The mould bed is 1,250mm wide which fixes the sheet width, but it can be as long as 5.3m.

The external face was cast face down on a layer of stretched polythene placed on the metal bed to give a very smooth marble-like finish to the surface. Each 6.5mm layer of concrete is poured through grouting tubes with the glass fibre strand then stretched over the top and chopped to size to sink into the wet concrete. The wet layer is lightly rolled by the machine before the 6.5mm backing layer is placed in exactly the same way.

David Bennett is the founder of David Bennett Associates

THE POTENTIAL OF PRECAST CONCRETE'S FABRIC ENERGY STORAGE IS BEING REALISED FOR NEW CONSTRUCTION

By Andrew Minson

Precast concrete, already widely recognised for its fast construction and buildability benefits, is now winning the sustainability arguments as well. As with in situ concrete, precast concrete has a wide range of benefits that makes it well suited to sustainable construction compared with other materials: high thermal efficiency and fabric energy storage (FES); fire resistance; sound insulation; minimum vibration; long life; use of recycled raw materials, including industry by-product streams; local sourcing and transport.

FABRIC ENERGY STORAGE

Of these benefits, FES is increasingly embraced by forward-thinking clients and designers. Here, concrete stores and releases heat to stabilise the internal temperature of a structure, thereby reducing the need for heating and air conditioning. Increasingly, the potential of precast concrete's FES is being realised for new construction. Developers report capital costs reduced by 5–20 per cent due to the reduction or removal of air conditioning and suspended ceilings. Users report reduced operational costs.

There are two types of FES: passive and active. With passive FES, exposed soffits use natural or assisted ventilation together with night-time purging to cool the building space. Active FES has controllable systems of air ducted through plenums or floors. Tests show that they emit 50 per cent less CO₂ than air conditioning. Furthermore, the limited fabric energy storage of lightweight frame structures offers just 6–10W/m² of cooling compared with 15–20W/m² for passive concrete FES and 25–35W/m² and beyond for active concrete FES.

The use of FES significantly increases a building's sustainability. The CO₂ emission level from the lifetime operation of a building is far higher than that of the embodied CO₂ of its construction materials. Indeed, over 50 per cent of the UK's carbon emissions results from the operational use of buildings. So reducing a building's operational heating and air conditioning requirements reduces its real environmental impact. Over its full life cycle, a lightweight framed building will result in higher CO₂ emissions than a heavyweight framed building. The buildings designed using FES also appear to be free of sick building syndrome.

CONSTRUCTION IMPACTS

The other inherent benefits of fire resistance, sound insulation, minimum vibration and long life mean that precast concrete reduces the need for additional protective coatings, preservative treatments and vibration-damper systems. All of this significantly reduces the environmental impact of precast concrete. As does the fact that precast concrete is UK sourced. There is growing concern over the 'air miles' CO₂ impact of transportation. Timber and the iron ore for steel often travel many thousands of miles.

Sustainability benefits are not restricted to frames. Precast paving can also actively improve the environment by reducing the level of pollution caused by nitrogen oxides (NO_x). Developed by Mitsubishi in Japan, precast paving treated with titanium dioxide has been shown to significantly lower pollution by absorbing NO_x. Cement additives based on titanium dioxide also provide a



1. Precast for Canon HQ



2. Brighton Library by Bennetts Associates

concrete finish that is self-cleaning. The material reacts with sunlight and rain to clean off airborne spores and pollution. It has been successfully used by Richard Meier for the Dives in Misericordia white concrete church in Rome.

MORE FROM LESS

The precast industry is making significant progress towards placing sustainability high up the construction agenda. It has implemented a 'more from less' programme to examine the sustainability issues for the precast sector and how best to tackle those issues.

To this end, the sector has established sustainability and health and safety committees to provide a pan-industry approach to sustainability; a Concrete Targets Award scheme to improve health and safety; and Best Practice Awards to recognise and promote excellence among the membership of British Precast in the areas of innovation, health and safety and the environment. The 2005 awards, sponsored by The Concrete Centre, were given to a range of simple and cost-effective solutions that reduced water consumption, eliminated a hazardous waste stream previously sent to landfill, implemented energy-saving programmes and overall waste-reduction programmes. Details of all the 2005 award entries and winners can be found at www.britishprecast.org

In addition, British Precast is working on a four-year research project with Loughborough University to develop a sector-wide approach to sustainability. The Sector Sustainability Strategy project will:

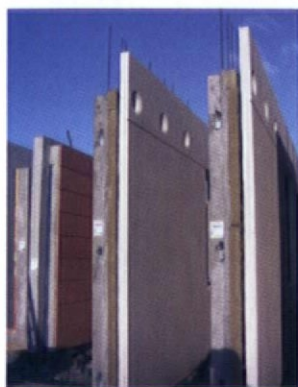
- identify the economic, social and environmental impacts, both good and bad, of the precast sector;
- establish the precast industry's awareness of the opportunities and threats related to sustainable development; and
- establish objectives, targets and indicators for future improvement.

The project is currently examining the industry's sustainability priorities, and the action it needs to take. Further details can be found on www.sustainableprecast.com

British Precast has been working with the British Cement Association on a joint approach to the sustainability of cement and concrete. The role of cement in improving the sustainability profile of precast concrete is important. Furthermore, precast manufacturers are reporting a significant move towards recycled aggregates and industrial by-products.

So in addition to the inherent benefits of precast concrete that offer the potential to significantly reduce the environmental impact of a building's operation, the industry is actively seeking ways to reduce the energy and materials used to manufacture the product. This, together with improved health and safety, increased manufacture and construction efficiency, and the development and implementation of an industry-agreed sustainability strategy, means that precast concrete is able to provide a construction solution that truly offers 'more from less'.

Andrew Minson is head of framed buildings at The Concrete Centre



1.

APARTMENT DESIGN IS IDEALLY SUITED TO PRECAST CONSTRUCTION

By Susan Dawson



2.

1 & 2. Precast wall panels off and on site

It's hard to imagine a city where house prices are higher than in London, but this is the case in Dublin, a consequence of economic boom, shortage of old housing stock and the lack of a skilled construction workforce. To satisfy demand, apartment blocks are now beginning to rise on brownfield sites such as the former docklands on the banks of the River Liffey. To solve the labour-shortage problem many of them are built with factory-made, precast concrete components. The cellular and repetitive nature of apartment block design is ideally suited to precast construction. Sound reduction at party walls is easy to achieve and the solidity of precast concrete recalls traditional concepts of enclosure.

One of the largest docklands developments, designed by O'Mahony Pike Architects (OMP), is Hanover Quay. The site, once a gasworks, stretches from the Liffey quayside to the banks of the Grand Canal dock. It is a mixed-use development, 13 blocks of four to eight storeys accommodating 292 one- to three-bedroom apartments (including affordable apartments) with basement car parks, a crèche, retail units, a pub and restaurant. The blocks looking directly on to the river contain two lower floors of office/retail units and upper floors of apartments with large balconies, some of which are 'winter gardens' with glazed sliding screens.

The apartment blocks are a composite structure of load-bearing precast concrete external wall panels, precast concrete internal wall panels and precast concrete floor slabs. On the top floors the external precast panels have been extended to create a parapet. 'This must be the sixth or seventh job where we have used

precast concrete panels,' explains the architect. 'In Dublin, where labour is scarce and time is at a premium, it's the way to go.'

However, this is the first time that OMP has used precast concrete insulated sandwich panels, produced by Techrete, a manufacturer based in Ireland and the UK, with a head office at Howth, just outside Dublin. The Techrete insulated sandwich panels comprise an outer leaf, a layer of insulation and a backing leaf of plain grey concrete. They are cast as one. The insulation, installed under controlled factory conditions, is well protected by the concrete. Panels have a range of options: the outer leaf of precast concrete is available with a wide choice of stone-like finishes or applied facings such as stone, brick or terracotta. Panels can be integrated into the building fabric as part of a load-bearing structure to support either precast or cast-in situ floor slabs.

A combination of Techrete's single-layer precast-concrete panels and, on the gable walls, precast-concrete insulated sandwich panels, were used at Hanover Quay. The sandwich panels have a 150mm load-bearing structural inner leaf connected to a 75mm outer leaf with stainless steel wind/shear tie connectors, with a cavity former, 75mm of mineral-fibre insulation and a vapour barrier between. The outer leaf is separated from the inner leaf by the connectors; it is free to expand and contract and is not intended to support any load. (See *Working Detail*, pages 54-55.)

Both single-leaf and sandwich panels were produced by Techrete with an identical mix. The main panels are a light buff reconstructed stone with an acid-etched finish. Stair core and



3. Two of the 13 blocks that comprise the mixed-use Hanover Quay

balcony edge panels are of dark charcoal grey reconstructed stone with an acid-etched finish. The panels incorporate window openings and circular apertures for ventilation extract from the apartments. Damp-proof coursings around window openings were pre-fixed to the panel at the Techrete factory.

The outer leaf of each sandwich panel extends at the top above the floor junction to co-ordinate the live joints at the external face with the finished floor level. The outer leaf is watertight, with double seals at joints. There is a vapour control layer behind the insulation. Calculations established that the dew point could not occur within the cavity. Each panel has a horizontal dummy joint aligning with the window head to reduce the scale of the panelled facade.

Sandwich panels offer many advantages. They provide a strong, durable, energy-efficient, fire-resistant cladding system. And all aspects of the production process are carried out in a factory, ensuring the highest quality possible. Hanover Quay shows how a fully integrated structure and skin sandwich panel system, where load-bearing wall panels provide both structural support and external finish, speed up construction and minimise on-site labour costs.

Credits

Architect
O'Mahony Pike Architects
Contractor
John Sisk and Son
Load-bearing precast
concrete insulated
sandwich panels
Techrete
Load-bearing precast
single-leaf concrete
panels
Techrete

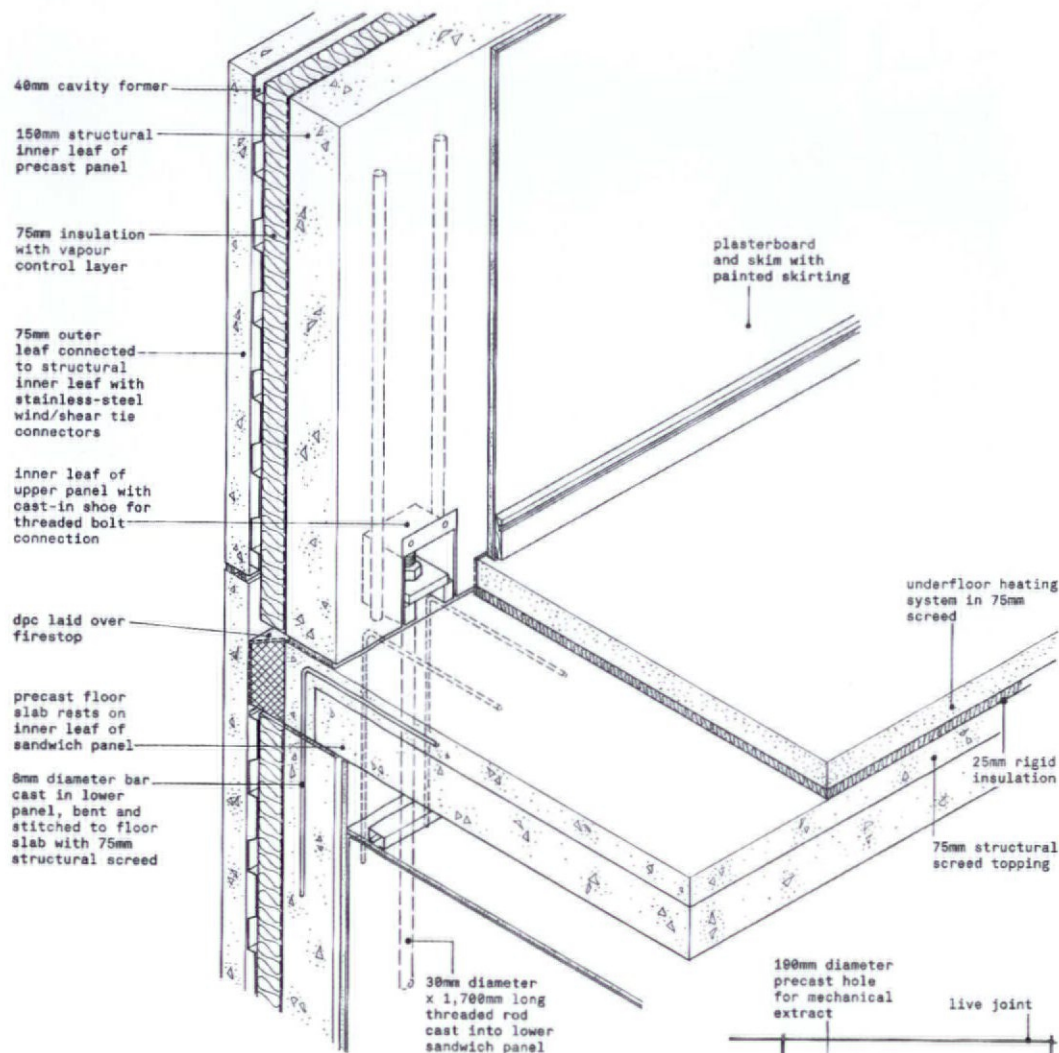
PRECAST CONCRETE GABLE WALLS

The construction sequence of a typical gable wall:

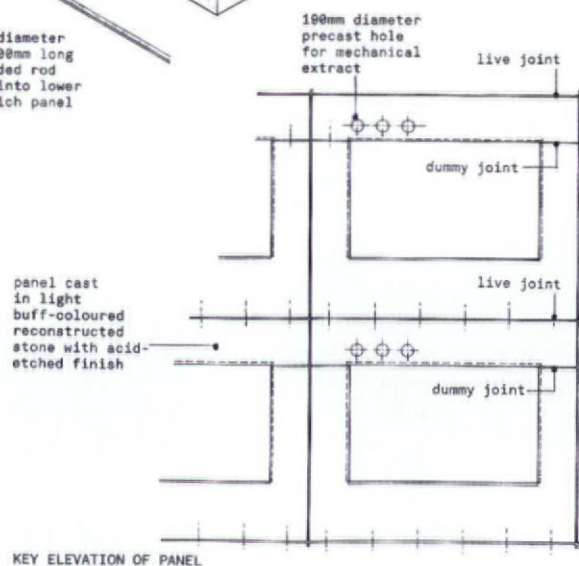
- a row of 3m-high precast concrete insulated sandwich panels was installed by crane. (At ground floor level the load-bearing inner leaf of each panel rests on a cast in-situ concrete boot beam);
- a series of precast floor slabs (2.4m or 1,200mm wide and 8-10m span) was craned in, with edges bearing on the 150mm load-bearing inner leaf of the insulated sandwich panels. The 8mm-diameter reinforcing bars projecting from the tops of the precast panels were bent over and covered with structural screed topping to stitch the panel to the floor slab;
- a firestop and dpc were fixed in the cavity and the dpc was dressed down;
- the upper precast concrete insulated sandwich panels were craned in so each 150mm inner leaf would rest on the screed, exactly above the inner leaf. The pre-fixed, threaded bolts projecting from the inner leaf of the panel below were fixed into shoes cast in the inner leaf of the panel above; this formed the panel-to-panel connection; and
- the sequence was repeated.

Because the precast elements could be craned in, the erection sequence was speedy and an early weatherproof enclosure was created to let following trades install plasterboard wall finishes, the underfloor heating pipes in the screed and the composite timber/aluminium windows.

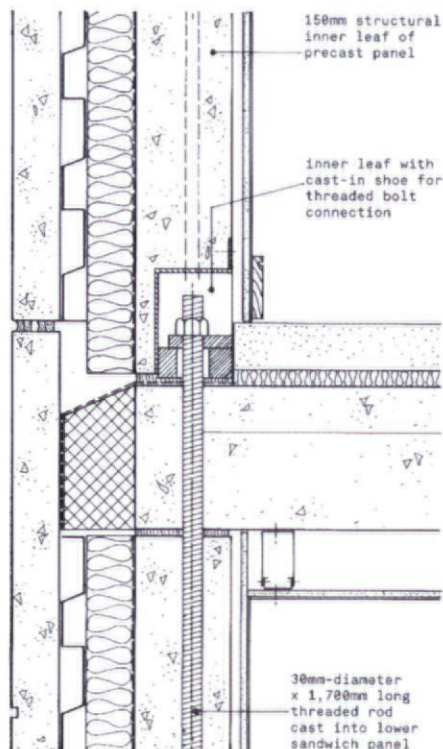
By Susan Dawson



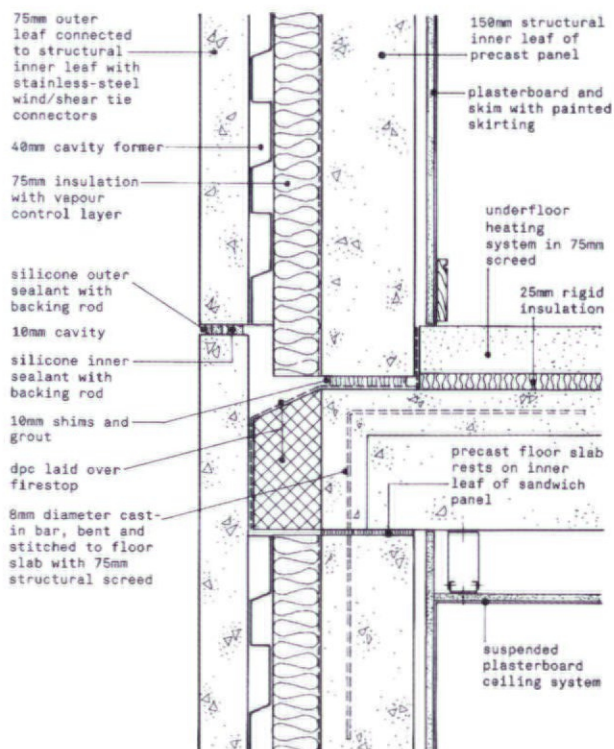
CUT-AWAY ISOMETRIC OF PANEL CONNECTIONS



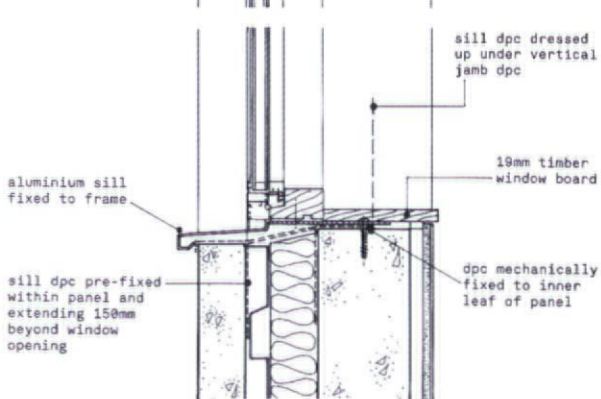
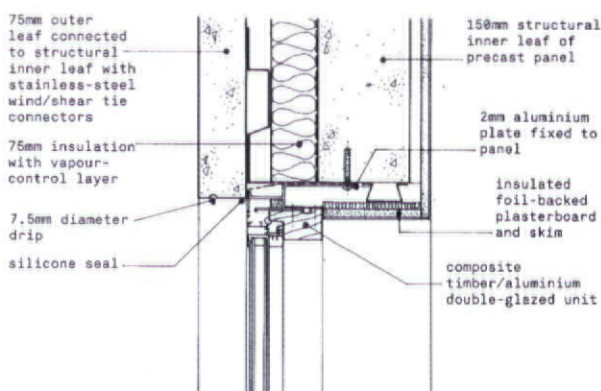
KEY ELEVATION OF PANEL



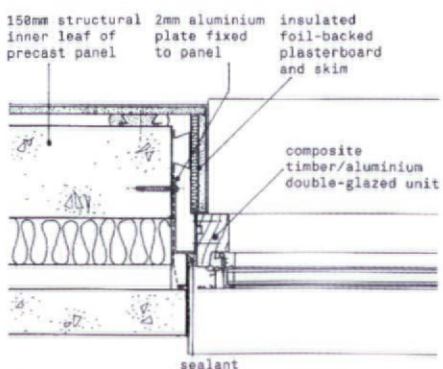
DETAIL OF PANEL-TO-PANEL CONNECTION



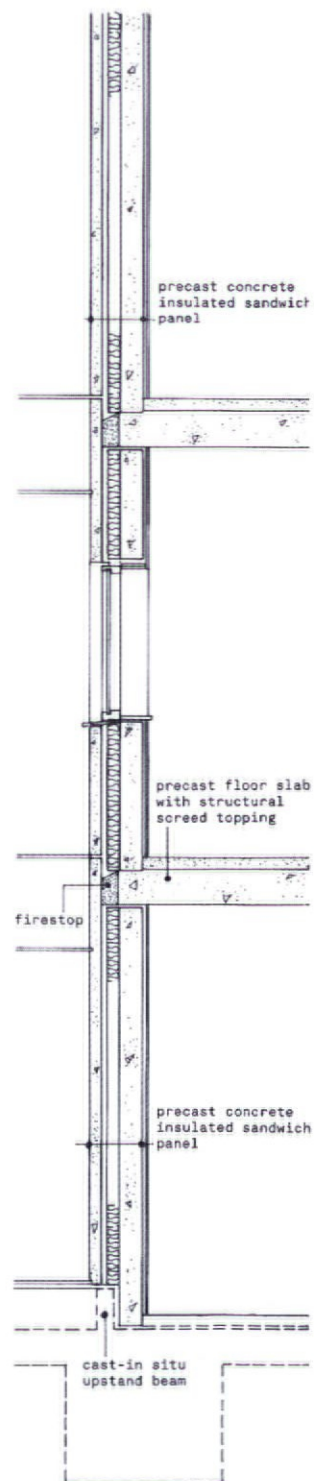
DETAIL OF PANEL-TO-FLOOR SLAB CONNECTION



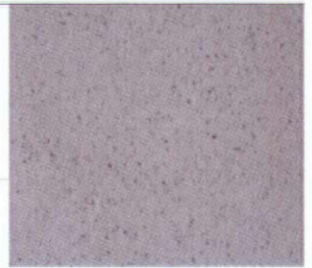
DETAIL AT WINDOW HEAD AND SILL



DETAIL AT WINDOW JAMB



KEY PART-SECTION AT GABLE



1.

WITH SELF FINISHES, THE PRECASTER HAS A LIBRARY OF SAMPLES

By Stephen Maddalena

When it comes to concrete, the precast cladding industry is now able to produce virtually any finish and effect called for by architects. Essentially, precast cladding panels to BS 8297 have two generic types of surface finish that, combined with the facility to design robust 3D shapes and profiles, offer the widest choice of facade design and construction to the architect. These generic types are 'self finishes', where the concrete surface is on view, and 'applied finishes', where other materials are applied to and supported by the precast concrete.

SELF FINISHES

Self finishes exploit the ability of the precast manufacturer to design concrete mixes by selecting the cement (white or grey) and the aggregate with the option of adding a range of stable purpose-made pigments. Exposed surfaces are generally textured to produce a range of effects, typically: acid etching/surface retarding; rubbing; grit blasting; bush hammering; and grinding and polishing.

False joints and other profiles may be formed by timber ribs in the mould. This gives a natural effect on acid-etched panels and improves weathering properties. Rubber mould liners can produce many textures and profiles. Techniques used are:

- acid etching and surface retarding. Etching with dilute hydrochloric acid removes surface laitance to expose the sand and tips of the main aggregate in the mix, producing a stone-like texture. The depth of exposure can be varied to produce from a relatively fine texture to a deeper etch giving more pronounced exposure of the aggregate.

However, not all surfaces are suitable for such treatment. Vertical cast surfaces may have blow holes, which need to be filled with a paste of cement and fine aggregate in the same proportions as the design mix of the main body of the panel. A final acid etch can then produce a consistent surface. Casting face down or vertically will produce subtle differences in the finished surface.

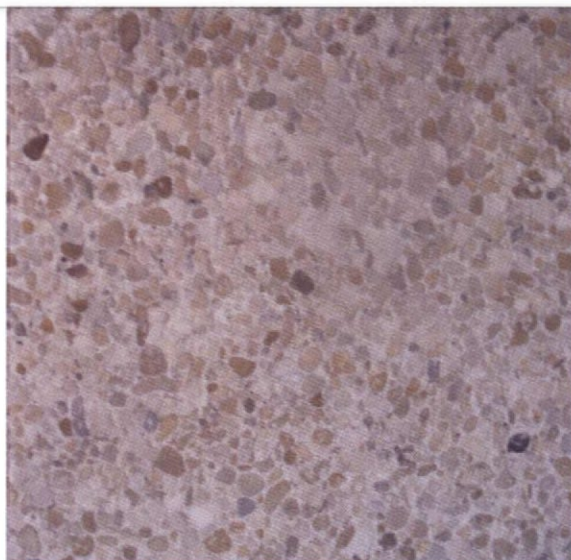
Coarser textured surfaces can be obtained by applying a retarder to the surface of the mould. After demoulding, the retarded surface is brushed and washed to expose the main aggregate.

Surfaces cast face up do not require a retarder; instead, the surface is sprayed with a fine water jet to expose the main aggregate;

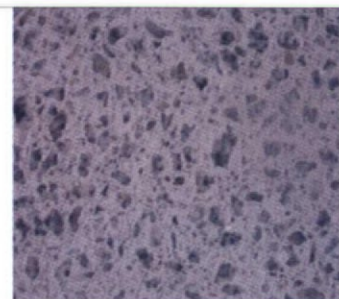
- rubbing. Surface laitance may be removed with a hand stone or orbital sander;
- grit blasting. This uses air or water as the propellant and various grades of fineness/coarseness of grit, which will determine the depth of aggregate exposure. The effect is similar to acid etching but, being more vigorous, the depth of exposure of the aggregate is greater. In addition, the aggregates are partially abraded;
- bush hammering. More vigorous than grit blasting, this involves roughening the panel surface using a mechanical pneumatic/electric hand-held machine equipped with a variety of tools from needles to various chisel star-points. The finish produced is visibly more aggressive owing to the exposure and shattering of the surface of the main aggregate;
- grinding and polishing. Although expensive and time-consuming, this can produce spectacular results. Grinding machines section the



2.



3.



4.

1. Rubbed and acid-etched concrete Cornish finish
2. Acid-etched concrete Portland finish - cast from a textured form liner
3. Exposed aggregate-finished concrete, cast face up using Cotswold gravel with white cement
4. Ground and polished concrete, cast using Cornish granite aggregate with white cement

aggregate. Final polish varies according to the hardness of the aggregate, ranging from a honed effect to a high polish.

APPLIED FINISHES

Applied finishes include bricks, brick slips, tiles, terracotta, slate, granite or limestone – preassembled in the mould before casting. This can realistically replace on-site masonry-laying.

With bricks, a machine-made brick with three perforation holes is typically used. To produce a dovetail key, these bricks are cut longitudinally on the centre line and laid to a grid in the mould. Special bricks are cut or formed for different shapes and keys. Grout seal strips are inserted into the brick joints and the concrete is cast. Panels are finished by removing the strips and gun-pointing the joints with a colour-matched proprietary mortar. Tiles and brick slips are treated similarly, cast face-down in a mould in a grid of timber strips or on a rubber mat with a grid.

Proprietary terracotta cladding tiles with extrusion holes are split to give very effective bonding grooves on the inside surface. The terracotta tiles are set in a gridded mould and, when cast with open joints, the precast panel acts as a rainscreen.

Typical stone facings used are granite, limestone and slate. Hard stone such as granite is applied as a veneer at least 30mm thick, while other stones such as Portland limestone are applied no thinner than 50mm.

Stone panels are drilled in the back for bonding in 60mm stainless steel dowels. These are set at 60° to the stone face and

alternate rows of dowels are reversed in angle. A flexible grommet is fitted to the dowel at the stone face and the rear face is treated with a de-bonding agent. These enable the stone to move relative to the backing concrete panel to accommodate thermal movement.

Stone-to-stone joints are a minimum of 5mm wide (as BS 8298:1994, Table 10) and are grout-sealed in the mould with waterproof tape to prevent penetration by the backing concrete.

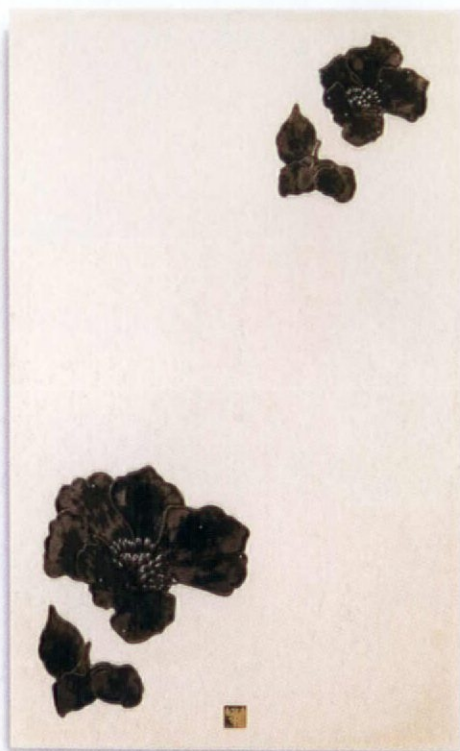
SAMPLES AND MOCK-UPS

With self finishes, the precaster will have a library of samples, which can be the starting point for developing a unique finish. A panel at least 1m² should be cast to production standards, and its casting must replicate actual manufacturing conditions. For applied finishes, an approved sample of the stone, etc, must be permanently displayed in the factory.

On large contracts, a mock-up enables finishes and details to be viewed at full scale. The viewing distance of finished units should ideally be not less than 3m. On larger projects, and particularly for complex, tight-tolerance units, a full-scale premanufacture prototype should be considered. Generally, the architect should inspect regularly during manufacturing.

Varying conditions of lighting and weather, and time since casting, will cause different colour shading. Time must be allowed for the units to mature to a consistent appearance.

Stephen Maddalena is chairman of the Architectural Cladding Association



1.



2.

1. Gold Seal - Alicia by Peter Weigl
2. Gold Seal - Uphelia by Peter Weigl

WEIGL'S CONCRETE ART BLOSSOMS

Contemporary artist Petr Weigl recently unveiled his latest concrete work at the Air Gallery, Mayfair, London. The exhibition, sponsored by Lafarge, Castle Cement, Marshalls and The Concrete Centre, saw the launch of his new Gold Seal range.

The Gold Seal range mirrors the delicacy and natural beauty of flowers. Weigl hand-sculpts and inserts floral designs into concrete and gilds them with gold and precious stones. The result is a delicacy of touch that contrasts with the robustness of concrete.

In addition to Gold Seal, Weigl exhibited works from his Fossil and Contour series. Here, concrete is transformed from a construction material to a polished, marble-like medium that depicts an encapsulated evolutionary process or geographical moment in time.

Weigl's work challenges the monolithic two-dimensionality of concrete. Instead, it examines the three-dimensional and tactile potential of concrete by taking a manufactured construction material back to its fundamental essence and then presenting it as a new entity that resembles marble with an organic twist. The pieces are created in a mould. The final results are totally dependent on the precise timing of each stage of the process. This ensures the uniqueness of each piece which is finished with the Petr Weigl wax seal of authenticity.

For further information visit: www.petrweigl.com

CONTACT DETAILS:

Sandy Porter
The Concrete Centre
Riverside House
4 Meadows Business Park
Station Approach
Blackwater
Camberley
GU17 9AB
T: 01276 606800
E: sporter@concretecentre.com

The Concrete Centre
T: 0700 4 500 500
E: enquiries@concretecentre.com
www.concretecentre.com



The **Concrete** Centre

With age comes experience

We're proud of being old, as with age comes experience, and with Keymer comes more experience than any other tile maker.

Every one of our tiles is made using traditional skills, perfected over our 400 year history. Genuinely hand made using Wealden clay, each one offers individual variations in colour and texture to produce a tile that is totally unique.

KEYMER

HAND MADE CLAY TILES

Over 400 years in the making


Keymer Tiles Ltd., Nye Road, Burgess Hill, Sussex RH15 0LZ

Tel: 01444 232931 Fax: 01444 871852

Email: info@keymer.co.uk Visit us at: www.keymer.co.uk



ENQUIRY 21 ON CARD
WWW.AJPLUS.CO.UK/AJDIRECT

Ainsworth Engineered[®] 

POURFORM[™]
CONCRETE-FORMING PANELS

SELECT THE BEST



- ▶ Superior Finish
- ▶ High Rate of Pours Per Panel
- ▶ Easy Stripping
- ▶ Tough and Durable
- ▶ Strong – Less Support Work

Formwork costs, including labour and materials, can account for 40 to 60 per cent of an installed concrete budget. By using a quality concrete-forming panel that offers more pours per panel you can achieve a lower cost per pour and spend less time rebuilding forms. A good finish means less repair work and because they're strong, you'll spend less time installing support work.

The end result is good forms,
at less cost.

**MAKE THE SWITCH TO POURFORM
CONCRETE-FORMING PANELS**

For further information about the Pourform range of concrete-forming panels contact your local stockist or call the UK information line on: 01785 222108.

Ainsworth[®]
Engineered Performance for the World of Wood[®]

SUPERIOR FOREST PRODUCTS FOR THE CONSTRUCTION INDUSTRY

Ainsworth Group of Companies, Vancouver, Canada. Telephone: (001) 604 661 3280
Fax: (001) 604 661 3275 Email: Pourform@ainsworth.ca Web site: www.ainsworth.ca

ENQUIRY 22 ON CARD
WWW.AJPLUS.CO.UK/AJDIRECT



LOSING THE WAY THANKS TO FINE ORGANISATION

I've never been a great fan of planning committees or self-appointed design do-gooders. So I was bound to take a bleakish look at CABE's new site at www.cabe.org.uk – and cautiously because CABE's deputy chairman is sitting half a dozen metres down the office in the AR enclave. He's younger and fleetier of foot than me.

Whatever, architects approve of CABE as a bulwark against the tide of schlock planning and Highgroveism. And chairman, John Sorrell, is a national design treasure. So it's a surprise that the site is so civil-servantish and bland.

I suppose the website of a government advisory body can't afford to look too clever and has to include stuff about how you complain to it about itself and how people are appointed and who they are. And it has commentary on completed buildings but it takes seven clicks to get through to design review panel commentary on an individual project. And when I typed 'Islington' into the search box I got two Islington schemes and one in Southwark.

The site declares that 'The wider CABE family... is around 350-strong.' Maybe some of them could start work on better website navigation.
sutherland.lyall@btinternet.com

AT WHAT COST?

Although most litigation involving architects concerns allegations of negligent design or contract administration there is usually, nestling away in the background, a claim by the architects for their outstanding fees, writes *Kim Franklin*. Because the sums at stake in the negligence action usually dwarf any fees claimed, they are more or less overlooked until the final reckoning. If anything is said about them, they tend to be agreed, subject to the cross-claim. The upshot is that there are very few cases concerning the principles upon which fees should be calculated.

There may be another reason why disputes about fees do not feature prominently in the law reports. The basis upon which a consultant charges fees is agreed with the client. The clearer the contract, the less scope there is for argument.

But construction contracts are inherently complex. The quintessentially English tradition of permitting the employer to vary the scope of the works after the contract is let means that, almost by definition, there is no certainty as to what works will be done, how much they will cost, or when they will be finished. Where consultants link the calculation of their fees to contracts of this nature, the client is signing up to uncertainty. In one case an employer sought to argue that

although an architect's fee was charged as a percentage, it was fixed on the original contract value and ought not to be increased to reflect substantial changes in the works.

Alternatively, the rigidity of charging on a fixed-fee basis does not sit comfortably with the flexible nature of the underlying contract. Fixed-fee agreements usually therefore include provisions permitting the consultant to charge extra fees for additional services. What is, or is not, an 'additional service' can of course present fertile ground for debate.

As any non-contentious lawyer will tell you, the way to avoid ever having to meet a contentious lawyer is to ensure that your contract of engagement clearly explains your entitlement in all eventualities. But it is human nature to enter into new projects with a spirit of enthusiasm rather than looking over your shoulder trying to predict what might go wrong. And seemingly straightforward provisions such as '10 per cent of all sums certified' may not look so clear cut when part of the works are let on a contract that does not provide for certification.

The picture is further complicated if the retainer is determined before the conclusion of the contract. Many contracts provide for the suspension of services or

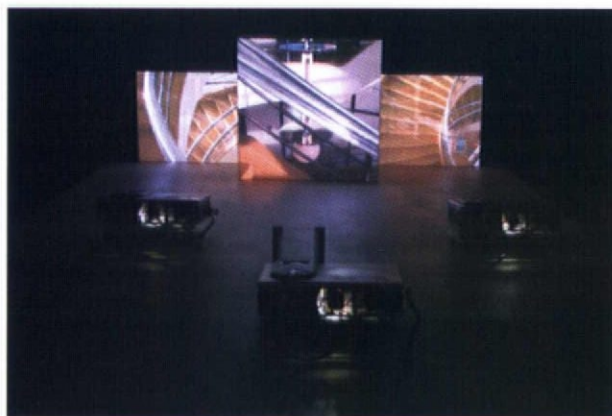
determination. Some provide for the consultant to recover 'losses caused' or 'costs incurred' as a consequence. Few spell out what those losses or costs are. Is the consultant entitled to claim the whole fee that would have been earned had the retainer not been determined? If so, is it calculated on the projected final account value at the time, or the actual final construction costs, even where those costs have increased considerably, post-determination? The answer is that it depends upon what you agreed in the first place.

Kim Franklin is a barrister and chartered arbitrator at Crown Office Chambers in London. Visit www.crownofficechambers.com

EXHIBITIONS

By Andrew Mead

Erich Mendelsohn;
Graham Ellard & Stephen
Johnstone; Bridget Smith
All at the De La Warr
Pavilion, Bexhill-on-Sea,
until 2 July



One of the Motion Path triptychs



A photo by Bridget Smith

Previously seen at Manchester's CUBE (AJ 04.11.04), and originating in Germany, it's apt that this Erich Mendelsohn exhibition has at last reached his most celebrated British building – if in a reduced form.

The show is subtitled 'Dynamics and Function', but the dynamic side of Mendelsohn's work was better reflected in the installation at CUBE, which had real flair, than in the staid, rather cramped display at the De La Warr. It's not helped by the fussy, framed montages of small-scale photographs that line the walls, and the blocks of inelegant text. Photos are of course a problem for curators of Mendelsohn exhibitions as many of his best buildings are lost, but it must be possible to give archive images more impact than they have here.

Fortunately there are plenty of sketches, which are very easy to like, though as Peter Blundell Jones pointed out in the catalogue to a 1987 Mendelsohn exhibition, they're in a way misleading – cementing the idea of him as an Expressionist at the expense of 'the subtlety of his planning and the quality of his detailing'. Best of all there are some two dozen models on show, spanning Mendelsohn's career from the Einstein Tower to the late Russell House in San Francisco (1950), which revisits earlier themes. They leave you in no doubt of his talent, though remind you too that its flowering was cruelly frustrated by politics and exile.

Neatly complementing this exhibition is Graham Ellard and Stephen Johnstone's *Motion Path*: videos shot in four

Mendelsohn buildings, including the Schocken department store in Chemnitz and the De La Warr. Each is presented as a triptych, the scenes split onto three screens at the end of a low table, the central one a little in front of the others. Conceived as 'a form of video sculpture', they gleam in the darkened room like little high-tech altarpieces.

The images sometimes echo, more often supplement each other, as the sinuous route of one camera offsets the slow drifting or stasis of another. Ellard and Johnstone say that the 'fluidity' of Mendelsohn's architecture more or less determined their shooting script; the results here are certainly absorbing.

In the high first-floor gallery at the De La Warr is the third show: photographs taken

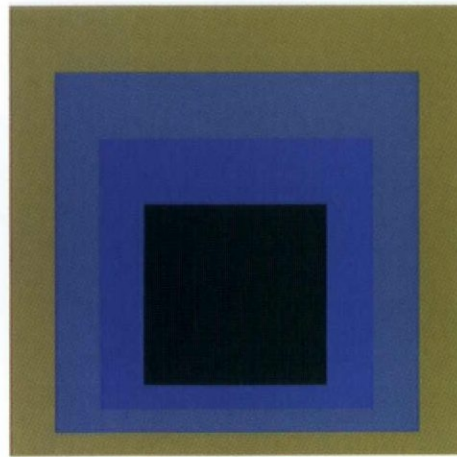
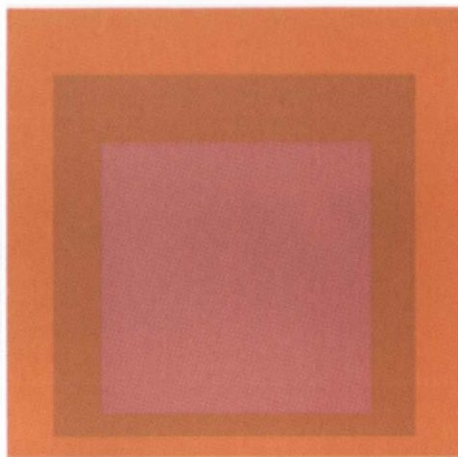
by Bridget Smith during John McAslan's recent restoration of the building. Only in passing do they record technical aspects of the work; they're not detail pictures of, say, exposed reinforcement, as in Le Corbusier's Stuttgart double villa (see *Building Study* pages 25-37), but pictures of a place in temporary disarray.

The art they recall is various (Duchamp's ready-mades, Aaron Siskind's photos of disfigured walls) and they're becoming something of a cliché; Mark Power did the same thing at the Treasury, Oliver Godow at Camden Arts Centre. But interacting as they do with the De La Warr Pavilion itself, they can be telling – a reminder that all three shows have a special rapport with the building in which they're housed.

BOOK

By Andrew Mead

Josef Albers –
Formulation: Articulation
Text by T G Rosenthal.
Thames & Hudson, 2006.
168pp. £60



Two Homages to the Square

A note opposite the contents page suggests why this book is so desirable: 'Albers' images have been printed on 200 gsm Gardapat Kiara paper with matt high-density inks and matt varnish in order to reproduce as faithfully as possible the original screenprinted portfolios.' Such decisions really do make a difference – they capture the fine discriminations that were Albers' longtime concern.

Unlike Le Corbusier in his Purist period (see *Building Study* pages 25–37), Albers didn't promote a particular theory about colour and its psychological or physiological effects. His teaching at Black Mountain College and Yale showed instead how *relative* it was. 'Colours present themselves in continuous flux, constantly related to changing neighbours

and changing conditions,' he says in *Interaction of Colour* – that invaluable guide to *seeing* (now in a new cheap paperback from Yale University Press).

Formulation: Articulation, published in 1972 when Albers was in his eighties, consisted then of two large boxed portfolios of screenprints, whose motifs spanned Albers' long career from the 'skyscraper' abstractions of the 1920s to the *Homage to the Square* series of his last years. On the initiative of the art historian T G Rosenthal, whose introductory text gives an excellent resumé of Albers' life, work and painting techniques, this new publication from Thames & Hudson presents all 127 prints in book form for the first time – reduced in size but otherwise faithful to the originals. What Rosenthal calls 'colour values of quite

fiendish subtlety' survive, partly because the book's printer scanned from the actual prints, not transparencies.

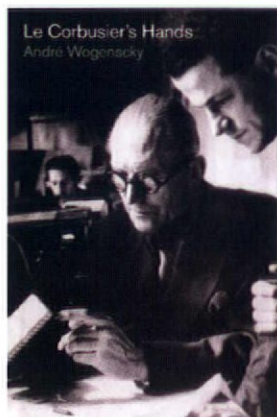
It could be seen to encapsulate almost half-a-century's research on Albers' part, and as in the splendid exhibition still at Tate Modern, where Albers is twinned with Moholy-Nagy, the book shows that some aspects of that research were more fecund and rewarding than others. The curvilinear and 'organic' motifs; the geometrical figures that flip inside-out; even the ziggurat-derived images (arresting though they are), all have less to offer than the orthogonal works based on building facades and the *Homages to the Square*.

Happily, both those series appear in quantity in the book and the examples of them are neatly juxtaposed. 'Without

comparison and choice there is no evaluation. And why are we afraid that thinking and planning – necessary in all human activities – will spoil painting?' asks Albers in one of his accompanying notes. Always the teacher as well as the artist, he keeps prompting viewers to assess what they see, not just surrender to aesthetic pleasure, tempting though that is.

'The students of Albers were smart to have chosen him and lucky he was there,' said Donald Judd. We're lucky to have this book. Though costing £60, it almost seems a bargain. No wonder that Tate Modern had sold out of it last week.

The exhibition Albers and Moholy-Nagy: From the Bauhaus to the New World continues at Tate Modern until 4 June



BOOK

By Catherine Slessor

Le Corbusier's Hands
By André Wogenscky.
MIT Press, 2006. £9.95

In 1936, 20-year-old André Wogenscky stepped tentatively into Le Corbusier's office in the Rue de Sèvres, hoping to meet the master. This impromptu encounter between colossus and novice shaped the course of his life. Wogenscky became Corb's loyal assistant and associate and, after his death in 1965, carried the torch, both in his own practice and as director of the Fondation Le Corbusier.

It is never easy to live your life at the side of a great man, yet from his tenderly awestruck tone, Wogenscky clearly feels he was fulfilling his destiny. Short, tangential musings on various themes (Joy, Space, Progress, Utopia) provide a nuanced insight into the 'real' Corb, revealing the humanity beneath the *hauteur*. We learn that he liked wine, pastis and Rabelais. He was candid, poetic and

always drawing. Being the trusted confidant, Wogenscky enjoyed a ringside seat at historic Corb occasions, such as meeting Picasso and lunch with the Dominican monks who talked him (an agnostic) into designing Ronchamp.

But despite the reverential tone, an undercurrent of demented genius is still palpable. Corb nearly throttles Wogenscky's German shepherd 'to feel how far I can go', while death is a mere *bagatelle* – 'the horizontal of the vertical; complementary and natural'. In the crowded Corb publishing canon, this slim memoir has no great pretensions but is a delightful *amuse bouche*. And if you read between the lines, you may find the *bouche* has bite.

Catherine Slessor is managing editor of the Architectural Review



CRITIC'S CHOICE

By Andrew Mead

In an issue of the AJ that spotlights the Weissenhofsiedlung in Stuttgart, it seems apt to mention another model housing development whose construction started 66 years later – the Prince of Wales' Poundbury near Dorchester. Not quite what Mies had in mind, though as *Robert Cowan* pointed out in his assessment of Poundbury on its 10th anniversary, its 'basic urbanism' could support development in 'a variety of styles, which might or might not draw on Classical or local vernacular models' (AJ 03.07.03).

But Cowan also picked up on aspects of Poundbury that made people 'uneasy', referring to the TV series *The Prisoner*, set in another model development of a kind – Clough Williams-Ellis' Italianate Portmeirion on the Welsh coast. It's this unease that surfaces in a new exhibition of photographs of Poundbury by *Steffi Klenz* (see picture), in which its manicured streets are as empty and eerie as the townscapes of Giorgio di Chirico that Aldo Rossi reprised half-a-century later. The show is at Photofusion, 17a Electric Lane, London SW2 from 2 June until 15 July (www.photofusion.org).

Much more in the spirit of Mies is a new exhibition on two floors of The Lighthouse, Glasgow – *Marcel Breuer: Design and Architecture*. As with all shows organised by the Vitra Design Museum, there's a strong emphasis on furniture and other artefacts, but Breuer's architecture is substantially present too, with models of many major projects, including the superb, formidable Whitney Museum in New York. Like Mendelsohn, Breuer practised briefly in the UK *en route* from Germany to the US, and this work from the mid-1930s (with F R S Yorke) also features. The show runs from 16 June–27 August (www.thelighthouse.co.uk).

This Breuer exhibition is timed to coincide with Architecture Week 2006 (16–25 June). Among the many other events planned in Scotland are a talk at Glasgow's Tramway by the artist *Toby Paterson*, whose paintings and murals make continual reference to Modernist architecture, and a walking tour of East Kilbride, including a visit to (what's left of) Gillespie, Kidd & Coia's St Bride's Church. Full details are on the national website: www.architectureweek.org.uk. For forthcoming events visit www.ajplus.co.uk/diary

JOBS ENQUIRIES

Laura Tilling 020 7505 6803 laura.tilling@emap.com
www.ajplus.co.uk/jobs

THE ARCHITECTS' JOURNAL
 151 Rosebery Avenue,
 London EC1R 4GB

Display advertising
 020 7505 6823
 Recruitment advertising
 020 7505 6803/6737
 Advertising fax number
 020 7505 6750

Deadlines
 Bookings/copy 5pm Monday
 Artwork 12pm Tuesday
 Cancellations 12pm Monday



www.4-architects.com Tel: 01323 749200

Associate / Senior Architect / Assistants / Technicians
Milton Keynes / Bedford £££ - Competitive

Well-established design practices, would like to appoint several key individuals due to the continued growth and acquisition of new and exciting projects. Excellent career progression and salary packages to match. **Ref: 3418 (Mark / Philip)**

Architects / Design Managers / Technical Co-ordinators
Architectural Technologist / Assistants

North London / Hertfordshire / Essex £30K - £58K Car / Allowance + Bens
 Outstanding opportunities for candidates with AutoCAD and housing experience to progress in the planning and technical departments of one of the UK's premier residential developers. This company has received several top awards, including the coveted Which Home Builder of the year plus many many more. **Ref: 3416 (Philip / Mark)**

Ireland	Architects / Technologists	(AutoCAD)	£25 - £34hr Ltd	Ref: 3425
Warwickshire	Architects / Technicians	(AutoCAD)	£24 - £32hr Ltd	Ref: 3424d
Reading	Architects / Technicians SC&	(AutoCAD)	£28 - £35hr Ltd	Ref: 3420a
Manchester	Architects / Technicians	(AutoCAD)	£23 - £30hr Ltd	Ref: 3424c
Surbiton	Architects / Technicians	(AutoCAD)	£18 - £25hr Ltd	Ref: 3393
Bristol	Architects / Technicians	(AutoCAD)	£22 - £32hr Ltd	Ref: 3424b
Reading	Architects / Technicians	(AutoCAD)	£27 - £35hr Ltd	Ref: 3420
Potters Bar	Architects / Technicians	(AutoCAD)	£18 - £25hr Ltd	Ref: 3416

We have over 64 Contract - Freelance Posts PAYE - LTD Weekly Pay
Please call or visit our web site for the latest vacancies
jobs@4-architects.com



R D RECRUITMENT
(RUGBY) LTD



T: (01788) 572841

E: kim.shreeve@rdrecruitment.co.uk
W: www.rdrecruitment.co.uk

Ref: 0605-102
Senior Interior Designer
South Yorkshire
£ Competitive
Permanent

My client is a rapidly expanding firm of Architects specialising in the Leisure sector, and focussing on high quality, prestige projects. They are now seeking a dynamic Interior Designer with +3 years experience, ideally with Project Management, AutoCAD and Team Management (of 4) experience. This is a great opportunity to join a practice that is highly respected within their field.

Please contact Dave Smith to discuss these and many more exciting jobs on:
 Tel: 01785 812750
 Mobile: 07810 624036
 email: dave.smith@dgservice.co.uk



South Yorkshire Vacancy
Senior Interior Designer
Vac ref 0605-006
Permanent

My client is an expanding Interior Design Company specialising in the Pub and Club sector using Autocad as a Design Tool. They are now seeking to develop their current team of 13 with the addition of a Senior Interior Designer with a minimum of 5 years experience, ideally gained within a similar sector. This is an opportunity to join an exciting company, renowned for the high quality of their work and their commitment to staff development.

Established and busy Architectural Practice requires a talented and enthusiastic ARCHITECT to take a leading role in a number of exciting housing projects.

Apply in writing, enclosing a CV and samples of your work.
 MEPK Architects is an Equal Opportunities Employer.

MEPK
ARCHITECTS

5A Harpur Street
 Bedford MK40 1PE
bedford@mepk.co.uk
www.mepk.co.uk

Production ARCHITECT
New Plymouth, New Zealand

We are seeking an intelligent project leader with proven skills and experience to join our team. This role focuses on post design development, to take over projects from Principals and see contracts and projects to completion. Boon Goldsmith Bhaskar Team Architecture has a national client base delivering a stimulating range of projects types: civic, commercial, retail, health, education, residential.

Our ideal applicant

Is personable with good communications skills
 Can take a coordinating role with staff and consultant teams
 Is self directed with good quality management procedures
 Has a good understanding of IT systems and processes
 Has good architectural/construction/industry knowledge
 Has a mature approach to monitoring an effective work/life balance
 Is looking for a long term commitment to working life and community with associated financial benefits
 Has a developing interest in Environmentally Sustainable Design

Qualifications in Architecture or Building Science required with a minimum of 5 years post registration experience.

Boon Goldsmith Bhaskar are a young professional team with a 40 year record of architectural practice; are enthusiastic about Taranaki, architecture, the community, NZ life, and getting ahead. If this sounds like you, a full job description is available by contacting:

The Practice Manager
 Email: pascal@bgb-ta.co.nz
www.teamarchitecture.co.nz
 For information about New Plymouth visit:
www.npdc.govt.nz or
www.taranaki.co.nz

BOON GOLDSMITH BHASKAR

TEAM ARCHITECTURE

CA ARCHITECTURAL RECRUITMENT CONSULTANTS

DESIGN ARCHITECTS - MANCHESTER / CHESHIRE / MERSEYSIDE. To £35k. Excellent practices, top class work.

SENIOR ARCHITECTURAL TECHNICIAN - LIVERPOOL
 To £33k. Small friendly practice, excellent office, quality projects.

PROJECT MANAGERS - NATIONAL
 To £45k + PACKAGE. Diverse range of prestige projects.

ARCHITECTS + TECHNICIANS - YORK
 To £30k. Top class practice, excellent office, high quality, diverse projects.

ASSOCIATE BUILDING SURVEYOR - BIRMINGHAM
 To £45k + PACKAGE. Top class private practice, diverse, exciting workload, great opportunity.

ARCHITECTS + TECHNICIANS - SOUTH MANCHESTER
 To £38K + BENS. Huge prestige retail projects, huge opportunity, excellent rewards.

ARCHITECTS + TECHNICIANS - LANCASHIRE
 To £30K. Excellent medium sized practice, fantastic rural office, excellent projects.

This is a small selection of our current vacancies.
 To discuss these, or any of our other vacancies call
 Andy Chamberlain anytime on 01200 425996 or visit our
 website for a more detailed job description at:
WWW.CHAMBERLAINASSOCIATES.CO.UK

CA CHAMBERLAIN
 ASSOCIATES

T: 01200 425996 F: 01200 427781
 E-mail: info@ca-uk.co.uk
 Website: www.ca-uk.co.uk

white design is growing organically.

if you share our passion for beautiful, affordable, sustainable design, we'd like to hear from you.

we are looking for an exceptional candidate with several years part III experience, a track record in innovation and an interest in applying and developing managerial skills in a growing practice

please send a cv with succinct letter explaining how you as a part III qualified enthusiast can contribute to what we do to:

catherine ruffles, white design, the proving house, 101 sevier street, bristol, bs2 9lb or email jobs@white-design.co.uk

we're a mac os x based office using vectorworks, artlantis, photoshop etc

white design is an equal opportunities employer. we encourage diversity.

applications to reach us no later than friday 9th june 2006.
we hope to hold interviews on the 19th and 21st june.

www.white-design.co.uk

white
design

Cornerstone Architects

We are a busy practice based on the beautiful Isle of Man and we are looking to appoint:

Architectural Technologists with a minimum of 5 years experience

a **Project Manager** with construction industry experience

A competitive salary, an interesting portfolio of projects and an unrivalled quality of life is on offer.

Please forward C.V. and samples of work to:

Cornerstone Architects
79 Parliament Street
Ramsey, Isle of Man
IM8 1AQ

lloyd-davies@cornerstonearchitects.co.uk

Space Syntax

Spaces can be safe or dangerous; full of life or dead. Spaces can attract people or put them off, include them or exclude them; be socially and economically valuable or not. What matters is how space is planned and designed, and whether the plans and designs put people first.

At Space Syntax we are looking to hire creative and strategic thinkers who can help us provide evidence-based planning and design advice to public and private sector clients worldwide.

We use pioneering computer modelling methods to forecast how different planning strategies, masterplans, public space designs and building layouts will affect the way people use them. We are looking for people ready to learn these methods and to add their own skills to our growing consultancy.

We currently have vacancies for trainee and experienced Design Consultants, Planning Consultants and an experienced Project Manager.

Space Syntax is an Equal Opportunities Employer and is committed to diversity.

For further details on these vacancies please go to:

www.spacesyntax.com

Architectural Recruitment Consultants

Magenta

Part 2 Assistant London / Herts £32K

With an outstanding reputation for its training and career development our award winning client is becoming one of the country's leading practices. You will be involved in various stages of the design process from concept through to completion. Excellent opportunity to be fully supported in gaining your part 3.

Technician South East £35-40K

The majority of our clients work involves new build leisure centres, sports facilities and large retail/commercial projects. Autocad skills are essential in order to produce working drawings in a lively and fast moving environment. You will either work alongside a senior architect or manage your own projects, dependant on experience.

Technician West Midlands £34K

Responsibilities will include producing working drawings, assisting with feasibility studies, surveying, site visits and liaising with clients and consultants. Experience of construction detailing is also essential as is the ability to communicate at all stages, be self motivated and display a reliable and flexible approach.

Senior Design Architect London £45K

Ideally you will have between 6 and 10 years large scale design experience and be capable of developing designs for residential and commercial schemes from inception through to planning and detail design. This is a fantastic opportunity to work in a progressive environment that offers genuine career development.

Architect / Technician North West £37K

A long term future with one of the country's leading practices awaits Architects (RIBA) and Technicians (HNC qualification). A minimum of 2 years UK PQE experience is essential for this role. You will form part of a team engaging on commercial / pharmaceutical and residential projects. Autocad or Microstation is essential.

Architects / Technicians London / Essex £35-45K

Recently qualified design architects, good technical architects familiar with the residential sector and technicians are all in demand. Projects range from inception through to completion on a variety of projects. Excellent starting salary with the opportunity for fast track career advancement up to associate level is on offer.

For further information please contact
Claire Gladdis: claire@magrec.co.uk or visit: www.magrec.co.uk

Tel: 020 8547 3399 Fax: 020 8547 2546

Magenta Recruitment Ltd: 8 Eden Street, Kingston-Upon-Thames, Surrey, KT1 1BB



The architects of communication

Salary expectation
30k+

You're an experienced architect or construction designer. We are leading specialists in technical information for construction, including technical literature, web and multimedia. The position, based in our London office, requires a person with a capability for technically accurate and imaginative communication. Email your C.V. to richard@nbat.co.uk or call Richard Thomas on 020 7284 2272.

INFORMATION COMMUNICATION IN CONSTRUCTION N·B·A·T

London Based Specification Manager
to build our exposure with London architects/specifiers.

Twyford | **Bushboard**
total washroom solutions

You will be supporting our RIBA approved CPD programme and sales team. Experience with architects and the specification process is essential and would suit a candidate with an architectural technician background.

A strong package with bonus scheme is offered, together with a full induction programme and showroom support.

For further details please contact Jenny Beard.

T: 01933 232 245

E: jbeard@bushboard.co.uk

W: www.twyfordbushboard.co.uk

www.ajplus.co.uk/jobs

A Clerkenwell based job agency
set up by Architects for Architects

bespoke

The next generation award winners! £32,000 - £42,000 p.a. / £18 - £22 p.h.
A fantastic young practice of 20 close to London Bridge are looking for exceptionally talented job runners to join their ambitious London studio. The practice have been widely published recently in the architectural press & look likely to become one of the most influential practices of the future.

Great career prospects & a life outside the office! £26,000 - £42,000 p.a.
A friendly commercially successful practice of 30 based in a cool warehouse space in Clerkenwell are looking to recruit 2 ambitious young architects & a number of bright part II's. Current projects include a high spec housing scheme within walking distance of the office and the refurbishment of a existing warehouse in Grays Inn Road. Excellent long term career path opportunities. Fantastic working environment.

Widely published in the West End! £25,000 - £48,500 p.a. / £14.00 - £22.00 p.h.
Senior project architects, architects & assistants required for a well known practice in West London. Current projects include refurbishment of Grade 2 listed building into apartments combined with contemporary new build & some fantastic high profile transport projects in the UK and Asia. Fantastic career opportunities, great working environment. 3 - 6 month contracts also available.

To view a comprehensive list of vacancies & to register with us please visit www.bespokecareers.com or call us on 0207 24 24 909.

If you are looking for practical, hands-on experience with medium sized projects:

Part 2 Architects with some experience required

For busy practice in Holland Park, W11. Salary dependent on experience.

Contact Peter Tigg or Satish Patel PTP Architects Ltd on 020 7221 5568
Send CV by fax on 020 7229 8771 or email on mail@ptp-architects.com
www.ptp-architects.com

LONDON and BRISTOL

We are looking for enthusiastic and creative architects with experience of healthcare or retail projects to join our growing company in Bristol and in our newly formed office in London.

please email cv's and examples of your work to r.renoldson@codarchitects.co.uk



CODA
architects

www.codarchitects.co.uk

Nicholas Groves-Raines Architects Ltd

Are seeking recently qualified architects and experienced senior architects, based in Edinburgh working on a range of projects throughout Scotland and Ireland.

Applications in writing to:

Nicholas Groves-Raines Architects Ltd, Liberton House,
73 Liberton Drive, Edinburgh EH16 6NP e-mail: mail@ngra.co.uk



Anglia Ruskin
University

Cambridge & Chelmsford

Senior Lecturer in Architecture or Town Planning

Based in Chelmsford

Ref: 5330

£28,212 - £37,521 p.a.

We have opportunities for a number of built environment professionals to strengthen the Department of the Built Environment in its research and teaching activities. We are a multi-disciplinary department undergoing considerable growth and in a region involved in major development and economic expansion.

We are seeking a Chartered Architect or Town Planner, who will contribute to research and teaching within the Architecture Group. An ability to contribute to both undergraduate and postgraduate architecture and planning programmes would be beneficial as would expertise in one or more of the following: sustainability, design, architectural history, waste and minerals and housing matters.

Closing date 14 June 2006 (12 noon).

Interviews are expected to be held on 23 June 2006.

CVs will only be accepted if accompanied by a completed University Application Form.

We value diversity at Anglia Ruskin University and welcome applications from all sections of the community.

Internet: www.anglia.ac.uk/hr/jobs

Email: jobs@anglia.ac.uk

Answerphone: 0845 1964740



www.anglia.ac.uk



Geddes Architects

22 Cross Keys Close, Marylebone, London
www.geddesarchitects.com
UK Qualified Architects min 5 yrs exp.

We are looking for architects with good contract admin exp. to join our growing company to work on a variety of mixed-use and retail projects. Enthusiastic designers with good technical capabilities (AutoCAD a must, Photoshop and 3D an advantage).

CV's to kathleen@geddesarchitects.com with covering letter. No agencies.

Architectural Technician

Required by South West regional house builder to join their technical department based in Lyme Regis. The successful applicant will be required to prepare detailed working drawings and specifications as well as participate in the formulation of tender documents. In conjunction with the planning department the role will include preparation of design schemes for developments. Skills should include the ability to design innovative technical solutions utilising AutoCAD & NBS Building software. Exciting opportunity to join a small, growing team who pride themselves in innovative design and quality residential construction. Salary negotiable.

Please send or e-mail CV to: Mark Swan, Swan Country Homes,
3 Colway Rise, Colway Lane, Lyme Regis, Dorset DT7 3HJ
E-mail: mark@swancountryhomes.co.uk
Telephone: 01297 442789



BroadwayMalyan

At the forefront of European architecture
and integrated design

International Appointment - Lisbon Office

Senior Design Architect / Associate

Over the last 10 years the growth of our International business has meant that we have expanded our operations in our European offices as we have in the UK. Our Lisbon office is now 10 years old and our reputation and workload continues to grow. We have projects across Iberia, Europe and Internationally with recent commissions in North Africa, Turkey and China. This includes large scale retail and workplace projects and we're increasingly working in the residential and hospitality sectors. Our success has been based on the skills and expertise of our architectural professionals and we now seek an excellent Design Architect at a senior level to join our busy team in Lisbon.

Qualifications:

- 5 years post qualification experience.
- Strong concept design skills.
- Excellent interpersonal skills, experienced client 'Manager'.
- An ability to lead projects through experience and authority.
- Key interest in developing your career in the international arena.
- Entrepreneurial skills to develop a business model.

In return:

- A full time appointment with an Internationally growing business.
- An initial 2 year posting based in our Lisbon office extendable by mutual agreement.
- Security to return to the UK or another Broadway Malyan international office at the end of the posting if preferred.
- Excellent promotion prospects.
- A superb working environment in a sophisticated European city of beauty and heritage.
- A supporting and positive culture to develop your career.

Interested? Then call or send your CV to Tim Gilbert: t: 01932 845 599
email: t.gilbert@broadwaymalyan.com

Weybridge Office: Broadway Malyan, 3 Weybridge Business Park,
Addlestone Road, Weybridge, Surrey KT15 2BW

www.broadwaymalyan.com/recruitment

Broadway Malyan is an equal opportunities employer



Weybridge London Manchester Reading Southampton Edinburgh Birmingham Lisbon Madrid Warsaw

ARCHITECTURAL CAD TECHNOLOGISTS

To join small and friendly Practice specialising in high quality residential new build, educational and conversion work for private clients.

With a minimum of 2 years post qualification experience. The applicant must be self motivated, have a good knowledge of construction detailing.

Microstation skills are essential.

Applicants to:
Practice Secretary
DESIGN COMPANY GROUP
60A HIGHFIELD ROAD
PURLEY
SURREY CR8 2JG
EMAIL: info@designcompanygroup.com

R D RECRUITMENT (RUGBY) LTD

T: (01788) 572841
E: kim.shreeve@rdrecruitment.co.uk
W: www.rdrecruitment.co.uk

Ref: 0605-117
3x 2nd In-Command Architects +1
London, Newmarket,
Nott's & Cardiff
£ Very Competitive Permanent
My client is looking for three Technically Brilliant people - probably Architects, looking for the ultimate career opportunity. They need second-in command personnel who aspire to eventually becoming Principals. They also need a Resident (or visiting) Site Architect for an £11million Swimming pool & Leisure Centre about to start onsite in Newmarket.

your next career move

Senior Urban Designer
to £45k (tax free)

Dubai/China

This is an excellent opening for a senior Urban designer to project manage and lead the design team, in the international offices of this major international engineering consultancy. You will be responsible for the masterplanning and development of vast green-field sites, in some of the world's largest and fastest developing construction sites. In addition to managing the financial and planning aspects of the projects, you will be required to get involved with the technical and design aspects of the buildings, as well as liaising with clients and contractors. All expenses paid.

REF: 108057

Architect
to £45k p.a.

London

Exciting opportunity to be involved with one of the UK's most ambitious construction projects - Crossrail. Our client is a small concept/design led practice, who has won an assignment to design one of the stations for the project. They are also working on some high-spec residential projects. Rail experience helpful, Microstation essential.

REF: 108235

t: 01489 898140

e: arch@matchtech.com

w: www.matchtech.com

matchtech
GROUP PLC

human resources for a technical world

1450 Parkway, Solent Business Park, Whiteley, Fareham, PO15 7AF

Nationwide Architectural Recruitment

To £22/hr

Assistant Architect/Architect

This large practice has a real influence on airport schemes at present. Role allows the project opportunities of a superb practice. Great stage to join as designs are being deliberated. Chance to have real input in long, ongoing contract for a strong AutoCAD assistant & architect, with an immediate start possible. Large-scale design experience is crucial. Ref AJ6

South London

To £35k pa

Design Architect

Our client really cares about their employee's and as a result offer a great working environment, career progression and superior company benefits. If you have 3 years post RIBA 3 with a passion for Design or a strong Technical background and feel frustrated within your current practice please call us for a private & confidential chat. Our client offers a varied portfolio. Ref AJ3

Central London

t: 023 8033 4444 e: arch@faststream.co.uk www.faststream.co.uk
120+ Nationwide, Contract and Permanent Architectural jobs online

faststream
architectural recruitment

INVESTOR IN PEOPLE
RIBA

AJ NET DIRECTORY

Architects-online.co.uk
the world's leading architectural job site

amsa www.amsa.co.uk

C A CHAMBERLAIN ASSOCIATES
ARCHITECTURAL RECRUITMENT IN THE NORTH
www.chamberlainassociates.co.uk

dq www.dgservice.co.uk

faststream www.faststream.co.uk
recruitment limited

matchtech
GROUP PLC
www.matchtech.com

RBYL
Architectural Appointments www.rbyl.com

rd www.rdrecruitment.co.uk

Architectural Vacancies **SIV**
www.siv.co.uk

For Advertising
Enquiries
Please Contact:
Laura Tilling
0207 505 6803
Email:
laura.tilling@emap.com

RIBA Appointments

Recruitment Agency of the
Royal Institute of British Architects

Senior Architect - Kings Cross Job Ref 976

A friendly and growing design led practice of 14 people near Euston. Workload includes residential, travel, refurbishment and civic sectors with a strong reputation for hotels and this is where the successful candidate will be called in to lead a design team on an exciting new hotel project. Candidates must have experience of starting and finishing a £10M+ project, have strong design and working drawings experience and be happy leading a team, dealing with clients and consultants. Preferably with experience of the hotel sector but not essential. Minimum 8-10 years post Part 3 experience. This position offers possible career development to a senior level within the practice. **Info@ribaappointments.com | 020 7496 8370**

We have over 165 live jobs on our website, ranging from Part 1 Students to Senior Project Directors, based across the UK and overseas. These jobs are updated daily and you can apply by simply emailing your CV.

To register for any of these jobs and to view a wide selection of other vacancies, please visit our website.

www.ribaappointments.com

Choose something better. Choose Derbyshire

Head of Design

DCC/06/1700

£47,784 - £50,454 per annum

Chatsworth Hall, Matlock

Derbyshire is already an excellent-rated Council and is always seeking to become even better. Dynamic, talented and dedicated people have put us where we are, and we're looking to replace one of those key individuals who is to retire. Our Head of Design manages the implementation of the Council's capital building works programme across all services amounting to some £40m-£60m per year. Design resources are delivered by a well established and experienced in-house team working with a framework partner and other consultants when necessary. Good sustainable design delivered by true partnering and stakeholder involvement is essential and applicants will need to demonstrate a real belief and commitment to the Re-thinking Construction agenda. Proven experience and a professional qualification will be required in the design and management of educational buildings, social care facilities, libraries and other community accommodation. Energy efficiency and sustainable construction are key objectives on all projects. In order to succeed in this exciting role you will already have a proven track record in project design management and partnership procurement. You must be able to demonstrate your ability to manage a team of multi discipline designers and to negotiate with, and inspire the confidence of, a variety of partners, agencies and stakeholders. Your communication skills will be exceptional, enabling you to ensure that the programme's objectives are readily understood. You will also be able to enthuse others to create successful operational partnerships. If you would like to join one of the best councils in the country with a proven track record in the delivery of capital projects including PFI schemes, then we want to hear from you.

**Application packs for all vacancies are available online at
www.derbyshire.gov.uk/jobs
or from Call Derbyshire on 08 456 058 058**

Closing date: 4 June 2006

We are an equal opportunities
employer welcoming applications
from everyone.



DERBYSHIRE
County Council
Improving life for local people

For all Derbyshire County Council vacancies see www.derbyshire.gov.uk

R D RECRUITMENT (RUGBY) LTD

T: (01788) 572841

E: kim.shreeve@rdrecruitment.co.uk

W: www.rdrecruitment.co.uk

Ref: 0605-115

Architect/Technicians

Lancashire

£ Competitive Permanent

My client has just completed a merger with a Larger Practice in Manchester and is now looking to recruit at least one member of Technical staff (possibly two) for their Office as soon as possible. They are preferably looking to recruit someone with 7-10 years experience and at some time in the next couple of months they will also require an Architect.

data nature associates

Architect and Architectural Assistant

To join a young innovative practice to work on residential, retail, commercial and exhibition projects in the UK and abroad.

Architect - 2 years post Part III office experience
(inc. contract administration)

Architectural Assistant - post Part II

All applicants require proficiency in Vectorworks and Adobe packages, 3D modelling skills and need to be fluent in English.

CV and examples of work to:
Data Nature Associates, Unit 8, 65-69 Lots Road,
London SW10 0RN or e-mail to
info@datanature.com





ENGLISH HERITAGE



Historic Buildings Surveyor/Architect (two posts)

c. £32,000 per annum (pro rata)

One permanent, two days per week and one two year fixed-term contract
(full-time or part-time hours considered)

East Midlands based

English Heritage are champions of our historic environment. We ensure that the nation's heritage continues to provide pleasure, variety and inspiration for generations to come. We are the lead body responsible for advising on conservation and repair of the historic built environment and are also a statutory consultee on all planning issues which affect the historic environment.

Working in the East Midlands region which covers five counties, you will prepare reports on buildings and monuments for which applications for grants have been made. You will also advise on standards and specifications, assess cost estimates, monitor work in progress to ensure adequate standards are achieved and authorise grant payments.

As a qualified RICS building surveyor or architect, you should be able to demonstrate knowledge of English architectural history, building construction and current conservation practice. It is desirable for you to either have accreditation in building conservation (RICS or RIBA/AABC) or be in the process of gaining it.

Excellent interpersonal skills are required, as is the ability to write clear and concise reports. The job involves careful management of a widespread and heavy workload and there will be the requirement to travel in the region to attend meetings and site inspections.

For further information and an application pack, please telephone 01223 582700 or email midlands.recruit@english-heritage.org.uk quoting reference D/007/06 for the permanent post and D/008/06 for the fixed-term post. Closing date: 16 June 2006.



MINICOM, FOR TEXT
PHONES ONLY, 0800 0150516.



English Heritage values diversity and
aims to employ people who reflect this.

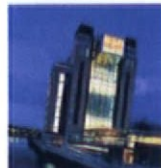
ellis williams architects is a UK top 50 international practice, winner of RIBA design awards in 2005 and 2006, and the AJ winner for most significant practice in the Northwest. We are a practice specialising in education including a wide variety of arts, leisure and commercial based projects.

To assist us with this exciting and growing workload we are looking for talented and enthusiastic individuals with the following experience to join us in our Cheshire (Preston Brook) or London office.

- Senior architects with experience in developing designs and running multiple projects and teams.
- Architects with 1-5 years post Part III experience capable of working as project architects.
- Architectural technicians (Cheshire office).

Opportunities for promotion. Applicants must be resident in the UK with requisite live/work permits. Proficiency in AutoCad essential. Please email your CV to Sue Hind; Practice Manager sue.hind@ewa.co.uk

ewa (ewa.co.uk) is an equal opportunity employer. No agencies



Avery Associates

We are looking for an experienced Part III Architectural Assistant (preferably with Vectorworks skills) to initially help with a Central London Museum project currently on site and thereafter with the rest of the practices burgeoning design workload.

Please send CV to:-
Debbie Willmore (enquiries@avery-architects.co.uk)
Avery Associates Architects
270 Vauxhall Bridge Road
London SW1V 1BB
www.avery-architects.co.uk



To advertise here please contact

Laura Tilling on:

020 7505 6803

Email: laura.tilling@emap.com

TENDER



Department of
**Finance and
Personnel**
www.dfpni.gov.uk

Expressions of Interest Competition for the Appointment of Consultants

For the Preparation of a Masterplan for the Redevelopment of Crumlin Road Gaol and Girdwood Barracks

Central Procurement Directorate acting as agent for The Office of the First Minister and the Deputy First Minister (OFMDFM) and the Department of Social Development (DSD) jointly wish to invite expressions of interest from suitably qualified consultancies with international standing experienced in the field of urban regeneration and design for a competition for the preparation of a masterplan for the redevelopment of the former Crumlin Road Gaol and Girdwood Barracks in North Belfast, Northern Ireland.

OFMDFM and DSD propose to hold a two-stage competition for the appointment of consultants for the masterplan to select a consultancy offering the best solution.

Interested consultants can obtain questionnaires by applying in writing or fax, quoting CPD 1385/05 to the address below not later than 3.00pm on 31st May 2006.

The completed questionnaires and additional information (hard copies only) should be returned in a sealed envelope marked "Masterplan for Crumlin Road Gaol/Girdwood Barracks Ref (CPD1385/05)" to:

Department of Finance & Personnel
Central Procurement Directorate
Construction and Advisory Division
Contracts Branch
Level 4
Causeway Exchange
1-7 Bedford Street
Belfast
BT2 7EG
Fax No. 028 9082 3245
Email. Construct.info@dfpni.gov.uk

Not later than 3.00pm on 6th June 2006.

Failure to supply any of the required information will result in the application not being considered.

This advertisement is a summary of the Contract Notice, which was dispatched to the Official Journal of the European Union on 28th April 2006.

From 1st April 2006 all tendering opportunities for Works, Supplies and Services can be viewed on the Internet at www.cpdni.gov.uk



INVESTOR IN PEOPLE

www.dfpni.gov.uk



Since DG Services inception in September last year the Architects Journal has been an integral part of my plans for attracting the best available candidates.

I am always impressed by their attention to detail and the standard of service that they offer, of all the advertising media I use the Architects Journal is the one who is most concerned with maximising my response and supporting my business aims.

I expect DG Services to continue using them long into the future. Congratulations to Laura, Malcolm and the rest of the team on their continuing success.

Dave Smith
DG Services

COURSES

THE BARTLETT SCHOOL OF GRADUATE STUDIES



UCL

MSc Housing Futures

a new interdisciplinary housing course

MSc Advanced Architectural Studies

the original space syntax course

MSc Adaptive Architecture and Computation

an innovative course in digital design

The MSc Built Environment programme at UCL:

- designed both for graduates and professionals
- available full or part-time
- linked to an internationally renowned research programme
- taught by leading academics, practitioners and policy makers
- supported by fieldtrips and workshops on UK architecture

Early applications are encouraged for students seeking scholarships. For further information contact:

bartlett.pgclerk@ucl.ac.uk

+44 (0) 20 7679 1738

<http://www.space.bartlett.ucl.ac.uk/msc>

understanding **SPACE** from the building to the city

AutoCAD Courses

- Personal Tuition: the fast way to learn
- Courses tailored to your requirements
- Training by experienced CAD architect
- Daytime or evening courses available
- 2-D & 3-D AutoCAD drawing service
- Central London location

020 7266 2506, 0791 5652057 dp_arch@yahoo.com

CAD Training Service

MODEL MAKERS

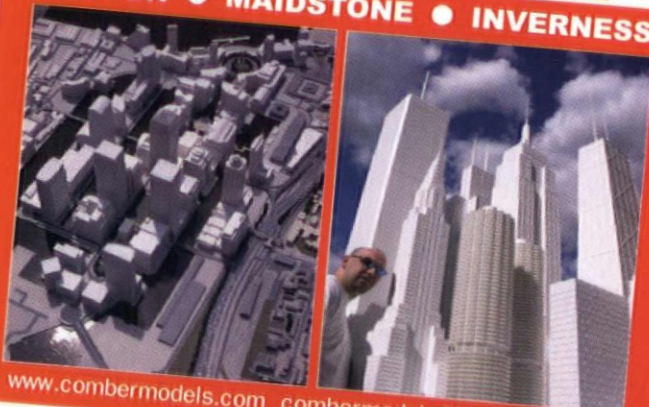
KANDOR
KANDOR MODELMAKERS



Tel 020 7251 6366
Fax 020 7608 3356
email: kandor@kandormodels.com
www.kandormodels.com

COMBER

MODELMAKERS 020 8533 6592
LONDON • MAIDSTONE • INVERNESS



www.combermodels.com combermodels@btconnect.com

**PIPERS
FOOKS**

CONCEPT, PLANNING & MARKETING

FOR ALL YOUR MODELMAKING NEEDS,
CONTACT STEPHEN FOOKS.

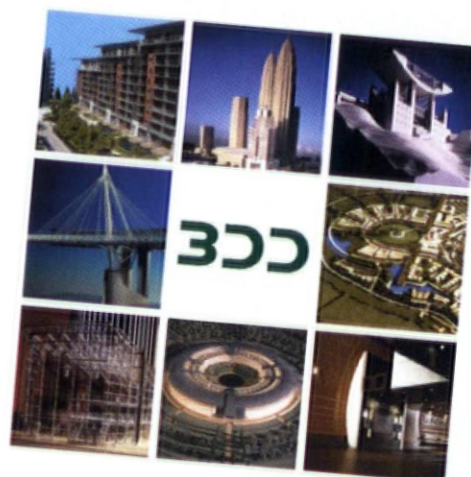
PIPERS FOOKS LTD
UNIT 2, CAPEL CLOSE, LEACON RD,
ASHFORD, KENT TN23 4GY

01233 63 68 68
STUDIO@PIPERSFOOKS.COM
WWW.PIPERSFOOKS.COM

CLASSIFIED ENQUIRIES

Lucy Herdsman: T 020 7505 6873 F 020 7505 6750
lucy.herdsman@emap.com

MODELMAKERS



t: 020 7739 7933

f: 020 7739 7195

3dd.co.uk

NETWORKMODELMAKERS

Visit our new website - 22 years in the making
www.networkmodelmakers.com

Tel: 020 7243 1816

mail@networkmodelmakers.com

PIPERS

CONCEPT, PLANNING & MARKETING

FOR ALL YOUR MODELMAKING NEEDS,
CONTACT CARLOS SOUSA.

PIPERS MODELS LTD
27-35 BEVENDEN STREET,
LONDON N1 6BH

020 7250 0530
STUDIO@PIPERS.CO.UK
WWW.PIPERS.CO.UK

MODEL MAKERS

FLIC MODELS Architectural Models + 3D Visualisations



020 7377 6127 studio@flicmodels.com www.flicmodels.com

ARCHITECTURAL MODELMAKERS

elfin presentations

191-205 Cambridge Heath Road London E2 0EL
Tel: (020) 7728 6744 Fax: (020) 7728 9318
www.elfinpresentations.co.uk

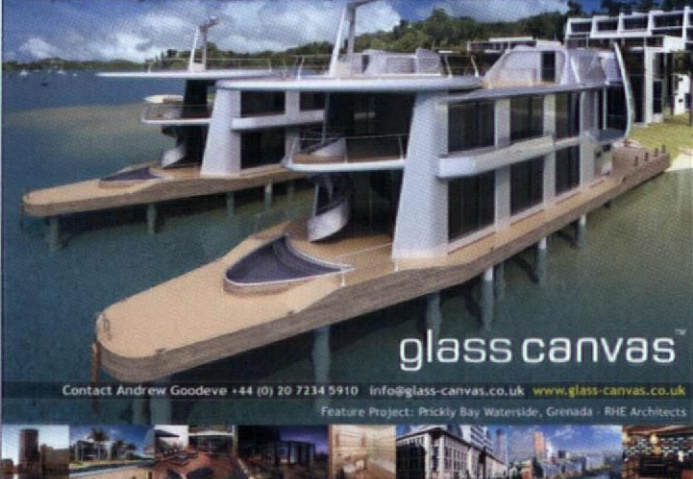
3D COMPUTER VISUALISATION

+44 (0) 1252 711 700
www.circlecreative.co.uk
sales@circlecreative.co.uk



Circle
creative limited

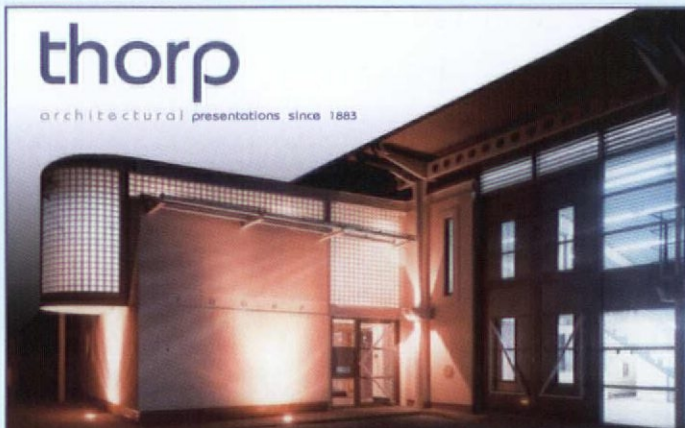
Unique 3D Images, Animations & Video for Concepts, D&D, Planning and Marketing



glass canvas

Contact Andrew Goodeve +44 (0) 20 7234 5910 info@glass-canvas.co.uk www.glass-canvas.co.uk
Feature Project: Prickly Bay Waterside, Grenada - RHE Architects

thorp
architectural presentations since 1883



t. +44(0)1344 876776 e. thorp@atomltd.com
f. +44(0)1344 876583 i. www.thorpmodelmakers.com

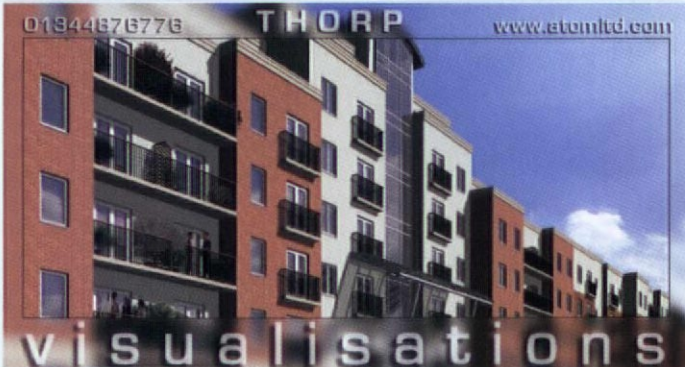
3D COMPUTER VISUALISATION

PIKCELLS
VISUALISATION STUDIO

T: +44 (0) 870 990 5279 E: info@pikcells.co.uk W: www.pikcells.co.uk



01944676776 **THORP** www.etomltd.com

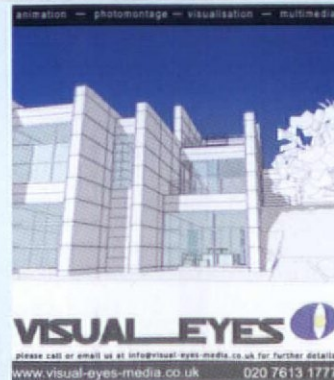


visualisations

www.3dcom.co.uk
3d@3dcom.co.uk
01274 834130



animation — photomontage — visualisation — multimedia



VISUAL EYES
please call or email us at info@visual-eyes-media.co.uk for further details
www.visual-eyes-media.co.uk 020 7613 1777

3D COMPUTER VISUALISATION

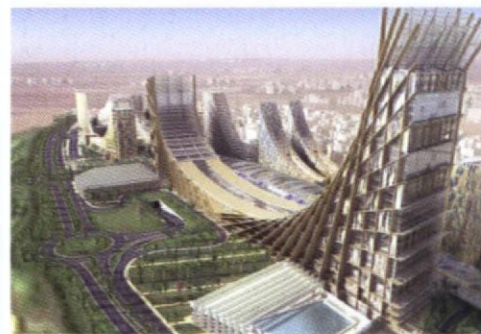
3d visualisation

t. 01285 750555

Waterman CPM
Environmental Planning & Design



www.watermancpmgraphics.co.uk



designhive
visualisation & animation

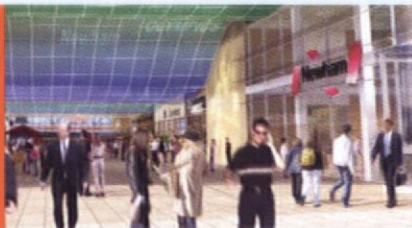
Phone 01483 422 070
Fax 01483 422 786
info@designhive.co.uk
www.designhive.co.uk

Khabary Future City / Make Architects

wagstaffs3Dworks

Consultants in Multimedia
Communication

75 Cowcross Street
London EC1M 6EL
Telephone 020 7251 8855
Email work@wagstaffs3dworks.co.uk



SURVEYORS



Land & Measured Building Surveys
Established over 12 years

- Measured Building Surveys
- Setting Out
- Topographical Surveys
- GPS Surveys

208 Blythe Road,
Hammersmith, London,
W14 0HH
Tel: 020 7610 4132
Fax: 020 7610 4142
email: info@metroplans.com
www.metroplans.com

apr services

+44(0) 208 447 8255

land & measured building surveys
laser scanning & visualisation

mail@aprservices.net
www.aprservices.net



POINTTOOLS VIEW

pointcloud & model viewer www.pointtools.com



measured land and building surveys

the true measure of excellence

t 020 8543 8884

e info@callidussurveys.co.uk

f 020 8543 6664

w www.callidussurveys.co.uk

KINGS

Land and Architectural Surveyors
YOUR CHOICE FOR ALL YOUR SURVEY NEEDS

Specialising in

Topographical Surveys – For large and small scale surveys using the latest high accuracy robotic instrumentation and G.P.S.

Architectural Surveys – For plans and elevations using SurBuild building survey software on pen map hand held computers

Utility Surveys – For drainage and location of all underground utility services.

Photogrammetry – For accurate 3D models of building facades, pipe works and areas of difficult access

Kingsland Surveyors Limited
Bridge Chambers
Bridge Street
Leatherhead
Surrey KT22 8BN
Tel. 01372 362059
Fax. 01372 363059
e-mail - mail@kingslandsurveyors.co.uk
website - www.kingslandsurveyors.co.uk



Allen Newman

CHARTERED MEASURED BUILDING SURVEYOR

Allen Newman BSC MRICS FASl

Would like to announce that he is no longer a partner at Michael Gallie & Partners

m. 07973 177 139
aa.newman@ntlworld.com

PERSPECTIVES

DAVID HOARE
ARCHITECTURAL ILLUSTRATOR



HAND DRAWN
-PERSPECTIVES
TEL/FAX 020 8852 7508

PLANS-SECTIONS-ELEVATIONS

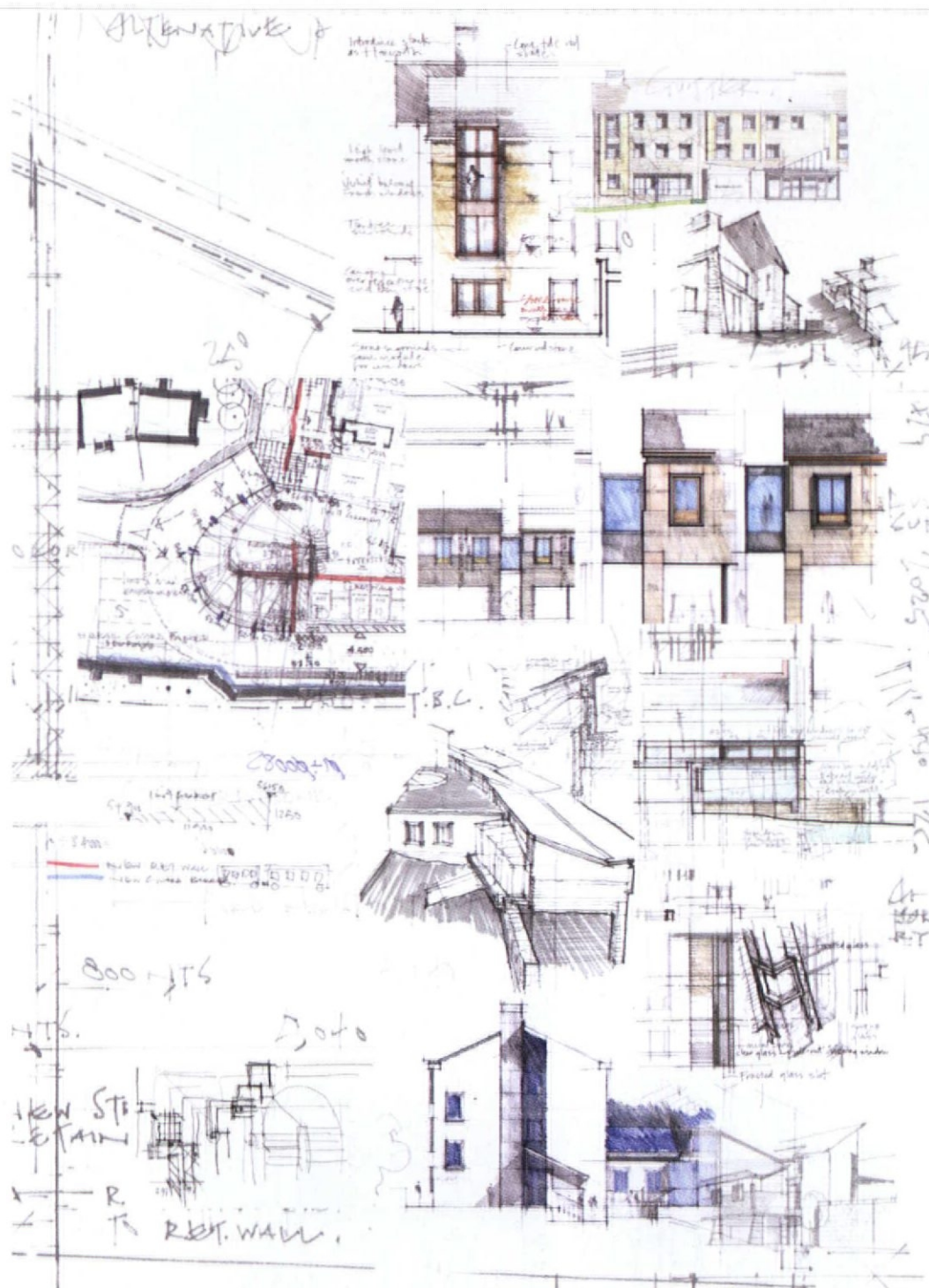
the only professional survey practice specialising in measured building surveys for over 35 years

Michael Gallie & Partners
Chartered Measured Building Surveyors

1 New Concordia Wharf, Mill Street,
London SE1 2BB www.michaelgallie.co.uk

☎020-7394-1111 ☎020-7394-2499





Sketch studies for a new primary health care facility in Haworth, West Yorkshire.
By Jim Mumby of The Goddard Wybor Practice, with colleague John Pearson

Respond to these panels at www.ajplus.co.uk/ajdirect

Readers may also obtain information about these products by filling in the enquiry numbers on an AJ enquiry card. Advertisers wishing to promote their products on these pages should contact Lucy Herdsman on 020 7505 6873.

SAFEGUARD EUROPE



AJ ENQUIRY 201

Green roofs are becoming increasingly popular due to their widely acknowledged environmental benefits. Oldroyd Xv Green's unique drainage membranes contain 40 per cent recycled polypropylene. The roofs are produced in Norway and distributed in the UK by Safeguard Europe,

LOVAIR



AJ ENQUIRY 202

Lovair has recently launched an innovative new range of stainless-steel warm-air hand dryers. Details do make a real difference – just ask any washroom user. Telephone 0845 130 2907 to request your copy of the recently released all-new brochure of the Lovair Washroom fittings range.

WELLMANN



AJ ENQUIRY 203

Wellmann Contracts is pleased to be associated with Charles Church in two of its prestigious developments. The projects, in Leamington Spa and Birmingham, feature contemporary kitchens designed, supplied and installed by Wellmann. Tel 01924 487902 or visit www.wellmann.co.uk

HAMBLESIDE DANELAW



AJ ENQUIRY 204

Hambleside Danelaw is among this year's winners of The Queen's Awards for Enterprise, which recognised the company's 'outstanding innovation' in developing the Insulator range of rooflights. The company expects that the award will be a major asset in its promotion of sustainable development.

MULTILOAD



AJ ENQUIRY 205

At Bridgewater Hall in Manchester, VoltMaster has extended low-voltage lamp life such that with only one in 16 lamps changed every year, and dimming levels generally set at 90 per cent, a remarkable lamp life of 65,000 hours is being achieved. For more information see www.multiload.co.uk

HONEYWELL



AJ ENQUIRY 206

HM Prison Peterborough has been equipped with Honeywell pressure-reducing valves, chosen for their quiet operation and because they provide the best available performance on high and low water demand. Telephone 0800 7833 824, or visit www.honeywell-valvesizing.com

CENTRALINE



AJ ENQUIRY 207

CentralLine energy-saving heating-control systems greatly reduce a school's heating costs while teaching students energy efficiency. Using the CentralLine interface system, pupils and teachers can control the indoor environment to avoid burning more fuel than necessary. www.centraline.com

SOLA SKYLIGHTS



AJ ENQUIRY 208

Sola Skylights' Sky Tunnel Power Ventilation kit brings natural light and fresh air into domestic and commercial locations. The roof-to-ceiling light-pipe and ventilation system incorporates a polycarbonate dome and extractor fitted to a soaker tray. Call 01388 778445, or visit www.solaskylights.com



Work the way you think.

ENQUIRY 12 ON CARD
WWW.AJPLUS.CO.UK/AJDIRECT

Idea:

Improve an architect's business by providing a more complete way of thinking about building, from design through to construction.

Realised:

With Autodesk's® Revit® Building, design teams achieve superior documentation, more effective design co-ordination and more productive collaboration. Your clients are happier, so you see more repeat business and a more profitable business. Created specifically for Building Information Modelling, Revit Building can help you realise your ideas to compete and win.

See how at autodesk.co.uk/revit

Autodesk and Autodesk Revit are registered trademarks of Autodesk, Inc., in the USA and/or other countries. All other brand names, product names, or trademarks belong to their respective holders. ©2006 Autodesk, Inc. All rights reserved.

Autodesk

