

The Professional

ENGINEER

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Pamphill Cottage, Dorset

Features in this Issue

3. Council Meeting Report
4. Bletchley Park - Home of Codebreakers
5. President's Luncheon and AGM
6. Skyscrapers Named Regional 'Best Tall Buildings' for 2011
7. Mind the Gap - The Funding Shortfall
8. Prefabricated Modular Concrete Construction
13. Award Winning Regeneration Scheme Brings History to Life
16. A Suitable Place in the Sun

The Society of
Professional
Engineers
was founded in 1969.





Council and Officers

PATRON		To be appointed
VICE CHANCELLORS		The Earl of Yarborough Lord Alistair Nelson of Stafford 4th Baron The Earl of Lytton
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OVERSEAS CORRESPONDANTS		CANADA Mark El Kadi Christopher West
		USA Ronald Schenk
		HONG KONG The Secretariat H.K.I.Const.E.

PAST PRESIDENTS OF THE SOCIETY

1969/70	F.W. HYDE	1975/76	J.D. BURROWS	1981/83	A.J. BARTER	1991/93	M.J. PREECE	2005/08	BRIAN R. DIXON
1970/71	D.J. AYRES	1976/77	T.M. SCANLON	1983/84	D.J. HARDCASTLE	1993/96	R.J.T. ROLLINGS	2008/10	D.J. HARDCASTLE
1971/72	S.N.B. GAIRN	1977/78	S.N.B. GAIRN	1984/86	J.A. GARDNER	1996/2000	G.K. TURNER	2010/	HUGH WYNNE
1972/73	J.D. BURROWS	1978/79	W.E. HUMPHREY	1986/87	D.T. COATES	2000/02	BRIAN R. DIXON		
1973/74	J. MASON	1979/80	R.C. WYKES	1987/90	I.A.C. WRIGHT	2002/03	IAN T. FITZHERBERT		
1974/75	D.J. AYRES	1980/81	V.C. EALEY	1990/91	K.A. STATHAM	2003/05	DAVID PARRATT		



London Landscape



Welcome to this latest publication of the Bulletin which you will note continues to be 16 No. pages, and in which we feature articles on, 'Creating Spaces to Breathe', 'Prefabricated Modular Concrete Construction', 'Case Study on an Historic Windmill', 'The Last Word', 'Government Adopts Living Landscapes' and Bletchley Park- Home of the Codebreakers'. Also included is a brief report on the A.G.M and President's Luncheon.

I do hope you enjoy reading this issue, and I would again mention that any articles for publication are welcome, particularly from overseas.

Christmas and New Year are rapidly approaching, so on behalf of myself and Council may I wish you all a very Happy Christmas and a prosperous New Year.

Now, settle down and enjoy the Bulletin.

Brian R Dixon
P.Eng Editor

The Presidents' Notes

I write just after our Annual General Meeting at Northampton on Monday 24th October 2011, unusually, attended by only the Society's Vice Chancellor and Council. The AGM is for all members so, if a different day or location might be more convenient and allow you to attend next year, please let us know by email to: secretariat@professionalengineers-uk.org

The latest natural disaster has been a major earthquake in Turkey with a sad toll of human life, terrible suffering & major destruction. It is chilling to reflect that, with human ingenuity on our side, we cannot do better. It is little consolation to those who suffer to know that such catastrophic losses have been far less than the rate of engineering development & construction by industry, & human population growth. Our Profession should show what it can do for humanity.

Engineering failures are expected, and should be catered for, after appropriate risk analysis. A recent example was a short, widespread, outage of the Blackberry messaging system. Good engineering provides redundancy to cater for such events. But this does not equate to dumping Blackberry in favour of another system with weaknesses yet to be discovered.

"The Professional Engineer" now appears only three times each year. It is a major item in our budget, and it would be helpful to know how it is welcomed and valued by Members, and to hear suggestions for improvement. Please send comments on its size, frequency, content, & anything else to: secretariat@professionalengineers-uk.org

Transition to Internet communications has been delayed, partly by a slow take-up by members. A new web-page, reached via



www.professionalengineers-uk.org, or www.speng.org, allows members to update their details on-line. In keeping with redundancy, the Society would be pleased to record secondary contacts (postal address, email, telephone, etc.) in case of need.

Hugh Wynne PEng, President

Council Meeting, 23rd/24th October 2011

The Council Meeting was held at the Holiday Inn, Northampton, on the Sunday evening, and concluded at Lutchens House on the Monday.

All Directors were present, Minutes of the meeting of 25th July 2011 were approved, following matters arising, the Mission

Statement, Continuing Professional Development and Standards for Membership to be placed on the website; It was agreed that Administration of the Society would remain with the A.B.E for the time being; Council agreed to set up an Executive Sub-Committee, and to make

application to the Engineering Council for Affiliation. It was agreed to increase subscriptions by 5% for the new year, and to look at improved stationery, and business cards for Council Members: It was also agreed to look into the possibility of a seminar in Hong Kong.

MBE Awarded for Long Standing Service

Historic Towns Forum Executive Committee Member Stephen Langtree has been awarded an MBE for his long-standing service to The Chester Civic Trust.

Last year Stephen produced a booklet, Conservation Area Awareness, funded by

English Heritage and previously he co-edited 2000 years of building: Chester's Architectural Legacy.

Stephen has sacrificed a great deal of his spare time and is very dedicated to conserving the historic built environment.

In 2001 Stephen helped set up the North West Association of Civic Trusts and Societies (NWACTS) where he was chairman for the first five years and represents the organisation on the NW Historic Environment Forum.

An extra £1.3bn to fill fuel tanks

The rise in diesel prices over the past year has cost the road transport industry an extra £1.3bn, according to calculations by

the Freight Transport Association (FTA). The 12ppl rise in the cost of diesel (excl VAT) – from 99.29ppl in July 2010 to

111.21ppl in July 2011 has caused the annual cost of refuelling just one 44-tonne truck to rise by £5,700.

Articles for the Bulletin - We are always looking for news of members and project articles for publication in the bulletin, do you have something of interest, lets hear from you. Please supply articles up to 1000 words.

Bletchley Park – Home of Codebreakers



This is a most interesting place to visit, and I was fortunate enough to spend a day at Bletchley Park with a group visit by the Freemen of the City of London earlier this year, we were looked after by an excellent guide and catering staff who provided a very good luncheon and afternoon tea.

Bletchley Park remained a secret for more than 30 years after the war.

There's a fascinating history to discover at Bletchley Park, with lots to interest

everyone.

Bletchley Park was once Britain's best kept secret. Today the Park is open to the public as a heritage site and museum. You can explore the wide range of exhibitions and learn how its codebreaking successes helped to save countless lives by shortening World War Two by around two years.

More incredible than fiction, the story of Bletchley Park was a desperate race against time. The mission of codebreakers

like Alan Turing, was to crack Germany's coded communications, such as those sent by the German Enigma machine.

Bletchley Park was Churchill's secret passion; he called its codebreakers his 'geese that laid golden eggs but never cackled'.

Discover how it was done; be amazed by the total secrecy in which 8,500 people worked; marvel at the technology designed to crack the codes. BRD

Colossus is on view every day.
The National Museum of Computing has limited opening, please check before your visit.

Colossus, the world's first semi-programmable electronic computer was developed for Bletchley Park; it used over 2,500 valves. The recently completed Colossus rebuild is now fully operational.

Bombe Rebuild and replicas in Block B.

German Signals Unit - Fully equipped bunker.

Y Station Crypt.

Enigma cipher machine.

Alan Turing statue.

War-time boys & Home Front display.

School visits at Bletchley Park.

Block B is the main Exhibition Centre displaying the full Bletchley Park story, its vital role during WW2 and its lasting legacy.



Taking the Road to Hell?

Slough. What do you do with it? John Betjeman wrote its eulogy, 50 Crap Towns said its number was up and David Brent nailed the lid on the coffin.

In the latest attempt to resuscitate the notorious Berkshire town, Slough council got Bblur (yes, Bblur) Architecture to create a new focus for the town centre with this eye-catching £7m design for its Brunel Bus Station. Part of the town's Heart of Slough masterplan, contractor McLaren has pulled out all the stops (all 20 of them) to create this curving canopy of aluminium shingles. The press release hopes it will create a "memorable last impression of Slough". Sounds more "terminal" than "terminus".



Bletchley Park was the world's first large-scale codebreaking centre.

TOP SECRET

The German Enigma cipher machine.

The 'Bombe' machine was the first major step towards the mechanisation of codebreaking.

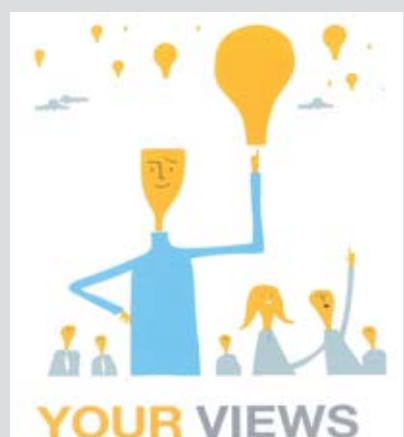
The Bombe codebreaking machine.

The National Museum of Computing - features the Colossus rebuild. The world's first programmable electronic computer.

See the Colossus computer in action.

Your Views are Important Would You Like to be a Member of Council?

There are two vacancies on Council which it would be nice if they could be filled, if you are a U.K. member and would like to be considered for Council would you please contact the President, Hugh Wynne, who's address is listed under 'Council and Officers.' Don't be shy, give it a go, we shall be pleased to hear from you.



President's Luncheon and Annual General Meeting 24th October 2011

Members of Council, Guests, and Vice Chancellor Lord Alistair Nelson of Stratford attended the President's Luncheon at Dunkley's Restaurant, Castle Ashby Station, Whiston, Northampton.

Dunkley's Restaurant is built around the old goods shed of Castle Ashby Station, which was closed under the Beeching Act of 1964.

The sheds were built in 1858 and the carriages that sit along side the restaurant were constructed in 1924 and 1926 respectively.

After relaying the tracks on which the carriages now stand and undertaking extensive refurbishment, Dunkley's Restaurant opened in 1984.

An excellent Menu was provided giving a choice of 3 Starters, 3 Main Dishes and 3 Sweets, finishing with Tea or Coffee, during the meal a selection of Red and White wine was available.

All agreed it had been an excellent meal and the Restaurant was congratulated on its service and attention to detail.

After Luncheon all present returned to

Lutchens House for the Annual General Meeting, which commenced at 2.45pm. After reading the Notice convening the meeting, the A.G.M was chaired by Vice Chancellor Lord Alistair Nelson of Stratford. Minutes of the 41st A.G.M were approved and signed, the Statement of Accounts was noted and the Report of Council approved.

DNG Dove Naish, Chartered Accountants were re-appointed as Auditors.

Hugh Wynne gave a short President's Address in which he thanked members of the council for their service and support during the year.

There being no further business Lord Alistair Nelson closed the meeting.



Council and Lord Alistair Nelson

Maggie's Centre Opens in Glasgow

The latest Maggie's centre, which will offer practical and emotional support for people with cancer and their families and friends, opens this month at Gartnavel Hospital in Glasgow. The £2.3m centre was designed by Dutch firm OMA and

features a single-storey ring of interconnected counselling rooms, sitting rooms and offices, creating a small landscaped courtyard at its centre. Ceiling heights and views give varying experiences of intimacy and exposure.

Implementation architect for the 535m² centre was Scottish firm Keppie, structural engineer was Sinclair Knight Merz, with services engineer KJ Tait. The contractor was West Lothian firm Dunne Group.



Do you have non-member colleagues?

Encourage them to join

A membership information pack is available on request:

The Society of Professional Engineers, Lutyens House, Billing Brook Road, Weston Favell, Northampton NN3 8NW
Tel: 01604 415729 • Fax: 01604 415729 • Email: spe@abe.org.uk

Skyscrapers Named Regional 'Best Tall Buildings' for 2011



The Council on Tall Buildings and Urban Habitat has announced the winners of its annual 'Best Tall Building' awards for 2011. These awards recognise outstanding tall buildings from each of four geographical regions, and this year are awarded to: 'New York by Gehry' at Eight Spruce Street, New York (Americas); Guangzhou International Finance Center, Guangzhou (Asia & Australasia); and The Index, Dubai (Middle East & Africa). These buildings were selected for their design and technical innovations, sustainable attributes, and the enhancement of both cities and the lives of their

inhabitants. This year's winners will be recognised, and the awards conferred, at the CTBUH 10th Annual Awards Ceremony & Dinner which took place at the Illinois Institute of Technology in Mies van der Rohe's iconic Crown Hall, Chicago, on 27 October 2011.

All the winning projects and finalists were celebrated at this gala event. Additionally, from the four regional best tall building winners, one overall winner was selected and bestowed with the 'Best Tall Building Worldwide' award.



Trinity High School Pupils Receive Silver Crest Awards



Balfour Beatty Engineering Services (BBES) recently presented Silver CREST awards to nine pupils from Trinity High School, Rutherglen. The Trinity High students had been mentored by BBES Project Engineer, Grant Barbour, over a ten-week period.

The awards were run alongside the Engineering Development Trust's GO4SET (Go for Science, Engineering and Technology) project which this year was based on designing an eco-classroom.

The British Science Association CREST Awards offer students the chance to expand their experience and understanding of STEM (Science, Technology, Engineering and Maths) subjects and the career opportunities offered by STEM study. CREST is Britain's largest national award scheme for project work in the STEM subjects.

The Silver CREST Awards recognise the amount of project work undertaken

individually by the students, incorporating research, report writing and communication of findings from the eco-classroom project. The celebratory event was also attended by Andy Cattanach, the West of Scotland Co-ordinator for GO4SET, who presented Peter Bollen, Headteacher of Trinity High, with two certificates in recognition of the school's participation in the scheme.

Successful completion of the GO4SET project and associated Silver CREST Awards marks an important milestone in the developing relationship between Trinity High School and BBES. Already this year, BBES has hosted a one-day visit for 20 pupils to their offices in Hillington as part of the GO4SET project,



visited the school to talk to second-year pupils about career opportunities in the engineering sector and provided a young engineer to discuss renewable energy with third-year pupils during a visit to Whitelee Wind Farm. BBES will be continuing its engagement with Trinity in the new school year with a number of new initiatives planned which will strengthen the link further.

SPAB's Latest Lethaby Scholars Hit the Road



The newest recruits to a unique training scheme for young architectural and building professionals have set off on a journey of discovery that will take them the length and breadth of the country as they gain first-hand experience of conversation skills and building crafts.

Architects Boris Bogdanovic, 26, Jo Kelly, 31, and Engineer Harry Wardill, 30, have been selected as the 2011 SPAB (Society for the Protection of Ancient Buildings) Lethaby Scholars.

For the next six months they will travel throughout the country together meeting fellow architects, building specialists and craftspeople working on historic sites and in workshops and studios throughout the British Isles. The aim is for the Scholars to gain direct hands-on experience guided by experts in the field.

This highly regarded scheme, now running for more than 80 years, has no parallel in the world of conservation. Since 1930 it has set 145 young architecture and building professionals on the road to positions of great responsibility

in the sector. Today former Scholars care for some of the most significant buildings in Britain. Boris, Jo and Harry are, in no particular order, the 146th, 147th and 148th SPAB Lethaby Scholar to hit the conservation trail.

With growing concern at the lack of skilled professionals with the knowledge and understanding needed to deal sensitively with historic buildings, SPAB remains convinced that the best way to learn about the construction methods, materials and the range of repair methods available today is out on site. The SPAB Lethaby Scholarship is awarded annually to up to four young architects, building surveyors or structural engineers who have completed their college-based training and have a demonstrable enthusiasm for historic building conservation.

After spending the first six months together as a close-knit group, they separate for the last three months of the programme, developing their own specific areas of interest relating to the life and culture of the British Country House.

Former SPAB scholars are today among the



UK's leading conservation experts, caring for many of the most significant buildings in Britain – some are cathedral architects, some look after palaces, great country houses, National Trust houses and English Heritage sites. Others care for lesser known gems of equal historic and architectural interest. The Scholarship is a prestigious and rigorous educational award designed to foster excellence and promote understanding of the unique skills and crafts that continue to underpin our built heritage.

The UK has around 17,000 listed places of worship, and over half of the home nations' most important listed buildings are churches, chapels or cathedrals. As a result of demographic changes which have led to many of our oldest churches becoming isolated from population centres, and as a result of the general decline in church attendance, too few congregations are able to meet the cost of maintenance and repair of these buildings under current levels of grant aid.

In 2005 English Heritage's Fabric Needs Survey estimated that £925 million of outstanding repairs needed to be carried out to all listed places of worship in England over the following five years. At that time the estimated expenditure of all denominations on this work was £111 million annually, indicating a shortfall of £74 million. Similar research carried out by the Church in Wales in 2007 estimated that its portfolio of 1,000 listed

places of worship required an expenditure of £60-70 million over the following five years. As only £4-5 million is currently being spent on Church in Wales places of worship per annum, there would appear to be an annual shortfall of some £7-8 million. In other words, more than half the work being identified by quinquennial inspections in Wales is not being done.

Since these surveys were carried out there has been some increase in funding, including the Heritage Lottery Fund's recently announced £4 million increase for the Listed Places of Worship Scheme. Nevertheless, these increases cannot match the scale of need.

By focussing available funding on the most pressing issues such as preventing roof leaks, it seems likely that the churches will avoid a major increase in the rate or significance of redundancies, but we do not know for how long.

The Caring for Places of Worship 2010 survey recently completed by English Heritage (EH) found that 11 per cent of the listed places of worship surveyed were in a poor or very poor state of repair. The survey found the higher grade listed buildings to be proportionately, in worse condition, with 14 per cent of Grade I and 13 per cent of Grade II* places of worship at risk, compared to 8 per cent of Grade II buildings. This suggests that as many as one in seven of our most significant historic religious buildings could qualify as 'at risk'. EH is quick to point out that 89 per cent of the buildings surveyed are in good or fair condition and that this is a huge achievement – one that owes much to the tremendous energy and commitment of small groups of under-resourced volunteers. EH is also providing practical help and advice through its Caring for Places of Worship resources. Nevertheless, the funding that is so crucial to meeting the huge outstanding repair bill on our listed places of worship is far from secure, particularly in view of impending cuts in state funding.

Over recent years many solutions have been put forward for helping churches find new uses and bring in alternative sources of revenue.

In city centres there are too many under-used historic churches competing with each other. In rural areas essential services may already be provided for, while in other cases the church simply does not lend itself to alternative uses. Furthermore, the average expenditure shortfall on maintenance and repair is too great to be met by all but the most commercial redevelopments. This is not to say that we should overlook the need to find additional uses for historic places of worship, but it is important to realise that adaptation can play only a small part in averting the potential crisis.

When the time comes would we, as a nation, be prepared to accept the demolition of a medieval gem? What about a fine late 19th century or early 20th century church that contains magnificent works of stained glass and Arts & Crafts fittings? At present the rate of closure is relatively low, but if it accelerates it may well be too late to do anything about the backlog of unresolved problems.

While it is clear to all those involved in conserving churches that we cannot continue to rely on congregations to meet the majority of the costs of repairs, hard data is required to show how much essential work is not being carried out within the required time frame.

Overall figures on the work identified by quinquennials provide a useful indication of the scale of the problem, but they include works which are not necessarily essential to the integrity of the fabric. Further analysis would help to predict how much more money is required to maintain the status quo.

Congregations and conservationists will need to lobby fiercely in the coming years to defend our religious heritage and to improve the funding streams on which it relies, and better analysis of the problem will certainly help. Much has been achieved in recent decades in terms of securing the future of our most important historic places of worship and in spreading the message of conservation and careful maintenance; every effort must now be made to protect that achievement.



Viking Longhouse wins prestigious building award

The Viking Longhouse at the Ancient Technology Centre in Cranborne has been named Best Community Development in the south west by the Local Authority Building Control (LABC)

East Dorset District Council nominated the building, owned by Dorset County Council, for the award which recognises its uniqueness and the hard work that has gone in to its construction. The Longhouse will now compete as a finalist in the National LABC awards.

The 26-metre-long structure took three

years to construct using a voluntary workforce. The roof has over 22,000 hand made shingles, the walls are hazel and sweet chestnut wattle, daubed and whitewashed, while the main hall floor is a mixture of local chalk and earth mixed with un-pasteurised milk!



The centre has open days for the public and details of the forthcoming events can be found on their website www.ancienttechnologycentre.co.uk



As a construction material, concrete offers a whole range of features that set it apart from any other, most particularly its versatility, strength and durability, long life, inherent fire resistance, sustainability and recyclability. Precast has its benefits both below and above ground; however, once construction moves above foundation stages, attention naturally moves to the benefits that accrue from using it in its precast form, most obviously:

- Opportunity for early design value engineering
- Complements lean/decreased build programmes
- Reduced need for site labour
- Greater, consistent quality control at the manufacturing stage
- Guaranteed long life and intrinsic fire protection of concrete components
- Nominal material waste on site
- Just-in-time deliveries, further reducing need for labour and increasing speed of construction
- No need for storage of materials on site
- Less disruption to other trades in restricted working environments and earlier access for follow on trades
- Improved safety and reduced environmental risks
- Fewer logistical problems, especially on restricted access sites.

Of course, prefabrication is not a new idea. Indeed, the world's first prefabricated, precast panelled apartment blocks were pioneered in 1905 in Liverpool, although possibly more widely known and remembered are the 'prefabs' of the immediate post-war period, where the government needed to provide housing as quickly as possible for those displaced by the Blitz. But prefabrication alone is not the end of the construction story. The above list can be extended and made even more appealing both physically and from a design perspective by adopting modular construction, in which a range of standardised components are prefabricated - and often fitted out - offsite before being quickly

assembled by a skilled workforce on site. Some of the first applications of such modules were hotel rooms and bathroom pods but the scope is almost limitless.

A good example of such modular construction can be seen in the structural precast rooms system designed and supplied by Bell & Webster for a new student accommodation at the University of Essex, Southend. This proved an ideal choice for contractor Hollybrook Ltd. The project, which was completed in 2010, involved 561 student bedrooms, requiring 2,251 factory-engineered concrete units. With 1,296 wall units and a height of ten storeys, the new building was constructed to create a strong, robust structure that could be installed and fixed far quicker than most alternative systems for this scale of building.

The engineered wall units were manufactured and installed by the company's specialist installation teams, helping to speed up the construction and finishing processes. Site costs were kept low by ensuring that the initial construction phase including the installation of bathroom pods would be completed on time, making way for following trades to install the crucial services needed to run the building.

Effective project planning also kept costs down by having one installation team rather than the two originally envisaged. All the building works were completed on time, in spite of the harsh winter weather, with no adverse effect on the length of the project. The construction consists of load-bearing crosswalls supporting single-span floor slabs in reinforced concrete with prestressed concrete for the longer span common rooms and kitchens. The walls are laterally restrained by the floor slabs and external walls laterally restrain the building at right-angles to the crosswalls. The floor slabs act as a diaphragm and their plate action carries all lateral loads, from wind and notional loads, down through each floor level to foundation level in shear and

moment actions. Progressive collapse and floor-plate action is provided through cast-in vertical and horizontal ties.

The selection of this particular system was based on extensive research, visiting similar contracts and the factory to see the design and manufacturing processes. The system was better suited to the university scheme as it offers off-site modular benefits combined with speed of erection, while close liaison at the design stage and during construction helped produce a fast-track build to meet the needs of development.

Peter Bowes, operations manager for Bell & Webster, commented: 'Owing to the congested town centre location, there were no facilities to hold delivery vehicles and no opportunity to use fork-lift trucks, all of which made off-loading potentially challenging. By providing weekly updated delivery schedules, we were able to ensure that the precast elements could be delivered to site in a 'Just in Time' manner. Working in this way, Hollybrook was able to plan deliveries and crane time, ensuring we always had the correct loading bay and tower crane available when required.'

In short, precast modular concrete offers an off-site manufacture approach to construction. Rooms are constructed using factory-engineered precast concrete components, each individually designed and manufactured. Being precast concrete, they have excellent acoustic properties and high thermal mass: they are also robust, virtually maintenance-free and quick to erect, so offering the client earlier occupancy. Once assembled, units are typically tied together by a series of reinforced hidden joints that are grouted as the works progress, with vertical ties incorporated to meet Building Regulations' progressive collapse criteria. Room components can include party walls, floors, ceilings, lift shafts, stairs and ducted risers, all manufactured to tolerances well within BS 8110 and delivered to site ready for final minimal preparation allowing direct decoration.



New policy document agrees that large-scale nature restoration is the way ahead – but does it go far enough?

A landmark government document has publicly recognised what The Wildlife Trusts have advocated for years: that landscape-scale conservation is the way to bring about the recovery of the natural world.

The new White Paper, *The Natural Choice*: securing the value of nature, sets out the Government's ambition for improving the quality of England's natural environment. It acknowledges The Wildlife Trusts' work to restore habitats and ecosystems, and reconnect people with nature where they live.

It also maps out how people can protect and enhance their local environment. A new green areas designation will allow people to identify areas important to them for inclusion within local plans. Wildlife-friendly gardening, now understood to be vital in cities is recognised too. The Big Wildlife Garden Scheme, backed by The Wildlife Trusts and the Royal Horticultural Society, gets extra funding. And there's support for communities wanting to establish Local Nature Partnerships.

However, this alone will not be enough to ensure the wholesale recovery of England's natural systems and habitats. A commitment to establish 12 Nature Improvement Areas

(NIAs) which will reconnect nature on a large scale sounds promising. But The Wildlife Trusts already have over 100 Living Landscape schemes across the UK, which could form the basis of a more ambitious network of areas.

New Government planning reforms could also scupper the White Paper's good intentions. And there is no commitment to enshrine any of the White Paper's aspirations in law.

Campaigning by The Wildlife Trusts helped bring about the publication of the white Paper. They will keep up the pressure on Government to ensure they deliver on the plans they have laid out.



Government is proposing 12 large-scale nature restoration areas. The Wildlife Trusts are already working on 100+. This is Volehouse Moor, part of Devon WT's Working Wetlands project

Not to be outdone, Leadenhall Market has an equally diverse series of attractions to mark its own special year.

Leadenhall was gifted to the City in 1411 by probably its most famous Lord Mayor- Richard 'Dick' Whittington. A succeeding Lord Mayor, Simon Eyre, replaced the Hall with a public granary, school and chapel in 1440 as a gift to the citizens of London. The market was subsequently enlarged to provide a site for selling poultry, grain, eggs, butter, cheese, herbs and other foodstuffs. In the next 200 years Leadenhall Market was a centre of commerce with further markets for wool, leather and cutlery.

Today it remains one of the City's five principal shopping centres although its earlier stone structure was replaced by wrought iron and glass by the City's architect Sir Horace Jones (also responsible for the City Corporation's Billingsgate and Smithfield Markets). Its stunning architecture is one of its main attractions and it is a Grade 2 listed building. Its cobbled streets and domed roof make it a unique shopping and dining experience in the Square Mile. These days, along with the established shops, bars and restaurants, the market hosts a wide range of events at selected lunchtimes, evenings and weekends.

It is building on these to offer something for every taste until the end of the year as a reminder of its cosmopolitan history.

These events begin with a reception at the market for a cross section of audiences- including City Corporation representatives, market traders, liverymen (associated with the trades that started there such as the Worshipful Company of Poulterers)

and travel media (to help raise the market's profile as part of the City's overall visitor offering).

There was a Dickens Day on

9th June celebrating a past customer of the Market. Leadenhall features in the *Pickwick Papers* and it is believed A Christmas Carol's Tiny Tim bought the Christmas goose from the market as it was around the corner from Scrooge's counting house and would have been open until lunchtime on Christmas Day in those days.



Case Study on an Historic Windmill



By James C Coulson, Director, Technology For Timber Limited

Skidby Windmill, near Beverley in the East Riding of Yorkshire, is England's most northerly working windmill, and the only one north of the Humber. About 25 years ago there was a near-fatal catastrophe when one of the sail beams broke off during milling, on a Bank Holiday afternoon, and crashed through the roof of the adjoining building – which was full of tourists! luckily no-one was seriously hurt, but the local Council who owned the mill (at the time, Beverley Borough Council) approached me and asked me to immediately inspect the broken beam and then to initiate a future ongoing Inspection Regime. To cut a long story short: I found



that the sail beam was seriously rotten in the centre – and even the Millwrights, who were charged with the normal maintenance of the Mill, had failed to spot it, since the problem was largely internal to the timber and was not obvious on the beam's surface.

Every year since 1985 (and also on a couple of special occasions since) I have climbed up the Mill tower and out onto the sail beams – generally at the same time prior to the tourist season (before the early May Bank Holiday) – to check all of them for tell-tale signs of decay and to make suitable recommendations for repainting, repair or replacement as necessary. In that time, I have discovered more suspected rot in two further beams, which the Council (now calling itself the East Riding of Yorkshire Council) then managed to find the funds to replace, one at a time. And I can report that on each occasion, when the beams had been removed by the Millwrights and then cut into, a large rot patch was found in exactly the spot where I had indicated it to be. (Trust me: I'm a Wood Scientist!)

On one of the 'special' inspections, I was asked to report specifically on the Fantail structure (that's the bit which steers the main sails into the wind): and I then recommended some immediate repairs; to be followed by a wholesale replacement of some of the key crossbeams as soon as the funds could be found. That was because many years of temporary 'bodging', and adding lead flashings in inappropriate places, had created



some serious water-traps and thus threatened the integrity of the 12" x 12" timbers which were holding several tons of wrought iron, some 60 feet above the car park.

Happily, Skidby Windmill is once more fully up and running, much to the delight of the tourists who visit East Yorkshire every season: and I can say from first-hand experience that it produces some of the best wholemeal flour in the North of England!

• Further information from Jim Coulson FIWSc FFB, Director, Technology For Timber Limited, 42, Market Place, Ripon, North Yorkshire HG4 1BZ. Tel: 01765 01010. Fax: 01765 608081.

Creating Spaces to Breathe



Peldon Rose, a London based Award-winning workplace solution company, presents an innovative style of office design that creates spaces to breathe

Taking a few deep breaths of fresh air is the most natural thing anyone can do to de-stress and energise bodies and minds. However, today's workplace environments are generally designed in such a way to encourage people to remain inside and get on with their work. A study carried out by the University College London claims that changing work patterns combined with the limited availability of nearby green spaces have meant that people now spend over ninety per cent of their time within buildings.

Spending too much time in an artificial environment can lead to fatigue, drowsiness and ultimately to poor productivity; finding a way to add an element of nature to office life can be greatly beneficial.

Peldon Rose understands the benefits that access to a green space can have on staff wellbeing and has incorporated many of these ideas in working spaces for their clients. For

example, it has designed a green terrace with outdoor seating areas for Capsticks, the leading provider of legal services to the healthcare sector, where staff can meet, eat, relax and enjoy a break.

Jitesh Patel, Peldon Rose CEO, says:

'The office space designed for Capsticks is organic with a real flow of energy that drives through the workspace allowing individuals to feel special yet within open plan. The addition of a green outdoor area gives staff a chance to wind down and replenish the batteries and has been very successful amongst employees.'

Designing green areas outside the office where staff can go for a change of scenery can be a great morale booster allowing for a happier and more productive working environment.



Articles for the Bulletin - We are always looking for news of members and project articles for publication in the bulletin, do you have something of interest, lets hear from you. Please supply articles up to 1000 words.

From a paper read at the Seventh Annual Meeting of the SPAB, 1 July 1884, held at the Society of Arts, Adelphi Street, Adelphi, London. The Hon R C Grosvenor was Chairman.

We of this Society at least know the beauty of the weathered and time-worn surface of an ancient building, and have all of us felt the grief of seeing this surface disappear under the hands of the 'restorer'; but although we all feel this deeply enough, some of us perhaps may be puzzled to explain to the outside world the full value of this ancient surface. It is not merely that it is in itself picturesque and beautiful, though that is a great deal; neither is it only that there is a sentiment attaching to the very face which the original builders gave their work, but dimly conscious all the while of the many generations which should gaze on it; it is only a part of its value that the stones are felt to be, as Mr Ruskin beautifully puts it, speaking of some historic French building, now probably changed into an academic model of its real self, that they are felt to be 'the very stones which the eyes of St Louis saw lifted into their places'. That sentiment is much, but it is not all; nay, it is but a part of the especial value to which I wish to-day to call your attention, which value briefly is, that the untouched surface of ancient architecture bears witness to the development of man's idea, to the continuity of history, and, so doing, affords never-ceasing instruction, nay education, to the passing generations, not only telling us what were the aspirations of men passed away, but also what we may hope for in the time to come...
... you cannot doubt that in one way or other

the surface of an ancient building, the handling of the old craftsman that is, is most valuable and worthy of preservation, and I am sure also that we all feel instinctively that it cannot be reproduced at the present day; that the attempt at reproduction not only deprives us of a monument of history, but also of a work of art. ...no body of men, however learned they may be in ancient art, whatever skill in design or love of beauty they may have, can persuade, or bribe, or force our workmen of today to do their work in the same way as the workmen of King Edward I did theirs ... turn our modern House of Commons into the Witenagemote (or meeting of the wise men) of King Alfred the Great; no less a feat is the restoration of an ancient building.

... every architectural work is a work of co-operation. The very designer, be he never so original, pays his debt to this necessity in being some form or another under the influence of tradition; dead men guide his hand even when he forgets that they ever existed. But furthermore, he must get his ideas carried out by other men; no man can build a building with his own hands; everyone of those men depends for the possibility of even beginning his work on someone else; each one is but part of a machine; the parts may be but machines themselves, or they may be intelligent but in either case must work in subordination to the general body. ...all architectural work must be co-operative; in all co-operative work the finished wares can be no better in quality than the lowest, or simplest, or widest grade, which is also the most essential, will allow them to be. The kind and quality of that work, the work of the

ordinary handicraftsman, is determined by the social conditions under which he lives, which differ much from age to age...

And what are we, who are met together here after seven years of humble striving for existence, for leave to do something?... At least, we do not turn round on history and say, that is bad and that is good, I like this and I don't like that; but rather we say, That was life, and these, the works of our fathers, are material signs of it, though you do not have to heed them, will one day be sought for: and that necessity which is even now forming the society of the time to be, and shall one day make it manifest, has amongst other things forced us to do our best to treasure them, these tokens of life past and present.

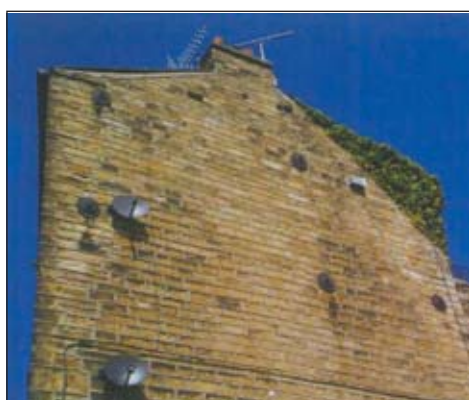
...in the long run our work, hopeless as it must sometimes seem to us, will not be utterly lost. For, after all, what is it that we are contending for: The reality of art, that is to say, of the pleasure of the human race. ...Believe me, it will not be possible for a small knot of cultivated people to keep alive an interest in the art and records of the past amidst the present conditions of a sordid and heart-breaking struggle for existence for the many, and a languid sauntering through life for the few. But when society is so reconstituted that all citizens will have a chance of leading a life made up of due leisure and reasonable work, then will all society, and not our 'Society' only, resolve to protect ancient buildings from all damage, wanton or accidental, for then at last they will begin to understand that they are part of their present lives, and part of themselves.

William Morris - July 1884

Martin Stansfield FRICS FBEng DipEstMan Dip HI shows how to provide expert technical investigation and advice, for example, on the condition and stability of buildings:

Case 1 – A young lad with limited cash funds wanted to buy an old cottage 'overdwelling', so requested a structural elemental investigation.

Symptoms of previous significant movement had been covered over, affecting both this and the property below, with signs of recent progressive cracking. Advised not to proceed with purchase – saving the customer a nasty surprise and a costly outcome.



Case 2 – A mortgage surveyor refused to approve the Bank's lending, nor supply a value, on a modern timber framed house, on suspicion of rain penetration and rot.

The vendors sought further investigation. The under-floor inspection confirmed no damp/rot present to the base of the timber structure – so allowing the sale of the property to proceed.



Case 3 – A family member wanted to take over the ownership of a country house, together with a tenanted cottage, several acres of land, and a barn/coach house. So a full building survey was requested, taking to and a half days to inspect, resulting in 45 pages of text with 160 photographs.

The purchaser saved £10,000 on just one item i.e. an unexpected wiring refit.



City of London- Streets Ahead



Street Scene Challenge work to improve Cheapside continues at the time of writing and although this did partially restrict access to Bow Lane, in the short term, its shops remain open for business.

The Lane is still accessible via Bow Churchyard and Watling Street and it remains an important retail centre for the City because of its range of shops and rich history. With One New Change housing high-end stores, Bow Lane offers smaller, boutique and independent outlets for fashion, food and gifts. It is particularly popular at lunchtimes whether for grabbing a sandwich, enjoying a more leisurely lunch at its

restaurants and bars or browsing for clothes, jewellery or that special gift. Formerly called Cordwainer Street and Hosiar Lane, in the middle of the 16th Century it was renamed Bow Lane after the St. Mary-le-Bow Church at the northern end of the lane. Ye Old Watling Pub, on the junction of Bow Lane and Watling Street, was the first City building to be rebuilt after the Great Fire of 1666.

The Lane forms part of the City Corporation's overall retail strategy for the Cheapside redevelopment which aims to make the whole area a more attractive environment in which to drink, eat and shop.



Winner announced for New Holland Island Competition



The architectural practice WORKac is the winner of the competition to select a master planning consultant for the future development of New Holland Island in St. Petersburg.

The competition, organised by The Architecture Foundation, invited entries from all over the world and an exhibition of proposals went on show at the Central Naval Museum in St. Petersburg overlooking the New Holland site where it attracted 6,617 visitors within a two week period. Opinions left on comment cards filled out by the public at the exhibition overwhelmingly coincided with the views of the competition organisers in supporting WORKac's vision.

Based in New York City, Work Architecture Company (WORKac) is involved with numerous cultural institutions and urban planning projects. The practice was the master planner of the new BAM Cultural district in Brooklyn and the award-winning architect of Diane von Furstenberg's Headquarters in New York's Meatpacking District. It is currently working on three major museum projects for the Blaffer Museum in Houston, the Clark Art Institute at Mass

MoCA and the new Children's Museum of the Arts in New York City. WORKac is also the winner of the Hua Qiang Bei redevelopment competition at the heart of Shenzhen, China. Identified by Icon magazine as one of the 25 most influential design firms in the world, the practice has won numerous honours and, in 2009, was among the finalists for the US National Design Awards.

New Holland is an 8-hectare island bordered by two canals and a river in the heart of St. Petersburg, within 20-minutes walk of the Hermitage and the city's other major cultural sites. The island was conceived by Peter the Great in 1719, and became Russia's first military port in 1721. It belonged to the military since its foundation and had thus been closed to the general public for 300 years.

WORKac's winning entry creates a public park, whose topography transforms New Holland Island into an outdoor amphitheatre



and performance space. An elevated promenade brings the park to the interior of the existing structures, connecting a series of programmatic 'voids' – art, design, education and commercial – that builds on St. Petersburg's rich cultural history to create a new vibrant cultural hub for the city. As the project moves from the concept phase to the planning phase, New Holland Development and the Iris Foundation plan to hold a series of closed and public discussions with interested parties to ensure that the public's input continues to be a central part of New Holland's development.

Castle to bid for Heritage Lottery Funds



Christchurch Borough Council is preparing to make a bid to the Heritage Lottery Fund (HLF) to complete the next phase of repair at Highcliffe Castle.

This phase will reopen the Penleaze wing of the Castle, and create a new heritage centre with uninterrupted access to the public. A key feature of the project will be the repair, conservation and display of the medieval stained glass collection of Lord Stuart de Rothesay. The original Victorian kitchen will be repaired and it is also hoped that some of the original Marshal Ney furniture will be returned on loan from the Victoria and Albert Museum. Work will not be confined to the Grade 1 listed castle, but will also develop the grounds into a heritage park. The HLF may contribute up to 90 per cent

of the project costs which are estimated at £2 million.

The project will improve the access and participation in heritage activities for everyone and will also enable the business activities in the Castle to prosper securing a sustainable future for this magnificent building.

The economic benefit to the whole Borough will also be improved as more people are tempted to visit the town, stay and spend with local shops and services.

A pre-application form will soon be submitted to the HLF and a favourable response will start the full application process, which will take approximately 18 months.

Meanwhile, work continues to provide a full



programme of events and activities. The main exhibition 'How the Other Half Lived' is now open. This tells the Upstairs, Downstairs story of Highcliffe Castle. Open air theatre, free big band concerts and much more is on offer. Full details can be found at www.highcliffecastle.co.uk



The History of Milestones

Milestones, finger-posts and boundary markers remind us of our road and canal heritage over the centuries; the variety of styles reflect distinctive local materials and designs. The Romans laid good metalled roads to move soldiers and supplies quickly across their Empire: they measured distance to aid timing and efficiency, marking every thousandth double-step with a large cylindrical stone. 117 still survive in the UK. After Roman times, roads developed to meet local parishes or townships responsible for their upkeep and boundary markers became important. In 1697 the Justices were ordered to erect guideposts ('stoops') where highways intersected and on the moors.

At this time, travel by road was slow and difficult and the sunken lanes became quagmires in wet weather, so Turnpike Trusts

were set up, by Acts of Parliament, from 1706 to the 1840s. Groups of local worthies raised money to repair and build stretches of road and then charged users tolls to pay for it. The name 'turnpike' comes from the spiked barrier at the Toll Gate or Booth. The poor bitterly resented having to pay to use the roads and there were anti-turnpike riots around the country.

From 1767, mileposts were compulsory on all turnpikes, not only to inform travellers of direction and distances, but to help coaches keep to schedule and for charging for changes of horses at the coaching inns. The distances were also used to calculate postal charges before the uniform postal rate was introduced in 1840.

At the height of the turnpike era, milestones were found along 20,000 miles of roads as

well as canals. But from the 1840s, competition from the railways reduced traffic levels on both roads and canals. Consequently turnpike trusts were gradually wound up. In 1888, the new County Councils were given responsibility for main roads and district councils for minor routes. As faster motorised transport developed so the need for milestones waned.

'Milestone' is a generic term, including mileposts made of cast iron. Such waymarkers are fast disappearing; many were removed, buried or defaced in World War II to baffle potential German invaders and not all were replaced afterwards. Many more have been demolished as roads have been widened, become the victims of collision damage or been smashed by hedge-cutters and flails.



Award Winning Regeneration Scheme Brings History to Life

The first phase of a major regeneration project in an historic Northamptonshire town has won a national award.

Based in a heritage conservation area, the Moat Lane project in Towchester town centre is a 16,600m² mixed use scheme, comprising new retail, leisure, residential and office development. A developer partner is currently being procured for the scheme, which received planning permission in September 2010.

The centrepiece of the wider development was completed in April 2010. It included the renovation of an ancient medieval fortification known as Bury Mount, alongside the restoration of the Water Meadows – a grade II registered historic park. Having been sensitively restored as a community, visitor and educational facility, Bury Mount and the Water

Meadows have won the restoration category at the Museums & Heritage Awards 2011, beating strong competition including a restoration project at Westminster Abbey.

Originally built in the 12th century, Bury Mount was previously listed on English Heritage's 'Monuments at Risk' register. The mount has been stabilised, reconnected to the town, and renewed as an educational resource, with 'interpretive signage' narrating Towchester's history. The neighbouring Water Meadows encompass around 60 acres of Grade II registered parkland. They have been acquired and opened up to the local community, following improvements to natural habitats and public access.

The Moat Lane project is led by South Northamptonshire Council, Northamptonshire County Council and the West

Northamptonshire Development Corporation. It has benefited from significant funding and support from these organisations as well as Northamptonshire Enterprise Limited, the East Midlands Development Agency and the Homes & Communities Agency.



Croydon Council and John Laing

Croydon Council became first council to set up an LABV in 2008 when it entered a 25-year agreement with John Laing to redevelop parts of the town centre and build new headquarters. Croydon chief executive Jon Rouse says that to make LABVs work there has to be an underlying proposition based on viability-LABVs are not a magic wand. "They don't offer a substitute for grants," says Rouse.

Rouse says it is also vital to choose the right development partner.

"It's a good fit in terms of cultures. John Laing has a very strong ethos in terms of corporate social responsibility," he says. The first major scheme in the development – Bernard Weatherill House, an office complex to house the new council HQ – is expected to be completed by 2014.



"No" to early pension access

A proposal to allow people to dip into their pension savings before age 55 has been dismissed by the Treasury following consultation.

The idea has been put forward to encourage people to put more into pension

savings in the knowledge that this could be accessed in an emergency. However, the government said this could both increase costs to consumers of managing a pension and see people deplete their pension pots to such an extent that they became a

burden to the state in retirement. At present, individuals can only access savings in a registered pension scheme from age 55 at the earliest (except in cases of serious ill-health or other limited circumstances).



Payments Council to keep cheques and cancels 2018 target

The Payments Council says that cheques will continue for as long as customers needs them and the target for possible closure of the

cheque clearing in 2018 has been cancelled. Its statement added that the Payments Council Board will continue to focus on

security, efficiency and encouraging innovation in all types of payments to ensure customers have options best suited to the 21st century.

New Book from ICE Publishing Launched to Help Graduates get to Grips with Becoming a Professional Civil Engineer



A new book which aims to help graduates and their mentors better understand what it actually means to start behaving and thinking like a professional civil engineer has been launched by ICE Publishing.

Written by Mac Steels, one of the UK's longest serving ICE reviewers with nearly 30 years of experience, *Initial Professional Development for Civil Engineers* is designed to complement his bestselling book *Successful Professional Reviews for Civil Engineers* (third edition May 2011), which focuses on the review process itself.

After finding a job, the biggest hurdle facing most graduate civil engineers is the 'professional review' – the point when they get assessed by their peers to see if they really do have what it takes to be a professional civil engineer. However, this wholly qualitative assessment can prove quite a challenge for graduates more used to straightforward quantitative tests.

Mac Steels says many graduate civil engineers' attempts to get to grips with ICE's membership requirements can be compared to 'grabbing fog'. He comments that throughout their education and early careers, graduates' success has tended to be measured quantitatively through course modules, assignments, exams and performance reviews- yet suddenly they are faced with passing a test of something you can't actually measure.

Steel says one of the key philosophies behind his new book is to highlight the value of learning through the experience of other professional civil engineers. This willingness to share experience through discussion – one of the most admirable qualities of the profession – is one which new entrants will find of inestimable value if they tap into it.

Steels also hopes to stimulate and inspire further generations of professional civil engineers through the 14 engaging and

anecdotal chapters of his new book – which cover everything from civil engineering culture to construction contracts and from site safety to environmental sustainability.

He nevertheless does not expect everyone to share all his views, saying in his introduction, 'If you disagree with me, it just shows you are thinking about the broader issues and developing your own views – you are becoming a civil engineer.'

Finally, Steels believes if the profession can get young engineers thinking along the right lines about their initial professional development, it will also help ensure that the career-long obligation for continuing professional development (CPD) is achieved.

ICE is now routinely monitoring members' CPD records to encourage compliance.

Initial Professional Development for Civil Engineers is available from ICE Publishing. Cost £25.00. ISBN: 978-0-7277-4147-9

Successful Appeal Against Training Levy Could Have Significant Implications on Construction Industry



A successful appeal against the Construction Industry Training Board's (CITB) annual levy could see a host of organisations follow suit and contest the charge in order to save themselves tens of thousands of pounds.

This 'tax' is applied to all liable employers by the CITB-Construction Skills, based on their size, so that grants can then be given to employers who train their own staff in funded training programmes.

However, it is enshrined in legislation which, despite defining the types of businesses that are legally obliged to pay the levy, is far from clear cut. Midlands law firm, Wright Hassall,

lodged an appeal on behalf of a multi-national client which supplies and installs shelving and display furniture for supermarkets as they felt its operations fell outside the definition and objected to paying the levy.

Due to the size of this client's UK operation, they had been asked to pay £85,000 per annum.

But following this successful appeal, led by Stuart Thwaites – a senior associate in Wright Hassall's construction team – the client has been absolved from paying and had its name removed from the CITB's records.

Stuart has vast experience dealing in all forms of dispute resolution and has worked on projects as diverse as the London Underground upgrades and the new Wembley Stadium.

And he believes this outcome could lead to more similar appeals, which the CITB will need to be ready for.

The CITB may have to prepare themselves for an increased number of appeals and the first thing they will need to do is to clear up the legislation and eliminate such grey areas, as well as ensuring that the assessment process is fair.

New RICS Guidance to Access Completion of Construction Projects



RICS has launched new guidance to assist construction firms and their clients assess whether construction works are completed to the required standard. Defining Completion on Construction Works addresses the completion of construction projects and whether works are finished to a contractually acceptable standard. The guidance is relevant to surveyors who are certifying the payment and completion of works, analysing any delays, advising on financial and legal matters or addressing any issues or disputes involved in the contract. The question of whether a project

is completed can be complicated by pressures from the client. A client can sometimes apply pressure to handover a construction project even though the works are not finished. On other occasions, circumstances may have changed, for example the client may have lost a tenant, meaning that they wish to delay the handover for as long as possible. If the surveyor is required to certify completion of works, they are required to use reasonable means to satisfy themselves that the works are free from all but very minor defects, to identify any defects that do exist, and to assess the

scope and potential disruption that could be caused by remedial works if the works are to be taken into possession before all of the defects are rectified.

This new code provides surveyors who operate at all levels of the completion process advice and best practice on the contractual, financial and legal issues involved with the completion and handover of construction projects. In addition, the guidance assesses what precisely is meant by 'completion' of works under a variety of construction contracts.

“Pleasure in the job puts perfection in the work” Aristotle

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Collaborative and Membership Agreements with other Professional Bodies

Collaborative and Membership agreements are in force with the bodies mentioned below. In every case Members wishing to apply should first contact the Society for an Application Form and/or a letter of recommendation.



National Society of Professional Engineers®

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Societe Nationale des Ingénieurs Professionnels de France (ipf)



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Self Inking Personal Stamps

As Members will be aware the Society has for many years had on offer a Stamp for use on notepaper and drawings containing the name of the Society and the name and Registration Number of the Member. The Firm that supplies the Stamps can now offer a self-inking Stamp which produces an even more finished appearance and is enclosed in an impressive case that will sit well on the office desk. These are now available from the Society at the modest price of £30.00 each which includes VAT, postage and packing.



Lapel Badges

Lapel Badges are now available from the Society at a cost of £3.00 each inclusive of postage. All paid up members are encouraged to purchase a lapel badge to indicate their membership of the Society, and to be proud to wear it among their professional colleagues.



Society Ties

We are pleased to advise members that we now have good quality ties in stock of polyester satin in Silver Grey, Navy and Maroon with the Society Logo picked out in gold, They are very striking and will certainly provoke discussion when worn in the office and at business meetings and training. Support the Society by ordering one now at the modest price of £11.50 (including postage and packing).



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The Society of Professional Engineers, as a body, is not responsible for the statements or opinions expressed in this bulletin.



A Suitable Place in the Sun



Bluesky is rolling out nationwide coverage of its pioneering Solar Sustainability Map. By mapping the potential for power generation using solar panels of roofs, the Solar Map is designed to identify optimum properties for solar power, help achieve renewable energy targets and reduce soaring energy costs. Bluesky has seen a growing demand for its solar mapping amongst local authorities, utilities, housing associations and solar panel companies.

Bluesky's solar maps calculate the useable roof space of each property. By using detailed 3D aerial survey data and discarding features such as dormer windows, large skylights and chimneys, Bluesky's Solar Maps provide the only truly accurate indicator of the solar potential of individual roofs.

In addition to the nationwide coverage of solar potential, Bluesky is offering a service to create more detailed, bespoke 3D Solar Maps for individual complexes such as government buildings, schools, hospitals or commercial warehouses. All Bluesky Solar Maps can be

linked to existing address databases or mapping to select and target the best properties for solar energy generation.

'Since launching the first solar maps last spring we have been inundated with enquiries from local authorities, solar panel companies as well as energy and environmental organisations,' commented Rachel Tidmarsh, Managing Director of Bluesky. 'As a result of these enquiries and our own ongoing research and development studies we have refined our processes and developed what is thought to be the most accurate methodology for determining the suitability of properties for solar energy installations, which is why now seems to be the right time to roll the product out nationally.'

Bluesky uses a variety of techniques and datasets to accurately measure and record factors that may contribute to the suitability and usability of a property's roof for solar panels. These factors include a roof's usable size, height, pitch, aspect and position. In addition, potential shadowing obstructions such as neighbouring properties or trees can be

identified and mapped. By combining all of this information it is possible to calculate a roof's insolation (a measure of solar radiation energy received on a given surface area in a given time) allowing the property to also be graded for solar potential. The solar maps and databases can be supplied in various formats including Google kmz for use in Google Earth and 3D pdfs.

'A little known fact – the earth receives from the sun more energy in one single hour than the whole world uses in an entire year – making the potential for solar energy generation huge,' continued Tidmarsh. 'Councils are already considering how they can harness this so far untapped resource with panels on council owned housing and office buildings and our maps and database will help them identify and target suitable properties efficiently and with high levels of confidence.'

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