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BS 7913 Launch event

10 March 2014
Somerset House, London



Conservation of cultural heritage and the importance of standards

Tim Yates, Chair of British Standards Committee B/560

Standards and standardisation

- A standard is a published document that contains a technical specification or other precise criteria designed to be used consistently as a rule, guideline, or definition.
- All standards take the form of either:
 - Specifications
 - Methods
 - Vocabularies
 - Codes of practice
 - Guides.
- Steel sections and tram lines

Standards and standardisation

- The original purpose of standards was to ensure that fixtures and fittings were of a consistent size and quality
- Over the past 100 years the purpose of Standards has shifted towards providing a minimum quality and making sure that methods and materials reflect good practice.
- Standards and codes of practice allow specifications to be written in a clear and concise way.
- Standards can also be used to support accreditation schemes for conservators and building conservation craftsmen.

Standards and Cultural Heritage – 2002

- British Standards and Codes of Practice related to conservation
- Guidance on good practice
 - Code of practice for the cleaning and surface repair of buildings (BS8221 Parts 1 and 2)
 - BS7913:1998 Guide to the principles of the conservation of historic buildings
- Other standards linked to building conservation
 - Testing of natural stone
 - Specification of mortars
 - Not written with conservation in mind.

Standards and Cultural Heritage – 2002

- European Standards - 'Standardisation in the field of conservation of Cultural Heritage'
- Based on earlier work undertaken by UNESCO.
 - Terminology relevant to movable and immovable artefacts, and to the conservation of the artefacts and the material constituting the artefacts
 - Guidelines for a methodological approach to the knowledge of the artefacts and of the materials constituting the artefacts, of the deterioration processes, and of preservation/conservation work
 - Test and analysis methods for the diagnosis and for the characterisation of the artefacts
 - Tests and analysis methods for the evaluation of the performance of conservation products
 - Test and analysis methods for the evaluation of indoor conservation conditions – particularly transport, packaging and exhibition environments

Standards and Cultural Heritage – 2002

- European Standards - 'Standardisation in the field of conservation of Cultural Heritage'

".....it seems only sensible that building conservation also should develop standards and codes of practice.

However, there is always a risk of standards being developed internationally that do not reflect local (or regional) good practice and which may also stifle innovation and the development of new skills.

Therefore, the 'industry' must make sure that its views are represented on both national and international standards committees."

Standards and Cultural Heritage

- Why do we need standards for cultural heritage?
 - Conservation, like many other activities and businesses, has become increasingly global.
 - As a result there was a need for a common set of conservation principles
 - **The Venice Charter** (1966) (which stresses the importance of setting, respect for original fabric, precise documentation of any intervention, the significance of contributions from all periods to the building's character, and the maintenance of historic buildings for a socially useful purpose)
 - **UNESCO Recommendation for the Protection of Moveable Cultural Property** (1978) (which defines the broad range of items that make up moveable cultural property and identifies measures to safeguard property and to indemnify in case of damage, alteration or loss of the property resulting from transport and exhibition, environmental conditions, handling, faulty packaging, and other unfavourable conditions).

Standards and Cultural Heritage

- Why do we need standards for cultural heritage?
 - As the trend towards globalisation has continued a need for a common language and common framework within which to work has become important and it is this that the European Standards are trying to achieve.
 - The intention is not to provide rigid and prescriptive solutions but to provide common questions, and common ways to describe and evaluate cultural heritage.
 - The UK standards take this further on and focus down on the UK's needs but still within the same common framework.

Standards and Cultural Heritage – 2014

- British Standards – Committee B/560 Conservation of Tangible Cultural Heritage
 - BS 7913 *Guide to the principles of the conservation of historic buildings* (2013).
 - BS 8221 Part 1 *Code of practice for the cleaning of natural stones, brick, terracotta and concrete* (2012)
 - BS 8221 Part 2 *Code of practice for the surface repair of natural stones, brick and terracotta* (2000/2012)
 - BS 6270 Part 3 *Code of practice for cleaning and surface repair of buildings -- Metals (cleaning only)* (1991/2013)
 - BS 5454 / PD 5454 *Guide for the storage and exhibition of archival materials* (2000/2012)

Standards and Cultural Heritage – 2014

- European Standards – Committee B/560 Conservation of Tangible Cultural Heritage and CEN/TC 346 Cultural Heritage

Working Group Number	Working Group Title
CEN/TC 346/WG 1	General methodologies and terminology
CEN/TC 346/WG 2	Characterisation and analysis of porous inorganic materials constituting cultural heritage
CEN/TC 346/WG 3	Evaluation of methods and products for conservation works on porous inorganic materials constituting cultural heritage
CEN/TC 346/WG 4	Protection of collections
CEN/TC 346/WG 5	Packing and transport
CEN/TC 346/WG 6	Exhibition lighting of cultural heritage - Joint Working Group between CEN/TC 346 and CEN/TC 169
CEN/TC 346/WG 7	Specifying and measuring Indoor/outdoor climate
CEN/TC 346/WG 8	Energy efficiency of historic buildings
CEN/TC 346/WG 9	Waterlogged wood
CEN/TC 346/WG 10	Historic timber structures
CEN/TC 346/WG 11	Conservation process

Standards and Cultural Heritage – 2014

- European Standards – Committee B/560 Conservation of Tangible Cultural Heritage and CEN/TC 346 Cultural Heritage

Standard Number	Standard Title
<u>BS EN 15757:2010</u>	Conservation of Cultural Property - Specifications for temperature and relative humidity to limit climate-induced mechanical damage in organic hygroscopic materials
<u>BS EN 15758:2010</u>	Conservation of Cultural Property - Procedures and instruments for measuring temperatures of the air and the surfaces of objects
<u>BS EN 15759-1:2011</u>	Conservation of cultural property - Indoor climate - Part 1: Guidelines for heating churches, chapels and other places of worship
<u>BS EN 15801:2009</u>	Conservation of cultural property - Test methods - Determination of water absorption by capillarity
<u>BS EN 15802:2009</u>	Conservation of cultural property - Test methods - Determination of static contact angle
<u>BS EN 15803:2009</u>	Conservation of cultural property - Test methods - Determination of water vapour permeability (dp)
<u>BS EN 15886:2010</u>	Conservation of cultural property - Test methods - Colour measurement of surfaces
<u>BS EN 15898:2011</u>	Conservation of cultural property - Main general terms and definitions
<u>BS EN 15946:2011</u>	Conservation of cultural property - Packing principles for transport

Standards and Cultural Heritage – 2014

- European Standards – Committee B/560 Conservation of Tangible Cultural Heritage and CEN/TC 346 Cultural Heritage

Standard Number	Standard Title
<u>BS EN 15999-1:2014</u>	Conservation of Cultural property - Guidelines for design of showcases for exhibition and preservation of objects - Part 1: General requirements
<u>BS EN 16085:2012</u>	Conservation of Cultural property - Methodology for sampling from materials of cultural property - General rules
<u>BS EN 16095:2012</u>	Conservation of cultural property - Condition recording for movable cultural heritage
<u>BS EN 16096:2012</u>	Conservation of cultural property - Condition survey and report of built cultural heritage
<u>BS EN 16141:2012</u>	Conservation of cultural heritage - Guidelines for management of environmental conditions - Open storage facilities: definitions and characteristics of collection centres dedicated to the preservation and management of cultural heritage
<u>BS EN 16242:2012</u>	Conservation of cultural heritage - Procedures and instruments for measuring humidity in the air and moisture exchanges between air and cultural property
<u>BS EN 16302:2013</u>	Conservation of cultural heritage - Test methods - Measurement of water absorption by pipe method
<u>BS EN 16322:2013</u>	Conservation of Cultural Heritage - Test methods - Determination of drying properties

Standards and Cultural Heritage – standards in preparation

00346001 – prEN 16581 ► WG3	Conservation of Cultural Heritage – Surface protection for porous inorganic materials – Laboratory test methods for the evaluation of the performance of water repellent products
00346003 PRE-WI ► WG1	Conservation of cultural property - Glossary of damage
00346018 – prEN 16648 ► WG5	Conservation of cultural heritage - Transport methods
00346019 – FprCEN/TS 16163 ► WG6	Conservation of Cultural Heritage - Guidelines and procedures for choosing appropriate lighting for indoor exhibitions
00346024 – prEN 16572 WG2	Conservation of Cultural Heritage - Glossary of technical terms concerning mortars for masonry, renders and plasters used in cultural heritage
00346025 PRE-WI ► WG2	Conservation of Cultural Property - Characterization of mortars found in cultural heritage
00346026 – FprEN 16455 ► WG2	Conservation of cultural heritage - Determination of soluble salts in natural stone and related materials used in cultural heritage

Standards and Cultural Heritage – standards in preparation

00346027 – prEN 16515 ► WG2		Conservation of Cultural Heritage - Guidelines to characterize natural stone used in cultural heritage
00346028 ► WG4		Conservation of cultural property - Integrated Pest Management (IPM)
00346029 PRE-WI ► WG4		Conservation of cultural property - New sites and buildings intended for the storage and use of collections
00346030 – prEN 15759-2 PRE-WI ► WG7		Conservation of cultural property - Indoor climate - Part 2: Ventilation
00346031 PRE-WI ► WG4		Conservation of cultural property - Risk assessment methodology for movable cultural heritage
00346033 PRE-WI ► WG8		Guidelines for improving energy efficiency of architecturally, culturally or historically valuable buildings

Standards and Cultural Heritage – standards in preparation

00346034 – prEN 16682 ► WG7		Conservation of Cultural Heritage - Guide to the measurements of moisture content in materials constituting movable and immovable cultural heritage
00346036 – prEN 15999-2 PRE-WI ► WG4		Conservation of cultural property - Guidelines for management of environmental conditions - Recommendation for showcases used for exhibition and preservation of cultural heritage - Part 2: Technical requirements
00346037 PRE-WI ► WG9		Conservation of cultural property - Waterlogged archaeological wood - Guidelines for characterization

Standards and Cultural Heritage – standards in preparation

00346038 PRE-WI ► WG9	Conservation of cultural property - Waterlogged Wood : Guidelines for protection and management in terrestrial archaeological sites
00346039 PRE-WI ► WG10	Conservation of cultural heritage - Historic Timber Structures - Guidelines for the On Site Assessment
00346040 PRE-WI ► WG4	Conservation of cultural heritage - Emergency and Contingency Plan
00346041 PRE-WI ► WG11	Conservation of cultural heritage – Framework of the conservation process
00346042 ► WG3	Conservation of cultural heritage - Cleaning of porous inorganic materials - Laser cleaning techniques for cultural heritage
00346043 PRE-WI ► WG3	Cleaning of porous inorganic materials-Methodology for evaluation (in laboratory and in situ) of methods and materials used to clean porous inorganic materials
00346044 PRE-WI ► WG3	Conservation of cultural heritage - Artificial ageing for evaluation of treatments applied on porous inorganic materials: exposure to solar light, salt crystallization, freeze- thaw cycles, wet and dry conditions

Standards and Cultural Heritage – Looking to the future

- The development of standards is set to continue for the foreseeable future
- The work programme for CEN TC346 will be reviewed in 2015 but there doesn't seem to be any shortage of topics for the committee to work on.
- The continuing interest in museum collections and exhibitions means that there is a continuing need to develop and apply standards to assess and protect them.
- There are also new challenges for the cultural heritage
 - Concerns over climate change and the need to make buildings (including museums and collections)
 - The challenge of new materials and new styles of building to conserve and protect for future generations.



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BS 7913: 2013: Guide to the Conservation of Historic Buildings

John Edwards MA, DipBldgCons, BCAS, CEnv, FRICS, FCIQB, IHBC

Lead author of BS 7913: 2013 and Chair of the drafting panel

**Member of Committee B/560: Conservation of Tangible
Cultural Heritage**

Cadw, Assistant Director

BS 7913 – produced by expert practitioners

But also by public consultation

1. Overseen by BSI Committee B/560: Conservation of tangible cultural heritage – wide range of ‘conservation’ (in its broadest sense) experts.
2. BS 7913 drafting panel of ‘Building Conservation’ experts under a Chair reporting to B/560. Edit by BSI.
3. Core drafting input: Cadw/English Heritage, Historic Scotland, National Trust, IHBC, CIOB, RICS, CEM, RIBA.
4. Core drafting team: John Edwards (Chair), Rory Cullen, Karen Williamson, Henry Russell, Stephen Bond, Richard Storah, Dave Chetwyn and input from many others.
5. Disciplines represented included: Architects, Engineers, Surveyors, Archaeologists, Builders, Town Planners.

Produced by experts for experts!



Produced by experts for **everyone!**



Input – competing demands

By the panel and through consultation

1. **Content** – just buildings and structures or more? Archaeology or not? Conservation Principles or not or somewhere in-between?
2. **Title** – Buildings/ Assets. Common terminology/ Heritage official terminology/ Mainstream terminology.
3. **Proportionality** – too much on history/ not enough, too much on technical detail or not enough, too much on process or not enough? Much more.....
4. **Conflicting views** even from within same organisations – policy teams/ practitioners. Is a new BS required?

Striking the balance!

Content – covering the whole process

1. Description of buildings/Architecture & conservation history.
2. Significance, conservation principles and values.
3. Heritage management – pro-active & re-active – reconciling values
4. Historic areas as well as structures / buildings.
5. Condition surveys, inspections, investigations and pathology
6. Common defects & their assessment.
7. Common repair issues.
8. New development & adaptation.
9. Maintenance
10. Sustainability and energy efficiency.
11. Project Management.
12. Project Supervision
13. Competence & Accreditation

BS 7913: 2013 in context

Making the case for a new standard



*Conservation in practice:
Cardiff Castle Clock Tower*

1989 Case Study

Cardiff Castle Clock Tower



1989 Case Study

Inside the Clock Tower – top floor

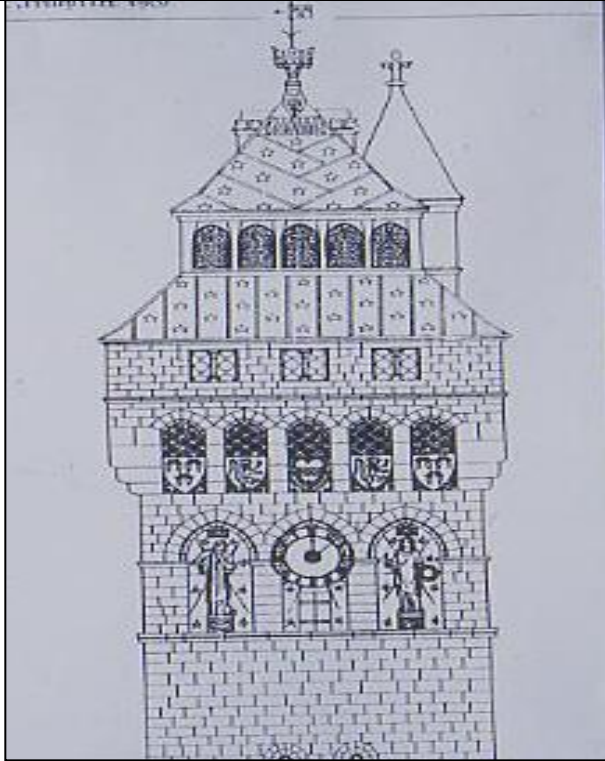


Summer Smoking Room



1989 Case Study

Cardiff Castle Clock Tower



1989 Case Study

This is Conservation – practiced in 1989!

“Conservation means all the processes of looking after a place so as to retain its cultural significance.....

Cultural significance means:

“aesthetic, historic, scientific or social value for past, present or future generations”

1989 Case Study

Cardiff Castle Clock Tower 1989



Partial replacement v whole replacement.

Disagreement over the need for 'minimum intervention' and consideration of wider issues including significance and risks to the structure

1989 Case Study

Decision Making Criteria - 1989

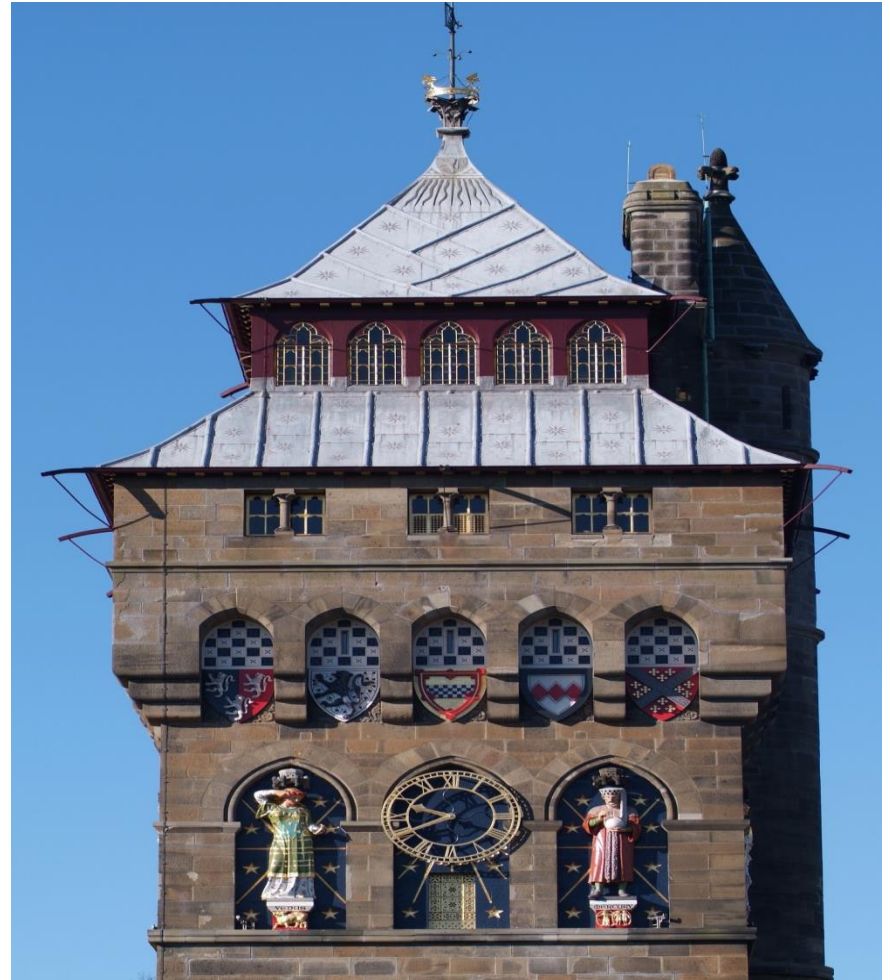


- Technical necessity & feasibility
- Aesthetics
- Interpretation
- Education



1989 Case Study

Cardiff Castle Clock Tower - informed by significance



Artistic completeness.....



Artistic completeness.....

Authoritative Guidance

BS 7913: 1998



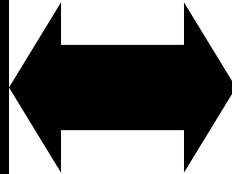
Following traditional
practice of conservation

– not based on
managing significance

Understanding necessary for Conservation

SIGNIFICANCE

- Significance analysis
- Conservation Plans (and Conservation Management Plans)
- Heritage Impact Assessments



TECHNICAL

- Surveys (Condition, Quinquennial, etc.)
- Inspections
- Targeted Specialist Investigations

Requires both!

Authoritative Guidance

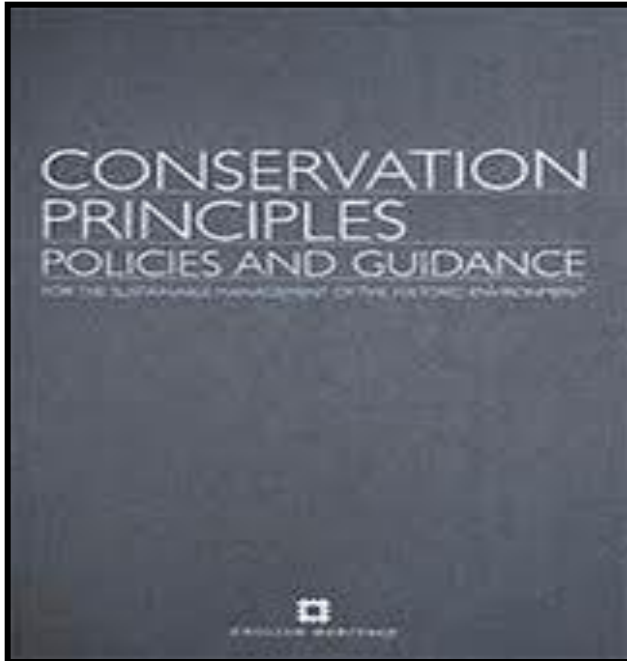
RICS: 2008



–based on managing
significance

Authoritative Guidance

English Heritage Conservation Principles: 2008



–based on managing
significance

Authoritative Guidance

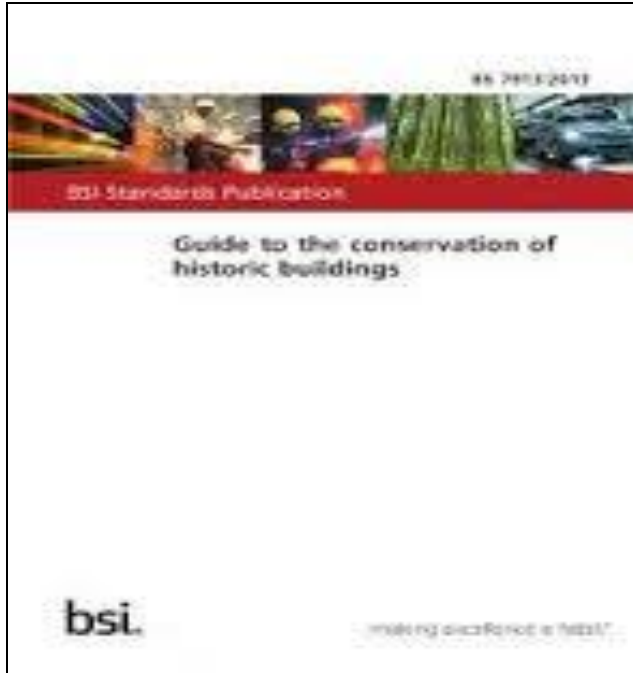
Cadw Conservation Principles: 2011



–based on managing
significance

Authoritative Guidance

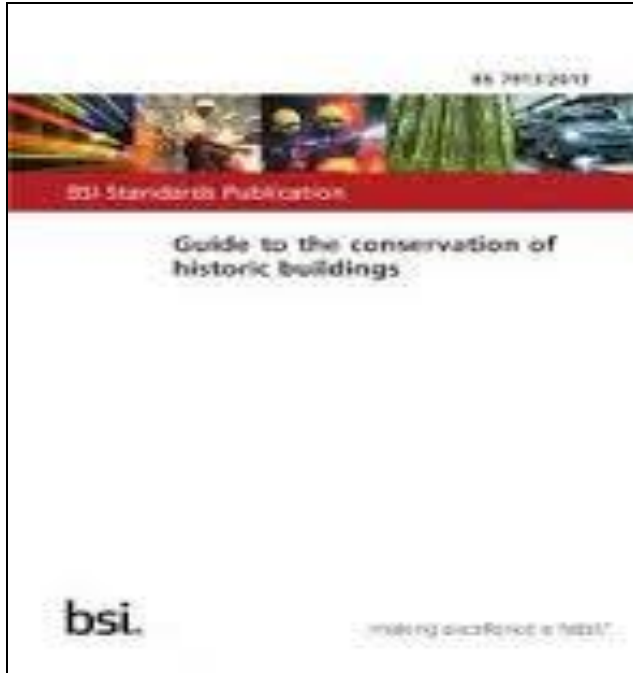
BS 7913: 2013



–based on managing
significance

Authoritative Guidance

BS 7913: 2013



–based on managing
significance

Guidance with whole industry mainstream appeal

Content – **activities needed for conservation**

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Content – **activities needed for conservation**

10. Sustainability and energy efficiency

The most effective way of ensuring energy efficiency and sustainability is to keep historic buildings in good repair so that they last as long as possible, do not need replacement and **do not suffer from avoidable decay that would require energy and carbon to rectify.** They should provide occupancy in an efficient manner, involving minimal production of carbon and use of energy without harming significance or the physical performance of the historic fabric. Using natural ventilation and light, and proper temperature and humidity control for individual rooms are ways of minimizing energy usage that respect the building's material characteristics.

Content – activities needed for conservation

10. Sustainability and energy efficiency

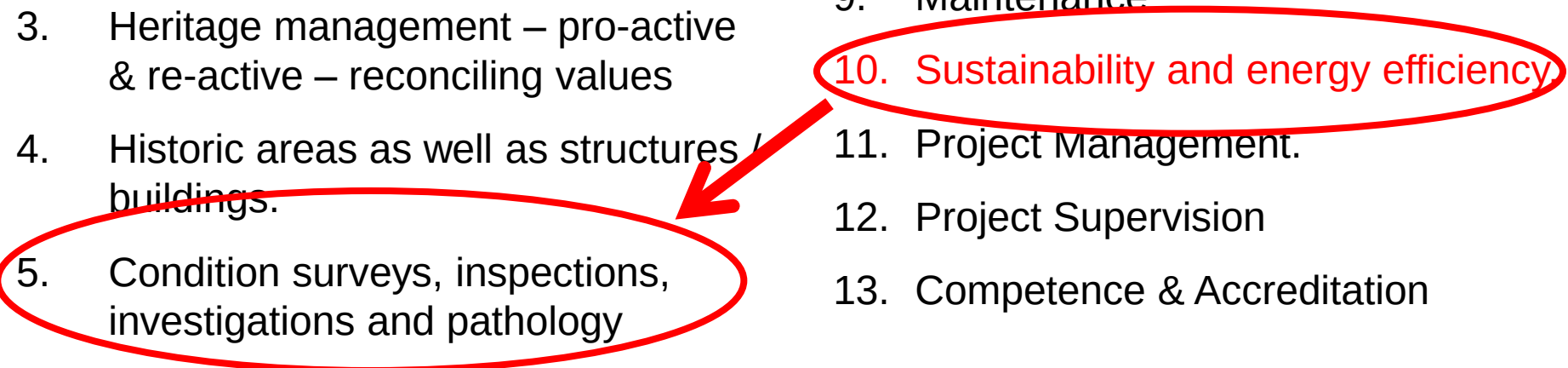
Elements such as walls can be over a third less energy efficient if damp. Some energy efficient measures can have an adverse effect on sustainability. The actual energy efficiency of historic buildings and their potential energy efficiency with the addition of energy efficient measures should be taken in account at the outset (see 6.3). The need for energy efficiency and low carbon might also influence the **selection of materials and work methods as they can impact on thermal performance and weather resistance.** Building materials and products should be sourced and procured in a sustainable manner.

The historic building should be regularly inspected.....

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- Handwritten annotations:*
- Items 2, 3, and 5 are circled in magenta.
 - Item 5 is also circled in red.
 - Item 6 is circled in green.
 - Item 7 is circled in green.
 - Item 9 is circled in green.
 - Item 10 is circled in red.
 - Items 11 and 12 are circled in yellow.
 - Green arrows point from item 5 to item 6, from item 6 to item 7, and from item 7 to item 9.
 - A red arrow points from item 5 to item 10.

Helping to **assure quality & appropriateness**

12. Project Supervision

1. Project Supervision is necessary but should be proportionate.
2. Project Supervision works alongside Project Management.
3. Develop quality management processes at the beginning of a project – risk analysis approach to focus on priorities – contractor and client side have roles and interface.
4. Project Supervision involves visual inspections and tests as appropriate.
5. Works /Contractor Supervisors to adopt systematic quality inspections and tests which are recorded.
6. Client side Project Supervisor to interface with Works/ Contractor supervisor, check the records and supplement with own inspections and tests.

Using BS 7913: 2013

Authoritative guide

1. A new standard to draw attention to best practice .
2. A basis from which best practice can be measured & delivered.
3. For all old buildings and protected/ Listed buildings.
4. UK heritage sector – covering the broadest of issues.
5. UK mainstream property and construction industry – they know about British Standards.
6. Beyond the UK.
7. A basis for consistent training in building conservation – some or all of content.
8. A basis for internal training within organisations – some or all of content.

BS 7913: 2013: Guide to the Conservation of Historic Buildings

John Edwards MA, DipBldgCons, BCAS, CEnv, FRICS, FCIQB, IHBC

Lead author of BS 7913: 2013 and Chair of the drafting panel

**Member of Committee B/560: Conservation of Tangible
Cultural Heritage**

Cadw, Assistant Director

Thank you



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