



SLOVENSKI STANDARD

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Kulturna dediščina - Raziskovanje in spremljanje stanja ohranjenosti arheoloških najdišč na kraju samem

Cultural heritage - Investigation and monitoring of archaeological deposits for preservation in situ

Erhaltung des kulturellen Erbes - Anforderungen an die Überwachung und Untersuchung der Umgebung von Lagerstätten des Kulturerbes

Patrimoine culturel - Investigation et suivi de l'état de conservation des dépôts archéologiques pour la préservation sur site

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ICS:

97.195	Umetniški in obrtniški izdelki.	Items of art and handicrafts.
	Kulturne dobrine in kulturna dediščina	Cultural property and heritage

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EUROPEAN STANDARD
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Cultural heritage - Investigation and monitoring of archaeological deposits for preservation in situ

Patrimoine culturel - Investigation et suivi de l'état de
conservation des dépôts archéologiques pour la
préservation sur site

Erhaltung des kulturellen Erbes - Anforderungen an
die Überwachung und Untersuchung der Umgebung
von Lagerstätten des Kulturerbes

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 346.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (prEN 17652:2021) has been prepared by Technical Committee CEN/TC 346 “Cultural heritage”, the secretariat of which is held by UNI.

This document is currently submitted to the CEN Enquiry.

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Introduction

The principle that *in situ* preservation should be considered as the first option for the conservation of terrestrial or underwater archaeological sites, before permitting or engaging in any activity directed at these sites, is laid down in European Council [3] and UNESCO conventions and ICOMOS charter [4, 5].

This document is designed to assist authorities, archaeological and other consultants, owners, developers, applicants and others responsible for sites of archaeological and historical significance to ensure the best outcome for the preservation of discovered material and may also be helpful in ensuring that relevant legislation and conditions are abided by. It sets out a “decision-making” framework for the *in situ* preservation of archaeological deposits and identifies mechanisms for investigating and, where appropriate, monitoring of these sites.

Archaeological deposits and the finds they contain have accumulated through human activity over hundreds or thousands of years. They are found in urban and rural areas, in the intertidal zone and underwater, and include evidence of past occupation as well as natural deposits representing past environments. These archaeological deposits and sediments display large variations in their state of preservation, preservation conditions, and vulnerability. If the deposits or the environment around them are altered, their information potential may be reduced or destroyed. Accelerated degradation of archaeological deposits, shrinkage and subsidence of the sediments can also have serious consequences for existing buildings, roads and infrastructure built above them.

Where changes are proposed at an archaeological site, an investigation of the significance (i.e. of the cultural and other values assigned to the archaeological asset and its surroundings), and an evaluation of the state of preservation and preservation conditions should be conducted to inform “decision-making”. The changes can for example be developments in the terrestrial or underwater environments, land-use change or improved conservation management. The objective of these investigations is to balance the long-term preservation and protection of these non-renewable heritage assets with sustainable development.

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Preservation assessment is an iterative process, with more detail required for the most complex sites, for example those with waterlogged deposits or a broad range of archaeological materials present. Details of the proposed development or land- and seabed-use change are also required before decisions can be made as to whether such changes can be made in a way that also protects and preserves the archaeological site. In some instances, a monitoring programme may be required to verify that the conditions required for long-term preservation are maintained. A key part of designing a monitoring programme is defining the monitoring objectives, as well as monitoring parameters and trigger levels. These will differ from site to site.

This monitoring is an important element of knowledge-based management of these sites. This document focuses on monitoring the burial environment but monitoring of the condition of the buried archaeology can also be part of a monitoring programme. Systematic, regular monitoring of selected parameters using recognized methods ensures the possibility to compare data and results over time and between different sites. The use of traceable, reproducible methods and actions will increase the quality and reliability of the data collected. This will ensure that any changes in the archaeological deposits and sediments can be detected and reported to the relevant stakeholders so that decisions about further action can be taken. Increased knowledge gained from these monitoring projects will, over time, provide a better basis for future preservation strategies and “decision-making”.

1 Scope

This document describes investigations required for *in situ* preservation and monitoring of archaeological sites. It sets out the main parameters used to assess the state of preservation of archaeological materials and evaluate the preservation conditions of archaeological deposits and provides a framework for monitoring sites. A “decision making” framework is included to help readers make appropriate knowledge-based choices.

The procedures described are appropriate for both terrestrial and underwater archaeological sites.

The informative annexes relate primarily to terrestrial sites; for detailed technical guidance on investigating and monitoring marine sites, see sasmap.eu [6, 7].

NOTE Marine sites include all underwater sites and those in the intertidal zone.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1
archaeological asset
archaeological item that has significance because of its contribution to society, knowledge and/or culture

Note 1 to entry: They are usually physical assets, but some countries also use the term in relation to intangible social and spiritual heritage.

3.2
archaeological deposits

deposits accumulated through human activities

Note 1 to entry: They are found in urban and rural areas, in the intertidal zone and underwater, and include evidence of past occupation as well as natural deposits representing past environments. The archaeological deposits and their content of ecofacts and artefacts reveal past activities at a site.

3.3
***in situ* preservation**

conservation of an *archaeological asset* (3.1) in its original location whilst monitoring and controlling factors that could influence degradation in the burial environment

3.4**monitoring**

collecting and assessing data pertaining to an *archaeological asset* (3.1) or site

Note 1 to entry- Within this document, monitoring applies to systematic data collection after “decision-making”

[SOURCE: EN 15898:2019, 3.4.4, modified – “object, ensemble or collection and/or their environment over time” has been changed to “archaeological asset or site” [1]]

3.5**significance**

combination of all the values assigned to an *archaeological asset* (3.1) or site

[SOURCE: EN 15898:2019, 3.1.7 modified – “object, ensemble or collection” has been changed to “archaeological asset or site” [1]]

3.6**mitigation**

action taken to minimize or eliminate the risk of damage occurring to an *archaeological asset* (3.1) as a result of planned or unplanned events

EXAMPLE 1 Planned events; development; land use change; improved conservation management

EXAMPLE 2 Unplanned events; climate change; flooding; drought; Cultural Property Theft and damage resulting from Heritage Crime; offshore industry i.e. bottom trawl fishing

3.7**environment**

surroundings of an *archaeological asset* (3.1), some aspects of which may affect its condition

Note 1 to entry: Such aspects could be of human, physical, chemical, biological, geological or climatic origin.

[SOURCE: EN 15898:2019, 3.3.2 modified – included “wider” and “object” is replaced by “archaeological asset” [1]]

3.8**state of preservation**

current state of the *archaeological deposits* (3.2), which will depend on both current and historical *rates of degradation* (3.12)

3.9**saturated deposits**

deposits where all pore spaces are filled with water

3.10**unsaturated deposits**

deposits where the pores contain both water and air

3.11**preservation condition**

physical, chemical and microbiological conditions in the ground or water, which determine the current *rate of degradation* (3.12) of the *archaeological deposits* (3.2)

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3.12

rate of degradation

speed at which an *archaeological asset* (3.1) degrades

3.13

vulnerability

characteristic of how an *archaeological asset* (3.1) or material tolerates exposure and its sensitivity to environmental changes

EXAMPLE For instance waterlogged organic materials are more vulnerable to degradation under oxic conditions than e.g. stone artefacts.

4 Objective and procedure

4.1 Overview of procedure

The objective of the activities governed by this document is to provide cultural heritage managers and other stakeholders with procedures to investigate whether it is possible to preserve an archaeological asset (on land or underwater) *in situ* (Clause 5). It also provides procedure for designing a monitoring programme (Clause 6) and reporting (Clause 7) on the different steps of both the investigation and the monitoring programme. Information is given about understanding the assets' current state of preservation (Annex A), and preservation conditions (Annex B) and example of classification of state of preservation, preservation conditions and risks (Annex C). The state of preservation of archaeological materials and preservation conditions of deposits should be considered as a common element of any of archaeological investigation. Figure 1 shows a flowchart of the process.

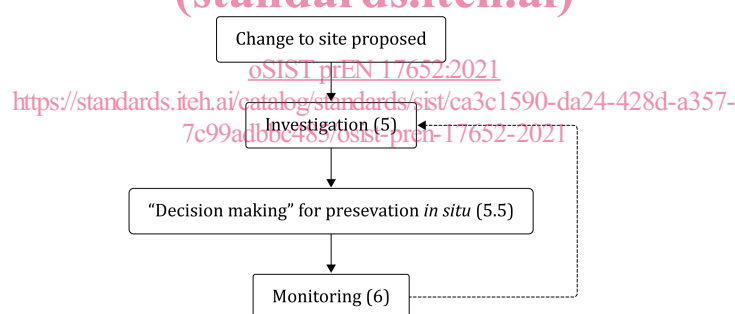


Figure 1 — Flowchart of the procedure of investigation and monitoring of archaeological sites

4.2 Project team/management structure

As early as possible it is advisable for a project team to be established comprising a range of experts, for example:

- project Leader (project planning, management and communication);
- main Project Group (project planning, preliminary investigation, detailed investigation, monitoring implementation, checking and reporting);
- relevant public/private stakeholders;
- expert Groups (research, advice, support in preliminary/detailed investigations, checking and reporting);
- local heritage professionals (support in survey).

A clear project design and timetable shall provide clarity on roles, timescales and outputs.

5 Investigation

5.1 General

To enable decisions to be taken about preservation *in situ* of archaeological sites, for example in response to development plans, information shall be gathered about the significance of the site, the state of preservation and preservation conditions, the expected lifetime and the feasibility of alternative approaches.

The process of documenting the values assigned to archaeological assets on an investigation site, their state of preservation and preservation conditions is separated into the following phases: desktop study (5.2), preliminary investigation (5.3), detailed investigation (5.4) and conclusions and “decision-making” (5.5). This process can be iterative.

Figure 2 shows the usual stages of investigation that would be undertaken in relation to preservation *in situ* as a result of a proposed development change. Similar steps would be followed in relation to the management of archaeological sites subject to changes as a result of natural processes.

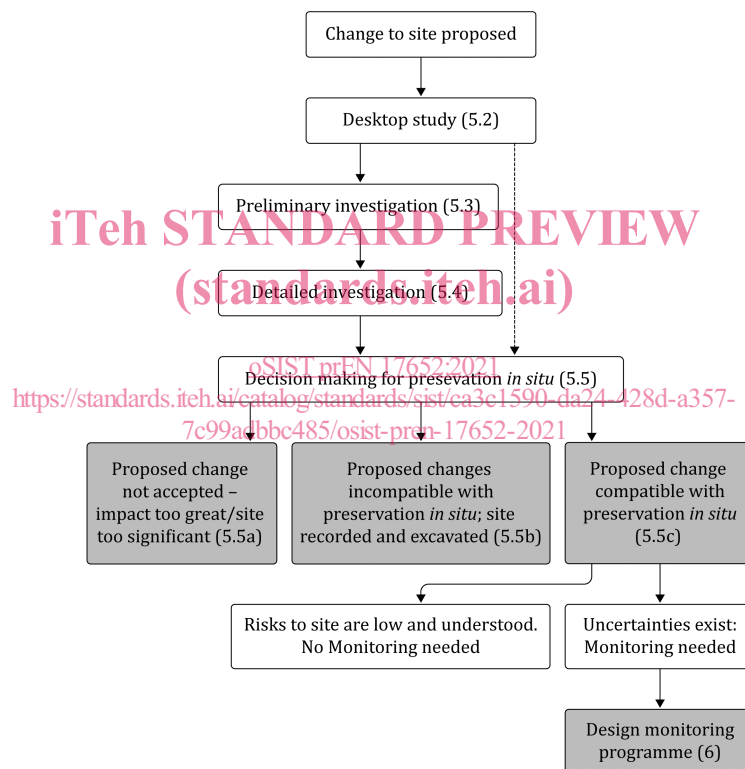


Figure 2 — Flowchart of investigation

5.2 Desktop study

Desktop study is a non-intrusive investigation carried out to collect relevant information about the scale and significance of the site, with reference to how it will respond to proposed changes. It is often the first stage in the “decision-making” process, see Figure 2.

To give a general overview of the conditions at the site the desktop study should, where feasible, include at least the following:

- the legal status of the site;
- a review of archives and archaeological sources of information from the area, as well as other relevant data for example records held by State Hydrographic Survey agencies;
- a review of any relevant monitoring data for the site or others in the surrounding area;
- an assessment of the overall cultural heritage value of the site;
- a review of other relevant investigations, such as hydrogeological, physical ground properties, geochemical conditions, hydrodynamics, etc;

Information about the direct and possible indirect impacts of any proposed development or other current threats in relation to human factors, such as proximity to shipping channels, nearby dredging activities, salvage, accessibility to divers and frequency of visiting divers, fishing, invasive species, etc.;

- an initial assessment of the potential state of preservation, preservation conditions, rate of degradation and expected lifetime if any information exists and assessment of any risks to long-term preservation;
- a site visit / site walkover/ROV/diver survey;

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The desktop study shall be summarized in a short report in accordance with 7.2 that includes recommendations for next steps. In most cases the desktop study is part of a staged process. In some instances, for example where the desktop study has identified assets which can be avoid by development, or where it is clear that development would have too great an impact on the significance of the site that it should not progress, or the expected lifetime is too short, further investigation may not be needed. This would be a decision agreed by relevant stakeholders and heritage managers.

5.3 Preliminary investigation

If the desktop study concludes that there is a need for more information to inform “decision-making”, a preliminary investigation shall be carried out. The preliminary investigation shall provide a simple rapid assessment and give basic information for designing a more detailed investigation or monitoring programme. All invasive works should be undertaken within the legislative system for the country in which the site is located and designed to minimize their impact on archaeological materials and deposits. The types of information to be collected in the preliminary investigations may include:

- the cultural and historical context, including topographic, chronological and historical interpretations for the specific site in question;
- a preliminary risk assessment – main risks to long-term preservation;