



CONDITION ASSESSMENT – AN OVERVIEW

This session was created by Tony Crosby and modified by Claudia Cancino.

ABSTRACT

The condition assessment bridges the gap between site investigation and analysis. It is as much a part of the process of investigation as the analysis itself. The condition assessment is the act that carefully analyzes a place, structure, or feature in order to register and understand the relationships between and degrees of severity of the different deterioration mechanisms.

The condition assessment is the most objective phase within the process of analysis and it should systematically include all the information from the structure. The conditions are typically recorded graphically, although written recording could be complementary. These conditions are based in the general understanding of the pathology of the architecture of the site and in the specific conditions that can be singular for that place or structure. To the standard list of conditions, additional conditions are added and conditions are modified to correspond to the specific variations of the particular place. The resultant list is an assembly of "personalized" conditions. The list can be modified before beginning the recording, but in reality, the final list and definitions of conditions will not be completed until the condition recording is finished.

The emphasis of the condition assessment is as much on the deterioration (effects) as on its causes. The condition recording of the causes, as well as the effects of the deterioration, will offer the necessary basic information for a critical analysis of the pathology of the place or specific structure. For example, potential causes of the deterioration, such as the presence of water, do not necessarily show yet the corresponding effect of wall collapse. On the other hand, causes for deterioration, such as wall detachments, cannot be easily related to one cause. Recording of the specific information of the causes and effects is necessary to achieve a complete understanding of the pathology of the structure. The recording of the identifiable conditions will serve as a base for the analysis.

The first step of the condition recording is to develop a methodology that will define the degree of detail required, as well as allocate the proper resources and time for the work. In order to develop the methodology and determine the necessary time, a reconnaissance needs to be conducted of the overall structure, to define and prioritize the different conditions of the site, and to determine the level of detail for the mapping of the conditions.

The mapping of the conditions continues until all the components of the structure or place have been recorded. Although the mapping should be as objective as possible, condition assessment begins once conditions are recorded, and therefore interpreted. It is quite possible to start developing hypotheses about the causes and effects of deteriorations while recording the conditions of a site. These hypotheses will later be modified once the site becomes better understood. Nevertheless, the mapping of conditions itself is one step of the analytical process, and it is an important tool for understanding the behavior of the structure or place.

The hypotheses formulated during the mapping of the conditions will be tested and complemented with the collection of additional significant information, such as historical photographs, reports, scientific analysis, environmental monitoring, etc.



OBJECTIVES

As a result of this session, the participant should be able to:

Classroom lecture:

- Develop a methodology for site condition recording and assessment, including a list of all the relevant information to be collected.
- Differentiate condition recording from condition assessment.

Field exercise:

- Understand and apply the relationship between documentation purpose and the documentation methodology.
- Understand the applicability of a wide range of documentation tools and methods.

CONTENT

Classroom lecture:

In support of the objectives of this section, the instructor will discuss:

Introduction:

1. The relationship of this session to earlier sessions emphasizing:
 - a. Knowledge of materials, the performance of materials
 - b. Knowledge of building systems, pathology and deterioration mechanisms.

Relationships between graphic condition recording and condition assessment:

1. Show images of different sites and their deterioration processes; explain that condition recording is a methodological process that allows us to have a better understanding of the site as a whole
2. Graphic condition recording is one method of collecting information
3. Condition assessment is a process in which the recorded conditions are related and evaluated
 - a. Give samples of the difference between a register of conditions and the analysis
 - i. Describe an object (i.e. adobe brick) and register "what you see"; motivate the students to describe mechanical and chemical properties using different tools and processes
 - ii. Analyze the same object discussing the objective of the analyses
 - b. Describe the relationships between condition recording and the analysis
 - i. Show a section of a structure with a defined deterioration condition; show the same condition in other sections with different causes
 - ii. Relate the different conditions of different parts of a site with different potential causes of deterioration to show the complexity of an earthen structure

Presentation of different sites:

Show different types of sites, from complex to simple earthen structures:

1. Define the vision of a site using maps, plans, photographs, reports, etc.
2. Create a brief description of the condition of the site
3. Discuss the methodology to record and evaluate the conditions
4. Write down the proposed methodology in a board in the classroom and discuss the differences between different types of sites

**Field exercise:**

The exercise will be to design and execute a documentation plan monitoring future decay and establishing a baseline to which other information can be added in the future for a selected site and/or structure.

1. The actual results of the documentation will be a part of the site documentation files and might serve as a basis of future documentation. Photographs could be provided to each group, as well as plans, maps of the site and a preliminary glossary and condition form.
2. Each team will do the documentation for a separate structure
3. Instructors will encourage the use of various tools and natural and artificial lighting conditions.
4. The field exercise should consider the possibility of using more sophisticated documentation tools.
5. The students should come up with a methodology for condition recording and assessment. They should also review and adapt the preliminary glossary of conditions as well as condition assessment form.
6. The students should process the information and instructors should encourage discussions in groups.
7. The methodology applied and final assessment should be graphically presented.
8. Instructors should promote discussion among different groups.


Session summary:

1. Review the objectives for this session
2. Review the results of the field exercise – ask for student participation
3. Review the relationship of this session with both previous and subsequent sessions.

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