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Nota di contenuto	Cover -- Half Title -- Title Page -- Copyright Page -- Dedication -- CONTENTS -- STRUCTURAL CONDITION ASSESSMENT OF EXISTING BUILDINGS SUBCOMMITTEE -- BLUE-RIBBON PANEL REVIEWERS -- PREFACE -- ACKNOWLEDGMENTS -- 1. GENERAL -- 1.1 Scope and Intent of the Manual of Practice -- 1.2 Purpose of Assessment -- 1.2.1 Condition Assessment Scope Level -- 1.2.1.1 Preliminary Assessment. This consists of a brief walk-through of a structure or facility to identify visually discernible conditions of distress, damage, deterioration, or instability. It can be used as a stand-alone review protocol, or it c -- 1.2.1.2 Detailed Assessment. The extent of a more comprehensive assessment varies. It may or may not include intrusive or destructive investigations, material sampling and testing,

mathematical analysis, and/or load testing. -- 1.3 Qualifications and Equipment -- 1.3.1 Personnel Qualifications -- 1.3.2 Equipment -- 1.4 Agreements -- 1.4.1 Services -- 1.4.2 Compensation -- 1.4.3 Authority and Accessibility -- 1.4.4 Liability -- 1.5 Definitions -- 1.6 References -- 2. ASSESSMENT PROCEDURE -- 2.1 General -- 2.2 Approach -- 2.2.1 Condition Assessment Considerations -- 2.2.1.1 Physical Condition -- 2.2.1.2 Environmental Exposure -- 2.2.1.3 Known Cautionary Conditions -- 2.2.1.4 Load Path -- 2.2.1.5 Loading -- 2.2.1.6 Occupancy -- 2.2.1.7 Design Quality Confidence -- 2.2.1.8 Construction Quality Confidence -- 2.2.1.9 Concealed Defect Potential -- 2.2.1.10 Potential Failure States -- 2.2.1.11 Significance of Considered Assembly -- 2.2.1.12 Unusual Conditions -- 2.3 Preliminary Assessment -- 2.3.1 Available Documents Review -- 2.3.2 Structural Site Investigation -- 2.3.3 Preliminary Analysis. 2.3.3.1 Loading and Performance Criteria. The design professional should establish and review the loading and performance criteria to be used in the preliminary analysis, such as the applicable current national, state, or local building codes and st -- 2.3.3.2 Structural Components. On the basis of a review of the available documentation, the results of the on-site investigation, and the loading and performance criteria, the design professional should identify the primary vertical and lateral loa -- 2.3.3.3 Material Properties. The existing design documents may contain information regarding the material properties used in the design. If not available, the strength of the materials can be estimated on the basis of the design criteria and the ty -- 2.3.3.4 Component Analysis. The critical member(s) and connections in the structural system should be analyzed to determine their resistant capacities for moment, torsional, axial, and shear forces and to compare their resistant capacities to deman -- 2.3.3.5 Nonstructural Components. If the existing building has nonstructural components that may significantly contribute to its structural resistance, the components should be included in the preliminary analysis. The interaction of the nonstructu -- 2.3.3.6 Structural Evaluation. The design professional should integrate the information and data regarding the existing building with the results from the preliminary evaluations of critical components and connections to determine the overall struc -- 2.3.4 Cost-Impact Study -- 2.3.5 Preliminary Condition Evaluation and Recommendations -- 2.4 Detailed Assessment -- 2.4.1 Document Review. 2.4.1.1 Building Features. Available design drawings, and calculations, if appropriate to the investigative scope, should be carefully reviewed to identify irregularities in the building ' s configuration or other features that will have a major inf -- 2.4.1.2 Structural System. The type and continuity of the existing structural system have a major effect on the performance of the building. Flexible buildings can undergo large deformations and relative movements -- therefore, potential damage to no -- 2.4.2 Building Investigation -- 2.4.3 Detailed Assessment -- 2.4.3.1 Loading and Performance Criteria. The specified loading and performance criteria applicable to the detailed assessment should be reviewed for completeness. Acceptable performance criteria should be established for each potential mode of beha -- 2.4.3.2 Critical Systems/Members. Critical structural components, including members and connections comprising the main force-resisting system, should be identified on the basis of the document review, the building investigation, the results of pre -- 2.4.3.3 Material Properties and Detailing Practices. A testing program may be established to find those material properties and detailing practices that do not conform to currently accepted

practices. Test results may make the difference between ac -- 2.4.3.4 Capacities of Existing Systems/Members. The bending moment, shear, torsional shear, and axial load capacities of the critical structural systems, including members and connections comprising such systems, should be determined using the code -- 2.4.3.5 Required Capacities of Systems/Members. The specified vertical and lateral loading criteria should be used to determine the required capacities of the critical structural systems, including members and connections, which must resist the spe.
2.4.3.6 Nonstructural Components. If appropriate, the nonstructural components should be evaluated to ensure that they resist the prescribed forces and deformations. The effect of nonstructural components on the building ' s performance should also -- 2.4.3.7 Structural Evaluation. The building should be evaluated by means of an actual/required capacity comparison. If the building meets the performance criteria and does not have any deficiencies, the structural condition is adequate. If it does -- 2.4.4 Detailed Findings -- 2.4.5 Cost-Impact Study -- 2.4.6 Recommendations -- 3. STRUCTURAL MATERIALS ASSESSMENT -- 3.1 Purpose and Scope -- 4. EVALUATION PROCEDURES AND EVALUATION OF STRUCTURAL COMPONENTS AND SYSTEMS -- 4.1 Evaluation Procedures -- 4.1.1 General -- 4.1.2 Evaluation and Acceptance Criteria -- 4.1.3 Recognized Methods -- 4.1.4 New Methods -- 4.2 Evaluation of Components and Systems -- 4.2.1 Basis of Evaluation -- 4.2.2 Considerations -- 4.2.2.1 Interpretation of Data. Data should be interpreted statistically when appropriate and feasible. -- 4.2.2.2 Material Properties. Physical, chemical, and other properties of materials and components may be determined by laboratory or in situ testing. -- 4.2.2.3 Sample Size Significance. Due consideration and weight should be given to the importance of an element or unit being tested, evaluated, and so on, with respect to the other elements or units in the overall system being evaluated. It is both -- 4.2.2.4 Measure of Safety. It is permissible and desirable to use limit state concepts for the determination of a reliability (or safety) index in lieu of a conventional factor of safety. An increase or decrease in the normal factor of safety may b.
4.2.2.5 System Approach. Approaches that give cognizance to system evaluation rather than to component or subsystem evaluation should be utilized. The use of load redistribution is acceptable as long as a physical redistribution system is available -- 4.2.2.6 Load Tests. A load test provides only a limited amount of information on the performance under a specific load. Many other factors exist that must be considered and evaluated to determine the acceptability of a structure. Load tests should -- 4.2.2.7 Stiffness. Stiffness is the resistance to deformation of a member or structure measured by the ratio of the applied force to the corresponding displacement. A change in stiffness of an existing building or a change in the distribution of th -- 4.2.2.8 Stability. Stability is the ability of a structure to resist load, while remaining in equilibrium. Loss of stability is indicated by an exhaustion of this resistance. The factor-of-safety against collapse is the ratio of the maximum load a -- 4.2.2.9 Overturning and Sliding. Overturning and sliding of structures under the action of lateral loads shall be computed and evaluated against appropriate factors of safety. -- 4.3 Interpretation -- 5. REPORT ON STRUCTURAL CONDITION ASSESSMENT -- 5.1 Executive Summary -- 5.2 Introduction -- 5.2.1 Purpose of Assessment -- 5.2.2 Scope of Investigation -- 5.2.2.1 Cursory Assessment. A cursory assessment may be used for multiple buildings to initially assess the general condition and for screening to

	establish priorities (Chapter 2, Section 2.1). -- 5.2.2.2 Preliminary Assessment. An initial "walk-through" visit for orientation and general impressions is a common part of most preliminary assessments. A review of available documents, further site investigations, preliminary analysis, and prelim. 5.2.2.3 Detailed Assessment. This is an expansion of the preliminary assessment. It includes a further review of documentation, building investigations, materials assessment, detailed analysis, cost impact study, detailed evaluation, and recommenda.
Sommario/riassunto	MOP 158, Structural Condition Assessment of Existing Buildings, is a new adaptation of ASCE Standard 11-99. It provides current suggested guidelines on building condition assessments for selected materials and other areas related to the structural performance of existing buildings.

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Produktionsschritte einer Prozesskette sowie entscheidungsrelevanter Energie- und Stoffstrome bestimmt werden.