Abstract: Seismic Screening Checklists for Water and Wastewater Facilities was prepared by the Water and Wastewater Committee of the Technical Council on Lifeline Earthquake Engineering. This committee is composed of academicians, consulting engineers and engineers employed by the public sector. The authors and contributors of this document have both interest and expertise in how earthquakes affect water and wastewater facilities. This document presents checklists that can be used to help identify potentially vulnerable water and wastewater facilities.
FOREWORD

A key element of most seismic vulnerability programs is review of the facilities and components that are being assessed. An initial screening process is typically performed to identify those components believed to be earthquake resistant and to identify those components in need of further evaluation. Checklists are often used in the initial screening process. Checklists have been previously developed for many types of building structures and some types of building contents. However, checklists for many types of water system structures and components are not available.

The purpose of this document is to provide a set of checklists that can be used in the initial screening process to identify potentially seismically vulnerable water and wastewater system components. The checklists provide information that may be useful for anyone from a operations personnel unfamiliar with earthquake engineering to experienced earthquake engineers who may be unfamiliar with earthquake response of water and wastewater system components. The checklists can be used casually to identify potentially seismically vulnerable components, or the checklists can be used in the initial screening process of a rigorous seismic vulnerability assessment.

*Seismic Screening Checklists for Water and Wastewater Facilities* was prepared by the Water and Wastewater Committee of the American Society of Civil Engineers (ASCE) Technical Council on Lifeline Earthquake Engineering (TCLEE). The principal authors are as follows:

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Lifelines are those systems and utilities that are essential to the quality of life enjoyed by modern societies. Professor C. Martin Duke recognized that many lifeline components consisted of facilities with unique earthquake response characteristics. Professor Duke also recognized that seismic hazards were often not considered when lifelines were designed and constructed. Following heavy damage to lifelines during the 1971 San Fernando Earthquake and under Professor Duke’s direction, the Technical Council on Lifeline Earthquake Engineering (TCLEE) was established by the American Society of Civil Engineers (ASCE) on July 15, 1974. Presently, TCLEE is comprised of the following committees:

- Earthquake Investigation  
- Electric Power and Communications Lifelines  
- Gas and Liquid Fuel Lifelines  
- Ports and Harbors Lifelines  
- Seismic Risk  
- Transportation Lifelines  
- Water and Wastewater Lifelines

The purpose of TCLEE is to advance the state-of-the-art and practice of lifeline earthquake engineering through the following endeavors:

- Participate in the development of guidelines, pre-standards, and standards for the seismic design and construction of lifelines
- Encourage lifeline industries and associated manufacturers, associations, and professionals to consider earthquakes and their impacts in planning, design and operation of lifeline systems
- Serve as a primary resource for establishing broad consensus on lifeline seismic issues
- Identify and prioritize research needs related to lifeline seismic planning, design, construction, and operation
- Support and conduct programs for education and technology transfer on lifeline seismic issues

Participation in TCLEE activities is encouraged for anyone who is interested lifeline earthquake engineering. Each TCLEE committee maintains a web page that can be accessed from ASCE’s web site at http://www.asce.org. The committee web pages summarize current activities and provide a list of people to contact for those who would like to participate in TCLEE.
TCLEE Publications


TCLEE Monograph Series

These publications may be purchased from ASCE via telephone 1-800-548-ASCE (2723) or the world wide web www.asce.org. The TCLEE publications Web site is www.asce.org/disasterreduction/tclee_pubs.cfm


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