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Drain and sewer systems outside buildings -
Management and control of activities - Part 1: General
requirements

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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EUROPEAN STANDARD

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Drain and sewer systems outside buildings - Management and control of activities - Part 1: General requirements

Réseaux d'évacuation et d'assainissement à l'extérieur des bâtiments - Gestion et contrôle des activités opérationnelles - Partie 1: Exigences générales

Entwässerungssysteme außerhalb von Gebäuden - Management und Überwachung von Maßnahmen - Teil 1: Allgemeine Anforderungen

This European Standard was approved by CEN on 6 December 2020.

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European foreword

This document (EN 14654-1:2021) has been prepared by Technical Committee CEN/TC 165 “Wastewater Engineering”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 2021, and conflicting national standards shall be withdrawn at the latest by July 2021.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document, together with EN 14654-3:2021 supersedes EN 14654-1:2014.

The general content of EN 14654-1 which is duplicated in EN 14654-2:2013 is included in this document. The specialized text relating to Rehabilitation has been retained in EN 14654-2:2021 and the specialized text relating to Drain and sewer cleaning has been moved to EN 14654-3:2021.

EN 14654 consists of the following parts, under the general title *Drain and sewer systems outside buildings — Management and control of activities*:

- *Part 1: General*; (the present document)
- *Part 2: Rehabilitation*
- *Part 3: Drain and sewer cleaning*
- *Part 4: Control of inputs from users*

Other parts, dealing with other activities, may be added later.

In drafting this part of EN 14654, account has been taken of other available standards, in particular EN 752, *Drain and sewer systems outside buildings* and EN 13508 *Investigation and assessment of drain and sewer systems outside buildings*.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

Drain and sewer systems are part of the overall wastewater system that provides a service to the community. This can be briefly described as:

- removal of wastewater from premises for public health and hygienic reasons;
- prevention of flooding in urbanized areas;
- protection of the environment.

The overall wastewater system has four successive functions:

- collection;
- transport;
- treatment;
- discharge.

Wastewater can, if necessary after treatment, be discharged to the environment or reused.

Collection and transport of wastewater is provided by drain and sewer systems.

Drain and sewer systems were installed because there was a need to remove the polluted water to prevent diseases.

Traditionally, drain and sewer systems were constructed to collect and transport all types of wastewater together irrespective of the initial source. This led to difficulties in handling the peak flows in times of heavy rainfall and to the introduction of combined sewer overflows, which discharged polluted water to surface receiving water bodies.

It was later recognized that separate systems, where foul wastewater was kept separate from runoff derived from surface water, would be an improvement over such combined systems.

Although many drain and sewer systems started out as combined systems there are strong arguments for considering the separation of foul wastewater and surface water. The pollutant effects are not the same and the separation of effluents allows for the different treatment for each element of wastewater, providing more environmentally friendly solutions.

This concept is included in the approach of integrated sewer management.

This document provides a framework for the design, construction, maintenance, operation and rehabilitation of drain and sewer systems outside buildings. This is illustrated in the upper part of the diagram in Figure 1. This document is supported by more detailed standards for the investigation, design, construction, organization and control of drain and sewer systems.

Investigation and assessment standards include:

- EN 13508 (all parts), *Investigation and assessment of drain and sewer systems outside buildings*.

Design and construction standards include:

- EN 16932 (all parts), *Drain and sewer systems outside buildings — Pumping systems*;
- EN 16933-2, *Drain and sewer systems outside buildings — Design — Part 2: Hydraulic design*;
- EN 1295 (all parts), *Structural design of buried pipelines under various conditions of loading*;

- EN 1610, *Construction and testing of drains and sewers*;
- EN 12889, *Trenchless construction and testing of drains and sewers*;
- EN 15885, *Classification and characteristics of techniques for renovation and repair of drains and sewers*.

Management and control standards include:

- EN 14654 (all parts), *Management and control of activities in drain and sewer systems outside buildings*.

To support these detailed standards information comes from specifications produced by individual organizations for their own use. Product standards should also take into account the functional requirements in this document through EN 476, EN 13380 and EN 14457.

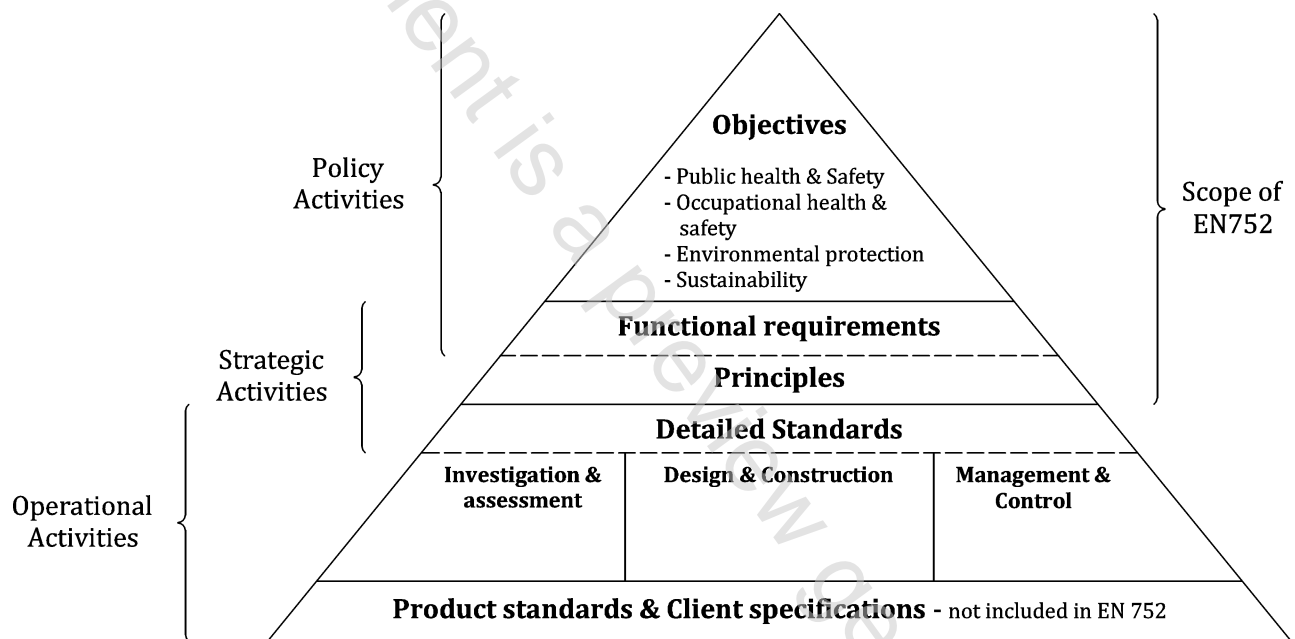


Figure 1 —Pyramid diagram

1 Scope

This document establishes requirements for the management and control of activities in drain and sewer systems outside buildings and specifies requirements for development and implementation of work programmes, and the selection of techniques.

This document covers general requirements for the management and control of activities.

It is applicable to drain and sewer systems from the point where wastewater leaves a building, roof drainage system, or paved area, to the point where it is discharged into a wastewater treatment plant or receiving water body.

Drains and sewers below buildings are included provided that they do not form part of the drainage system of the building.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 752:2017, *Drain and sewer systems outside buildings - Sewer system management*

EN 13508-1:2012, *Investigation and assessment of drain and sewer systems outside buildings – Part 1: General Requirements*

EN 16323:2014, *Glossary of wastewater engineering terms*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 16323:2014 and the following apply.

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

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

NOTE The following additional terms used in this document are defined in EN 16323:2014:

- drain
- receiving water body
- rehabilitation
- sewer
- sewer system
- surface receiving water body
- wastewater
- wastewater treatment plant