

ISO 24516-3:2017-09 (E)

Guidelines for the management of assets of water supply and wastewater systems - Part 3: Wastewater collection networks

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Principal aspects of the management of assets	5
4.1	Objectives and requirements	5
4.1.1	Objectives	5
4.1.2	Functional requirements	5
4.1.3	Performance requirements	6
4.2	General aspects	8
4.2.1	General	8
4.2.2	Principal aspects -- Wastewater utilities	8
4.2.3	Principal aspects -- Wastewater systems	9
4.2.4	Integrating the principal aspects	9
4.3	Specific aspects	9
4.3.1	Risk	9
4.3.2	Life cycle	11
4.4	Structuring the process for the management of assets	11
4.4.1	General	11
4.4.2	Strategies for the management of assets	12
4.4.3	Periods of planning	13
4.4.4	Strategic level activities	14
4.4.5	Tactical level activities	14
4.4.6	Operational level activities	14
5	Investigation	15
5.1	General	15
5.2	Purpose of investigation	15
5.3	Determine the scope of the investigation	15
5.4	Types of investigation	16
5.4.1	Hydraulic investigation	16
5.4.2	Environmental investigation	16
5.4.3	Structural investigation	16
5.4.4	Operational investigation	17
5.5	Data collection	17
5.5.1	General	17
5.5.2	Data requirements	17
5.5.3	Inventory data	17
5.5.4	Failure data	18
5.5.5	Further condition data	19
5.6	Data registering and data assignment	20
5.6.1	Data registering	20
5.6.2	Data assignment	21
5.6.3	Geo-referencing	21
5.7	Review existing information	21

5.8	Inventory update	21
5.9	Review of performance information	21
5.10	Planning of investigation	22
5.11	Performance testing	22
6	Assessment	23
6.1	Principles	23
6.2	Assessment of the hydraulic performance	23
6.3	Assessment of environmental impact	23
6.4	Assessment of structural condition	24
6.5	Assessment of operational performance	24
6.6	Comparison with performance requirements	24
6.7	Identification of unacceptable impacts	24
6.8	Identification of causes of performance deficiencies	24
7	Planning	24
7.1	General	24
7.2	Develop integrated solutions	25
7.3	Assess solutions	26
7.4	Prepare an action plan	26
8	Implementation	29
8.1	General	29
8.2	Create/update plan	29
8.3	Carry out work	29
8.4	Monitor performance	30
8.5	Review performance	30
9	Operation and maintenance	30
9.1	General	30
9.2	Operation	31
9.3	Maintenance	31
10	Rehabilitation	32
10.1	General	32
10.2	Strategic plan on rehabilitation	32
10.2.1	General	32
10.2.2	Strategic approaches	33
10.2.3	Budgeting	34
10.3	Tactical planning for rehabilitation of physical infrastructure (mid-term planning)	35
10.3.1	Risk-based evaluation approach	35
10.3.2	Individual evaluation and prioritizing	35
10.3.3	Coordination with other construction activities	36
10.4	Operational plan -- Implementation plan for rehabilitation measures	36
11	Documentation and performance review	36
	Annex A (informative) Objectives and functional requirements	38
	Bibliography	41