

Contents

INTRODUCTION/PREFACE	9
1. INTRODUCTION TO THE FIELD OF WATER MANAGEMENT	10
1.1 DEFINITION OF THE TOPIC AND SCOPE OF THIS PUBLICATION.....	10
1.2 A BRIEF HISTORICAL ACCOUNT OF THE DEVELOPMENT OF WATER MANAGEMENT	11
2. THE CURRENT STATE OF HERITAGE PROTECTION AT WATER MANAGEMENT SITES IN THE CZECH REPUBLIC	18
3. EVALUATION OF WATER MANAGEMENT SITES FROM THE PERSPECTIVE OF HERITAGE MANAGEMENT.....	20
3.1 THE APPROACH TO THE EVALUATION OF INDUSTRIAL HERITAGE IN OTHER COUNTRIES	20
3.2 THE APPROACH TO THE EVALUATION OF INDUSTRIAL HERITAGE IN THE CZECH REPUBLIC.....	23
3.3 APPROACHING THE EVALUATION OF WATER MANAGEMENT SITES.....	24
3.3.1 Typological value	26
3.3.2 Value deriving from the technological flow (process)	27
3.3.3 Value deriving from systemic interconnections	28
3.3.4 Value deriving from authenticity.....	28
3.3.5 Architectural value.....	34
3.3.6 Artistic-historical value.....	41
3.3.7 Landcape/urbanistic value.....	44
3.3.8 Historical value	45
3.3.9 Value deriving from age	45
3.3.10 Recommendations for evaluation.....	46
4. DESCRIPTION AND EVALUATION OF SELECTED WATER MANAGEMENT GROUPS AND STRUCTURES.....	48
4.1 DAMS	48
4.1.1 History of dams.....	50
4.1.2 Classification of dams according to their main building material	51
4.1.3 Construction types of concrete and masonry dams	62
4.1.4 Dam functional structures.....	67
4.1.5 Functional complexes.....	75
4.1.6 Evaluation from the point of view of heritage preservation based on specific examples.....	80
4.1.7 Register of locations.....	89

4.2 SMALL WATER RESERVOIRS.....	90
4.2.1 History of ponds	91
4.2.2 Classification of small water reservoirs	92
4.2.3 Basic functional structures of small water reservoirs	95
4.2.4 Functional complexes.....	106
4.2.5 Evaluation from the point of view of heritage preservation based on specific examples.....	108
4.2.6 Register of locations.....	112
4.3 WATERWAYS	113
4.3.1 Works for making rivers navigable	114
4.3.2 Races and other works for water transport.....	128
4.3.3 Weirs	136
4.3.4 Functional complexes.....	147
4.3.5 Evaluation from the point of view of heritage preservation based on specific examples.....	155
4.3.6 Register of locations.....	162
4.4 STRUCTURES FOR THE USE OF HYDROPOWER.....	164
4.4.1 The history of hydropower	164
4.4.2 Basic schemes of hydropower works	165
4.4.3 Impoundment structures.....	180
4.4.4 Inlet structures.....	180
4.4.5 Headraces, tailraces and surge chambers	189
4.4.6 Production structures (buildings).....	195
4.4.7 Technological part.....	199
4.4.8 Functional complexes.....	215
4.4.9 Evaluation from the point of view of heritage preservation based on specific examples.....	221
4.4.10 Register of locations	226
4.5 THE WATERWORKS INDUSTRY.....	228
4.5.1 History of the waterworks industry	228
4.5.2 Typology of water supply structures	246
4.5.3 Functional complexes.....	270
4.5.4 Evaluation from the point of view of heritage preservation based on specific examples.....	272
4.5.5 Register of locations.....	282

4.6 SEWERAGE AND WASTEWATER TREATMENT.....	287
4.6.1 History of sewerage and wastewater treatment	290
4.6.2 Basic functional structures for wastewater treatment.....	291
4.6.3 Functional complexes.....	305
4.6.4 Evaluation from the point of view of heritage preservation based on specific examples.....	315
4.6.5 Register of locations.....	321
5. GENERAL PRINCIPLES AND EXAMPLES OF PRESERVATION, RENOVATION AND NEW USE OF WATER MANAGEMENT STRUCTURES.....	322
5.1 WATER MANAGEMENT STRUCTURES IN THE CZECH REPUBLIC AND ABROAD WITH A HERITAGE VALUE – RENOVATIONS, RECONSTRUCTIONS AND ADJUSTMENTS (EXAMPLES OF BOTH GOOD AND BAD PRACTICE).....	322
5.1.1 Ostrava-Nová Ves, water treatment plant.....	322
5.1.2 Vítkov-Podhradí, water treatment plant.....	324
5.1.3 Hořín, lock	325
5.1.4 Znojmo-Oblekovice, weir.....	327
5.1.5 Rudolfov, hydraulic structure and hydroelectric power plant.....	329
5.1.6 Žďárský Potok, splash dam on Splavský Brook.....	332
5.1.7 Blatná Water Ditch	334
5.2 OPTIONS FOR MAINTAINING WATER MANAGEMENT STRUCTURES AFTER DECOMMISSIONING – CONVERSION, MUSEALISATION	337
5.2.1 Rjukan (Norway), Vemork and Sårheim hydraulic power plants.....	337
5.2.2 Berlin (Germany), Friedrichshagen old water treatment plant (Altes Wasserwerk Friedrichshagen).....	339
5.2.3 Malnisio di Montereale Valcellina (Italy), Antonio Pitter hydroelectric power plant (Museo della Centrale idroelettrica di Malnisio)	342
5.2.4 Wrocław (Poland), Na Grobli water treatment plant.....	342
5.2.5 Copenhagen (Denmark), ground water tanks and a pumping station	344
5.2.6 Plzeň, water treatment plant, Puech-Chabal filtration station.....	346
5.2.7 Prague-Letná, elevated water tank.....	348
5.2.8 Prague-Libeň, elevated water tank.....	350
5.2.9 Brno, ground water tanks at Špilberk	350
5.2.10 Třebíč, elevated water tank	352

5.3 PROPOSALS FOR IMPROVEMENT IN HERITAGE PROTECTION AND CARE OF WATER MANAGEMENT STRUCTURES IN THE CZECH REPUBLIC	353
6. CONCLUSION	358
7. BIBLIOGRAPHY.....	360
7.1 PRINT AND ELECTRONIC SOURCES.....	360
7.2 ARCHIVAL SOURCES.....	372
7.3 MAP SOURCES	373
7.4 COMMON LEGEND OF DIAGRAMS.....	373
8. LIST OF ABBREVIATIONS.....	374
9. SUBJECT INDEX	376