

Contents

<i>List of illustrations</i>	vii
<i>Acknowledgements</i>	xi
<i>Preface</i>	xii
Part I Earth construction: methods and materials	1
Introduction: earth as a 'green' building material	1
1 Earth building in Britain – international context and historical background	7
<i>By R. Nother, with an introduction by L. Keefe</i>	
British earth building in an international context: a brief history	7
Earth buildings in Britain – types and distribution	10
The distribution of earth buildings in Britain	16
2 The raw material: soils for use in building	30
Earth as a construction material	30
Soil classification in detail: identification, analysis and testing	34
Clays and aggregates, including chalk	43
3 Earth construction 1: preparation and mixing	51
Constructing mass earth and earth block walls	51
4 Earth construction 2: the building process	71
<i>By L. Keefe and R. Nother</i>	
Cob wall construction	71
Building with rammed earth	85
Building with earth blocks and clay lump	94
Earth-based finishes for earth walls	96
5 Standards and regulations	101
<i>By R. Nother, with a note on Standards and Codes of Practice by L. Keefe</i>	
Introduction	101
Planning legislation, policies and guidance	102

Contents

Building Regulations	103
The Building Regulation Approved Documents	104
Approved Document to support Regulation 7 – materials and workmanship	105
Approved Document A – structure	107
Approved Document B – fire safety	109
Approved Document C – site preparation and resistance to moisture	111
Approved Document E – resistance to the passage of sound	113
Approved Document L1 – conservation of fuel and power in dwellings	114
Approved Document L2 – conservation of fuel and power in buildings other than dwellings	114
Technical standards and codes of practice for earth-wall construction	121
 Part II The conservation, repair and maintenance of earth buildings	 125
Introduction	125
Why preserve earth buildings: the need for conservation?	127
 6 The principal causes of failure in earth walls and how to recognise them	 131
Inherent defects associated with original construction methods and materials	131
Problems arising from later alterations and interventions	136
The use of inappropriate materials and ineffective repair methods	139
Physical damage from external sources	146
Dampness in earth walls and associated building materials	151
 7 The diagnostic survey and repair of earth buildings	 158
A suggested diagnostic survey procedure for earth-walled buildings	158
The repair of earth buildings	164
 <i>Organisations</i>	 188
<i>Bibliography</i>	190
<i>Index</i>	193