## Contents

Preface: M. Eddleston, S. Walthall, J. C. Cripps & M. G. Culshaw
Acknowledgements

### Section 1: Introduction

F. G. Bell, J. C. Cripps & M. G. Culshaw: The significance of engineering geology to construction

### Section 2: Construction of foundations

P. W. Rowe: Examples of ground response to various types of structural foundation construction
M. J. Ball & B. E. F. Sims: Engineering geology of Snebra Ghyll bridge, A595(T) Hensington Bypass
M. E Barton: The Bargate Centre, Southampton: engineering geological and geohydrological aspects of the excavation for basement construction
G. B. Card & G. R. Carter: Case history of a piled embankment in London’s Docklands
R. D. Essler: Applications of jet grouting in civil engineering
A. Forster, M. G. Culshaw & F. G. Bell: Regional distribution of sulphate in rocks and soils of Britain
J. Morey & R. R. W. Harris: Jet grouting in construction
C. R. M Houston: Contractor-designed piles for the Toyota car plant in Derbyshire
T. Y. Irfan: Potential construction problems for bridge foundations in areas underlain by a complex marble formation in Hong Kong
P. J. Lloyd, J. C. Cripps & F. G. Bell: Estimation of grout take for small-scale developments in areas of shallow coal mining: some examples from the East Pennine coalfield
J. A. Sutherland & J. C. M. Allen: Construction problems and building control

### Section 3: Highway construction

G. D. Matheson: Aspects of highway rock engineering in the UK
J. Perry: Engineering geology of soils in highway construction: a general overview
A. J. Barry, BamBang Trigunarsyah, T. Symes & J. S. Younger: Geogrid reinforced piled road over peat
A. L. Campton: Design and construction of an embankment incorporating polystyrene and geogrid reinforcement
T. P. Davies & T. J. Smith: Rock engineering for the Dundee Inner Ring Road
P. J. Fenning & S. Hasan: Pipeline route investigations using geophysical techniques
B. R. Thomas: Application of evaporative dewatering methods to allow the use of wet fills in the construction of earthworks
G. West: Petrographical examination of road construction materials

### Section 4: Tunnels

J. P. Beveridge & W. J. Rankin: Role of engineering geology in NATM construction
A. P. Deaves & J. C. Cripps: Investigation and treatment of abandoned mine workings for underground excavations: an example from the Don Valley Intercepting Sewer scheme, Sheffield, England
C. T. Kettle & M. Gandais: A new tunnel roof support system with specific reference to the Brovello Tunnel
CONTENTS

R. J. MARGERISON, D. J. EASTAFF & K. W. NORBURY: Role of the contractor’s engineering geologist in the construction of the New Studley Tunnel 299

M. RICHARDSON, M. EDDLESTON, C. D. ARTHUR & V. M. NGUYEN: The Midge Hall Valley Sewer: a case history in tunnelling through Coal Measures rocks 309

Section 5: Excavations and slopes
R. CO JEAN: Influence of geological structures in slope stability analyses for opencast mining and quarry excavations 321
D. M. McCANN & P. J. FENNING: Estimation of rippability and excavation conditions from seismic velocity measurements 335
J. A. GANNON: Masonry retaining wall reconstruction and rock face stabilization using soil nails, masonry and dowels 345
C. P. NATHANAIL: Assessments of ease of blasting in Troodos Sheeted Dyke Complex and Lower Pillow Lava Series 355
M. J. PEDLEY & R. S. PUGH: Soil nailing in the Hastings Beds 361
D. G. ROSS & G. M. REEVES: Study of the effect of excavation technique on rock slope stability and slope maintenance costs at two locations in Scotland 369
K. H. NICHOLLS: Slope works associated with site formation excavation at Tsing Lung Tan, Western New Territories, Hong Kong 377

Section 6: The professional engineering geologist
M. EDDLESTON, R. E. MURFIN & S. WALTHALL: The role of the engineering geologist in construction 389