

Contents

Part 1: tunnelling

Tunnelling in difficult ground conditions

1 Some geotechnical aspects of design of the Initial System Project in Bangkok	
Maconochie D.J., Schulz C., and Tachavichitpaisarn S.	3
2 The relationship between the ground movement around a closed face shield and the backfill grouting material/construction method used	
Inokuma A., Oyama K. and Fujii Y.	13
3 Water inflows in bored tunnels driven in Hong Kong: prediction, construction issues and control measures	
McFeat-Smith I., MacKean R. and Woldmo O.	25
4 Hazard assessments for the Athens Metro, Greece	
Birch G.P., Hewison L.R. and Lance G.A.	40
5 Lai King Rock Tunnel Complex: design and construction	
Hardingham A.D., Sin S., Sekula J., Morris A.H., Sharp J.C. and Bandis S.C.	55
6 Some geotechnical difficulties in mixed ground tunnelling in urban areas	
Amr Darrag A.	65

Tunnelling in urban areas

7 Geotechnical aspects of pipe-jacked tunnelling	
Marshall M.A. and Milligan G.W.E.	80
8 Preliminary design for high speed tunnelling on the Northside Storage Tunnel Project	
Asche H.R.	90
9 The response of London Clay to full-face TBM tunnelling at West Ham, London	
Macklin S.R. and Field G.R.	100
10 Microtunnelling investigation and design in highly complex utility corridors	
Kwong J. and Klein S.	112

Shotcrete applications

11 **Shotcrete applications and minimising the risk of damaging alkali-aggregate reaction in reaction in rock support for a subsea, geothermally active environment – Hvítfjördur Tunnel, Iceland**
Richardson D.M., Rawlings C.G., Gudmundsson G. and Lance G.A. 128

12 **Quality management system application to geotechnics and sprayed concrete tunnelling in urban areas**
Kimmance J.P. and Gentle J. 138

13 **Construction of adits and shafts at Quarry Bay Station**
McEntee G. 148

Part 2: Geotechnics

Slopework and site formation

14 **Site investigation for rock slope excavation and stabilisation adjacent to a major highway in Hong Kong**
Carter T.G., Mierzejewski J. and Kwong A.K.L. 177

15 **Investigation and analysis of potentially kaolin-rich slopes in Hong Kong**
Hall J.W., Yates P.G.J. and Leung K.W. 187

16 **Slopeworks experience in th Fanling/Sheung Shui area of Hong Kong**
Lau K.W.K., Wong C.K.M. and Lee W.C. 195

17 **Po Lam Road Platform: a major design and build site formation in Hong Kong**
Muir I.C., Hadley D. and Chan K.W. 206

18 **The use of retaining structures as natural terrain hazard mitigation measures**
Chiu S.L., Tse C.M., Chun K.M. and Cheng L.F. 216

19 **Some important engineering geological and hydrogeological factors influencing slope stability in Hong Kong and Hawaii**
Kwong J., Spengler S., Wong N. and Wan A. 235

Deep excavations, foundations and reclamation

20 **Base stability analysis for excavation in anisotropic clay using slip surface method**
Liao H.J. and Su S.F. 255

21 **Anchored diaphragm wall for sewage pump station in Izmir**
Candogan A. and Duzceer I.R. 268

22 **Prediction and verification of tower foundation performance on a fractured and sheared volcanic rock mass for Ting Kau Bridge, Hong Kong**
Yates P.G.J. 277

23 **Application of magnetic susceptibility testing to offshore sediments in South East Kowloon development feasibility study**
Davis A.M., Chan L.S., Yeung C.H. and Yim W.W.-S. 287

24 **Stress-strain-strength characteristics of soft Hong Kong marine deposits improved using cement**
Yin, J.-H. 296

Soft ground and other geotechnical hazards

25 **Constructing roads over soft soils: Tungku Link Road, Brunei**
Hardy R.P., Younger J.S., Leiper Q.J., Tsang Chee Wah and Dobie M.J.D. 310

26 **Geohazards in the Chongqing District of China**
Carey P.J., Schmid-McGibbon S., Zongxing L. and Tongming L. 320

27 **Natural slope hazard and risk assessment framework**
Hung O., Yau H.W., Tse C.M., Cheng L.F. and Hardingham A.D. 332