obvious sequential structure. The authors recognize this and state that 'the order of the chapters is not designed with any particular kind of reader in mind'. They also warn of some elements of repetition. This presented some problems to the reviewer but may well be of less concern to a reader with specific interests.

The paperback edition is reasonably priced and will be a useful addition to the shelves of all who are concerned with permafrost environments or construction in seasonally frozen ground. Engineers concerned with the interface between artificially frozen ground and the natural soil will also be interested in certain aspects of this book.

—R. H. Jones

Piling engineering. W. G. K. Fleming, A. J. Weltman, M. F. Randolph and W. K. Elson. Glasgow and London: Blackie, 2nd edn, 1992, 390 pp. ISBN: 0 216 93176 2. £69

The first edition of *Piling engineering* was published in 1985 and reviewed in *Géotechnique* June 1986 (p. 300). The book provides the practising foundation engineer with good advice on the practical aspects of pile selection and construction, together with details of pile design and testing. The original framework comprising ten chapters has been maintained in the second edition, as has the number of pages which has increased only from 380 to 390. However, the number of references has been increased by 30%, a large proportion of which reflect the recent developments in piling over the past six years.

Chapter 2 discusses site investigation and soil parameters. Recent work by Skempton and Stroud on standard penetration tests and correlations with effective angle of friction is included.

Soil parameters for both pile design (chapter 4) and retaining wall design (chapter 6) are now developed consistently in one place.

Chapter 3 reviews the different methods of piling and has been extended to include helical screw piles and wedge piles. The section dealing with CFA piles has been extended. References to recent uses of base grouted piles would have been helpful.

Chapter 4 discusses the design of vertically and laterally loaded piles. The references have been updated to include the influence of residual angle of friction on shaft friction and the design of rock socket piles. Chapter 5 summarizes the design of pile groups and remains essentially unchanged.

Chapter 6 outlines the applications of piling techniques to form retaining walls and has been extended to include hard-soft CFA pile walls. An additional section has been added to discuss some available computer programs to analyse multi-prop walls. This section would benefit from cross-referencing with general retaining wall design guides such as CIRIA 104 (1984) for completeness.

Chapter 7 summarizes pile construction problems. In particular the discussion of CFA pile problems has been extended. Chapter 8 on integrity testing remains essentially unchanged.

Chapter 9 deals with pile testing. The section on dynamic testing methods has been extended to cover the theory and programs such as WEAP.

Chapter 10 considers the choice of piling methods. The environment sections on noise and vibration have been extended.

The second edition of *Piling engineering* is an improvement on the first, although the reader is often left without a good state of the art reference from which to expand a particular topic.

—D. P. Nicholson

Corrigenda

Migration of nutrients, pesticides and heavy metals in fractured clayey till, by P. R. Jørgensen and J. Fredericia (1992). *Géotechnique* 42, Mar., 67–77.

On page 68, in Fig. 1 the vertical axis of the geological cross-section *should read* m below surface.

On page 70, the symbols $\triangle$ and $\blacktriangle$ in the key in Fig. 2 should be transposed.

On page 73, in Fig. 7 the horizontal axes *should read*: Distance from fracture: cm.