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Surveying for Engineers

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Third Edition

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MACMILLAN

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Preface to the Third Edition

Since the publication of the second edition of *Surveying for Engineers*, much of the instrumentation now used by surveyors and engineers on site is electronic, especially theodolites, EDMs and total stations. Through the use of computers, electronic data acquisition and processing is now well established and there is a much greater emphasis on quality in surveying with the introduction of BS5750 and other similar standards.

When writing this third edition, we have attempted to reflect the changes occurring in current practice by introducing new chapters and revising others. This, together with the basic techniques of surveying, provide a book with an easy-to-read format that covers the equipment and methods essential for modern site surveying.

New chapters have been introduced dealing with measurements and errors, the global positioning system and deformation monitoring, all of which have gained prominence in engineering surveying in recent years.

Amongst other changes to the third edition are an extended introductory chapter, the chapters dealing with levelling and theodolites have been revised and the original chapter on distance measurement has been made into two separate chapters on taping and EDM/total stations. Methods of providing control on site are now dealt with in one chapter and the setting out chapter has been extended to include quality assurance.

Throughout the text, computerised surveying and associated software are discussed in some detail, especially those used for mapping and for applications in horizontal and vertical curves.

Although the book has been written with civil engineering students in mind, it is hoped that it will also be found useful by practising engineers as well as by any other students who undertake engineering surveying as a subsidiary subject.

The text covers engineering surveying up to the end of virtually all university first-year and most second-year degree courses in civil and environmental engineering, building, construction, engineering geology and other related disciplines and BTEC courses from level III at colleges of technology

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