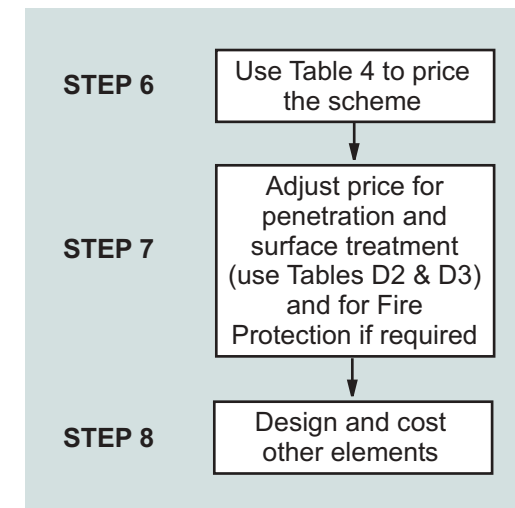
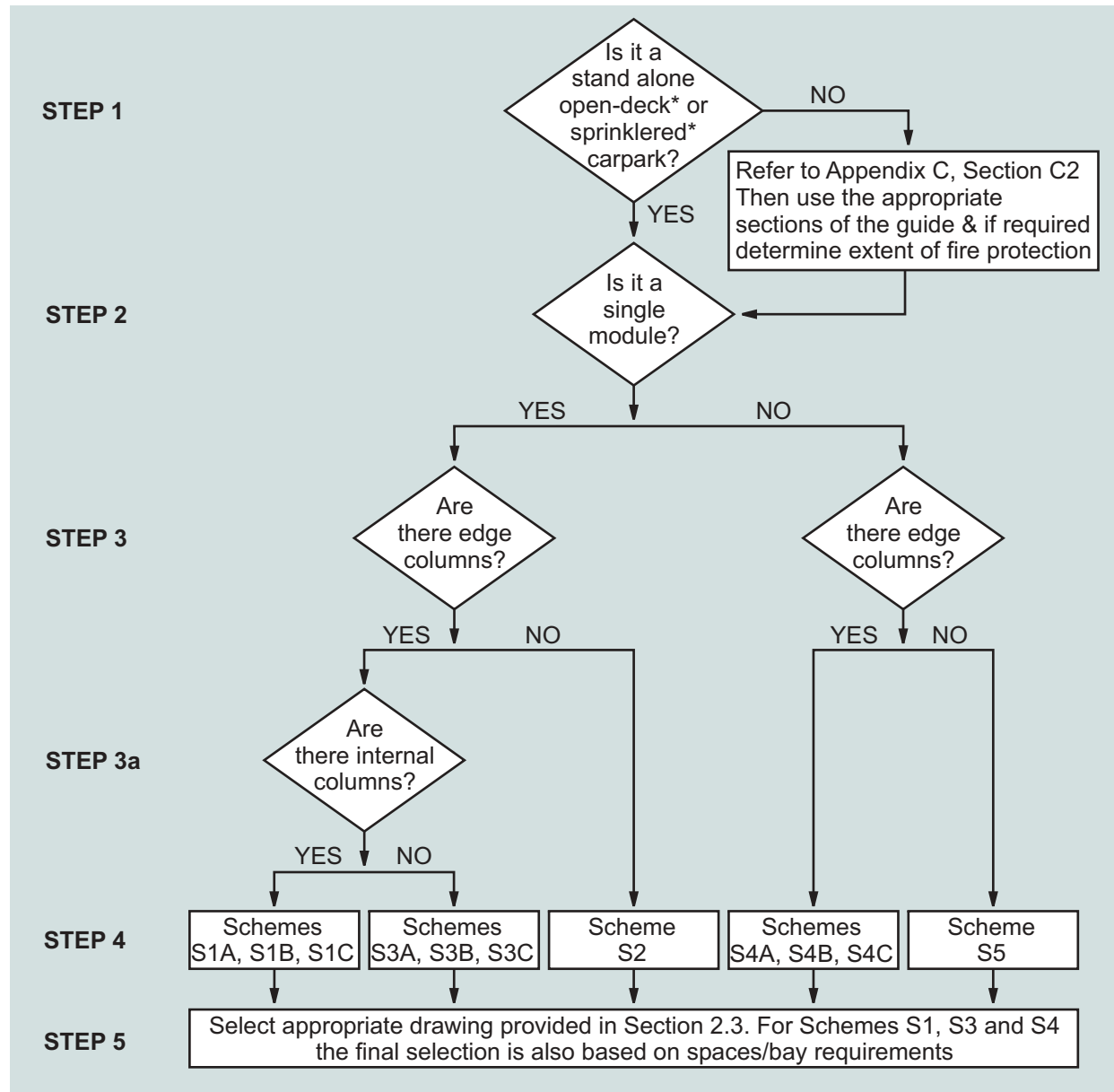





3. DESIGN EXAMPLES

Figures 6(a) & (b) show flowcharts outlining the typical steps involved in arriving at suitable preliminary design and costing.

Two design examples are provided in this Section to illustrate how the information in this Design Guide may be used.



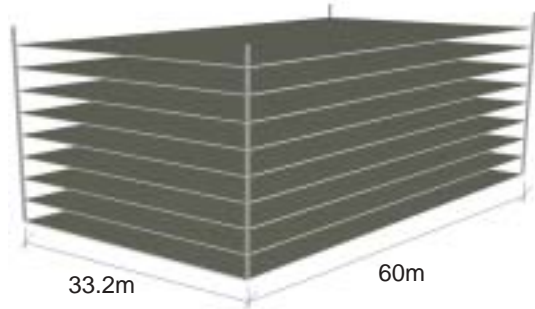
3.1 Example 1



Project Name: Carpark Design Guide
Subject: EXAMPLE 1
Designed: AN

Job No: CDG1
Page: 1/2
Date: 1/10/98

Design Constraints



- The figure above shows diagrammatically the architects requirements for an 8 storey carpark.
- The carpark is to be open deck.
- The surface treatment to be appropriate for atmospheric Category C.
- No penetrations in primary beams required.
- Edge columns are permitted.

Preliminary design (see flow chart in Figure 6a):


STEP 1 Is this an open deck carpark - Yes

STEP 2 Is this a single module? - No ($2 \times 16600 = 33200$)

STEP 3 Are there edge columns? - Yes

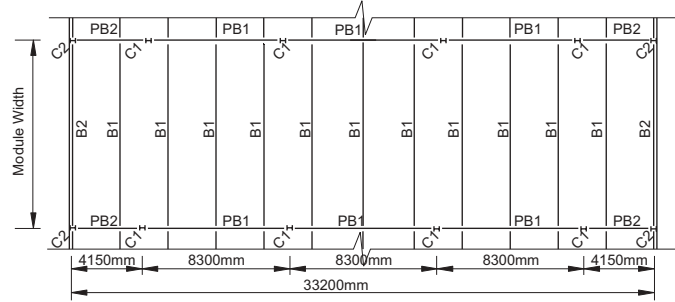
STEP 4 Possible schemes S4A, S4B and S4C

STEP 5 Based on the information given in the Scheme S4B drawing, the following design information is relevant.



Project Name: Carpark Design Guide
Subject: EXAMPLE 1
Designed: AN

Job No: CDG1
Page: 2/2
Date: 1/10/98



	Mark	Size	Studs	Camber
Primary Beams	PB1	530UB82.0	36	20 mm
	PB2	360UB50.7	-	ncu
Secondary Beams	B1	360UB50.7	26	50mm
	B2	360UB44.7	-	45mm

ncu - natural camber up

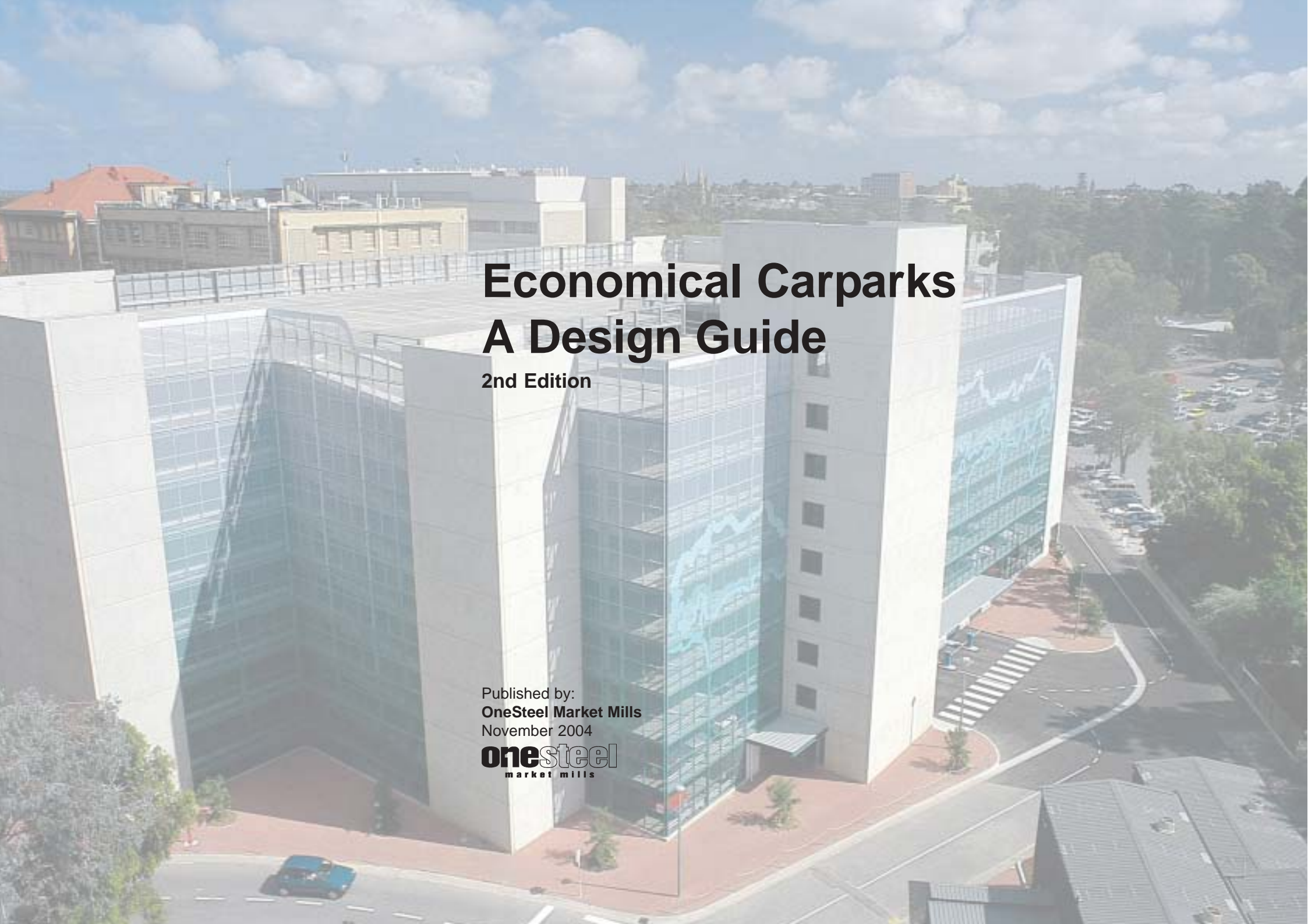
Level	Column C1	Column C2
7 & 8	200UC59.5	150UC37.2
5 & 6	310UC118	200UC59.5
3 & 4	350WC197	250UC89.5
1 & 2	350WC230	310UC118

Preliminary costing (see flow chart in Figure 6b):

STEP 6 The cost of 8 suspended levels is obtained from Table 4.
A scheme may be selected on the basis of cost and/or preferred layout. Scheme selected in STEP 5 may be revised if cost is the deciding issue.
In this case Scheme S4B currently chosen is found to be economical.

STEP 7 Adjust base cost determined in STEP 6 using data from Appendix D
Adjustment for surface treatment (Table D2)
Adjustment for beam penetrations (Table D3)
Calculate Net Adjustment (Price from STEP 6 + Adjustments)

STEP 8 Design and cost all other elements not covered in this Guide, e.g. stairs, ramps, lateral bracing systems.

An aerial photograph of a modern, multi-story building with a prominent glass facade. The building is situated in an urban environment, with other buildings and a parking lot visible in the background. The sky is blue with scattered white clouds. The building's design features a mix of white concrete and large glass panels, reflecting the surrounding cityscape. A parking lot with several cars is located to the right of the building. The overall scene is bright and clear, suggesting a sunny day.

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CONTENTS

FOREWORD	iii
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1. INTRODUCTION	1
1.1 Steel Carparks	1
1.2 Layouts	2
1.2.1 Column Location	2
1.2.2 Headroom	3
1.2.3 Ramps & Circulation	3
1.2.4 Gradients (Excluding Ramps)	3
1.3 Parking Modules	4
1.3.1 Single Module Schemes	5
1.3.2 Multiple Module Schemes	6
1.3.3 Carpark Space Utilisation Efficiency	6
2. CARPARK SCHEMES AND COSTING	7
2.1 Schemes	7
2.2 Costing	10
2.3 Engineering Drawings	10
3. DESIGN EXAMPLES	27
3.1 Example 1	29
3.2 Example 2	30

APPENDICES

A. STRUCTURAL DESIGN CRITERIA	32
A.1 Building Regulations	32
A.2 Design Loads	32
A.3 Floors	32
A.4 Columns	34
A.5 Lateral Load Resisting Systems	35
A.6 Stairs	35
B. DURABILITY	36
B.1 Slabs	36
B.2 Profiled Steel Sheetting	36
B.3 Structural Steelwork	37
B.4 Monitoring	38
C. FIRE RESISTANCE REQUIREMENTS	40
C.1 Open-deck or Sprinklered Carparks	40
C.2 Not Open-deck and Not Sprinklered Carparks	40
D. COSTING	41
D.1 Methodology	41
D.2 Costs	41
D.3 Different Surface Treatment Systems	43
D.4 Penetrations	43
D.5 Column Splices	43
E. SURVEY OF EXISTING CARPARKS	45
F. EXAMPLES OF RAMP CONFIGURATIONS	52