

"GROWTH MODEL EPPING - A METHOD OF MEASUREMENT AND
ANALYSIS OF INDUSTRIAL GROWTH"

by ROY HORRELL

A Thesis submitted to the Department of Urban and Regional Planning
and the Graduate Council of the University of Cape Town in partial
fulfilment of the requirements for the Degree of Master of Urban and
Regional Planning.

13TH OCTOBER, 1972

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APPROVED FOR THE DEPARTMENT OF URBAN AND REGIONAL PLANNING

.....

APPROVED FOR THE GRADUATE COUNCIL

.....

13th October, 1972.

APPENDIX 'B'

SYNOPSIS OF THESIS

This is an entirely independent thesis, except for those to whom acknowledgment is due, for had it not been so, it would have defeated the objectives of the hypothesis "THAT THE VALUATION ROLL OF A LOCAL AUTHORITY NORMALLY CONTAINS THE BASIC INFORMATION FOR THE CONSTRUCTION OF AN URBAN GROWTH MODEL".

No authoritative references are therefore given or quoted except for references, after the preliminary introduction to the thesis, to an actual Municipal Valuation Certificate and the collated and Consolidated Valuation Roll Appendix 'A', which is derived from the skill of Valuation Officers and their Assistants acting with the Authority of the Provincial Administration.

It has long been of concern to me from professional practice in several countries that the excellent records of urban assets contained in Valuation Offices are continuously in use as 'reference libraries' to gain information about specific properties, but rarely, except when a new General or Interim Valuation Roll is being compiled, is the information available used collectively to examine the Urban Form.

A Valuation Roll is a statement of fact established at a point of time and whilst opinions as to whether the valuations therein are equitable or not may be settled by Valuation Courts or Assessment Committees, what a wonderful store of factual information is available to the Urban Planner, to the Land Economist and others concerned with the urban fabric. It could be said that REAL or FIXED PROPERTY comprising land and buildings is the PRIMARY UNIT of the urban structure and that all other relationships within the fixed fabric are SECONDARY and terminable. Even the fixed fabric changes its appearance with the passage of time, but the Valuation Roll makes constant adjustments to take cognisance of the changes - the basic information it contains is invaluable !

Clearly, as properties must be accurately referenced for Rating purposes, the valuation record will contain a description of the property, its general use and its size apart from the value attributed to it at a point of time. If size for both land and buildings is known, as the crudest element of examination, then one can determine to what extent land is being utilised. That Epping was selected as an area for examination for the purposes of this thesis, is frankly not of importance so far as conception of the Growth Model is concerned.

APPENDIX 'B'

SYNOPSIS OF THESIS

(CONTD)

Tables 1. 1 - 15 pages 1 - 30 and explanatory notes deal with plot utilisation in grouped size frequencies and the 'bulk equivalent/coverage factor' is a device to measure realistically how the industrialist plans space utilisation - given a 'fairly free hand' in this instance. By establishing a 'mode characteristic' of desirable utilisation, the amount of land 'wasted' can be accurately calculated.

As the likelihood is that particular industries would reflect different characteristics, the information tabled in Series 1. 1-15 was translated into 'USE TYPES' tabled in Series 2. 1 - 24 pages 31 - 58 inclusive, re-scanned and summarised with commentary on Pages 59 to 61. The patterns established were definitive and could therefore be transferred into the Growth Model - explanatory notes on Pages 62 - 67.

It is believed that the method of rational anticipation of spatial growth suggested concomitant with the investment growth, which must accompany it, is valid to the Model, WHICH IS SUBSTANTIALLY BASED ON FACT.

ROY HORRELL

PREFACE

1. There is a tendency not to examine more critically, more effectively, more rationally, more timeously and with sufficient regularity those resources which are immediately available to us and thereby, by other, sometimes marginal extraneous extension, waste is created.
2. Waste is a word of wide connotation and in its simplest meaning relates to unwanted residues, garbage or scrap which specialists in this contemporary world are skilled at converting into useful products, and even extending the land platform !
3. Waste can also imply failure to use up resources, so that land not fully and effectively occupied or utilised becomes, so far as its untapped optimum capacity is concerned, waste land.
4. Waste can also imply a failure to use stores of knowledge, even though it has been painstakingly collected and recorded for posterity, and the incorporate posterity may eventually commit it to Category 2 above, without too much intervention by the specialists !

THIS THESIS, WRITTEN IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF URBAN AND REGIONAL PLANNING IS ALSO IN SOME HUMILITY DEDICATED TO THOSE MANY VALUATION OFFICERS, VALUERS AND VALUATION ASSISTANTS WITH AND TO WHOM THE WRITER HAS OVER MANY YEARS BEEN ASSOCIATED AND INDEBTED, AND WHO ARE, IN THE MAIN, PRIMARILY RESPONSIBLE FOR THOSE PRICELESS RECORDS OF THE URBAN FORM AND ITS EVER CHANGING CONTINUUM CONTAINED IN VALUATION ROLLS AND RECORDS.

FOREWORD

This study, which commenced in 1971, is of a comparatively modern industrial township notionally conceived some 25 years ago on ground which, during the War Years, had been 'beneficially occupied' and, in other respects, laid to waste as an Artillery Range.

The Range had other strategic advantages in that its necessarily extended shape and position over the epicentres of the minor eruptions that had occurred are of considerable centrality for industriallists and the labour pools on which they would draw. Pinelands Garden City is on the West boundary and Langa Location on the South boundary of that portion of the Range which became known as Epping Industria No. 1. The predominantly Coloured Areas of Matroosfontein and Elsie's Rivier lay immediately to the East and North-East respectively and the other old established Coloured Area of Athlone, which has since grown enormously, was not far distant to the South. Goodwood, Parow and Bellville lie to the North and North-East. Cape Town City Centre lies approximately 10 kilometres to the West - See Location Plan No. 1.

Being part of the Cape Flats it was flat in contour and therefore eminently suited for industrial development.

The promoters and planners of the Epping Industrial Scheme were Cape Town City Council and its confidence was such that it paid for the whole railway network from Maitland Station, but industriallists were tardy both in their initial support for this new industrial area and also, as is still evident today, in utilising more fully the railway facilities available. These facilities are, of course, heavily counterbalanced or complemented today by the excellent freeway system giving access to the Epping Industrial Township and also available through the sagacious foresight of the Cape Town City Council and its professional advisors.

If something is promoted or planned at considerable cost one needs to know how successful the venture has been and approximately how long it will be before the facilities offered are optimised to an acceptable level, in order to justify the investment.

In selecting the Title "Growth Model Epping - a Method of Measurement and Analysis of Industrial Growth", the fundamental media for examination is the Valuation Roll and the hypothesis on which this thesis is based, therefore is :-

"THAT THE VALUATION ROLL OF A LOCAL AUTHORITY NORMALLY CONTAINS THE BASIC INFORMATION FOR THE CONSTRUCTION OF AN URBAN GROWTH MODEL"

ACKNOWLEDGEMENTS

1. to Jose Cotta appointed as thesis supervisor - for the stimulating discussions with him.
2. and to his successor, Dave Dewar, for his interest in the proposition of this thesis.
3. to Ray McCarthy and Stig Winberg for their help in undertaking the tedious collection of valuation record data from various Provincial Administration and Municipal Offices, from the collation of which the writer was able to prepare that vital Consolidated Valuation Roll Appendix 'A'.
4. to Ernest Erlangsen, Owen Burnell, Abel Van Zyl, and Nick Pienaar of the Provincial Valuation Office for assistance in unravelling queries.
5. to Dave Wright and John Panos of the Municipal Valuation and Records Office, for similar assistance.
6. to Avril Morris for her ready grasp of the intricacies of this thesis and translating it from a difficult hand draft into legible type script in such a competent and efficient manner.
7. to Tony Ringer and Geoff Bates of Quickprint Services (Pty) Ltd, who honour their undertaking !
8. to Christina my wife for her solace and month's absence during the most critical part of its preparation !
9. and in no small measure, the Department of Urban and Regional Planning, University of Cape Town for stimulating in me a desire for positive Urban Research and assisting, by its course of training, in the attainment of that objective.

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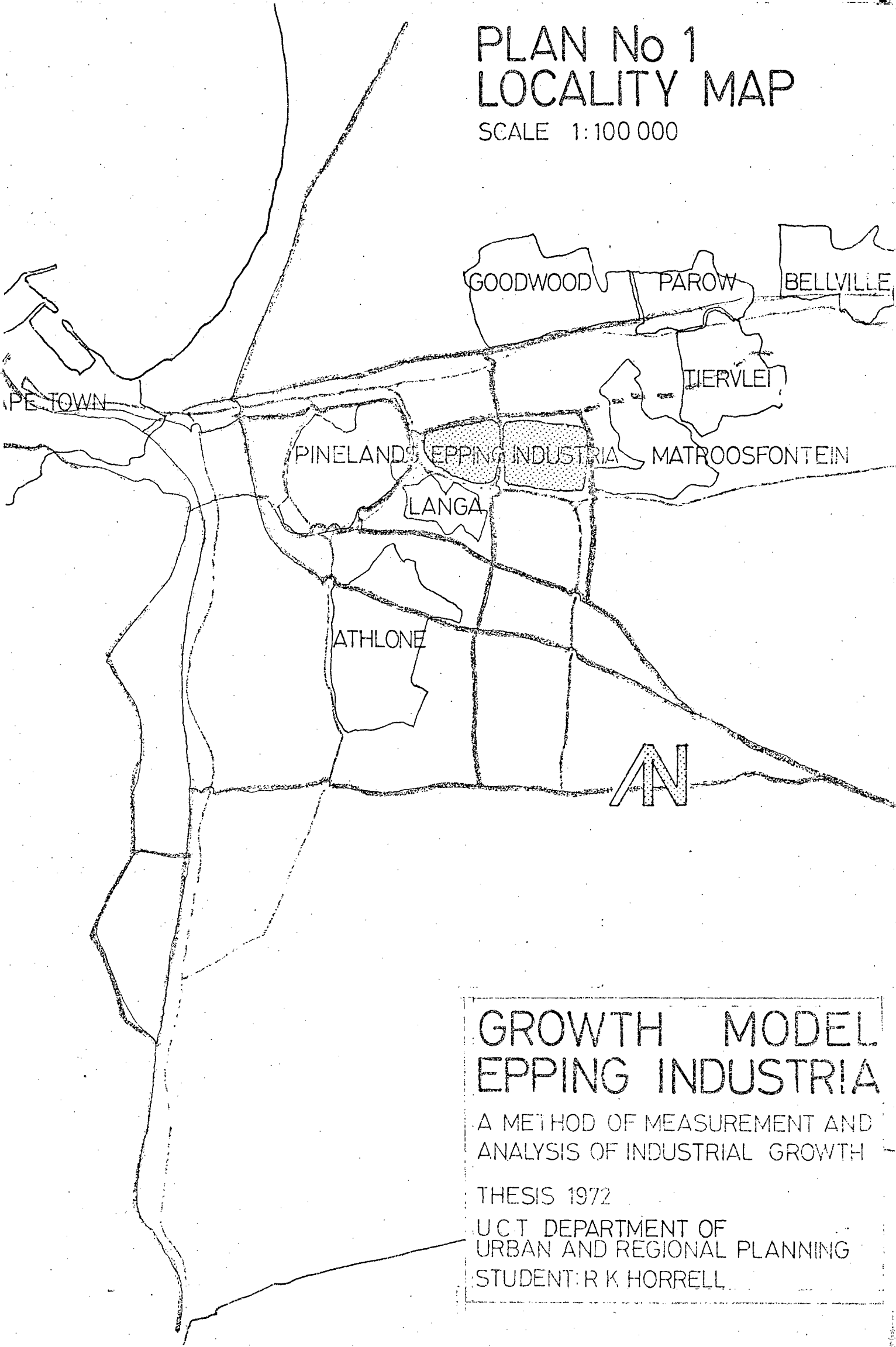
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PLAN No 1 LOCALITY MAP

SCALE 1:100 000



GROWTH MODEL EPPING INDUSTRIAL

A METHOD OF MEASUREMENT AND
ANALYSIS OF INDUSTRIAL GROWTH

THESIS 1972

U.C.T. DEPARTMENT OF
URBAN AND REGIONAL PLANNING

STUDENT: R. K. HORRELL

MUNICIPALITY: CAPE TOWN
MUNISIPALITEIT: KAAPSTAD

PREV. PROP. REF. EC 25913
 VOR. EIEND. VERW.

PROP. REF. ET 26815
 EIEND. VERW.

INSPECT. DATE 26-4-1968
 INSPEK. DATUM

ACCOUNT No. 1120/16
 REKENING Nr.
 PREV. PAGE 7327
 VOR. BLADSY

WARD 9 PREV. WARD
 WYK VORIGE WYK
 PAGE No. 58
 BLADSY Nr.

OWNER/EIENAAR Name and Address/Naam en Adres

Mr./Mrs./Miss Spindle Rok (Pty) Ltd.
 Mnr./Mev./Mej.

A

DEED DESCRIPTION:
 AKBEBESKRYWING:

erf 32519

SITUATION gunners Circle of Hawkins Ave.
 LIGGING: Map No./Kaart Nr. 35

A SITE—TERREIN: Extent/Grootte:

99,386 SQ. FT.

A Value/Waarde

R

19,880

B BUILDINGS—GEBOU:

Item No.	Description Beskrywing	Sq. Ft. Vk. Vt.	Gross Value Bruto Waarde	Less/Min. Dep.	Net Value Netto Waarde
1,3, 4,5	Workshop, Offices s/s	37,558	112,674		
	Shelter	1254	1881		
			114,555		114,550
	Sprinkler System				5580
8	Wood Store	2619	6547		
		395	592		
			7139		7140
2	Garage	277	277	590	560
					127,530

B Value, all Buildings
 Waarde, alle Geboue

127,530

COURT DECISION:

HOFBESLISSING:

REMARKS: (Apportionments, etc.)

OPMERKINGS: (Toedelings, ens.)

TOTAL:
 A & B
 TOTAAL

147,410

THE MUNICIPAL VALUATION CERTIFICATE

DESCRIPTION

For a fee of 50 cents, a copy of the Municipal Valuation Certificate for any property within the Municipal Area of Cape Town can be obtained from the Provincial Valuation Officer's Records.

AN HISTORIC RECORD HAS BEEN PURCHASED.

It will contain certain salient information viz.

1. Municipal Reference No. for its exact location on one of the large scale maps available.
2. the erf or erven numbers of the property
3. the name of the owner of the property, which is not important so far as this Model is concerned, unless he be in 'beneficial occupation' of the property owned.
4. the extent or area of the site
5. the value attached to the site
6. the outline description of the improvements or buildings and their extent
7. the value attached to the improvements or buildings, which together with that of item 5, will give the aggregate valuation assessment on which rates are paid.
8. In the top left hand corner will be seen the date of valuation and in this instance the last date of a General Valuation was 1966.

The valuation assessment may well deviate from the market or replacement value figures, but they are relative to a tone of value established at the date of valuation and, although this separate concept of land and buildings is sometimes difficult to assimilate or comprehend, the separateness of land from buildings assists this particular GROWTH MODEL considerably.

Once land has been sold or allocated in an urban area, it normally implies that a development is envisaged and the local authority will keenly anticipate increases to the Rates Revenue Account, especially if it has provided, from loan sources, serviced land at a subsidised level.

THE MUNICIPAL VALUATION CERTIFICATE

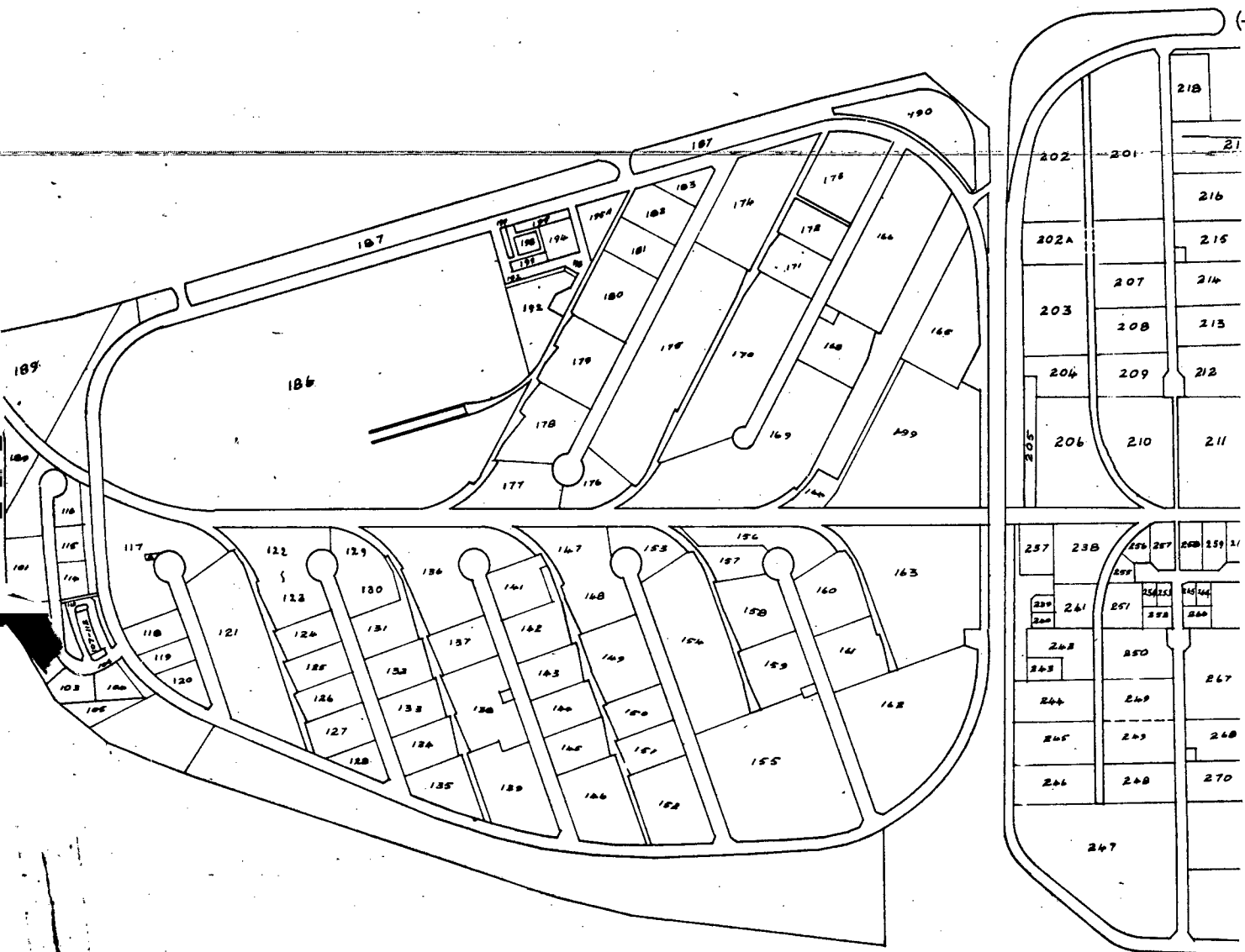
(CONTD)

Of as much importance to the Growth Model is item 4 - the extent or area of the site, which, coupled to item 6, the description of the improvements or buildings and their extent, enable the examiner of the Valuation Certificate to create and record a basic picture of the site and the limits which the land and improvements prescribe for the use which may be contained thereon.

As each alteration or amendment to a physical structure takes place, or if the land is subdivided into more than one erf, or consolidation of land and/or improvements takes place with other land, so this becomes the subject of an 'Interim Assessment' and the Valuation Roll is adjusted (which takes cognisance of contraction in or expansion of use facilities).

As there are thousands of properties in a City of the size of Cape Town, with general growth, there are hundreds of Interim Assessments continuously being made quite apart from updating the Valuation Roll under a Revaluation Directive. There is therefore, a veritable mine of information on the urban structure in a Valuation Records Office and this thesis is directed towards channelling that information into a role other than for the levying of a local tax burden.

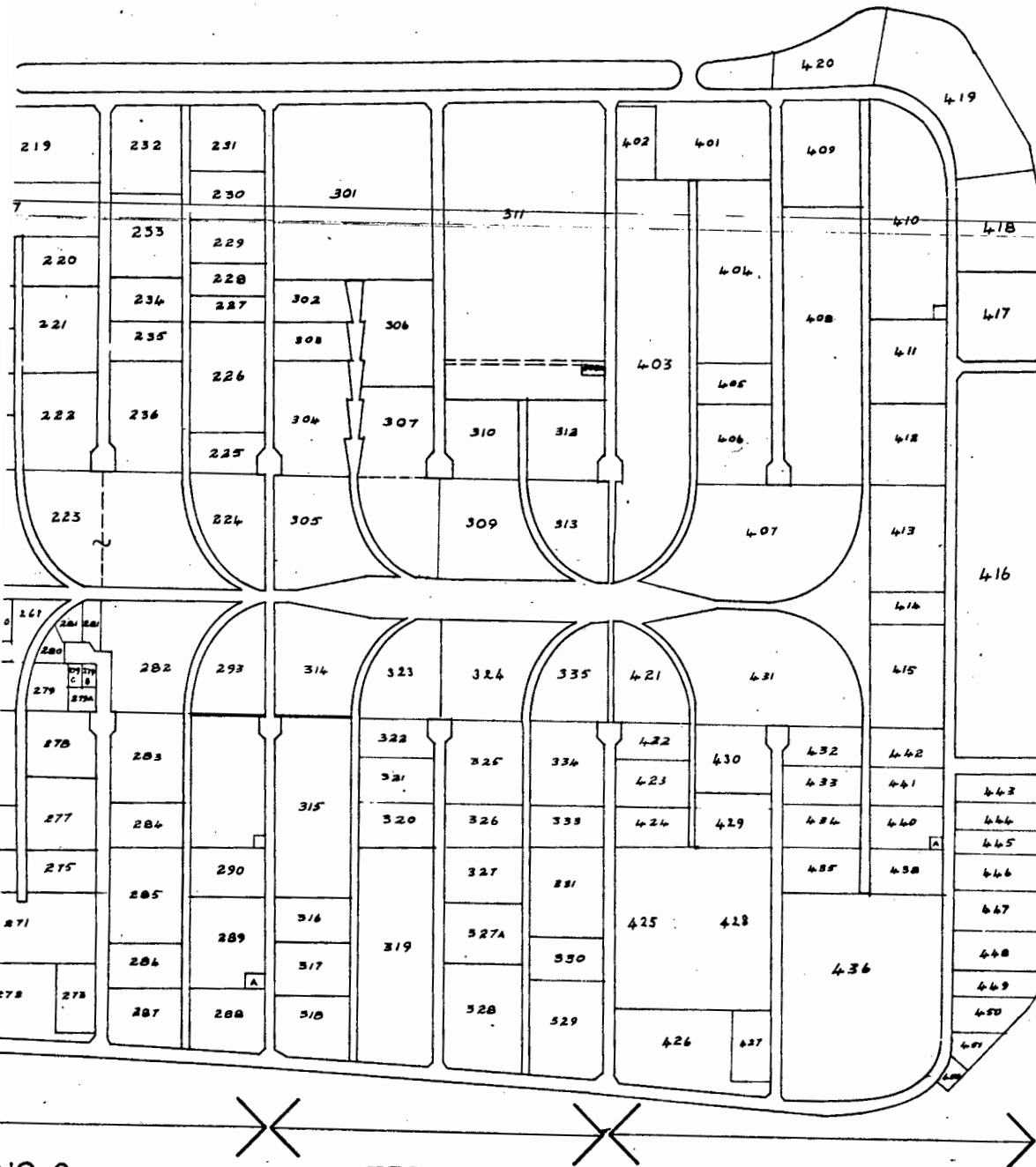
The collation of these certificates into a Consolidated Valuation Roll for any sector of the Urban form will, unless and when a renewal scheme such as District 6 is under way, normally imply growth. The Consolidated Valuation Roll for Epping Appendix 'A' at the end of this thesis, confirms this general principle and is the basic information on which the Model relies for the ordering of an analytical process.



EPPING 1

EPPING 2

PLAN No 2
REFERENCE MAP



NG 2

EPPING 3

EPPING 4

GROWTH MODEL
EPPING INDUSTRIA

A METHOD OF MEASUREMENT AND
ANALYSIS OF INDUSTRIAL GROWTH

THESIS 1972

U.C.T. DEPARTMENT OF
URBAN AND REGIONAL PLANNING
STUDENT: R K HORRELL

INTRODUCTION TO THE METHOD OF ASSESSMENT

Growth in an organised society must imply in the control of land use the limitation of the extent of that use. Whereas in Epping the possibilities of development are infinite providing that parking and unloading facilities are adequate and building regulations complied with, obviously a standard level of measurement for the Assessment of Growth must be adopted.

In this instance, where on site vehicular circulation is generally important, it seemed relevant as is borne out by the analysis to adopt what is termed in this thesis a bulk equivalent/coverage factor to establish a level of comparison. The bulk factor of 1,0 equivalent to a coverage of 100 % is logically appropriate to the first stage of the analysis, and this will represent the normal relationship of the size of a building to the actual site area viz. columns 4 on both the Series 1 Tables 1 - 15 and Series 2 Tables 1 - 24 following. An extension of the concept, however, assumes that the level of bulk equivalent/coverage factor is normally less than 100 % for plots of a particular size or specific industries so that at 70 % for example, a new standard of the value of 1,0 is established against which the occupancy or utilisation rate on the lower standard is again tested and this process is repeated at 60 % and 50 % as further tests of comparative utilisation in each instance seeking to ascertain whether 'mode characteristics' around the factor of 1,0 or parity exist at particular standards or levels.

The following two series of tables illustrate the technique adopted. The first series grouped or graded the plots according to size and the method of analysis is demonstrated, but not extended in complete summaries relative to all the groupings of Series 1 - 15 as it was deemed expedient to extract the basic figures in order to group them in their Industrial Use categories under Series 2. 1 - 24 Tables. The space utilisation by specific industries could then be analysed and assessed prior to transfer in the final Series of Growth Model Tables Series 3. 1 - 24, only one of which for Food Processing Tables Series 3.4 is in fact, in its 'longevity' demonstrated in the Model.

EPPING 1 - GROUPED FREQUENCY INDUSTRIAL PLOT SIZES

Class	Plot Size Range	Plot Reference No.	f
1	0 - 999	106, 113, 116 A, 138 A, 159 A, 167, S/D 170, 193, 197	9
2	1 000 - 4 999	103, 104, 107/112, 114, 115, 116, 119, 128, 159 B, 183, 194, 195, 195 A, 198	14
3	5 000 - 9 999	101, 102, 118, 120, 121 A, 124, 125, 126, 127, 131, 132, 133, 134, 135, 137, 143, 144, 145, 150, 151, 153, 157, 171, 172, 181, 182	27
4	10 000 - 14 999	129/130, 142, 156, 158, 159, 160, 161, 168, 177, 192	10
5	15 000 - 19 999	138, 139, 140 A, 146, 149, 152, 165 A, 173, 178, 179, 180	11
6	20 000 - 24 999	147/148, 164, 165	3
7	25 000 - 29 999	117, 122, 174	3
8	30 000 - 34 999	136, 164 A, R/E 170	3
9	35 000 - 39 999	121, 154, 166	3
10	40 000 - 44 999	Nil	0
11	45 000 - 49 999	162, 163, 199	3
12	50 000 - 54 999	175	1
13	55 000 - 59 999	155	1
14	60 000 - 99 999	169	1
15	100 000 Plus	186	1

EPPING 2 - GROUPED FREQUENCY INDUSTRIAL PLOT SIZES

Class	Plot Size Range	Plot Reference No.	f
1	0 - 999	214 A, 253, 264, 265, 269, 279 A	
2	1 000 - 4 999	237, 239, 240, 241, 243, 251, 252, 255, 256, 257, 258, 259, 260, 266, 281, 289 A	14
3	5 000 - 9 999	204, 207, 208, 209, 212, 213, 214, 215, 216, 218, 220, 225, 227, 228, 229, 230, 238, 242, 244, 245, 246, 248, 250, 270, 273, 275, 278, 279, 284, 286, 290, 291	3
4	10 000 - 14 999	231, 235, 236, 287, 288	5
5	15 000 - 19 999	202 A, 203, 210, 217, 221, 222, 224, 226, 232, 233, 249, 276/277, 283, 285, 289, 293	16
6	20 000 - 24 999	202, 271, 274	3
7	25 000 - 29 999	211, 219, 223, 267/268, 272, 280, 282, 292	8
8	30 000 - 34 999	201	1
9	35 000 - 39 999	Nil	0
10	40 000 - 44 999	Nil	0
11	45 000 - 49 999	247	1
12	50 000 - 54 999	Nil	0
13	55 000 - 59 999	Nil	0
14	60 000 - 99 999	Nil	0
15	100 000 Plus	Nil	0

EPPING 3 - GROUPED FREQUENCY INDUSTRIAL PLOT SIZES

Class	Plot Size Range	Plot Reference No.	f
1	0 - 999	308 A, 332	2
2	1 000 - 4 999	331	1
3	5 000 - 9 999	302, 303, 317, 320, 321, 322, 323, 326, 330, 333	9
4	10 000 - 14 999	316, 327, 334	3
5	15 000 - 19 999	304, 306, 310, 312, 313, 325, 329, 335	8
6	20 000 - 24 999	314, 318, 328	3
7	25 000 - 29 999	305, 309	2
8	30 000 - 34 999	307, 315	2
9	35 000 - 39 999	319	1
10	40 000 - 44 999	Nil	0
11	45 000 - 49 999	Nil	0
12	50 000 - 54 999	Nil	0
13	55 000 - 59 999	Nil	0
14	60 000 - 99 999	301	1
15	100 000 Plus	311	1

EPPING 4 - GROUPED FREQUENCY INDUSTRIAL PLOT SIZES

Class	Plot Size Range	Plot Reference No.	f
1	0 - 999	453, 454	2
2	1 000 - 4 999	448, 449, 450, 451	4
3	5 000 - 9 999	402, 405, 406, 423, 427 (POS), 429, 432, 434, 435, 438, 439, 441, 442, 443, 444, 445, 446, 447	18
4	10 000 - 14 999	411, 412, 415, 417, 430, 433	6
5	15 000 - 19 999	413, 418	2
6	20 000 - 24 999	409, 420	2
7	25 000 - 29 999	401 (POS), 426 (POS)	2
8	30 000 - 34 999	404, 419	2
9	35 000 - 39 999	Nil	0
10	40 000 - 44 999	410	1
11	45 000 - 49 999	407, 408	2
12	50 000 - 54 999	Nil	0
13	55 000 - 59 999	425/428	1
14	60 000 - 99 999	403, 416, 436/437	3
15	100 000 Plus	Nil	0

frequency is not taken of f in these

TABLES SERIES 1. 1 : 15

PLOT UTILISATION ANALYSIS

ACCORDING TO

GROUPED FREQUENCIES OF SIZE

Form of check on Series 1 Tables prior to 'Use Allocation'
under Series 2 Tables

Class 2: 10 000 - 14 999 m² ^{1000 - 4999 m²}

Typical 'basic scan' to establish a reasonable 'bulk equivalent' factor (all uses). ^{level of coverage}

The scan of 'bulk equivalent/coverage factors' reveals that these plots have been developed to a 60% factor :- i.e. mean is closest to 1.

Epping 1	-	mean of 10	-	0,992
Epping 2	-	mean of 11	-	1,063 ^{x 1.086}
Epping 3	-	1 only	-	0,82 ^{But 50% produces mean .98}
Epping 4	-	mean of 3	-	0,896 ^{But 50% produces mean 1.073}

As it will be seen that a 70% factor also gives a reasonable result, the probability is that between 60% and 70%, i.e. 65%, would be appropriate. ^{distance criterion?}

Class 2: 1 000 - 4 999 m²

	<u>Total Area</u>	<u>65%</u> ^{55%}	<u>Existing</u>	<u>Developable</u>
Epping 1	46 187	30 021	18 261	11 760
Epping 2	42 709	27 760	21 230	6 530
Epping 3	1 748	1 136	860	276
Epping 4	14 944	9 714	7 043	2 671
	<u>105 588</u>	<u>68 631</u>	<u>47 394</u>	<u>21 237</u> ^{10,680}

Class 2

70% distance = .194
60% .097
50% .098

---oOo---

Can one relax criterion bet. class 2, 3 & 4?

⊙ Reg. dist. criteria

⊙ technique to carry

how can class 2, 3 & 4 be done?

Class 7

.397
.493
.556

distance criterion < .4

mean 60%

Class 3

.516
.602
.736

distance < .72

you also use 65%

TABLES

Series 1 : 1

PLOT UTILISATION ANALYSIS

EPPING 1 : Class 1 : 0 - 999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
106	367	-	-	Undeveloped	-	-	-
113	335	88	0,263	Substation	0,376	0,438	0,53
116 A	362	72	0,199	Substation	0,284	0,332	0,4
117 A	302	-	-		-	-	-
138 A	454	85	0,187	Substation	0,267	0,312	0,374
159 A	483	+90	0,187	Substation	0,267	0,312	0,374
167	483	72	0,149	Substation	0,212	0,248	0,298
S/D170	446	-	-	Undeveloped	-	-	-
193	225	-	-	Undeveloped	-	-	-
197	713	713	1,0	Shops	1,428	1,667	2,00
	4 170		1,985		2,834	3,309	3,678
		Mean 5 No.	0,331		0,472	0,515	0,613
<u>Summary Undeveloped</u>							
106	367						
117 A	302						
S/D170	446						
193	225						
	1 340m ²						
							what criteria? say at bulk equiv/coverage factor 50 % = 670 m ²

EPPING 2 : Class 1 : 0 - 999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
214 A	238	77	0,324	Substation	0,463	0,54	0,648
253	907	-		Undeveloped	-	-	-
264	927	628	0,678	Fan Works	0,968	1,13	1,356
265	907	± 400	0,441	Clothing Mfr	0,63	0,735	0,882
269	± 520	76	0,146	Substation	0,209	0,243	0,292
	3499		1,589		2,27	2,648	3,178
		Mean 4 No.	0,397		0,568	0,662	0,794
<u>Summary Undeveloped</u>							
253	907m ²			say at 'bulk equiv/coverage factor'		50 % =	454 m ²

EPPING 3 : Class 1 : 0 - 999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
332	254	98	0,386	Substation	0,55	0,643	0,772
308 A	± 740	96	0,129	Substation	0,184	0,215	0,258
	994		0,515		0,734	0,858	1,030
		Mean No. 2	0,258		0,367	0,429	0,515

EPPING 4 : Class 1 : 0 - 999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
453	± 248	-		Undeveloped			
454	± 347	-		Undeveloped			
Undeveloped 595 m ² say at 'bulk equivalent/coverage factor 50% = 298 m ²							

4/.....

TABLES

Series 1 : 2

EPPING 1 : Class 2 : 1 000 - 4 999 m²

Ref. No.	Site Area m ²	Bldgs Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
103	4 520	654	0,145	N. C. S. Plastics	0,207	0,242	0,29
104	4 248	3 175	0,747	Sheet Metal Works	1,067	1,245	1,494
114	3 580	2 690	0,75	Tool Mfcr.	1,07	1,25	1,5
107/112	1 942	+2 640	1,359	D/S Commercial	1,94	2,265	2,718
115	3 664	2 046	0,558	Food Processing	0,797	0,93	1,116
116	3 975	1 854	0,446	Metal Merchants	0,665	0,777	0,932
119	4 047	2 150	0,531	Vacant	0,758	0,885	1,062
128	4 047	706	0,175	Shops, Service Stn.	0,25	0,292	0,35
*159 B	4 078	-	-	Undeveloped	-	-	-
183	4 047	889	0,22	Service Stn.	0,314	0,367	0,44
194	1 457	1 457	1,0	Shops, P. O. Etc.	1,428	1,667	2,00
*195	4 560	-	-	Undeveloped	-	-	-
*198	2 022	-	-	Undeveloped	-	-	-
	46 187	18 261	5,931		8,496	9,92	11,902
		Mean 10 No.	0,593		0,850	0,992	1,19

why are vacant bldgs
 incl. in undeveloped

Summary Undeveloped

*159 B 4 078
 *195 4 560
 *198 2 022

11 660 m² say at 'bulk equivalent/coverage factor' of 65% = 7 580 m²

EPPING 2 : Class 2 : 1 000 - 4 999 m²

Ref. No.	Site Area m ²	Bldgs Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
237	4 516	Not Recorded		Under const.	-	-	-
239	1 051	470	0,477	Engineering	0,639	0,745	0,894
240	+1 300	Not Recorded		Engineering			
241	4 249	2 787	0,656	Vacant	0,937	1,093	1,312
243	2 139	-	-		-	-	-
251	4 669	3 352	0,718	Air Cleaners	1,025	1,196	1,436
252	1 893	1 688	0,892	Piping	1,274	1,486	1,784
255	2 112	-	-		-	-	-
256	2 582	+1 010	0,391	Tyre Re-treads	0,559	0,652	0,782
257	2 990	2 120	0,709	Plastics	1,013	1,182	1,418
258	3 069	2 127	0,693	Food Mfcr	0,99	1,155	1,386
259	2 593	1 940	0,748	Void	1,069	1,247	1,496
260	2 989	2 131	0,713	Plastics	1,019	1,188	1,426
261	2 648	-	-	Undeveloped			
266	1 938	+ 700	0,361	Plastics/DC	0,516	0,602	0,722
281	2 615	-	-	Undeveloped	-	-	-
289 A	1 943	-	-		-	-	-
290	+8 500	Not Recorded		Plastics			
		19 135	6,350		9,041	10,863	12,656
	47 997	Mean 10 No.	0,636		0,904	1,086	1,265
<u>Summary Undeveloped</u>							
261	2 648						
281	2 615						
289 A	1 943						
	<u>7 206 m²</u>						
							say at 'bulk equivalent/coverage factor' 65 % = 4 684 m ²
							Add for 237, 240,243,255 :5 706

EPPING 3 : Class 2 : 1 000 - 4 999 m²

Ref. No.	Site Area m ²	Bldgs Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
331	1 748	860	0,492	Chemicals and Dyes	0,703	0,82	0,98

EPPING 4 : Class 2 : 1 000 - 4 999 m²

Ref. No.	Site Area m ²	Bldgs Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage			
					70 %	60 %	50 %	
448	±4 500	5 100	1,133	Travel Goods Revelation cases	1,619	1,888	2,26	
449	4 047	630	0,156	Furniture Mfcr.	0,223	0,26	0,312	
450	±2 350	-	-	Undeveloped	-	-	-	
451	4 047	1 313	0,324	Transport Removals	0,463	0,54	0,648	
	14 944	7 043	1,613		2,305	2,688	3,22	
		Mean 3 No.	0,537		0,768	0,896	1,073	
<u>Summary Undeveloped</u>								
450	2 350	say at 'bulk equivalent/coverage factor' 65% = 1 528 m ²						

TABLES

Series 1 : 3

EPPING 1 : Class 3 : 5 000 - 9 999 m²

Ref. No.	Site Area m ²	Bldgs Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
101	9 488	7 018	0,739	Stainless Steel Mfcr	1,056	1,23	1,478
102	8 610	3 710	0,431	Food Prods.	0,616	0,718	0,862
118	5 742	722	0,126	Equipt. Merchants	0,18	0,21	0,252
120	5 036	1 496	0,297	Reconstructed Steel	0,424	0,495	0,594
121 A	5 103	-	-	-	-	-	-
124	6 785	2 015	0,296	Biscuit Mfcr	0,423	0,493	0,592
125	6 785	5 816	0,857	Packaging	1,224	1,428	1,714
126	6 785	4 866	0,717	Scrap dealers	1,024	1,195	1,434
127	9 042	3 862	0,427	Toy Mfcr	0,61	0,712	0,854
131	9 970	2 926	0,293	Packaging	0,419	0,488	0,586
132	8 616	1 001	0,116	Packaging	0,166	0,277	0,232
133	8 616	2 149	0,249	Reinforced Steel	0,356	0,415	0,498
134	8 616	5 017	0,582	Packaging	0,831	0,97	1,164
135	9 852	3 911	0,397	Warehouse (chemicals)	0,567	0,66	0,794
137	8 690	7 469	0,859	Packaging	1,227	1,43	1,718
143	9 837	3 800	0,386	Contractors Yard	0,551	0,643	0,772
144	8 007	1 743	0,218	Lime Works	0,311	0,363	0,436
145	8 007	4 035	0,504	Govt Stores	0,72	0,84	1,008
150	7 732	1 571	0,203	Chemical Services	0,29	0,338	0,406
151	7 732	991	0,128	Metal Works	0,182	0,213	0,256
153	8 058	1 801	0,441	Shop fitters and display	0,63	0,735	0,882
	174 209	69 049	8,502		12,144	14,245	17,004

Epping 1 (contd).. 8/...

EPPING 1 : Class 3 (Contd) : 5000 - 9999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
	174 209	69 049	8,502		12,144	14,245	17,004
171	8 543	6 898	0,807	Engineering	1,153	1,345	1,614
172	8 543	9 505	1,113	Food Processing	1,59	1,855	2,226
176	7 148	1 845	0,258	Andcon (Partitions)	0,368	0,43	0,516
181	7 811	5 140	0,658	Food Merchants	0,94	1,097	1,316
182	8 527	4 210	0,493	Transport/Removals	0,704	0,822	0,986
	214 781	95 596	11,831		16,899	19,794	23,662
		Mean 26 No.	0,455		0,65	0,761	0,910
<u>Summary Undeveloped</u>							
121 A	5 103	say at 'bulk equivalent' coverage factor 65 % = 3 317 m ²					

EPPING 2 : Class 3 : 5000 - 9999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
204	9 112	1 045	0,115	Motor W/Shop	0,164	0,192	0,23
207	8 223	4 246	0,516	Stationery Mfr & Equip. Warehouse	0,737	0,86	1,032
208	8 223	2 886	0,351	Hides & Skins	0,501	0,585	0,702
209	9 903	+2 170	0,219	Heating Ven- tilating Eng.	0,313	0,365	0,438
212)	9 993	7 180	0,719	) Food Ware-	1,027	1,198	1,438
)				) house			
213)	8 225	-	-	) Pharma-	-	-	-
)				) ceuticals			
214	8 225	710	0,086	Not Recorded	0,123	0,143	0,172
215	8 234	+3 325	0,399	Vacant	0,57	0,665	0,798
216	8 561	3 464	0,404	Printing Wks	0,577	0,673	0,808
218	6 959	860	0,124	Service Stn	0,177	0,207	0,248
220	8 561	1 089	0,127	Engineering	0,181	0,212	0,25
225	7 912	1 961	0,247	Foods Etc.	0,352	0,412	0,494
227	7 042	2 310	0,328	Insulation	0,469	0,547	0,656
228	7 280	1 923	0,328	Stationery Mfcr.	0,469	0,547	0,656
229	8,107	1 487	0,183	Food Processing	0,261	0,305	0,366
230	8 107	3 266	0,403	P. G. Hard- ware and Vencers	0,576	0,672	0,806
238	8 737	-	-		-	-	-
242	6 765	492	0,073	African Brewery	0,104	0,122	0,146
244	8 296	2 973	0,358	Food Processing	0,511	0,597	0,716
245	8 393	1 866	0,227	Gas Suppliers	0,317	0,37	0,444
246	7 448	5 576	0,748	Printing Wk Metal Rolling	1,068	1,247	1,496
248	6 547	3 038	0,464	Bldg Con- tractor	0,663	0,773	0,928
	178 913	51 867	6,414		9,16	10,692	12,824

EPPING 2 : Class 3 (Contd) : 5 000 - 9 999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
	178 913	51 867	6,414		9,16	10,692	12,824
250	8 622	2 739	0,318	Engine Mfcr.	0,454	0,53	0,636
270	9 186	6 561	0,714	Warehousing	1,02	1,19	1,428
273	6 959	+2 811	0,404	Commercial	0,577	0,673	0,808
275	9 186	1 984	0,216	Bldg. Contr.	0,308	0,36	0,432
278	8 617	2 410	0,28	Road Surfacing	0,4	0,467	0,56
279	5 380	Not Recorded		Plastics	-	-	-
284	8 116	3 223	0,397	Air Conditioners	0,567	0,662	0,794
286	8 106	2 192	0,270	Waxo Polish Products	0,385	0,45	0,54
290	+8 900	Not Recorded			-	-	-
291	7 838	2 470	0,315		0,45	0,525	0,63
	+254 443	76 257	9,328		13,32	15,549	18,652
		Mean 28 No.	0,333		0,476	0,555	0,666
<u>Summary Undeveloped</u>							
213	8 255						
238	8 737						
	17 092 m ²						say at 'bulk equivalent/coverage factor' 65 % = 11 110 m ²

EPPING 3 : Class 3 : 5000 - 9999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
302	8 094	1 240	0,153	See 301	0,218	0,26	0,306
303	8 397	4 747	0,565	Agric.Equip.	0,807	0,942	1,13
317	<u>±</u> 7 900	Not Recorded					
320	8 096	4 101	0,507	Not Recorded	0,724	0,845	1,014
321	8 936	683	0,076	Bldrs Contractors	0,108	0,127	0,152
322	8 927	1 782	0,2	Neon Signs	0,285	0,333	0,4
323	8 927	11 662	1,31	Shoe Mfcr.	1,871	2,18	2,62
326	8 351	<u>±</u> 826	0,102	Chemicals	0,146	0,17	0,204
330	8 094	2 041	0,252	Vinegar Wks (Food Processing)	0,36	0,42	0,504
333	8 094	3 856	0,476	Warehousing (Pep Stores Etc)	0,68	0,793	0,952
	83 816	30 938	3,641		5,199	6,07	7,282
		Mean 9 No.	0,405		0,578	0,674	0,865

EPPING 4 : Class 3 : 5 000 - 9 999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
402	6 959	-	-	Undeveloped	-	-	-
405	8 094	U/C	-	Vehicle Bodies	-	-	-
406	9 309	-	-	Undeveloped	-	-	-
423	8 093	1 903	0,235	Transport/Re- movals	0,336	0,392	0,47
427	6 941	-	-	Undeveloped	-	-	-
429	8 094	+1 616	0,2	Warehouse - Car parts	0,285	0,333	0,4
432	8 094	2 364	0,325	Builders	0,46	0,542	0,65
434	8 094	+2 830	0,35	Plastics	0,5	0,583	0,7
435	7 538	1 641	0,218	Joinery & Fitting	0,311	0,363	0,436
438	8 095	+ 500	0,062	Bldg. Supp- liers Mfcrs.	0,088	0,103	0,124
439	8 094	915	0,113	Bldrs. Heavy Equipment, Cranes, etc.	0,161	0,188	0,226
441	8 094	Not Recorded	-	Chemicals	-	-	-
442	9 410	1 668	0,117	Flooring Mfr.	0,167	0,195	0,234
443	8 075	Not Recorded	-	Transport Yrd	-	-	-
444	7 729	5 813	0,752	Pharma- ceuticals	1,07	1,253	1,504
445	7 730	1 415	0,183	Sheet Metal Abrasives etc.	0,261	0,305	0,366
446	8 094	+2 500 I/C	0,309	Button Mfcr.	0,441	0,515	0,618
447	8 094	+1 240 I/C	0,153	Joinery, Veneers	0,219	0,255	0,306
	144 631	24 405	3,017		4,299	5,027	6,034
		Mean 12 No.	0,251		0,358	0,419	0,502
<u>Summary Undeveloped</u>							
402	6 959						
405	8 094						
406	9 309						
427	6 941						
	<u>31 303 m²</u>			say at 65 % factor =			20,347 m ²

Series 1 : 4

EPPING 1 : Class 4 : 10 000 - 14999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
129/130	13 165	1 810	0,133	Builders Scaffolds & Plant	0,19	0,222	0,266
142	11 532	±1 600	0,139	Road Surfacing	0,198	0,232	0,278
156	12 980	3 541	0,27	Bus Depot	0,386	0,45	0,54
158	14 163	4 342	0,306	Fur Processing	0,437	0,51	0,612
159	13 016	12 610	0,968	Steel Prds.	1,383	1,613	1,936
160	14 144	6 690	0,472	Cosmetics Mfr	0,674	0,787	0,944
161	12 309	3 580	0,29	Bottling Soft Drinks	0,414	0,483	0,58
164	10 591	-	-	Undeveloped	-	-	-
168	12 357	±7 300	0,591	Food Industry	0,844	0,985	1,182
177	13 048	6 490	0,497	Paper Mills	0,71	0,828	0,994
	127 755	47 963	3,666		5,236	6,11	7,332
		Mean 9 No.	0,407		0,582	0,678	0,815
<u>Summary Undeveloped</u>							
164	10 591	say at 65 % 'bulk equiv/coverage' factor = 6 884 m ²					

EPPING 2 : Class 4 : 10000 - 14999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60%	50 %
231	12 166	8 133	0,669	Metal Works	0,956	1,115	1,338
235	12 565)	-	-	Undeveloped	-	-	-
236	13 483)	16 199	0,756	Packaging	1,08	1,26	1,512
287	11 583	6 232	0,538	Clothing Mfr	6,768	0,897	1,076
288	12 391	-	-	Undeveloped	-	-	-
	62 188	30 564	1,963		2,804	3,272	3,926
		Mean 3 No.	0,654		0,934	1,091	1,309
<u>Summary Undeveloped</u>							
235	12 565						
288	12 391						
	24 956			say at 65 % 'bulk equiv/coverage' factor =			16 220 m ²

EPPING 3 : Class 4 : 10000 - 14999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
316	12 432	±7 035	0,566	Textile Mfcr.	0,809	0,943	1,132
327	12 138	±3 655	0,301	Clothing Mfcr	0,43	0,502	0,602
334	10 326	2 963	0,287	Engineering Mfrs & Sup- pliers	0,41	0,478	0,574
	34 896	13 653	1,154		1,649	1,923	2,308
		Mean 3 No.	0,385		0,550	0,641	0,769

EPPING 4 : Class 4 : 10 000 - 14 999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage			
					70 %	60 %	50 %	
411	12 193	±2 200	0,180	Timber Yard	0,257	0,3	0,36	
412	14 835	3 958	0,267	Woodworking Joinery etc.	0,38	0,445	0,534	
415	10 245	-	-	Undeveloped	-	-	-	
417	12 370	Not Recorded		Tyre Suppliers	-	-	-	
430	14 488	10 169	0,7	Furniture Mfr.	1,0	1,17	1,4	
	64 131	16 327	1,147		1,637	1,915	2,294	
		Mean 3 No.	0,38		0,55	0,64	0,76	
<u>Summary Undeveloped</u>								
415	10 245	at 'bulk equivalent/coverage' factor of 65 % = 6 660 m ²						

Series 1 : 5

EPPING 1 : Class 5 : 15 000 - 19 999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage			
					70 %	60 %	50 %	
138	17 671	10 688	0,604	Plastics	0,863	1,007	1,208	
139	19 368	10 075	0,52	Furniture Mfr	0,743	0,867	1,04	
140 A	17 163	-	-	Undeveloped (Alsation Club)	-	-	-	
146	17 800	7 668	0,432	Shopfitters	0,617	0,72	0,864	
149	15 649	5 180	0,33	Window Mfrs	0,471	0,55	0,66	
152	17 916	8 655	0,483	Packaging	0,69	0,805	0,966	
165 A	18 993	2 110	0,111	C. C. C. Fire Station	0,158	0,185	0,222	
173	18 134	5 825	0,321	Agricultural Equip. Etc.	0,458	0,535	0,642	
178	16 170	3 772	0,233	Food Processing	0,333	0,388	0,466	
179	15 801	3 135	0,198	Oil Depot	0,283	0,33	0,396	
180	15 801	5 600	0,354	Road Surfacing Depot	0,506	0,59	0,708	
	190 366	62 078	3,586		5,122	5,977	7,172	
		Mean 10 No.	0,359		0,512	0,598	0,717	
<u>Summary Undeveloped</u>								
140 A	17 163	say at 'bulk coverage' factor 60 % = 10 300 m ²						

EPPING 2 : Class 5 : 15000 - 19999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
202 A	16 702	4 180	0,25	Hides & Skins	0,357	0,417	0,5
203	16 181	5 430	0,33	Cold Storage	0,471	0,55	0,66
206	+18 000	Not Recorded			-	-	-
210	18 807	2 905	0,158	Alcan (Aluminium Product)	0,226	0,263	0,316
217	19 329	6 783	0,351	Timber Yard	0,501	0,585	0,702
221	16 990	3 846	0,226	Bldg Contrtrs	0,323	0,377	0,452
222	18 417	2 512	0,136	Civil Enginrg Contractors	0,194	0,227	0,272
224	18 851	7 493	0,398	Furniture Mfr	0,567	0,663	0,796
226	18 890	2 174	0,115	Vacant	0,164	0,192	0,23
232	16 333	1 806	0,111	Metal Foundry	0,158	0,185	0,222
233	16 056	7 679	0,478	Textile Prntrs	0,683	0,797	0,956
249	17 209	10 592	0,616	Soft Goods Warehouse & Metal Mchnts	0,88	1,027	1,232
276/7	17 277	5 509	0,319	Bldg Contr & Paper Mfrs.	0,456	0,532	0,638
283	18 070	Not Recorded		Clothing Mfr.	-	-	-
285	17 276	5 181	0,3	Airflex : Furniture Mfr.	0,428	0,5	0,6
289	17 728	-	-	Undeveloped	-	-	-
293	18 799	3 257	0,173	Food Pro-cessing	0,247	0,288	0,346
	+300 915	69 347	3,961		5,655	6,605	0,922
		Mean 14 No.	0,283		0,404	0,472	0,565
<u>Summary Undeveloped</u>							
206	+18 000						
283	18 070						
289	17 728						
					53 798 say at 60 % bulk coverage factor = 32,280 m ²		

EPPING 3 : Class 5 : 15000 - 19999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
304	18 615	4 747	0,259	Furniture Mfr.	0,364	0,425	0,510
306	19 902	4 885	0,246	Power Trans - former	0,351	0,41	0,492
310	18 862	4 649	0,249	Steel Furn.	0,356	0,415	0,498
312	18 882	Not Recorded		Electrical Sw/Bds. etc.	-	-	-
313	16 449	-	-	Undeveloped	-	-	-
325	17 903	2 431	0,136	Bldg Contrctr	0,194	0,227	0,272
329	16 187	+4 950	0,306	Wella (Perfumery)	0,437	0,51	0,612
335	18 020	+ 1440	0,08	Glass Mchnts	0,114	0,133	0,16
	144 370	23 102	1,272		1,816	2,12	2,544
		Mean 6 No.	0,212		0,303	0,353	0,424
<u>Summary Undeveloped</u>							
312	18 882						
313	16 449						
	35 331			say at 'bulk coverage' factor of 60 %			= 21 200 m ²

EPPING 4 : Class 5 : 15 000 - 19 999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage			
					70 %	60 %	50 %	
413	19 770	-	-	Undeveloped	-	-	-	
418	16 157	±6 690	0,41	Clothing Mfcr.	0,586	0,683	0,82	
	35927	1 No.	0,41		0,586	0,683	0,82	
<u>Summary Undeveloped</u>								
413	19 770	at bulk equivalent/coverage factor of 60 % =					11 860	m ²

20/...

Series 1 : 6

EPPING 1 : Class 6 : 20 000 - 24 999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage			
					70 %	60 %	50 %	
147/8	23 060	8 322	0,361	Food Confectioners	0,516	0,62	0,722	
165	20 594	7 440	0,361	Vacant	0,516	0,62	0,722	
164	22 434	-	-	Undeveloped	-	-	-	
	66088	15 762	0,722		1,032	1,24	1,444	
		Mean 2 No.	0,361		0,516	0,62	0,722	
<u>Summary Undeveloped</u>								
164	22 434	say at 60 % 'bulk equivalent/coverage' factor = 13 460 m ²						

EPPING 2 : Class 6 : 20 000 - 24 999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage			
					70 %	60 %	50 %	
202	24 855	-	-	Undeveloped	-	-	-	
271/4	24 176	3 981	0,165	Structural Engineers	0,236	0,275	0,33	
	49 031	3 981	0,165		0,236	0,275	0,33	
		Mean 1 No.	0,165		0,236	0,275	0,33	
<u>Summary Undeveloped</u>								
202	24 855	say at 60 % 'bulk equiv/coverage' factor = 14 910 m ²						

EPPING 3 : Class 6 : 20000 - 24999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
314	24 953	3 290	0,132	Roof Tile Mfr	0,188	0,22	0,264
318	20 321	8 057	0,398	Fishing Nets	0,568	0,663	0,796
328	20 324	6 563	0,324	Clothing Mfr	0,463	0,54	0,648
	65 598	17 910	0,854		1,219	1,423	1,708
		Mean 3 No.	0,285		0,407	0,475	0,57

EPPING 4 : Class 6 : 20000 - 24999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
409	24 281	<u>+5140</u>	0,212	Motor Works	0,303	0,353	0,414
420	20 060	<u>+3 020</u>	0,212	Printing & Diesel Agents	0,303	0,353	0,414
	44 341	8 160	0,424		0,606	0,706	0,828
		Mean 2 No.	0,212		0,303	0,353	0,414

Series 1 : 7

EPPING 1 : Class 7 : 25 000 - 29 999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
117	29 327	9 481	0,323	Motor Works	0,46	0,538	0,646
122	27 737	11 209	0,404	Pharma- ceuticals	0,577	0,673	0,808
174	26 886	8 910	0,298	Wire Works Nails, etc.	0,426	0,497	0,596
	83 950	29 600	1,025		1,463	1,708	2,05
		Mean 3 No.	0,341		0,487	0,569	0,683

EPPING 2 : Class 7 : 25 000 - 29 999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
211	26 836	-	-	Undeveloped	-	-	-
219	26 413	-	-	Undeveloped	-	-	-
223	27 883	±10 284	0,369	Packaging (½ site only)	0,527	0,615	0,738
267/8	25 840	± 3 030	0,117	Paint Mfcr. (part undev.)	0,167	0,195	0,234
272	25 143	-	-	Undeveloped	-	-	-
282	25 572	6 059	0,237	Structural Steel	0,339	0,395	0,474
292	26 252	4 094	0,154	Vacant	0,22	0,257	0,308
	183 939	23 287	0,877		1,253	1,462	1,754
		Mean 4 No.	0,219		0,313	0,365	0,438
<u>Summary Undeveloped</u>							
211	26 836						
219	26 413						
272	25 143						
	78 392						
say at 60 % 'bulk equiv/coverage' factor = 47 035 m ²							

EPPING 3 : Class 7 : 25 000 - 29 999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
305	25 890	5 457	0,211	Machine Tool Equip. Etc.	0,301	0,352	0,422
309	25 175	+8 470	0,336	Flooring Mfr.	0,48	0,56	0,672
	51 065	13 927	0,547		0,781	0,912	1,094
		Mean 2 No.	0,547		0,390	0,456	0,547

EPPING 4 : Class 7 : 25 000 - 29 999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
401	26 412	-	-	Undeveloped			
426	27 392	-	-	Undeveloped			
	53 804 m ²			say at 60 % 'bulk equiv/coverage' factor = 32 280 m ²			

Series 1 : 8

EPPING 1 : Class 8 : 30 000 - 34 999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
164 A	33 640	-	-	Undeveloped	-	-	-
R/E170	30 034	See	169	Food Products	-	-	-
136	34 358	6 188	0,192	Metal Foundry	0,27	0,32	0,384
<p><u>98032</u></p> <p>Summary Undeveloped</p> <p>164 A 33 640 say 'bulk equiv/coverage' factor of 50 % = 16 820 m²</p>							

EPPING 2 : Class 8 : 30 000 - 34 999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
201	33 268	24 300	0,73	Goods Ware-house	1,043	1,217	1,46

EPPING 3 : Class 8 : 30 000 - 34 999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
307	32 200	14 549	0,452	Plastics & Freight W/house	0,646	0,753	0,904
315	32 422	7 302	0,225	Bottling Soft Drinks	0,32	0,375	0,45

64622

EPPING 4 : Class 8 : 30 000 - 34 999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
404	32 375	+1 400	0,043	Bldg Contr.	0,061	0,072	0,086
419	32 378	Under Constr.		Motor Works	-	-	-
<p><u>64753</u></p> <p>Summary Undeveloped</p> <p>419 32 378 say 'bulk coverage factor' of 50 % = 16 190 m²</p>							

EPPING 1 : Class 9 : 35 000 - 39 999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
121	38 564	7 900	0,205	Gas Mfcr & Supply	0,293	0,342	0,41
154	35 461	61 697	1,74	Mills/Silos	2,486	2,9	3,48
166	36 191	39 919	1,103	Wool Mchnts	1,57	1,838	2,206
	110 216	109 516	3,048		4,349	5,08	6,096
		Mean 3 No.	1,016		1,45	1,69	2,03

EPPING 2 : Class 9 : 35 000 - 39 999 m²

N I L

EPPING 3 : Class 9 : 35 000 - 39 999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
319	39 778	±6 100	0,153	Packaging	0,219	0,255	0,306

EPPING 4 : Class 9 : 35 000 - 39 999 m²

N I L

EPPING : Class 10 : 40 000 - 44 999 m²

Ref. No.	Site Area m ²	Bldgs Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
				EPPING 1 : NIL			
				EPPING 2 : NIL			
				EPPING 3 : NIL			

EPPING 4 :

410	41 741	±6 000	0,144	Vacant	0,200	0,24	0,288
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EPPING 1 : Class 11 : 45 000 - 49 999 m²

Ref. No.	Site Area m ²	Bldgs Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
162	48 000	17 544	0,366	Cotton Mills	0,523	0,61	0,732
163	48 068	23 045	0,48	Structural Steel	0,685	0,8	0,96
199	48 572	5 547	0,144	Bldg & Civil Engineering Contractors	0,162	0,19	0,228
	144 640	46 136 Mean 3 No.	0,99 0,33		 0,47	 0,55	 0,66

EPPING 2 : Class 11 : 45 000 - 49 999 m²

Ref. No.	Site Area m ²	Bldgs Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
247	49 186	15 593	0,317	Bldrs Merchants; Timber Yard	0,453	0,528	0,634

EPPING 3 : Class 11 : 45 000 - 49 999 m²

N I L							
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EPPING 4 : Class 11 : 45 000 - 49 999 m²

Ref. No.	Site Area m ²	Bldgs Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
431	47 151			Undeveloped			
407	47 151			Undeveloped			
408	49 641	+19 530	0,393	Metal Contnrs (Packaging)	0,561	0,655	0,786
	<u>143 943</u>						

Why not included in undeveloped potential?

EPPING 1 : Class 12 : 50 000 - 54 999 m²

Ref. No.	Site Area m ²	Bldgs Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
175	50 299	12 100	0,241	Metal Contain. (Packaging)	0,344	0,401	0,481
EPPING 2, 3, 4 : NIL							

EPPING 1 : Class 13 : 55 000 - 59 999 m²

Ref. No.	Site Area m ²	Bldgs Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
155	58 700	27 950	0,476	Bldrs. Mchnts Timber Yard	0,68	0,79	0,82

* ———— > Epping 2, Epping 3 ?

EPPING 4 : Class 13 : 55 000 - 59 999 m²

Ref. No.	Site Area m ²	Bldgs Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
425/ 428	59 070	14 059	0,238	Printing Wks Stationers Plastic Film	0,34	0,397	0,476

EPPING 1 : Class 14 : 60 000 - 99 999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
169	99 845	10 320	0,103	Food Products Cold Storage	0,147	0,172	0,206

EPPING 2 : Class 14 : 60 000 - 99 999 m²

N I L

EPPING 3 : Class 14 : 60 000 - 99 999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
301	76 527	24 523	0,32	Printing & Packaging	0,457	0,533	0,64

EPPING 4 : Class 14 : 60 000 - 99 999 m²

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
403	82 878	29 534	0,356	Glass Works Shop Fitting Etc.	0,508	0,593	0,712
416	84 373	-	-	Undeveloped	-	-	-
436/ 437	76 665 <u>243 916</u>	10 669	0,145	Warehouse Printers	0,207	0,242	0,29
<u>Summary Undeveloped</u>							
416	84 373	say at 50 % 'bulk equiv/coverage' factor =					42 186 m ²

EPPING 1 : Class 15 : 100 000 m² +

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
186	316 134	83 890	0,265	Market	0,378	0,441	0,53

EPPING 2 : Class 15 : 100 000 m² +

N I L

EPPING 3 : Class 15 : 100 000 m² +

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Type of Use	Bulk Equiv/Coverage		
					70 %	60 %	50 %
311	113 334	26 425	0,233	Winery	0,333	0,388	0,466

EPPING 4 : Class 15 : 100 000 m² +

N I L

31/...

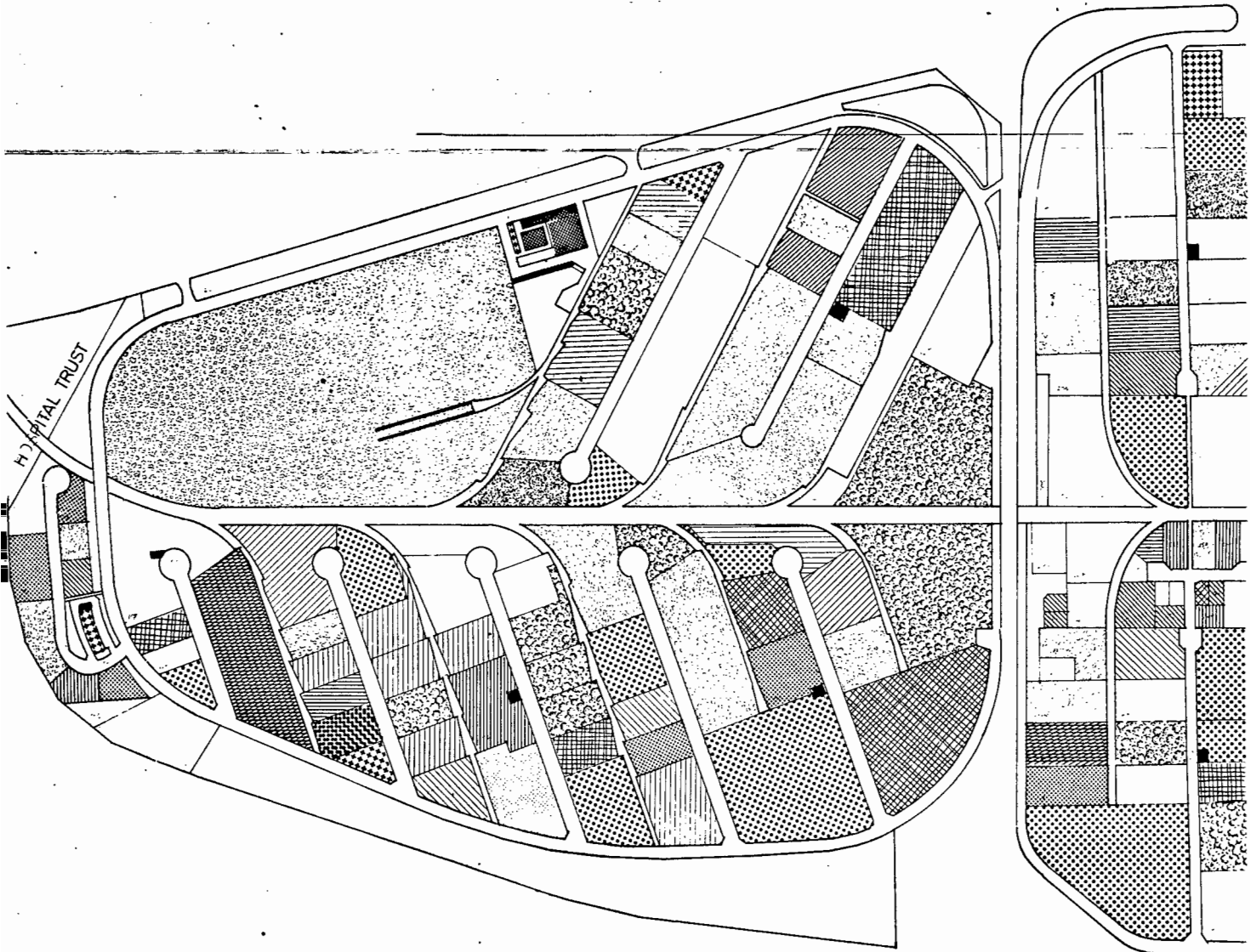
Totals undeveloped land potentials: *Ext 1*

	59	031
2	127	715
3	21	200
4	131	349
	339	275

Add developable based on 65%

immediately shows % of use total lands 3 012 313 m²

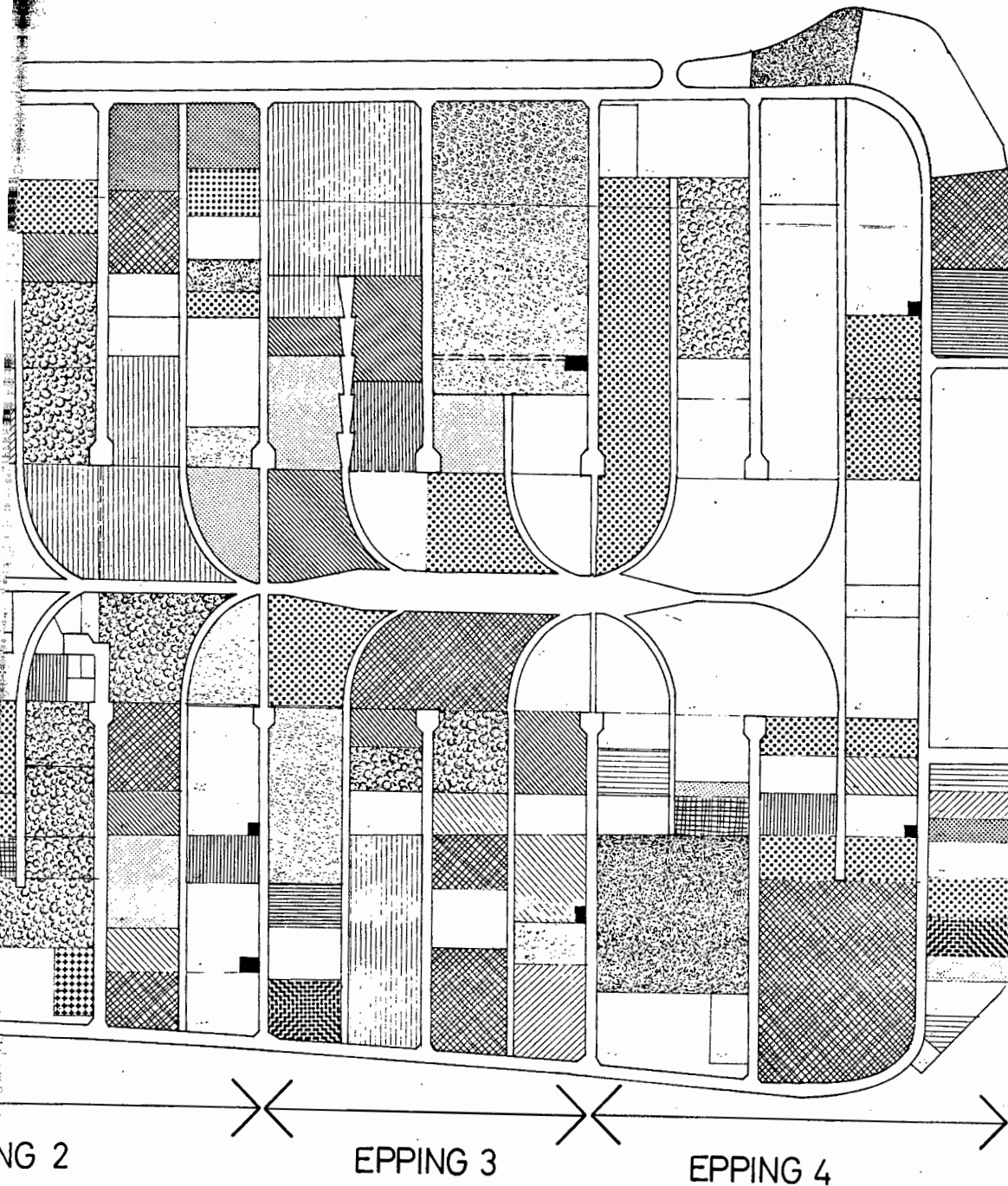
ie. we can develop another 3000pping over 70 years



EPPING 1

EPP

PLAN No. 3 SITE UTILIZATION



- KEY SERIES 2
- 21 PACKAGING
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GROWTH MODEL EPPING INDUSTRIA

A METHOD OF MEASUREMENT AND
ANALYSIS OF INDUSTRIAL GROWTH

THESIS 1972

U.C.T. DEPARTMENT OF
URBAN AND REGIONAL PLANNING
STUDENT: R. K. HORRELL

TABLES SERIES 2. 1 - 24

SPACE UTILISATION BY INDUSTRY

Series 2 : 1

PACKAGING : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60%	50 %	
125	6 785	5 816	0,857	1,224	1,428	1,714	Converted winery
131	9 970	2 926	0,293	0,419	0,488	0,586	
132	8 616	1 001	0,116	0,166	0,277	0,232	
134	8 616	5 017	0,582	0,831	0,97	1,164	
137	8 690	7 469	0,859	1,227	1,43	1,718	
236	13 483	16 199	0,756	1,08	1,26	1,512	
152	17 916	8 655	0,483	0,69	0,805	0,966	
223	27 883	+10 284	0,369	0,527	0,615	0,738	
319	39 778	+ 6 100	0,153	0,219	0,255	0,306	
408	49 641	+19 530	0,893	0,561	0,655	0,786	
175	50 209	12 100	0,241	0,344	0,401	0,481	
301	76 527	24 523	0,32	0,457	0,533	0,64	
302	8 094	1 240	0,153	0,218	0,26	0,306	
	326 208	120 860	5,575	7,964	9,29	11,15	
		Mean 13 No.	0,428	0,61	0,71	0,856	

Limitation of use and
 Risk size
 How can you apply
 to some extent to
 the whole range?

Comments

1. Larger sites and conversion 301 limited site utilisation.
2. Whereas the mean in the 70 % bulk equivalent factor is 0,61 and in the 60 % factor 0,71. If 0,8 is the lower limit of a 'mode characteristic', then 4 readings out of 13 exceed 0,8 in the 70 % factor (averaging $\frac{4,362}{4} = 1,09$), suggesting that this level of utilisation is ^{50%} appropriate.
3. On the basis of a ^{50%} (70) % factor the total bulk equivalent on the aggregate sites area 326 208 m².

Therefore Recommended Area	=	228 345 m ²
Existing Buildings	=	120 860 m ²
		107 485 m ²

Series 2 : 2

PLASTICS : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
103	4 520	654	0,145	0,207	0,242	0,29	
257	2 990	2 120	0,709	1,013	1,182	1,418	
260	2 989	2 131	0,713	1,019	1,188	1,426	
266	1 938	± 700	0,361	0,516	0,602	0,722	
279	5 380	Not Recorded		-	-	-	
434	8 094	±2 830	0,35	0,5	0,583	0,7	
138	17 671	10 668	0,604	0,863	1,007	1,208	
307	32 200	14 549	0,452	0,646	0,753	0,904	
290	±8 500	Not Recorded		-	-	-	
	84 282	33 652	3,33	4,799			
		Mean					
		7 No.	0,476	0,68	0,79	0,95	

Comments

- 3 No. readings out of 7 No. are in excess of 0,85 in the 70 % factor category, suggesting that this level should be obtained on efficient development.
- Total area 84 282 m² and 70 % = ± 59 000 m². Existing recorded equals 33 652 m² suggesting further bulk of ± 25 000 m² available.

however mean is .95 at 50% and you have been working on basis of the mean.

Series 2 : 3

TEXTILES / CLOTHING : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
265	907	+ 400	0,441	0,63	0,735	0,882	Shoes
323	8 927	11 662	1,31	1,871	2,18	2,62	
446	8 094	+2 500	0,39	0,441	0,515	0,618	Furs
158	14 163	4 342	0,306	0,437	0,51	0,612	
287	11 583	6 232	0,538	0,768	0,897	1,076	
316	12 432	+7 035	0,566	0,809	0,943	1,132	
327	12 138	+3 655	0,301	0,43	0,502	0,602	
233	16 056	7 679	0,478	0,683	0,797	0,956	
283	18 070	Not Recorded		-	-	-	
418	16 187	+6 690	0,41	0,586	0,683	0,82	
328	20 324	6 563	0,324	0,463	0,54	0,648	
162	48 000	17 544	0,366	0,523	0,61	0,732	
	186 881	74 302 Mean 11 No.	5,349 0,486	0,69	0,81	0,96	
<p><u>Comments</u></p> <p>1. Scan of 'mode characteristics' suggests level of $\pm 65\%$.</p> <p>2. On the basis of a 65 % factor the total 'bulk equivalent' on aggregate site area of 186 881 m² should be 121,472 m².</p> <p>Therefore Recommended Area = 121,472</p> <p>Existing bulk = 74,302</p> <p>Efficiency shortfall = <u>47,170 m²</u></p>							

Series 2 : 4

FOOD PROCESSING : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
115	3 664	2 046	0,558	0,797	0,93	1,116	
258	3 069	2 127	0,693	0,99	1,155	1,386	
102	8 610	3 710	0,431	0,616	0,718	0,862	
124	6 785	2 015	0,296	0,423	0,493	0,592	
172	8 543	9 505	1,113	1,59	1,855	2,226	
181	7 811	5 140	0,658	0,94	1,097	1,316	
212	9 993	7 180	0,719	1,027	1,198	1,438	Pt. Pharmaceutcl.
225	7 912	1 961	0,247	0,352	0,412	0,494	
229	8 107	1 487	0,183	0,261	0,305	0,366	
242	6 765	492	0,073	0,104	0,122	0,146	African Brewery
244	8 296	2 973	0,358	0,511	0,597	0,716	
330	8 094	2 041	0,252	0,36	0,42	0,504	
161	12 309	3 580	0,29	0,414	0,483	0,58	
168	12 357	±7 300	0,59	0,844	0,985	1,182	W. Prov. Dairies
178	16 170	3 772	0,233	0,333	0,388	0,466	
203	16 181	5 430	0,33	0,471	0,55	0,66	Epping Cold Strge
293	18 799	3 257	0,173	0,247	0,288	0,346	
147/8	23 060	8 322	0,361	0,516	0,62	0,722	
R/E 170	30 034	-	-	-	-	-	See 169. Dairies I. C. S. etc.
315	32 442	7 302	0,225	0,32	0,375	0,45	
154	35 461	61 697	1,74	2,486	2,9	3,48	
	284 442	141 337	9,532	13,6	15,89	19,06	

Series 2 : 4

FOOD PROCESSING : SPACE UTILISATION BY INDUSTRY
(CONTD)

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
	284 442	141 337	9,532	13,6	15,89	19,06	
169	99 845	10 320	0,103	0,147	0,172	0,206	Cold Storage (Dairies etc) Winery Market
311	113 334	26 425	0,233	0,333	0,338	0,466	
186	316 134	83 890	0,265	0,378	0,441	0,53	
	813 755	261 972	10,133	14,458	16,89	20,26	
		Mean 24	0,422	0,60	0,70	0,84	

Comments

- Imperial Cold Storage and Dairy Products generally undeveloped site - large areas allocated.
- Adopting a minimum of 0,9 as the lower limit to establish a 'mode characteristic' the 60 % factor with 7 readings @ 0,9 or above (averaging $\frac{10.12}{7} = 1,446$) would appear to be appropriate to this industry, bearing in mind :
 - extensive transport flows, parking, loading, unloading etc.
 - stock holding areas etc.
- On the basis of a 60 % bulk equivalent/coverage factor, the total bulk equivalent on the aggregate sites area 813, 755 m² should be 488, 253 m².

Recommended area	488, 253
Existing buildings	261, 972
Developable	<u>226, 281 m²</u>

Series 2 : 5

METAL WORKS : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
104	4 248	3 175	0,747	1,067	1,245	1,494	
116	3 975	1 854	0,446	0,665	0,777	0,932	
101	9 488	7 018	0,739	1,056	1,23	1,478	
151	7 732	991	0,128	0,182	0,213	0,256	
246	7 448	5 576	0,748	1,068	1,247	1,496	
445	7 730	1 415	0,183	0,261	0,305	0,366	
159	13 016	12 610	0,968	1,383	1,613	1,936	
231	12 166	8 133	0,669	0,956	1,115	1,338	
232	16 333	1 806	0,111	0,158	0,185	0,222	
	82 136	42 578	4,739	6,77	0,79	9,478	
		Mean 9 No.	0,527	0,753	0,878	1,054	

Comments

1. Scan of 'mode characteristics' indicates that at 70 % bulk 4 No. exceed 1 and 1 No. is at 0,956 out of 9 readings and confirms acceptance of this factor.
2. On the basis of a 70 % factor the total bulk equivalent on aggregate site areas 82 136 should be 57 495 m².

Therefore Recommended Area	=	57,495
Existing bulk	=	42,578
Efficiency shortfall	=	<u>14,917 m²</u>

Series 2 : 6

FURNITURE MFCR : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
449	4 047	630	0,156	0,223	0,26	0,312	
430	14 488	10 169	0,7	1,0	1,17	1,4	
139	19 368	10 075	0,52	0,743	0,867	1,04	
224	18 851	7 493	0,398	0,567	0,663	0,796	
285	17 276	5 181	0,3	0,428	0,5	0,6	
304	18 615	4 747	0,255	0,364	0,425	0,510	
310	18 862	4 649	0,249	0,356	0,415	0,498	
	111 507	42 944	2,578	3,683	4,297	5,156	
		Mean 7 No.	0,368	0,526	0,613	0,736	
<p><u>Comments</u></p> <p>1. Actual bulk equivalent indicates poor site utilisation, or with exception of 430 plots are too large.</p> <p>2. 70 % factor ought to be appropriate which would reflect on aggregate site area 111 507 m² a building area of 78 054 m².</p> <p>Therefore Recommended Area = 78,054</p> <p>Existing bulk = 42,944</p> <p>Efficiency shortfall = <u>35,110 m²</u></p>							

Series 2 : 7

BUILDING & CIVIL ENGINEERING : SPACE UTILISATION BY INDUSTRY
CONTRACTORS

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
133	8 616	2 149	0,249	0,356	0,415	0,498	
143	9 837	3 800	0,386	0,551	0,643	0,772	
144	8 007	1 743	0,218	0,311	0,363	0,436	
153	8 058	1 801	0,236	0,337	0,393	0,472	
248	6 547	3 038	0,464	0,663	0,773	0,928	
275	9 186	1 984	0,216	0,308	0,36	0,432	
278	8 617	2 410	0,28	0,4	0,467	0,56	
321	8 936	683	0,076	0,108	0,127	0,152	
439	8 094	915	0,113	0,161	0,188	0,226	
142	11 532	+1 600	0,139	0,198	0,232	0,278	
180	15 801	5 600	0,354	0,506	0,59	0,708	
221	16 990	3 846	0,226	0,323	0,377	0,452	
222	18 417	2 512	0,136	0,194	0,277	0,272	
276/7	17 277	5 509	0,319	0,456	0,532	0,638	(Incl. other use)
325	17 903	2 431	0,136	0,194	0,227	0,272	
271/4	24 176	3 981	0,165	0,236	0,275	0,33	
282	25 572	6 059	0,237	0,339	0,395	0,474	
404	32 375	+1 400	0,043	0,061	0,072	0,086	
	255 941	51 461	3,993	5,704	6,655	7,984	

39/...

Series 2 : 7

BUILDING & CIVIL ENGINEERING : SPACE UTILISATION BY INDUSTRY CONTRACTORS
(CONTD)

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
	255 941	51 461	3,993	5,704	6,655	7,986	
163	48 068	23 045	0,48	0,685	0,8	0,96	
199	48 572	5 547	0,144	0,162	0,19	0,228	
	352 581	80 053	4,617	6,551	7,655	9,174	
		Mean 20 No.	0,231	0,33	0,385	0,462	

Comments

1. Consistently low space utilisation by buildings, all requiring large storage yards + 3 times the building area.
2. The third, largest user of land in Epping in terms of total aggregate land set aside, save that with low capital investment in buildings, contractors tend to move on elsewhere (to cheaper land) when the land use could be developed more intensively.
3. A 40 % bulk equivalent factor on aggregate site area 352,581 m² is suggested reflecting 141,032 m² as target figure, assuming no change in user.

i. e.	Recommended Area	=	141,032
	Existing bulk	=	80,053
	Shortfall	=	<u>60,980 m²</u>

Series 2 : 8

BUILDERS SUPPLIERS/MERCHANTS : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
120	5 036	1 496	0,297	0,424	0,495	0,594	
157	7 100	3 130	0,441	0,63	0,735	0,882	
176	7 148	1 845	0,258	0,368	0,43	0,516	
227	7 042	2 310	0,328	0,469	0,547	0,656	
230	8 107	3 266	0,403	0,576	0,672	0,806	
432	8 094	2 364	0,325	0,46	0,542	0,65	
435	7 538	1 641	0,218	0,311	0,363	0,436	
438	8 095	± 500	0,062	0,088	0,103	0,124	
447	8 094	±1 240	0,153	0,219	0,255	0,306	
129/30	13 615	1 810	0,133	0,19	0,222	0,266	
411	12 193	±2 200	0,180	0,257	0,3	0,36	
412	14 835	3 958	0,267	0,38	0,445	0,534	
146	17 800	7 668	0,432	0,617	0,72	0,864	
149	15 649	5 180	0,33	0,471	0,55	0,66	
210	18 807	2 905	0,158	0,226	0,263	0,316	
217	19 329	6 783	0,351	0,051	0,585	0,702	
314	24 953	3 290	0,132	0,188	0,22	0,264	
267/8	25 840	±3 036	0,117	0,167	0,195	0,234	
174	26 886	8 910	0,298	0,426	0,497	0,596	
309	25 175	±8 470	0,336	0,48	0,56	0,672	
	280 976	72 002	5,219	7,456	8,698	10,438	

Series 2 : 8

BUILDERS SUPPLIERS/MERCHANTS : SPACE UTILISATION BY INDUSTRY
(CONTD)

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
c/d	280 976	72 002	5,219	7,456	8,698	10,438	
247	49 186	15 593	0,317	0,453	0,528	0,634	
155	58 700	27 950	0,476	0,68	0,79	0,82	
403	82 878	29 534	0,356	0,508	0,593	0,712	
	471 740	145 079	6,368	9,10	10,61	12,73	
		Mean 23 No.	0,277	0,396	0,46	0,554	
<u>N. B:</u>							
442	9 410	1 668	0,117	) omitted from above schedule			
335	18 020	1 440	0,08)			

Comments:

1. Spatial needs close to those of building contractors and civil engineers, perhaps slightly more buildings for merchant suppliers.
2. Second largest user of land in Epping, again low capital investment in buildings.
3. A 45 % 'bulk equivalent factor' is suggested; an aggregate site area 471,740 m² reflects a target figure of 212,283 m².

Deduct existing bulk equiv.	145,079
	<hr/>
Efficiency shortfall	67,200 m ²
Add for 442 and 335	9 240
	<hr/>
	76,440 m ²
	<hr/>

Series 2 : 9

HEAVY ENGINEERING : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Bulk Equiv/Coverage			Remarks								
				70 %	60 %	50 %									
171	8 543	6 898	0,807	1,153	1,345	1,614	Possibly Series 2.8 Agricultural								
439	8 094	915	0,113	0,161	0,188	0,226									
173	18 134	5 825	0,321	0,458	0,535	0,642									
136	34 358	6 188	0,192	0,27	0,32	0,384									
	69 129	19 826 Mean 3 No.	1,433 0,358	2,042 0,5	2,388 0,59	2,866 0,716									
<p><u>Comments</u></p> <p>1. There is an overlap with Series 2 : 8 and possibly also 2 : 7, both being allied activities.</p> <p>2. It is probable that a 50 % factor would be appropriate - and on aggregate area 69,129 m² a figure of 34,565 m² is reflected.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Efficiency target figure is therefore</td> <td style="text-align: right;">34,565 m²</td> </tr> <tr> <td>Deduct existing bulk</td> <td style="text-align: right;">19,826</td> </tr> <tr> <td></td> <td style="text-align: right; border-top: 1px solid black;">24 740 m²</td> </tr> <tr> <td>Shortfall</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">24 740 m²</td> </tr> </table>								Efficiency target figure is therefore	34,565 m ²	Deduct existing bulk	19,826		24 740 m ²	Shortfall	24 740 m ²
Efficiency target figure is therefore	34,565 m ²														
Deduct existing bulk	19,826														
	24 740 m ²														
Shortfall	24 740 m ²														

Series 2 : 10

LIGHT ENGINEERING : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
264	927	628	0,678	0,968	1,13	1,356	Delete from cast
114	3 580	2 690	0,75	1,07	1,25	1,5	
239	1 051	+ 470	0,477	0,639	0,745	0,894	
240	+1 300	Not Recorded		-	-	-	
251	4 669	3 352	0,718	1,025	1,196	1,436	
252	1 893	1 688	0,892	1,274	1,486	1,784	
209	9 903	+2 170	0,219	0,313	0,365	0,438	
220	8 561	1 089	0,127	0,181	0,212	0,25	
284	8 116	3 223	0,397	0,567	0,662	0,794	
303	8 397	4 747	0,565	0,807	0,942	1,13	
322	8 927	1 782	0,2	0,285	0,333	0,4	
334	10 326	2 963	0,287	0,41	0,478	0,574	
312		Not Recorded		-	-	-	
306	18 862	4 649	0,249	0,356	0,415	0,498	
305	25 890	5 457	0,211	0,301	0,352	0,422	
	112 402	34 908	5,77	8,196	9,167	11,54	
		Mean 13 No.	0,444	0,63	0,74	0,888	

Comments

1. Generally intensive and specialised use of land.
2. There are 13 No. sets of development readings, 3 No. of which at 70 % factor reflect an efficiency 'mode characteristic' at this level exceeding 1.0 and 1 No. reading at 0,807 for reference 303.

Therefore an aggregate area 112,402 m², 70% represents 78,681
 Deduct existing bulk 34 908
 Efficiency shortfall 43 770 m²

Series 2 : 11

CHEMICALS : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
331	1 748	860	0,492	0,703	0,82	0,98	
135	8 690	7 469	0,859	1,227	1,43	1,718	
150	7 732	1 571	0,203	0,29	0,338	0,406	
250	8 622	2 739	0,318	0,454	0,53	0,636	
286	8 106	2 192	0,270	0,385	0,45	0,54	Could be under Series 2 : 8
326	8 351	± 826	0,102	0,146	0,17	0,204	
441		Not Recorded					Delete from cast
	43 249	15 657	2,244	3,205	3,74	4,48	
		Mean 6 No.	0,374	0,53	0,623	0,748	
<u>Comments</u>							
1. A target efficiency say 60 % factor is suggested and on this basis an optimum figure on aggregate of 43,249 m ² reflects 25,949 m ²							
Deduct existing bulk						15,657	
Efficiency shortfall say						10,290 m ²	

Series 2 : 12

PHARMACEUTICALS : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
212	9 993) Recorded else-) where. Delete) from cast.) Dual activity.
213	8 255						
444	7 729	5 813	0,752	1,07	1,253	1,504	
160	14 144	6 690	0,472	0,674	0,787	0,944	
329	16 187	±4 950	0,306	0,437	0,51	0,612	
122	27 737	11 209	0,404	0,577	0,673	0,808	
	65 797	28 662	1,934	2,758	3,223	3,868	
		Mean 4 No.	0,484	0,691	0,807	0,968	

Comments

- Between 60 and 70 % factor would appear to be appropriate and on aggregate area 65,797 m² a figure of 42,768 m² is reflected.

Recommended bulk utilisation	42,768 m ²
Deduct existing bulk	28,662
Efficiency shortfall	<u>14,106 m²</u>

Series 2 : 13

COMMERCIAL : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
197	713	<u>±</u> 713	1,00	1,428	1,667	2,00	
107/ 112	1 942	<u>±</u> 2 640	1 359	1,94	2,265	2,718	
128	4 047	706	0,175	0,25	0,292	0,35	Shops, service station
183	4 047	889	0,2	0,314	0,367	0,44	Service station
194	1 457	1 457	1,0	1,428	1,667	2,00	Shops, Bank & G. P. O.
218	6 959	860	0,124	0,177	0,207	0,248	Service Station
	19 165	7 265					
<u>N. B.</u> 273	6 959	<u>±</u> 2 811	0,404	0,577	0,673	0,808	ommitted

Comments

1. Service stations with 'big driveways' reduce bulk figure considerably and no strong threshold for vertical development i. e. more than one flow.
2. 3 sets of readings exceed a factor of 1 in all bulk equivalent categories, suggesting that the efficient aim be at least 70 %.

70 % of aggregate	19,165 m ²	=	13,415
Deduct existing bulk			7,265
			<hr/>
Efficiency shortfall			6,150 m ²
Add			2 060
			<hr/>
			8 210 m ²
			<hr/>

Series 2 : 14

TRANSPORT SERVICES : SPACE UTILISATION BY INDUSTRY
REMOVERS

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
182	8 527	4 210	0,493	0,704	0,822	0,986	(Pt. only at prsnt)
423	8 093	1 903	0,235	0,336	0,392	0,47	
443	8 075	Not Recorded		-	-	-	
156	12 980	3 541	0,27	0,386	0,45	0,54	
179	15 801	3 135	0,198	0,283	0,33	0,396	Bus depot Oil depot could be another series
	53 476	12 789	1,196	1,709	1,993	2,392	
		Mean 4 No.	0,299	0,427	0,498	0,598	
<u>N. B.</u> 451	4 047	1 313	0,324	0,463	0,454	0,648	Omitted from cast

Comments

1. Large parking areas required (not necessarily covered).
2. No specific recommendation as to improvement in utilisation save that Ref. No. 443 is only partly developed.
3. National assessment
buildings for pallet storage.

40 % of 53 476 equals	21 390 m ²
Deduct existing bulk	12 790
	8 600 m ²
Efficiency shortfall	+ 400
	9 000 m ²

Series 2 : 15

SALVAGE & ANCILLARY : SPACE UTILISATION BY INDUSTRY
ACTIVITIES

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
256	2 582	+1 010	0,391	0,559	0,652	0,782	Tyre retreads
126	6 785	4 866	0,717	1,024	1,195	1,434	
208	8 223	2 886	0,351	0,501	0,585	0,702	Hides & skins
417	12 370	Not Recorded		Under Construction			Delete from cast
202 A	16 702	4 180	0,25	0,357	0,417	0,5	Hides & skins
316	Reprocessing fibres etc.			included under series 2 : 3			
	34 292	12 942	1,709	2,441	2,848	3,418	
		Mean 4 No.	0,427	0,61	0,712	0,854	

Comments

- These are activities all of which require yardage
 - for storing waste materials,
 - hides and skins need curing frames, and
 - vehicular movement and parking.
- A 50 % factor is appropriate on aggregate area 34 292 m².

34 292 m ²	50 %	=	17 146 m ²
Deduct existing			12 942
			4 204 m ²
		say	4 200 m ²

Series 2 : 16

PRINTING : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Bulk Equiv/Coverage			Remarks									
				70 %	60 %	50 %										
207	8 223	4 246	0,516	0,737	0,86	1,032										
216	8 561	3 464	0,404	0,577	0,673	0,808										
228	7 280	1 923	0,328	0,469	0,547	0,656										
246	Part only recorded under series 2 : 5															
420	20 060	±3 020	0,212	0,303	0,353	0,414										
177	13 048	6 490	0,497	0,71	0,828	0,994										
425/ 428	59 070	14 059	0,238	0,34	0,397	0,476										
436/7	76 665	10 669	0,145	0,207	0,242	0,29										
	192 907	43 871	2,34	3,343	3,90	4,68										
		Mean 7 No.	0,334	0,477	0,557	0,668										
<p><u>Comments</u></p> <p>1. A 50 % factor is an analysis closer to parity with 3 No. out of 7 readings close to 1.</p> <p>2. Sites in some instances only part developed, and suggest 60 % as appropriate factor.</p> <table style="margin-left: 40px;"> <tr> <td>60 % of 192 907 m²</td> <td>=</td> <td>115 744</td> </tr> <tr> <td>Deduct existing bulk</td> <td></td> <td>43 871</td> </tr> <tr> <td></td> <td></td> <td style="border-top: 1px solid black;">71 870 m²</td> </tr> </table>								60 % of 192 907 m ²	=	115 744	Deduct existing bulk		43 871			71 870 m ²
60 % of 192 907 m ²	=	115 744														
Deduct existing bulk		43 871														
		71 870 m ²														

Series 2 : 17

LIGHT MANUFACTURY : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Bulk Equiv/Coverage			Remarks						
				70 %	60 %	50 %							
448	±4 500	5 100	1,133	1,619	1,888	2,26	Revelation Cases						
127	9 042	3 862	0,427	0,61	0,712	0,854	Toys						
118	5 742	722	0,126	0,18	0,21	0,252	Equipt etc.						
318	20 321	8 057	0,398	0,568	0,663	0,796	Fishing Nets						
	39 515	17 741	2,084	2,977	3,47	4,168							
		Mean 4 No.	0,521	0,74	0,86	1,04							
<p><u>Comments</u></p> <p>1. Adapt 70 % as factor on aggregate area</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">39 515 represents</td> <td style="text-align: right;">27 660 m²</td> </tr> <tr> <td>Deduct existing bulk</td> <td style="text-align: right;">17 740</td> </tr> <tr> <td></td> <td style="text-align: right; border-top: 1px solid black;">9 920 m²</td> </tr> </table>								39 515 represents	27 660 m ²	Deduct existing bulk	17 740		9 920 m ²
39 515 represents	27 660 m ²												
Deduct existing bulk	17 740												
	9 920 m ²												

Series 2 : 18

SPECIAL MANUFACTURY : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
121	38 564	7 900	0,205	0,293	0,342	0,41	Gas Mfcrs
245	8 393	1 866	0,222	0,317	0,37	0,44	Gas Mfcrs
	46 957	9 766	0,427	0,61	0,712	0,85	
		Mean 2 No.	0,214	0,306	6,357	0,428	

Comments

- Perhaps excessive circulation areas around plant installation.
- A 50 % factor probably appropriate and

50 % of 46 957	=	23 478 m ²
Deduct existing		9 766
Available	=	<u>13 710 m²</u>

Series 2 : 20

WAREHOUSING : SPACE UTILISATION BY INDUSTRY

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
118	5 742	722	0,126	0,18	0,21	0,252	Govt Stores
145	8 007	4 035	0,504	0,72	0,84	1,008	
270	9 186	6 561	0,714	1,02	1,19	1,428	
333	8 094	3 856	0,476	0,68	0,793	0,952	
429	8 094	+1 616	0,2	0,285	0,333	0,4	
166	36 191	39 919	1,103	1,57	1,838	2,206	Wool merchants
	75 314	56 709					

Comments

1. Space utilisation should be high in this category and recommend a factor of 80 %.
2. Most factories are also warehousing their own products and there are, of course, considerable stocks of goods continuously held as a result.
3.

80 % of aggregate 75 314	=	60 250
Deduct existing bulk	=	56 710
		3 540 m ²

Series 2 : 21

MUNICIPAL (DEVELOPED)

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
113	335	88	0,263	0,376	0,438	0,53	Sub-station
116 A	362	72	0,199	0,284	0,332	0,4	"
138 A	454	85	0,187	0,267	0,312	0,374	"
159 A	483	+90	0,187	0,267	0,312	0,374	"
269	+520	76	0,146	0,209	0,243	0,292	"
214 A	238	77	0,324	0,463	0,54	0,648	"
332	254	98	0,386	0,55	0,643	0,772	"
308 A	+740	96	0,129	0,184	0,215	0,258	"
165 A	18 993	2 110	0,111	0,158	0,185	0,222	Fire Station
	22 279	2 792	1,932	2,76	3,22	3,864	
		Mean 9 No.	0,21	0,3	0,35	0,42	
<p><u>Comments</u></p> <ol style="list-style-type: none"> 1. Sub-station sites, even though small, would not appear to have a high 'bulk equivalent factor' and less than 50 % appears to be appropriate. 2. As a fire station often includes the training area for personnel one must presume that this area is required. 3. No bulk efficiency calculation should be applied in this instance. 							

Series 2 : 22

REAL ESTATE : SPACE AVAILABLE FOR UTILISATION
VARIABLE

Ref. No.	Site Area m ²	Bldg Area m ²	Bulk Equiv.	Bulk Equiv/Coverage			Remarks
				70 %	60 %	50 %	
119	4 047	2 150	0,531	0,758	0,885	1,062	Possibly occupied
241	4 249	2 787	0,656	0,937	1,093	1,317	
259	2 593	1 940	0,748	1,069	1,247	1,496	
214	8 255	710	0,086	0,123	0,143	0,172	
215	8 234	±3 325	0,399	0,57	0,665	0,798	
226	18 890	2 174	0,115	0,164	0,192	0,23	
165	20 594	7 440	0,361	0,516	0,62	0,722	
292	26 252	4 094	0,154	0,22	0,257	0,308	
410	41 741	±6 000	0,144	0,206	0,24	0,288	
	134 855	30 620	3,194	4,563	5,323	6,388	
		Mean 9 No.	0,355	0,507	0,592	0,71	

Comments

1. This category is best classified on survey; 410 and 226 are under-developed.
2. However, at a factor of 60 %, one third of the total number approximate 1 and for the purposes of calculation this would represent :

60 % of 134 855 m ²	=	80 913 m ²
Deduct existing bulk		30 629 m ²
Efficiency shortfall	=	<u>50 290 m²</u>

Efficiency Shortfall = 773 229
 + Underdeveloped = 339 295 (398 300)
Future = 1 112 524

Series 2 : 23

UNDEVELOPED : SPACE UTILISATION BY INDUSTRY

Collection from Series	Ref. No.	Site Area m ²	Efficiency Rating	Available Development	Remarks
1.1	106	367	50 %	1 240	
	117 A	302			
	S/D				
	170	446			
	193	225			
	253	907			
	453	+ 248			
	454	+ 347			
		<u>2 482</u>			
1.2	195	4 560	70 %	12 775	P. O. S.
	198	2 022			
	255	2 112			
	261	2 648			
	281	2 615			
	289 A	1 943			
	450	2 350			
		<u>18 250</u>			
1.3	121 A	5 103	65 %	40 495	P. O. S.
	213	8 255			
	238	8 737			
	290	+8 900			
	402	6 959			
	405	8 094			
	406	9 309			
	427	6 941			
	<u>62 298</u>				
1.4	164	10 591	65 %	29 765	P. O. S.
	235	12 565			
	288	12 391			
	415	10 245			
		<u>45 792</u>			
				<u>84 275</u>	

Collection from Series	Ref. No.	Site Area m ²	Efficiency Rating	Available Development	Remarks
1.5	140 A	17 163		c/d 84 275	P. O. S.
	206	<u>±18 000</u>			
	283	18 070			
	289	17 728			
	312	18 882			
	313	16 449			
	413	19 770	-	-	
		<u>126 062</u>	60 %	75 637	
1.6	164	22 434			
	202	24 855			
		<u>47 289</u>	60 %	28 373	
1.7	211	26 836			P. O. S.
	219	26 413			
	272	25 143			
	401	26 412	-	-	
	426	27 392			
		<u>132 196</u>	60 %	79 315	
1.8	164 A	33 640			
	419	32 378			
		<u>66 018</u>	50 %	33 010	
1.11	407	47 151	50 %		
	431	47 151		47 150	
		<u>94 302</u>			
1.14	416	84 373	60 %	<u>50 620</u>	
		Total :		<u>398 380 m²</u>	

Series 2 : 24

PUBLIC OPEN SPACE

Collection from Scrutiny	Ref. No.	Site Area m ²	Efficiency Rating	Available Development	Remarks
-	192	10 421	55 %	5 730	Irregular (shape)
	195	4 560	80 %	3 650	
	195 A	4 255	55 %	2 340	Triangular shape
	196	1 735	-	-	
	198	2 022	-	-	
35/ET 24	A12	22 434	30 %	6 730	Hospital reserve Irregular
35/ET 26	B 35	17 164)	30 %	46 150	Future unknown
35/ET 26	B 32	136 674)			
				<hr/> 64 600 <hr/>	

Comments

1. One questions the validity of certain areas designated under this category and an assumption has been made that some additional land could be made available for development viz. 2 : 23.

SUMMARY

SERIES 2.1 - 24 : SPACE UTILISATION BY INDUSTRY

See comment 2 on p. 60
cl. 205

Series No.	Industry	Efficiency Rating	Actual Bulk	Efficiency Shortfall	Relative %	
					Actual	E. S.
2.1	Packaging	70 %	120 860	107 485	10,81	12,3
2.2	Plastics	70 %	33 652	25 000	3,01	2,86
2.3	Textiles/ Clothing	65 %	74 302	47 170	6,65	5,40
2.4	Food Proces- sing	60 %	261 972	226 280	23,43	25,91
2.5	Metal Works	70 %	42 578	14 915	3,81	1,71
2.6	Furniture Mfr	70 %	42 944	35 110	3,84	4,02
2.7	Building & Ci- vil Engineerg Contractors	40 %	80 053	60 980	7,16	6,98
2.8	Builders Sup- pliers/ Merchants	45 %	148 187	76 440	13,26	8,75
2.9	Heavy Engrng	50 %	19 826	24 740	1,77	2,83
2.10	Light Engrng	70 %	34 908	43 770	3,12	5,01
2.11	Chemicals	60 %	15 657	10 290	1,4	1,17
2.12	Pharmactcls	65 %	28 662	14 110	2,56	1,61
2.13	Commercial	70 %	10 076	8 210	0,9	0,9
2.14	Transport Services & Removers	40 %	14 102	9 000	1,26	1,03
TOTALS			927 779	703 500m ²	82,98	80,48

SERIES 2.1 - 24 : SPACE UTILISATION BY INDUSTRY
(CONTD)

Series No.	Industry	Efficiency Rating	Actual Bulk	Efficiency Shortfall	Relative %	
					Actual Bulk	E. S.
		c/d	927 779	703 500	82,98	80,48
2.15	Salvage & Ancillary Activities	50 %	12 942	4 200	1,16	0,48
2.16	Printing	60 %	43 871	71 870	3,92	8,23
2.17	Light Mfry	70 %	17 741	9 920	1,59	1,14
2.18	Special Mfry	50 %	9 766	13 710	0,87	1,57
2.19	Motor Industry	45 %	15 666	16 200	1,4	1,86
2.20	Warehousing	80 %	56 709	3 540	5,07	0,4
2.21	Municipal (Developed)	50 %	2 792	-	0,25	-
2.22	Real Estate Variable	60 %	30 620	50 290	2,74	5,76
					99,98	99,92
2.23	Undeveloped	Various	-	398 380		
2.24	Public Open Space	Various	-	64 600		
	TOTAL :		1 117 886	1 336 210 m ²		

Comments

1. These summarised figures are revealing in that it becomes apparent that on the basis of an hypothesis relative to efficient land use, Epping Industrial Township would appear to be less than half developed, some 25 years after its notional inception and 21 years after the first sales are recorded in Epping 1.

Even with the latter sales in Epping 2, 3, and 4, many of the 'efficiency shortfall' characteristics are still evident and are worthy of study for corrective adjustment.

Conclusion of the table is ->

SERIES 2,1 - 24 : SPACE UTILISATION BY INDUSTRY

COMMENTS (CONTD)

2. As the test of the efficiency of land utilisation must be based on land which has been actually allocated or sold for development, Series 2 : 23 'undeveloped land' and 2:24 public open space should be deducted from the efficiency shortfall calculations :-

Actual 'bulk developed' remains at		1,117,886 m ²
Efficiency shortfall	1,336,210	
Deduct 2 : 23 =	398,380	
Deduct 2 : 24 =	64,600	
	<u>462,980</u>	<u>873,230</u>
Adjusted Difference :		<u>244,656 m²</u>

The Relative percentage columns are based on the adjusted figures. ?

3. Some qualification of allocation is, of course, necessary, but it would seem to be relative that allocation of industrial land, if efficient utilisation is envisaged, should be based on a 'complete scheme concept', with phased purchasing if appropriate, geared to reasonable market levels.
4. Inefficient land utilisation has a marked adverse effect on the rates revenue anticipated.
5. Considerable capital grants for land purchase, development, services etc. have been made from Municipal Funds and unless the services available are fully utilised there are additional losses to both Capital and Revenue Accounts.
6. If there is no control over the resale price of undeveloped - residual land acquired from a Local Authority then this can have various effects :-
- (i) the price will be determined by the market - sometimes at a speculatively high level and the antithesis of what was intended by the sponsory local authority to foster INDUSTRIAL DEVELOPMENT in that particular area.
 - (ii) the corollary of high land cost to Industry is that it is sometimes obliged to move elsewhere to cheaper land and sustained growth on serviced land is considerably retarded.
 - (iii) the efficiency of land utilisation in both conservation and industrial extension is considerably undermined.
7. As so much hinges on industrial expansion to support population increases, it is vital that land which is strategically located and serviced be effectively occupied.

GROWTH CONCEPTS AND EVALUATION

Despite the fact that there is a market in Industrial Property, because of the high cost of establishing a plant - and the land and improvements are only the platform and shell housing the activities carried thereon - as a general rule industry will tend not to displace itself from any location unless :-

1. Its raw material sources have changed.
2. The demands for productivity have outgrown the capacity of the site and buildings.
3. The industrial buildings and plant are obsolescent and outmoded.
4. The market distribution area has changed or extended.
5. Changes in the location of labour pools.
6. Changes in the transportation network.
7. The price realisable on the sale of the existing property and/or residual land is attractive enough to warrant a move to cheaper land or a developed location elsewhere.

The last category implies a trading or marketing concept which, even if speculative, can sometimes mean response and support of industrial growth.

It is worth, however, examining the Consolidated Valuation Roll for therein will be found 'prima facie' evidence of the changes which may have taken place as reflected by the INTERIM and GENERAL VALUATION ROLL entires, most of which are related to the physical development of land.

It is submitted that with the highly sophisticated forms of data storage available, accurate physical growth checks can be made for the purposes of growth evaluation.

The method and procedure in this thesis, is by no means, a refined model but represents an extension to this specific investigation of a planning problem through independent research.

GROWTH CONCEPTS AND EVALUATION

(CONTD)

The preparation of Tables Series 3. 1 - 24 represent, in fact, the fourth stage in the process of analysis;

the first being (1) The preparation of Appendix 'A' - the Consolidated Valuation Roll.

the second being (2) The grouping of industrial plots into size categories, noting the user, and analysing the scale of utilisation.

the third stage being (3) The extraction of data from the second stage manifested by Tables Series 1 - 15, in order to formulate the second series of Tables 2. 1 - 24, which comprise the analysis of Space Utilisation by various types of Industry, a Summary and qualifying commentary.

The critique adopted in the fourth stage is still related to the Efficiency of Land Utilisation or a 'Floor Space Index', but in this instance the Consolidated Valuation Roll Appendix 'A' is re-examined in the context of Series 2. 1 - 24 Tables and from their joint consideration, a growth rate or cessation of growth rate will be discernable based on rateable value increases linked to 'space utilisation' extension or termination. Time and cost forecasts are also established Columns 12 and 13 in the final stages of the Growth Model Analysis Series 3. 1 - 24.

As the main thematic analysis is associated with floor space utilisation, a seemingly singular and basic element, each entry in a valuation roll does nevertheless represent the summation of entrepreneurial and professional decision culminating in that 'entry' and its importance should not be quietly forgotten, however unrelated to current tones of value the valuation figures may appear to be.

GROWTH MODEL:FOOD PROCESSING : TYPICAL ANALYSIS FOR SERIES 3. 1 - 24

EFFICIENCY STANDARD BULK EQUIVALENT 60%

? *superfluous*

1 Ref. No.	2 Year			3 No. of Years	4 Completed Developing Tapering Static	5 Site Area	6 Recommended Bulk	7 Actual Bulk	8 Efficiency Standard Shortfall	9 Rateable Value		10 % Adjust.		11 Adjusted Value		12 Time Forecast Completion Bulk	13 Indexed Cost Estimate	14 Remarks
	Purchase	First Asst.	Last Asst.							Land	Imp ^s	Land	Imp ^s	Land	Imp ^s			
115	1964	1965	1969	4	Developing	3 664	2 198	2 046	152	7 390	68 740	600	25	44 340	85 925	1	6 380	
258	1969	1970	1971	1	Completed	3 069	1 841	2 127	Nil	6 190	71 700	600	25	37 140	89 625	Complete	Nil	105,789
102	1964	1966	1971	5	Tapering	8 610	5 166	3 710	1 996	17 370	157 940	600	25	104 220	197 425	(2) 3 2 + 5	78 890	
124	1951	1951	1956	5	Static	6 785	4 071	2 015	2 056	13 690	62 400	550	25	75 290	78 000		96 740	
172	1956	1964	1971	7	Complete	8 543	5 126	9 505	Nil	17 230	191 290	500	25	86 150	239 110	Complete	Nil	
181	1956	1965	1966	1	Complete	7 811	4 686	5 140	Nil	15 760	194 600	500	25	78 800	243 250	Complete	Nil	
212	1968	1970	1971	1	Complete	9 993	6 000	7 180	Nil	20 160	102 250	500	25	100 800	127 810	Complete	Nil	
225	1966	1967	1969	2	Static	7 912	4 747	1 961	2 786	16 010	39 300	500	25	80 050	49 125	3 + 3	80 800	
229	1966	1968	1971	3	Tapering	8 107	4 864	1 487	3 377	16 030	52 550	500	25	80 150	65 690	3 + 7	190 400	
242	1966	1968	1969	1	Static	6 765	4 060	492	3 568	13 650	21 250	550	25	75 075	26 560	3 + 7	246 800	
244	1965	1967	1970	3	Tapering	8 296	4 978	2 973	2 005	16 740	120 010	500	25	83 700	150 000	3 + 2	115 120	
330	1967	1969	1970	2	Static	8 094	4 856	2 041	2 815	16 330	63 590	500	25	81 650	79 500	3 + 3	127 000	
161	1951	1956	1966	10	Static	12 309	7 385	3 580	3 805	24 820	115 440	450	25	111 690	144 300	? 3 + 10	205 500	
168	1971	1971	1971	1	Static	12 357	7 414	+7 300	Nil	24 920	281 100	450	25	112 140	351 375	Complete	Nil	
178	1966	1966	1970	4	Tapering	16 170	9 702	3 772	5 930	32 620	148 490	450	25	146 790	185 610	3 + 7	372 420	
203	1965	1969	1971	3	Static	16 181	9 708	5 430	4 278	32 660	343 690	450	25	146 970	429 610	3 + 3	391 800	
293	1968	1969	1971	2	Tapering	18 799	11 279	3 257	8 022	37 920	81 990	450	25	170 640	102 490	3 + 5	307 000	
147/8	Check	1962	1971	9	Tapering	23 060	13 836	8 322	5 144	46 520	307 420	450	25	208 120	384 275	? 3 + 6	303 150	
315	1966	1969	1972	3	Static	32 422	19 450	7 302	12 150	65 410	252 730	400	30	261 640	335 000	3 + 5	738 730	
154	1952	1963	1971	8	Completed	35 461	21 277	61 697	Nil	71 540	1 159 840	400	35	89 430	1 565 780	Complete	Nil	
159	1955	1962	1971	9	Developing	99 845	59 910	10 320	49 590	201 430	463 210	300	25	604 290	579 010	(3) 38 = 19 2	4 320 000	Accelerate completion
311	1955	1962	1971	9	Developing	113 334	68 000	26 425	41 575	114 320	1 179 940	300	25	342 960	1 474 925	14	2 612 500	Faster growth rate
186	C. C. C	1964	1968	4	Static	316 134	158 067	83 890	74 180	637 800	2 520 040	250	25	1 594 500	3 150 000	3 + 4	3 500 000	Lowered bulk to 50%
					Totals	813 755	438 621	261 972	223 429	1 466 470	7 999 420			4 716 355	10 134 195		13 693 230	

Column 2 comprises three readings on a time scale :-

- (a) the first is the year of purchase or acquisition
- (b) the second and third the years of first and last interim of general valuation assessment.

Column 3 By a simple deduction the number of years over which physical development has taken place can be ascertained, but the time lag between purchase and first assessment should also be examined when developing a more refined model.

Column 4 It is important to assess the characteristics of development as reflected by the valuation roll entries and other inquiry, including survey. Development tends to occur with a main phase and then a series of smaller additions or improvements, in other words a tapering off and this process will tend to become stative if the demand for the product has not materially changed and remains in equilibrium or in fact there is diminished demand and a lower equilibrium results. Other factors such as availability of labour, the cost of loan capital, management etc. all influence this factor.

Columns 6, 7 and 8 A desirable bulk equivalent factor having been previously determined, in Series 2.4 tables, the deduction of actual bulk from recommended bulk will not agree necessarily with column 8 figure in Efficiency Standard Shortfall, when a development has already exceeded the recommended bulk. In this instance Ref. No's 258, 172, 181 and 315 already exceed the standard level recommended and, in addition, it is thought expedient to reduce Ref. No. 186 (Epping Market) from bulk factor 0,6 (60%), to bulk factor 0,5 (50%) owing to the extensive circulation areas, which would still however, present perimeter development possibilities.

(CONTD)

Columns9, 10 and 11

Because rateable values are restricted to a level or tone of value at a particular date, there is a tendency for values to lag, sometimes well behind replacement cost and market values, if the cost index is rising sharply from inflation or other reasons. Under the Valuation Ordinance applicable in the Cape Province land is valued separately from improvements or buildings etc. and it is therefore expedient, if a forecast is to be made, to adjust the Valuation Roll figures to the date of scrutiny. The adjustment percentages expressed in column 10 and the resultant figures in column 11 do not purport to be accurate, but merely demonstrate the technique of arriving at an adjusted value. Column 11 figures may also indicate very positively to the Local Authority the need for updating the Valuations Roll. There has been a 10 year interval between General Valuations in Cape Town, 1956 to 1966, and even the 1966 Valuation Roll was not effective until 1969. There are sometimes good reasons for the lagging in the production of Valuation Rolls, for considerable property referencing, by measurement and recording is involved, but the basic information patiently prepared by Valuation Officers and their Assistants, often under considerable pressure from Town Clerks and City Treasurers, is generally speaking first class and provides the neglected platform for the launching of this Planning Model.

Column 12

results from a scrutiny of columns 3, 4, 7 and 8. Column 4 will indicate one of four characteristics :-

- (a) completion in terms of the 'bulk equivalent factor'
- (b) development is still taking place without marked taper.
- (c) taper is clearly evident
- (d) growth is static

Column 3, derived from subtracting the year of first assessment from the year of last assessment, will indicate the period of time to develop the actual bulk under column 7 and from this an average annual rate of 'bulk development' can be calculated which, if divided into the 'Efficiency Standard Shortfall' figure under Column 8 will give a time scale for completion.

(CONTD)

If development has tapered markedly or is static, the probability is that renewed development will be retarded and an estimate is that a figure of at least two years plus an additional year to promote the scheme would be realistic. In Column 12 therefore, if two figures are given, the first represents the reactivation of development and the second the time scale for completion.

Some refinement of the model in respect of time scale and taper is perhaps desirable, but clearly the subject of more detailed examination.

Column 13

Indexed Cost Estimate, in this instance where land has been allocated, applies to building developments only and is derived from dividing the actual bulk under Column 7 into the 'adjusted improvement value' under Column 11 to obtain a cost per square metre and then multiplying this figure by the 'Efficiency Standard Shortfall' figure to give an up-to-date cost. As the completion of development, in terms of the model, is spread over a number of years a cost index, if appropriate, must be applied, averaged over the 'Time Forecast' as defined in the preceding column 12.

No, it should be the reverse!
valuation

To simplify the model, columns 9, 10 and 11 could be eliminated, providing accurate building costs for each type of development are known. Their inclusion, however, is of particular advantage to Local Authorities as well as the Economic Planner.

4/8

Column 14

Specific adjustments to the analysis should be noted.

AGGLOMERATION

Series		No.	% Total No. of sites	% Actual Space Utili- sation
2.1	- Packaging	13	6,1	- 10,81
2.2	- Plastics	9	4,2	- 3,01
2.3	- Textiles/Clothing	12	5,7	- 6,65
2.4	- Food Processing	24	11,3	- 23,43
2.5	- Metal Works	9	4,2	- 3,81
2.6	- Furniture Mfcr.	7	3,3	- 3,84
2.7	- Building & Civil Engineering Contractor	20	9,4	- 7,16
2.8	- Building Suppliers/ Merchants	25	11,8	- 13,26
2.9	- Heavy Engineering	4	1,9	- 1,77
2.10	- Light Engineering	15	7,1	- 3,12
2.11	- Chemicals	7	3,3	- 1,4
2.12	- Pharmaceuticals	6	2,8	- 2,56
2.13	- Commercial	7	3,3	- 0,9
2.14	- Transport Services	6	2,8	- 1,26
2.15	- Salvage & Ancillary Activities	5	2,4	- 1,16
2.16	- Printing	8	3,8	- 3,92
2.17	- Light Mfcr.	4	1,9	- 1,59
2.18	- Special Mfcr.	2	0,9	- 0,87
2.19	- Motor Industry	5	2,4	- 1,4
2.20	- Warehouses	6	2,8	- 5,07
2.21	- Municipal Development	9	4,2	- 0,25
2.22	- Real Estate Variable	9	4,2	- 2,74
	TOTAL	212	99,8 %	99,98 %

POPULATION / AGGLOMERATION

The existing scope of the thesis simply did not permit further extension into the Population and Agglomeration characteristics save with the following brief comments.

Population

Had the time been available the Actual Bulk and Efficiency Shortfall relative to the assessed standards would have been measured against labour employed in the various industrial user categories in Epping to ascertain whether there were standard rates of labour occupancy, which could be extended in the Growth Model. The method would not be difficult to evolve and the results could prove of considerable interest.

Agglomeration

The proximity by centrality and the excellence of distribution from Epping to so many parts in Metropolitan Cape Town will tend to attract industries and of these summarised in Tables Series 2. 1 - 24, the percentages of the current total distribution, both in relation to the total number and the proportion of space utilised are summarised and compared in Table 4; Page 68 preceding.

There are some interesting cluster formations of similar type industries in Epping, and Plan No. 3 should also be examined.

CONCLUSION

This thesis is dated, but is not, in fact, a complete historic statement, for if the writer chides in the analysis of the present position as reflected by and deducted from the history of the Valuation Roll, he was most certainly not in possession of all the facts and the enormous problems which faced Cape Town City Council and its professional officers in promoting the Epping Industrial Townships 1, 2, 3 and 4. It is a statement at a point of time close to the present observable position, but already out of date, for cellular growth and changes in the urban form has gone on unabated during its preparation and the probability is that the views expressed would have to be adjusted to take cognisance of these changes.

It was written in the knowledge that the Valuation Roll of any urban settlement is the most valuable document that a Local Authority can possess, not merely because of its financial merit or advantage to the owners, but also because it accurately and faithfully records all the urban real estate assets, land and improvements thereon in that settlement.

In conclusion it is respectfully submitted :

- (1) "That the Valuation Roll of a Local Authority normally contains the basic information for the construction of an Urban Growth Model"

AND MOREOVER

- (2) That such a Growth Model is not limited as in the context of this thesis to - "a Method of Measurement and Analysis of Industrial Growth", but can, by simple adaption, be amended to meet forms of assessment of Urban Growth and even for the assessment of Urban Renewal Programmes.

APPENDIX "A" EPPING 1

1.

CONSOLIDATED VALUATION ROLL

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS	
											LAND	BLDGS		
101 consol	35/ET 26 A5 " "	9 488	3.12.63	17 706	1-87		Herjane Investments (Pty)	1964	3 400)	7 018	9 640	78 530	
								1964	168 750				54 990	
								1966	124 265				36 340	
								1967	36 340				800	
								1968	800				34	
							Reval	1969		7 052	19 140	247 770	+ 45 %	
								1971		254		13 660		
102 consol 32 & 30	35/ET 26 A3	8 610	12. 6.69	16 608	1-87		Zwaaf Amsterdam (S. A) Pty Milner Products	1964	16 608)	2 659	8 930	44 010	
								1966					35 620	
								1967					300	
								1968						
							Reval	1969		2 659	17 370	112 640	+ 41 %	
								1969	46 665			10 390		
								1970		± 1 051		31 050		
								1971				3 860		
103	35/ET 26 A2	4 520	29. 5.64	8 655	1-91		Lupini Bros. (Pty) Ltd.	1964	6 500		9 120	12 060		
			25. 8.67	39 300	8-69		Tanker Services Cape	1967				100		
							Reval	1969				534		15 780
								1969	17 505			± 120		1 890
								1971			100			

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
104	35/ET 26 A1	4 248	24. 4. 64	7 927	1-87		Maitsheet (Pty) Ltd.	1963 1964 1966		2 670	8 570	68 180 280	+ 46 %
							Reval	1969		2 670	8 570	99 870	
								1969 1970 1971	24 060	505		1 780 11 000 5 480	
105	35/ET 26 A19	10 374					Public Place				20 930		
106	35/ET 26 A19	367					Public Place				740		
107	35/ET 26 A10-15	317	14. 9. 66)			Epping Industrial Centre (Pty) Ltd.	1971	129 000	1 386	640	44 400	
108	11	317	)	)		1971			1 244		640	98 000
109	12	337	)	) 6 862	3-53	1972		1 000	±2 630		680	
110	13	337	)	)							680	
111	14	317	)	)							640	
112	15	317	)	)							640	
113	35/ET 26 A17	335					Public - Sub-Station	1965 1966		88	680	4 250 6 130	
							Reval.	do.					

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS													
											LAND	BLDGS														
114	35/ET 26 A9	3 580	24. 6.63	6 680	1-87		Acme-Leighton Tool Co.	1963	60 000	)	7 220														
								1964) 1 494	20 000											
								1965) 155	25 200									
								1965										1 768	480							
								1968												89	5 020					
								Reval.														1969	7 220	57 790	+ 14 %	
								1969														155	6 690			
								1969														16	880			
								1970														305)	8 200			
								1971														357)	9 620			
1971																										
115	35/ET 26 A8	3 664	4. 4.64	6 837	1-87		Barnett & Foster S. A. (Pty) Naarden	1963	1 250	)	7 390														
								1965						1 338	46 640											
								1968								300	10 450									
								Reval.										1969	1 638	7 390	68 740	+ 20 %				
								1969										408	11 460							
								1971										1 930								
116	35/ET 26 A7	3 975	23. 6.64	7 418	1-87		Eric Marsden Properties	1963	12 425	)	8 020														
								1965						163)	21 800											
								1966								167 330)	22 150									
								1966										362	9 750							
								1967												50	1 080					
								Reval.														1969	1 854	8 020	70 730	+ 29 %
								Fry's Metal Ltd.														1969				
116 A	35/ET 26 B1	362					Cape Town City Council S. S.	1956			600	3 120														
								1966			72	610		4 820												

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS	
											LAND	BLDGS		
117	35/ET 26 B 2	29 327	5. 57	35 036	1-19		Leyland Albion (Africa) Ltd.	1956	55 000	3 088	23 410	99 930	+ 22 %	
								1961		1 594		38 710		
												60 880		
												64 150		
												82 830		
								1965		57 120	59 170	147 200		
1966		226	17 220											
1966		1 534	25 680											
							Reval.	1969		6 542	59 170	232 360		
								1971		2 939		71 480		
118	35/ET 26 B 3	5 742	26. 1. 52	8 154	1-48		Matthew Hall (Pty) Ltd.	1952			6 950		+ 14 %	
										12 480				
			17. 2. 62	28 000			Samuel Osborne, S. A. (Pty) Ltd	1962		722	11 580	24 210		
							Reval.	1969		722	11 580	27 660		
119	35/ET 26 B 4	4 047	8. 9. 49	5 200			C. Rutherford & Son	1951				16 900	+ 26 %	
			11. 51					Reval.		1956	1 501	8 160		34 160
										1963				5 410
										1965	224			3 130
										1967	196			2 110
										1968	24			1 520
			Reval.	1969	2 150	8 160	58 210							
120	35/ET 26 B 5	5 036	13. 12. 47	6 346			Lupini Bros.			± 606	6 100	18 400	+ 25 %	
											± 624			18 930
								Reval.		1956	1 230	10 160		33 180
										1961	88			3 780
								Reval.		1969		10 160		48 970
										1970				100
			1969		178		197							

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS	
											LAND	BLDGS		
121	35/ET 26 B 6	38 564		49 554	1-28		African Oxygen & Acetylene	1956	8 600	4 705	77 800	169 930		
								1960		± 697				25 170
								1962		± 23				840
								1963/4		± 195				7 030
								1965		± 270				10 810
								1966/7		± 412				16 540
								1968		± 380				17 120
								Reval. 1969		64 420				6 682	77 800	276 980	+ 12 %
1969		± 733		31 570										
1970				10 150										
1971		± 485		10 740										
121 A	35/ET 26 B 7	5 103					C. C. C.	1956			3 580			
								1966			10 290			
122	35/ET 26 B 8	10 312	6.10.52	15 290	1-48		Peterson Ltd.	1956	175 885	4 064	20 810	154 000		
		27 737	16.10.67	274 807	9-91	Industrele Persele Milnerton (Edms).	1961-4	140		6 770				
							1967	) 210		10 000				
							1968	) 1 988		100 150				
							1968	) )		27 080				80 070
							Consol 1967	2 338						
							Reval. 1969	6 402		47 890				482 480
							1969	4 249						59 530
							1970	35						1 540
							1971	289						11 760
1971	234							9 120						
123	35/ET 26 B 9 See above						do. do.	1962	42 585		1 870			
							1967			14 290				
							1965			200				
							1966			850				

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
124	35/ET 26 B10	6 785	-.10.51	9 930	1-38		Pyott Ltd.	1949			8 210	-	+ 17 %
								1951				16 690	
								Reval. 1956		1 841	13 690	52 730	
								1967		5		220	
								Reval. 1969		2 015	13 690	62 400	
125	35/ET 26 B11	6 785	26. 6.65	13 414	1-98		Moulded Packaging (Pty).	1961	62 500	570		5 530	+ 44 %
								Reval. 1956		2 934	13 690	104 790	
								1964	) 251 015)			24 950
								1965		) 2 312		8 230
								1966		)		500
								Reval. 1969		5 816	13 690	199 160	
126	35/ET 26 B12	6 785	28. 3.51	8 384	1-24		Herbert Wilfred Taylor	1956		4 861	13 690	125 850	+ 21 %
								1963		12		1 810	
								1964		4 854		190	
								1969		4 866	13 690	154 980	
								127	35/ET 26 B13	9 042	14.12.50	11 172	
Reval. 1956		3 499	18 240	100 310									
1965				3 990									
Reval. 1969	23. 7.68	170 000		3 499	18 240	120 340							
1969 1971				363		10 450 600							

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS		
											LAND	BLDGS			
128	35/ET 26 B14	4 047	14.12.53	6 000	1-48		Gunners Circle Shopping Centre	1956		345	8 160	9 620	+ 38 %		
								1966	)			13 390		
								1967	) 23 300	395		1 490		
								Reval. 1969	)	706	20 410	34 010		
129) 130)	35/ET 26 B20	5 522	16. 4. 64	16 000	1-97		G. K. R. Mills Contractors Services Ltd.	1965 1965 1967/8 1968		1 754	11 140)		+ 16 %		
		8 093									16 217)	45 220			
		13 615										3 760			
												1 200			
												200			
												840			
			1969		27 470	59 650									
			1969	2 880	24	1 420									
			1971		32	1 940									
131	35/ET 26 B19	9 970	29. 4. 64	19 712	1-98		Moulded Packaging (Pty) Ltd.	1969-71	41 200	1 982	20 223		+ 23 %		
								1966				50 930			
								Reval. 1969				1 982		20 120	62 400
								1970 1970				944			23 320 3 090
132	35/ET 26 B18	8 616	24.10.51	10 646	1-24		Moulded Packaging (Pty).	1956		1 001	17 380	28 020	+ 17 %		
			1969					1 001			17 380	32 760			
			1969					1 000				400			
			8. 9. 66	6 125		do. do.									

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
133	35/ET 26 B 17	8 616	6.12.53	12 776	1-48		G. K. N. Twisteel (Pty) Ltd.	1956 1965 1965 1969	4 790	1 218 10 707 75 2 149	17 380 17 380 41 9 510 3 020 17 380	24 520 38 610 410 9 510 3 020 72 450	
134	35/ET 26 B 16	8 616	- 11.51	16 182	1-83		Papersacks (S. A.) Ltd. Reval.	1956 1961 1963 1965 1969	5 660	4 746 91 180 5 017	17 380 17 380 180 400	142 230 80 260 680 180 400	+ 26 %
135	35/ET 26 B 15	9 852	21. 1. 60	19 478	1-98		Spindle Row (Pty) Ltd. Reval.	1960 1961 1963 1965 1965 1969 1970	) ) 71 505) 3 800	1 544 2 367 3 911	19 880 19 880	54 400 7 190 30 120 100 127 530 6 120	
136	35/ET 26 B 22	34 358	9. 53	13 588	1-24		Gearing Foundry Ltd. Reval. Reval.	1963-6 1964 1965 1956 1967 1967 1968 1968 1969 1969 1970	39 700 ± 58 690 6 188 ± 410	660 110 4 000 411 757 250 6 188 ± 410	10 080 2 020 480 22 190 27 330 17 040 2 840 1 200 208 180 14 100 2 470		

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS										
											LAND	BLDGS											
137	35/ET 26 B 24	8 690	18. 9. 71.	10 738	1-24		Pactrite Industries (Pty).	1956	1 270	7 326	17 530	181 260	+ 27 %										
								1961				120											
								1965				200											
								1966				17 260											
								1969		7 469	17 530	253 380											
138	35/ET 26 B 25	17 671	11. 7. 58	40 000	2-28		Colprop Pty. Ltd.	1964	64 615	5 443	35 660	185 990	+ 22 %										
			1. 8. 64	175 000																			
			8. 2. 69	248 000																			
							Reval.	1969		6 503	35 660	227 000											
								1970	213 587	3 147		110 000											
								1970		738		25 780											
								1971		200		7 500											
138 A		454					Cape Town City Council	1966			920	5 700											
								1956		85	970	3 690											
139	ET 26 B 27	19 368	25. 8. 58	180 000	1-98		Solomon Stone's Props.	1956	2 872	5 176	39 070	148 360	+ 6 %										
								1960)	2 140			61 390									
								1961)	1 190			34 170									
								1963)	710			20 330									
								1964)	404			4 440									
								1965)	73			2 590									
								1966)	35			830									
								1967)	336			3 340									
																Reval.	1969)	32 415	10 075	39 070	293 180	
																		1970)			180	
								1971)														
140 A	ET 26 B 35	17 613					C. C. C. to W. P. Alsation Club	1966		77	34 630	3 010											
140 B		15 251					Cape Town City Council	1961			310 360												

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS ² AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
141	35/EV 26 A 1	18 632					Gearing Foundry Cape Town City Council Consolidated 136 Ref.				13 270		
142	35/EV 26 A 2	11 532	4. 8. 64	22 798	1-97		Vailit Road Products (Pty). Reval.	1954		1 612	23 260	-	+ 53 %
								1966				26 300	
								1966				12 140	
								1969				58 970	
1969	1 600												
1971	6 210												
143	35/EV 26 A 3	9 837	13. 1. 53	14 586	1-48		Lewis Construction Reval.	1956	7 320	60	18 750	45 170	
								1960				33 060	
								1961				2 620	
								1963				810	
								1965				4 760	
								1969				109 670	
1969	730												
1969	3 650	19 850											
144	35/EV 26 A 4	8 007	3. 5. 57 18.12.63	15 823 24 500	1-98 3-06		Cape Lime (W.P.) Reval.	1960+	57 630	1 569	16 150	560	+ 40 %
								63-65				38 270	
								1964				7 510	
								1966				100	
								1968					
								1969				64 400	
								1969				32 330	
1970	33 360												
145	35/EV 26 A 5	8 007	10.12.59	120 000			Union Government Reval. Reval.	1956		4 035	16 150	109 820	
								1966				131 090	

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS ₂ AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
146	35/EV 26 A 6	17 800	31.10.52	26 386	1-48		Michaels Fig Props. Ltd.	1956	79 540	2 104	35 900	147 650	
								1963)		50		3 530	
								1964)		-		100	
								1964)		614		43 000	
								1965		2 768		34 190	
								1966				150	
								1967				800	
								1968				120	
								1968				230	
										Reval.		1969		7 688	35 900	267 660	+ 17 %
		1969)	5 300		3 100								
		1971)											
147	35/EV 26 A 11-12-13	23 060					E. Sharp S. A. (Pty) Ltd.	1969	143 630	5 580	46 520	226 920	
	Consol.							1969				1 870	
								1970		2 371		59 380	
								1970				10 700	
								1971		230		2 160	
								1971		41		6 390	
148	35/EV 26							1956		± 50	20 730	159 730	
								1960				1 870	
								1962				660	
								1963		± 50		1 050	
								1965				160	
149	35/EV 26 A 10	15 649	24.11.50	19 490	1-25		Richards & Barlow Ltd.	1961	12 645	4 361	31 570	110 800	
								1962		76		2 330	
												2 030	
								1969		35 821		4 478		34 570	142 680	+ 24 %
							1971		469		13 240		
									233		6 260		

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS		
											LAND	BLDGS			
150	35/EV 26 A 9	7 732	28.11.67	85 000	10-99		Butchers, Brokers & Distrib. Ltd.	1956	22 000		15 610	38 950			
								1960				7 360			
			1964	660	1 324		15 610	43 650							
			1969												
25. 5. 68	50 000	6-47	Chema Holdings	Reval.	1969	181	11 990								
							1969	) 23 250	66		850				
							1969				940				
							1971								
151	35/EV 26 A 8	7 732	17.10.52	11 854	1-53		African Detinning Works (Pty) Ltd.	1956			846	15 610	29 140		
								1961					37		4 380
								1962							990
								1966					13		1 590
							Reval.	1969	991	15 610	37 300	+ 2 %			
152	35/EV 26 A 7	17 916	8.12.51	22 170	1-24		African Containers Co. (Pty) Ltd.	1956			5 188	36 140	205 100		
								1960					36 140		162 210
								1961							3 060
								1962							1 960
								1964					2 159		140
								1966							37 750
							Reval.	1969	) 55 760	8 247	36 140	279 760			
							1971	408			41 390				
153	35/EV 26 A 15	8 058	4. 6. 65	12 142	1-51		Brice Bros (Pty) Ltd.	1965			1 245	16 260	-		
								1966					)		17 940
													)		7 940
)		
) 20 250		16 260	68 310
							Reval.	1969		1 801		2 990			
								1970				5 250			
								1970							

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS ₂ AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
	35/EV 26 A14	-					City Council	Reval.	1969		15 360		
154	35/EV 26 A16	35 461	30.10.52	43 814	1-23		De Boren Ko-operative		1956 1963 1963 1967 1967 1968 1968	10 433 220 3 178 2 598	71 540	663 100 18 840 1 880 100 000 9 210 60 000 63 200	
								Reval.	1969	59 989	71 540	1 103 310	+ 20 %
									1969 1971 1971	309 670 546 367 795	23 510 15 800	23 510 15 200 17 220	
155	35/EV 26 A17	58 700	28.11.51	75 006	1-28		Arderne Scott Timbers		1956 1960 1961 1962 1963 1963 1965 1967 1967 1968 1969	7 080 182	118 430	382 160 4 340 940 5 530 1 560 6 850 4 510 13 000 12 650 2 820 1 830	
								Reval.	1969	27 950	118 430	670 110	+ 53 %
156	35/EV 26 A22	12 980	19. 7.65	18 192	1-40		Crown Warehousing (Pty) Ltd.		1956 1966 1967 1968 1968	) ) 40 680))	26 186 3 215	53 130 40 350 400 3 000	
								Reval.	1969 1969 1969	3 541	26 190	130 070 2 960 200	+ 34 %

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
157	35/EV 26 A 21	7 100	23.11.64	14 036	1-98		C. M. Abrams Reval.	1966 1969		3 130 3 130	14 320	84 140 112 340	
158	35/EV 26 A 20	14 163	30.10.51	17 500	1-24		Thorer Fur Processing Reval.	1956 1960 1964 1965 1967 1968 1969 1971	46 210 72 250	2 410 1 565 38 4 200 142	28 570 28 570	70 630 180 47 950 410 630 530 160 780 1 530	+ 34 %
159	35/EV 26 A 19 A 35	13 016	30. 9. 52	16 468	1-27		Western Steel Products Reval.	1956 1960 1961 1961 1965 1966 1967 1967 1968 1969 1969 1969 1970	20 400 140 465	 9 520 3 090	26 260 26 260	159 200 1 010 14 650 16 760 21 350 1 850 3 820 2 580 4 930 288 370 620 29 270 77 170	+ 28 %
159 A	35/EV 26 A 18	483					Sub-Station Reval.	1969		say 90	970	5 960	
159 B	35/EV 26 A 23	4 078					Cape Town City Council			-	8 230	-	

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS ₂ AREA m ²	M. V.		% INCREASE M. V. BLDGS	
											LAND	BLDGS		
160	35/EV 26 A 18	14 114	- 3.59	27 902	1-98		Yardley of London	1956	113 000	4 150	28 500	193 560		
								1961						
								1962			28 470	224 820		+ 16 %
								Reval. 1969						
1969	2 540	30 000												
1969			64 610											
161	35/EV 26 A 25	12 309	10. 9.51	13 000	1-22		Bashew Bros (Pty) Ltd.	1956		2 798	24 820	72 900		
								1960						
								1966			430	9 610		
							Reval. 1969			3 580	24 820	115 440	+ 39 %	
162	35/EV 26 A 26	48 000					S. B. H. Cotton Mills (Pty) Ltd.	61/3	360 190	6 383	52 970	179 610		
								1962						
								1966			700	80 000		
								Reval. 1969						17 100	96 840	782 530
								1969			513 000	444		12 000
1969	7 080													
1970	230													
1971	1 500													
162 A	35/EV 26 A 27	2 905					Railway Reserve C. C. C.							
							Reval. 1969				5 860			

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS ₂ AREA m ²	M. V.		% INCREASE M. V. BLDGS				
											LAND	BLDGS					
163	35/EV 26 A 28	48 068					Cape Steel Construction	1960		17 100	96 980						
								1965						152 210			
								1965						148 000			
								1966						70 620			
								1966						1 280			
								1966						18 610			
								1967						15 000			
								1968						8 050			
	Reval.	1969	195 805	21 600	96 980	599 370	+ 45 %										
		1969				11 530											
		1970		1 445		25 040											
						1971											
164	35/EW 24 A 12	22 434					Cape Town City Council	1966		-	45 260	-					
164 A	35/EW 24 A 13	33 640					Cape Town City Council Reval.	1969		-	67 820	-					
165	35/EW 24 A 15	20 594	28. 4. 65	40 712	1-98		Chespen Properties (Pty) Ltd.	1956		6 580	41 550	140 020					
								1966									
								Reval. 1969						6 580	41 550	195 450	+ 40 %
								1970						860		13 940	
1971	39 835																
165 A	35/EW 24 A 16	18 993					C. C. C. Fire Station	1966		2 110	38 320	132 940					

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMPs	COST OF IMPs	BLDGS ₂ AREA m ²	M. V.		% INCREASE M. V. BLDGS				
											LAND	BLDGS					
199	35/EW 24 A19	48 572					Must Holdings Ltd.				97 988		+ 16 %				
														1966	3 350	246 670	
														1967	205	6 180	
														1968	820	18 100	
														1968	151	6 300	
														Reval. 1969	4 525	97 990	321 940
														1969	150		8 310
														1969			1 600
1970	775		20 810														
1971	97		1 250														
166	35/EW 24 A9	36 191	2. 5.55	71 548	1-98		Boersaamwerk Beperk		179 450	34 690	73 020	946 120	+ 20 %				
														1956/9			
														1960		340	
														1963		1 090	
														1968	224	24 010	
														Reval. 1969	3 850	73 020	1 166 040
														1969	415		11 070
														1970) 117 800		60 000
1971	) 2 600	1 240	278 810													
1971			25 660														
167	35/EW 24 A11	483	1971			)	Sub-Station Transferred to W. P. Milk Products	Reval. 1969		172	970	4 790				
168	35/EW 24 A11 & 20	12 357				)	W. P. Milk Products	1971		± 6 160	24 920	232 000				
								1971		± 1 140		49 100					

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
169	35/EW 24 A4) Consol. A5) " A10	99 845	25. 7. 55	86 102	1-15		Imperial Cold Storage	1962	3 000	410		2 520	
								1964	5 000	100		3 750	
								1965	4 340	inc.		100	
								1967	11 940	525		10 000	
								1968		8 250	201 430	395 130	
								1968		315		13 030	
								1969		295		10 730	
								1970		592		10 440	
								1970				5 500	
								1971		163		3 060	
1971		705		25 320									
170	35/EW 24 A5 A21	37 698 446 12 873	- 7. 55	880 24 462	1-95		Imperial Cold Storage C. C. C. Western Province Milk Products (Pty) Ltd.					A. V. 970	
			25. 11. 64								A. V. 23 950		
			4. 6. 67										
171	35/EW 24 A6	8 543	6. 11. 67	65 000	7-61		Transcape Properties (Pty) Ltd.	1956	1 120		17 275		
								1962			20 030		
								1963			120		
								1965			1 000		
								1967			672		
								1968			5 661	70 000	
								Reval. 1969			6 333	17 230		181 280
1969		565											

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS					
											LAND	BLDGS						
172	35/EW 24 A7	8 543					Compressed Yeast (Pty) Ltd.	1956) 119 050	2 220	17 275							
								1964										
								1965										
								1966										
								1966										
								1967										
								1968										
								Reval. 1969) 27 895	27 895	17 230	170 690	+ 38 %
								1969)	155		20 050	
								1969)			150	
1971	)			400													
173	35/EW 24 A8	18 314	19. 4.53	32 206	1-76		Massey Ferguson S. A. Ltd.	1956) 1 970	3 189	36 950	79 130						
								1962										
								1964										
								1966										
								Reval. 1969						5 780	5 780	36 950	202 090	+ 92%
								1970									580	
1971		45		630														
174	35/EW 24 A1	26 886	27. 7.55	53 816	2-00		Premier Wire & Steel Co. Ltd.	62/64) 20 240	7 537	54 240	188 790						
								1963										
								1963										
								1964										
								1965										
								1966										
								1966										
								1967										
								1968										
								Reval. 1969						8 850	8 850	54 240	251 330	+ 21 %
1969		60		520														
1971		1 200																

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMPs	COST OF IMPs	BLDGs AREA m ²	M. V.		% INCREASE M. V. BLDGS						
											LAND	BLDGs							
175	35/EW 24 A 2	50 299	19.11.53	52 554	1-04		Metal Box S. A. Ltd.					(34 430 (67 040	163 550 12 340 43 560 400 250 109 000						
															1960	4 705			
															1962	480			
															1965	1 485			
															1965				
															1966				
															1968				
															Reval. 1969	6 670	101 480	301 700	- 8 %
															1969	3 780		128 800	
															1969			2 760	
1970	125		3 420																
1971	1 525		39 810																
176	35/ET 24 A 10	7 148	31.10.66	14 132	1-98		Mag Industrial (Pty) Ltd.		145 000	1 845	14 425	-	40 000 17 470 12 000						
															1960				
															1969				
															1969				
177	35/ET 24 A 14	13 048	12.11.65	24 668	1-89		Manlak Investments (Pty) Ltd.				26 325 88 320		20 000 52 400 27 790	+ 22 % inc. inc.					
															1966	3 140			
															Reval. 1969	137 930	26 320	107 940	
															1970				
															1970	3 140			
															1971	3 350			
178	35/ET 24 A 9	16 170	Jan. 66	167 400	9-09		Glenton & Mitchell				32 620	-	55 000 28 910 14 240	inc. inc. + 35 %					
															1961				
															1966)			
															1967	) 38 090		
															1967)			
															1968		3 400	32 620	148 490
															1969				3 500
1970		372		6 370															

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS	
											LAND	BLDGS		
179	35/ET 24 A 8	15 801	18. 8. 61	31 232	1-98		Mobil Oil (S. A) (Pty) Ltd.	1961	14 250		31 880		+ 72 %	
								1963						46 540
								1963						2 220
								1964						9 810
								1968						4 460
Reval. 1969	3 060	31 870	108 290											
1969	75		1 170											
1971			220											
180	35/ET 24 A 7	15 801	16. 4. 64	31 231	1-98		Bitroid Ltd.	1961			31 880			
								1965						600
								1965						70 000
								1967						150
								1968						36 950
Reval. 1969	2 330	31 870	94 330											
1969	1 760		41 630											
181	35/ET 24 A 6	7 811	22. 12. 70	285 000	36-49		S. Wainstein Prop. Invest. ^s Cape (Pty) Ltd. Boersake (K. P) Sentraal Ko-op Bpk.	1961			15 760		+ 35 %	
								1965						-
								1965						53 700
								1966						57 180
								1966						32 440
Reval. 1969	4 260		194 600											
1969	5 140	15 760												
182	35/ET 24 A 5	8 527	29. 6. 62	70 000	8-20		Rotocraft S. A. (Pty) Ltd.	1961			17 200		+ 48 %	
								1961						-
								1964						65 630
								1965						30 000
								1965						7 490
Reval. 1969	2 605		153 090											
1969	1 605													
1969	4 210	17 200												

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS ₂ AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
183	35/ET 24 A 4	4 047					Shell S. A. Ltd.	1965		30		600	+ 33 %
								1965		150		1 610	
								1966		709	8 160	29 820	
								1969		889	20 410	48 420	
186	35/ET 24 A 1	316 134					Cape Town City Council (Epping Market) Reval.	1964				450	
								1965/6		1 390		114 370	
								1968)		82 500	637 800	2 520 040	
								1969					
187	35/ET 24 A 15	29 740					Cape Town City Council Open Space				60 000		
188	35/ET 24 A 12	22 434					Cape Town City Council	1966/9			45 260		
189	35/ET 24 A 13	48 894					Hospital Trust Vacant				100 660		
	35/ET 24 A 18						C. C. C. G. V.	1966			570		
	/ET 24 A 20										540		
191	/ET 24 A 26						C. C. C. G. V.	1966			8 580		
192	/ET 24 A 28	10 421					C. C. C. G. V. Vacant	1966			21 020		

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS ₂ AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
193	/ET 24 A 27	225					C. C. C. (Sub-Station Site)	1966		-	450	-	
194	35/ET 24 A 19	1 457					C. C. C.	1966		± 1 457	540		(See 197 below)
195	35/ET 24 A 24	4 560					C. C. C.	1966			9 200		
196	35/ET 24 A 25	1 735					C. C. C. Public Space Parking	1966			3 500		
197	35/ET 24 A 16	713	27.10.66	7 665			C. C. C. Gunners Circle Bldgs. (Pty) Ltd. Eppindust Shops Etc.	1966 1970 1970 1971		) ±713))	320	10 000) 60 000) 39 510)	197 and 194
198	35/ET 24 A 29						C. C. C.	1966			4 250		

CONSOLIDATED VALUATION ROLL

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
201	36/EX 25 A 106	74 823	21. 7. 65	147 197	1-98		W. G. A. Ltd.	1966	) 908 840	24 300	150 950		+ 17 %
						1967	15 000						
				1968	235 000								
				1968	320 140								
				Reval. 1969	667 430								
		33 268	15.10.71	1 165 215			Southern Life & Colonial Mutual	1971					
202	36/EX 25 A 105	24 855	28. 9. 70	476 369			Schus Properties (Epping) (Pty) Ltd.				50 142		
202 A	36/EX 25 A 3	16 702					B. S. B. (Hides & Skins)			± 4 180			
203	36/EX 25 A 5 Consol. with A 9 (now all 5)	16 181	12.11.65	32 650	1-98		Epping Cold Storage (Pty)	1966	) 235 635	2 800	32 660		
								1969				60 000	
								1970				119 080	
								1971				65 640	
								1971				98 970	
204	36/EX 25 A 7	9 112	12. 9. 68	27 018	2-97		Risray Investments (Pty) Ltd.	1966			18 380	-	
								1969		1 045		31 510	
205	Deleted												
206							Not Recorded.						
207	36/EX 25 A 4	8 223	1. 6. 66	16 256	1-98		Brantel Investments (Pty)	1966			16 590		
			27. 9. 68	27 080	3-29			1969				106 150	
								1970				23 530	
								1971				1 920	
								1 150	46				

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS		
											LAND	BLDGS			
208	36/EX 25 A 2	8 223	1. 6.66	16 250	1-98		Protem Investments	1966	38 840	1 790)	16 260		32 000		
								1967						17 350	
								1967							
								1968							200
								Reval. 1969							
1970	196		2 200												
1971	900		27 430												
209	36/EX 25 A 6	9 903	4. 7.66	19 579	1-98		Tyrol (Pty) Ltd.	69-70	168 095		19 050				
								1966			19 980		40 010		
								1966					42 830		
								1970		± 2 100)			2 890		
								1970		± 70)					
								1971							
210	36/EX 25 A 8	18 807	30. 3.69	55 749	2-97		Acosa (Pty) Ltd.	1966			37 930		18 410		
								1970					66 480		
								1970	23 650	2 500)			7 890		
								1971		465)					
211	36/EX 25 A 72	26 836	20. 6.68	79 635	2-97		Not recorded.	1966		-	54 180	-			
212	36/EX 25 A 67	9 993	31. 1.68	29 634	2-97		Gestra Epping (Pty) Ltd.	1966			20 160		10 000		
								1970		)			131 000
								1971	323 480	7 180)			77 250		
								1971)					
213	36/EX 25 A 71	8 255	23. 1.68	24 480	2-97		Harmont Investments (Pty) Ltd.	1966			16 660				
								1970	86 475	-					

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											LAND	BLDGS	
214	36/EX 25 A17	8 255	14. 7. 66	16 320	1-98		Gerald Bags Investments (Pty) Ltd.	1966 1967 1967	32 270		16 380	16 000 14 190	+ 25 %
							Reval.	1969 1971		710	16 650	38 640	
214A	36/EX 25 A15	238					C. C. C. Sub-Station	1966		77	480	5 380	
215	36/EX 25 A66	8 324	16.11.67	24 682	2-97		M. A. N. Diesel Props (Pty) Ltd.	1969 1969) 176 250)	± 3 325	16 790	120 000 23 070	
216	36/EX 25 A14	8 561					Sharian Investments (Pty) Ltd.	1966 1968 1968	54 375	1 976	17 272	36 050 55 460	+ 26 %
							Reval.	1969		1 976	17 270	69 850	
								1970 1971		1 488		11 000 28 790	
217	36/EX 25 A13	19 829	9. 7. 65	39 200	1-98		Copelowitz Props (Pty).	1966 1966	22 595		40 050	31 550	+ 45 %
							Reval.	1969		2 868	40 000	45 700	
								1969		182		8 880	
								1970 1970		3 500 233		37 510 5 750	
218	36/EX 25 A12	6 959	10. 6. 68	35 500	5-10		Epton (Pty) Ltd.	1966 1969			14 040 14 040		
							Reval.	1970 1971	53 600	± 240 ± 620		10 300 26 690	

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS ₂ AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
219	36/EX 25 A11	26 413					Public Place C. C. C. do.	1966 1969		-	53 290 53 290	- -	
220	36/EX 25 A16	8 561	29.10.65 31. 7.70	16 925 68 884	1-98		Acrow Engineering W. A. De Viger	1966 1968 1969 1969 1971) 46 140)	56	16 930 17 270	15 550 3 000	+ 103 %
								987		17 270	37 710		
								46			2 940		
221	36/EX 25 A18	16 990	26.10.66	33 588	1-95		Workshop Investments (Pty) Ltd. Reval.	1966 1968 1968 1969 1969 1970 1970 1971) 156 175))		33 590	15 000 55 260	+ 45 %
								2 596		34 280	101 660		
								745			10 440		
								402			1 450		
								77			3 070		
								26		660			
222	36/EX 25 A19	18 417	7. 9.66	36 409	1-98		Norbury Investments (Pty) Ltd.	1966 1968 1969 1969 1970 1970 1971	42 150	1 983 436 50 30 13	36 410 37 160	43 000 20 000 56 240 12 470 1 190 180	
223	36/EX 25 A73	27 382	24. 6.61	54 165			Malleco. (Pty) Ltd.	1966 1969	387 440		24 000 54 140	- 200 000 inc.	

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS ₂ AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
224	36/EX 25 A 68	18 851	1969				Frikkie Neethling Beleggings	1970 1970	425 325	7 493	38 030	- 212 610 61 510	
225	36/EX 25 A 22	7 912	7. 6. 66	15 693	1-98		Miraxneve Investments (Pty) Ltd. Reval.	1966 1967 1967 1969	47 740	1 961	15 695 16 010	- 24 410 7 880 39 300	
226	36/EX 25 A 28	18 890	11.10.66	37 344	1-98		Coteasi (Pty) Ltd. Reval.	1967/9 1969 1970 1971	91 500	2 174	38 110	75 380 500 730	
227	36/EX 25 A 29	7 042	7.11.66	13 922	1-98		Felber Investments (Pty) Ltd.	1969 1967 1971	34 200	1 372 938	14 210	41 350 23 910	
228	36/EX 25 A 25	7 281	7. 9. 66	14 393	1-98		Pacor (Pty) Ltd. Reval.	1966 67/8	113 280	1 923	14 395 14 690	55 580 67 880	
229	36/EX 25 A 30	8 107	16. 6. 66	16 000	1-97		Janpak Investments	1966 1968) 1969) 1970) 426 250 1970) 1971)		1 463 24	16 033	- 52 240 100 210	

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS		
											LAND	BLDGS			
230	36/EX 25 A 25	8 107	22. 2. 66	16 027	1-97		Baymar Investments (Pty) Ltd.	1966) 1967) 1968) 1968 )	) 100 275 )	) 1 834) 149	16 355	-	+ 12 %
						Reval.	1969	16 360			50 350				
							1969				13 630				
							1970 1971	365 918			2 000 22 700				
231	36/EX 25 A 24	12 166	15. 9. 65 9. 9. 68 6. 10. 69	24 050 24 545 200 000	1-98		Critall-Hope Renco Industries (Pty) Ltd. Prehol Properties (Pty)	1969) 1970) 1971 )	) 162 270	) 1 489) 6 644	24 545	1 000 55 750 201 460 10	
232	36/EX 25 A 21	16 333	29. 7. 65	32 368	1-98	1-	Durban Falkirk Iron Co.	1966) 1967) 1969) 1970)) 137 050)) 1 678)	32 270	96 650	+ 20 %
						Reval.		128					1 370		
233	36/EX 25 A 83	16 196	23. 4. 69	48 025	2-99		Evelyn Haddon The Legal & General			7 679	34 700	226 070			
234	36/EX 25 A 70						Consol. 235								
235	36/EX 25 A 94	12 565					Rigid Containers (Pty) Ltd.				26 290				
236	36/EX 25 A 26	13 483	3. 11. 66	26 655	1-98		Rigid Containers (Pty) Ltd.	1966) 1968) 1969) 1971 )	) 399 450 )	) 8 633)	26 660	159 170	+ 69 %
						Reval.		27 200			268 440	45 520			

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS ₂ AREA m ²	M. V.		% INCREASE M. V. BLDGS	
											LAND	BLDGS		
237	36/EX 25 A 84	4 816	31. 3. 69	47 827	9-94		Rutherford (Pty) Ltd.				9 100	-		
238	36/EX 25 A 87	8 737	31. 3. 69	95 465	10-93		Co - Ep Fish Investments				17 730	-		
239	36/EX 25 A 85	1 051								470	2 120	19 000		
240	36/EX 25 A 86						No Entry.							
241	36/EX 25 A 74	4 249	31. 3. 69	47 574	11-20		Typhoon Manufacturers (Pty) Ltd.	1970 1970		2 787	8 570	60 000 34 410		
242	36/EX 25 A 38	6 765	20. 7. 66	13 372			Nucleus Products (Pty) Ltd.	1966 1968 1968 1969	1 820	492	13 640 13 650	3 000 13 490 21 250		
243	36/EX 25 A 39	2 139					C. C. C.				4 310			
244	36/EX 25 A 33	8 296	31. 8. 65	16 400	1-98		Caperalo Investments (Pty) Ltd. Reval.	1966 1966 1967 1969	140 685))) 7	2 966	16 400 16 740	45 000 48 260 119 300 710	+ 28 %
245	36/EX 25 A 35	8 393	21. 2. 66	16 592	1-98		Union Liquid Air Reval.	1966 1967 1967 1969 1969)))))	1 750 1 519 234 113	16 590 16 930	16 800 36 840 66 930 2 800	+ 25 %

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS. AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
250	36/EX 25 A 64	8 622	12. 3. 68				Packprop (Pty) Ltd.	1969 1969 1970 1971		2 080)) 71 588	17 390	- 50 000 41 750 2 280 30 060	
251	36/EX 25 A 78	4 669	31. 3. 69	55 264	1-80		McDucar Cabines (Pty)	1971(2)	151 390	3 352		79 350	
252	36/EX 25 A 82	1 893	31. 3. 69	19 320	10-19		Jadvan Properties	1970 1971	82 740	1 688	3 830	- 9 000 46 700	
253	36/EX 25 A 69	907					Not Recorded				1 803		
254							Not Recorded						
255	36/EX A 25 101	2 112	6. 2. 70	27 266	12-91		G. T. S. Holdings (Pty) Ltd.				4 260	-	
255	36/EX A 25 98	2 582	17. 7. 70	36 148	14-00		Ten-Up Properties (Pty).	1971	71 450		5 210	48 890	
257	36/EX A 25 80	2 990	31. 3. 69	31 841	10-65		Shutterite (Pty) Ltd.	1969(2) 1970 1971 1971(2)		) ) )	6 030	10 000 43 600 17 670	
258	36/EX A 25 92	3 069	31. 3. 69	31 787	10-36		Windowcraft (Pty) Ltd.	1969 1970 1971 1971		) ) 2 127)	6 190	2 000 36 300 33 400	

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMPs	COST OF IMPs	BLDGS ₂ AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
259	36/EX 25 A 79	2 593					Castcon Products (Pty) Ltd.	1970 1971 1971		1 940	AV.5 230	65 670 1 000 18 100 46 570	
260	36/EX 25 A 90	2 989					Simplified Joinery (Pty) Ltd.	1971		2 131		77 830	
261							Undeveloped.						
262							Not Recorded.						
263							Not Recorded.						
264	36/EX 25 A 95	927	17. 7.70	13 997	15-10		Centrifugal Investments (Pty) Ltd.	1969 1971		628	1 870	19 650	
265	36/EX 25 A 97	907	6. 3.70	10 065	11-10		Jefs Properties (Pty).	1971	28 490	± 400	AV.1 830	17 540	
266	36/EX 25 A 91	1 938	6. 3.70	20 527	10-59		Chanarin Investments (Pty) Ltd.	1969 1971	115 770	D/S ± 700	3 910	29 000	
267	36/EX 25 A 50	17 630	6. 5.66 1. 2.71	34 851 195 620	1-98		Julep Investments Packer Ave Props. (Pty) Ltd.	1966			34 870 35 570		
268	36/EX 25 A 46	8 209				11-09	Packer Avenue Props. (Pty).	1966 1968 1968(2)		2 890	16 299	15 000 66 930	
		25 840					Reval.	1969 1970 1970		2 890 Consol.	16 560 52 130	87 090 5 580 1 660	+ 6 %

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
269	36/EX 25 A 43						C. C. C. Sub-Station			76	480	5 350	
270	36/EX 25 A 49	9 186	11. 8. 69	18 159	1-98		F. R. Waring (Pty) Ltd.	1969(2) 1970(1)	19 639	6 561	18 530	70 000 121 900	
271	36/EX 25 A 44	24 176	25. 8. 66	47 794	1-98		Federated Contractors & Engineers	1966 1967 1967 1968		994	48 770	10 000 2 000 6 390	
274	Incorporated						Reval.	1969 1969(1) 1971 1971(2)		1 599 503) 935)	48 780	14 590 24 690 86 990 3 100	
272	36/EX 25 A 42	25 143					C. C. C. Public Place	1966		-	50 730	-	
273	36/EX 25 A 41	6 959	10. 6. 68	21 750	3-13		Rayheld Centre (Pty) Ltd.	1969 1970 1971	168 525	2 811	14 040	- 20 000 122 790 1 010	
274							See 271						
275	36/EX 25 A 47	9 186	4. 10. 66	15 160	1-98		Joseph Rubbi (Pty) Ltd.	1966 1969 1970 1970 1971 1971	17 845	) 1 343) 366 245 30	18 160 18 530	41 810 29 120 6 800 790 160	

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
276	36/EX 25 A 48	8 638	25. 8. 66	17 078	1-98		Noursepp Props (Pty) Ltd.	1966			17 080		
277	36/EX 25 A 45	8 638	25. 3. 66	17 078	1-98		Noursepp Props (Pty) Ltd.	1966 1968 1968(2)	4 295	1 440	17 080	4 000 44 810	
							Consol.	1969 1969 1970	37 265	1 440 31 4 038	34 860	63 310 870 119 990	
278	36/EX 25 A 65	8 617	25. 8. 66	17 035	1-98		Tar Industries (Pty) Ltd.	1969 1970 1971	122 880		17 380	71 170 32 560	
279	36/EX 25 A 103	5 380	17. 7. 70	29 050	10-00		Xactics (Pty) Ltd.			-	5 860	-	
280	36/EX 25 A 75	2 905	8. 3. 71	31 776	12-00		Seamich (Pty) Ltd.				57 210		
281	36/EX 25 A 76	2 615	6. 2. 70	36 607	12-00		Willie Krause			-	5 270	-	
282	36/EX 25 A 59	25 572	23. 8. 67	75 832	2-97		Transcape Steels	1966 1970 1971	361 400	893 5 166	155 230	3 000 143 810	
283	36/EX 25 A 60	18 070	6. 2. 69	53 583	2-97		Wolpe Fashions Holdings				36 460	-	
284	36/EX 25 A 54	8 116	25. 8. 66	16 025	0-20		Baltimore Aircool Props.	1966 1968(1)	37 025	1 774	16 030	36 790	
							Reval.	1969 1971 1971		) 1 449	16 350	52 320 21 400 17 590	

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMPs	COST OF IMPs	BLDGS ₂ AREA m	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
285	36/EX 25 A 55	17 276	1. 6.66	34 152	1-98		Sholem Props. (Pty) Ltd.	1966 1969 1970 1971	190 200	3 802 1 379	34 850	- 128 500 17 000 330	
286	36/EX 25 A 57	8 106	29. 7.65	16 025	1-98		Prefco (Pty) Ltd.	1966 1969 1970 1971		) 2 158) 34	16 350	19 000 46 440 730	
287	36/EX 25 A 56	11 583	5.12.66	22 899	1-98		Atbar Properties (Pty) Ltd.	1970) 1970) 292 160 1971)		2 701 5 531	23 370	- 91 060 51 000 124 500	
288	36/EX 25 A 61	12 391					Not Recorded						
289		17 728					Not Recorded						
289 A		1 943											
290													
291	EX 25 A 53	7 838	17. 3.66	15 495	1-98		Bond Brick Properties Reval.	1966 1967(1) 1967(2) 1969	33 001	2 457)) 2 470	15 810	40 000 33 380 88 470	

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS	
											LAND	BLDGS		
292	36/EX 25 A 52	26 252	4. 4.66	51 896	1-98		Purcell Yallop & Everett	1966	96 460) 2 890	52 950			
								1967(1)						
								1967(2)						
								Reval. 1969						
								1971						
293	36/EX 25 A 58	18 799	1. 8.68	55 744	2-97		John Church Holdings	1968/71	93 045) 3 257				
								1969(1))				
								1969)				
								1971(2))				

APPENDIX "A" EPPING 3

CONSOLIDATED VALUATION ROLL

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS	
											LAND	BLDGS		
301	35/EZ 25 A 3-6	64 787	25. 7. 66	128 076	1-98		Dacres Ave. Props. do. do. (Sedgwicks)	1967(1)	31 975	) 24 253)	130 761)		
		11 740	17. 7. 67	23 029	1-98	1967(1)		23 707)			
		76 527	29. 1. 72	1 725 000	22-25	6-67		Herzberg Mullne			1968	400 000		
											1968	592 000		
Reval.	1969		154 390	1 281 657	+ 29 %									
302	35/EZ A 2	8 094	18.11.66	15 999	1-98	Dacres Ave. Props.	Reval.	1967(1)	15 650	) 664)) 576) 1 240	16 000)		
								1968			14 240			
								1969			16 330	17 570		+ 23 %
								1970				3 700		
								1971				18 200		
1971		4 380												
303	35/EZ 25 A 5	8 397	8.11.66	16 598	1-98	Ojowi (Pty) Ltd.	Reval.	1967(1)	111 350	) 1 450) 1 450) 568) 1 268) 1 461	16 600)		
								1967(2)			30 370			
								1968(2)			39 870			
								1969			16 990	88 580		+ 26 %
								1969(2)				15 280		
1971(1)		61 390												
1971(2)		13 640												

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
304	35/EZ 25 A 7	18 615	14. 3. 68	55 201	2-97		Eian Investments (Pty) Ltd. Reval.	1967 1969 1969(2) 1970	311 925	6 695 199	36 800 37 560	226 930 3 700	
305	EZ 25 A 66	25 890	29.12.66	51 131	1-97		N. T. C. Steel Ltd. Reval.	1967 1969 1969(1) 1969(2)	235 000	) ) 5 457	51 190 52 230	120 000 23 470	
306	EZ 25 A 1	19 902		59 018	2-97		Power Engineers (Pty) Ltd.	1966 1969 1969(2) 1971(2)	249 500	4 885	40 150	- 80 000 66 150 280	
307	36/EZ 25 A 4	32 200	1967		1-98		Denhagen Investments (Pty). Reval.	1967 1969 1970 1971(1)		14 549	63 660 64 960	- 336 000 141 080	
308							Consolidated with above.						
308A	36/EZ 25 A 11	± 740					C. C. C. Sub-Station	1969		96		6 720	
309	36/EZ 25 A 16	25 175	2. 7. 68	74 681		2-97	Kalley Properties	1970/1 1971 1971(2)	341 780		25 390 - -	- 81 200 70 610 62 170	) ) inc.)

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMPs	COST OF IMPs	BLDGS ₂ AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
310	36/EZ 25 A13	18 862	18.12.67	55 932		2-97	Sebson Investments (Pty) Ltd.	1967 1967 1970(1)	173 925	4 689	32 000 19 025	- 168 900	
311	36/EZ 25 A12	113 334	26. 4. 66	224 408		0-20	Bofor Properties (Pty) Ltd.	1969 1970 1970 1971 1971	1 764 300	26 425	114 320	158 000 342 000 500 000 84 180 92 240 3 520	
312	36/EZ 25 A15	18 882	22. 2. 68	55 990		2-97	Projecta (Pty) Ltd.	1971	486 200		19 050	- 7 000	
313	36/EZ 25 A15 See 403 Plate Glass 36/EZ 25 A22	16 449	18.10.68	48 477	2-95		Plate Glass Properties (See 403)	1966 1970 1970(2) 1971			16 590		
314	36/EZ 25 A37	24 953					Vereeniging Tiles Ltd.	1969 1969(1) 1969(2) 1971	5 765		50 340	10 000 89 270	
315	36/EZ A36	32 422	10. 8. 66		1-78		Pepsi-Cola Bottling Co. (Pty) Ltd.	1969 1970 1970(2) 1971(2)	312 630	) ) 7 302	65 410	120 000 132 610 120	

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS ₂ AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
316	36/EZ 25 A 32	12 432	28.10.66	24 577		1-98	Texall Properties	67/71	345 595	± 7 035	25 080	276 390	
317													
318	36/EZ 25 A 31	20 231	23. 6.66	89 994		1-98	Leesbak Investments (Pty)	1967 1967(1) 1967(2)		8 057	40 000 40 820	30 000 157 080 274 800	
319	36/EZ 25 A 33	39 778	19. 7.66	78 631		1-98	African Containers Co. Ltd.	1970 1971	335 745	± 6 100 Inc.	78 650 80 250	67 000 195 650	
320	36/EZ 25 A 35	8 096	18.11.66				Sevasti (Pty) Ltd. Reval.	1967 1969 1970 1970(2) 1971 1971(2)		) ) ) ) ) ) 4 101	16 000 16 330	18 000 45 070 68 010 3 220	
321	36/EZ 25 A 34	8 936	29.11.66	17 665	1-98		Brukel Investments (Pty). Reval.	1967 1968 1969 1969(1) 1969(2) 1971	3 680	667 16	17 670 18 030	10 090 15 000 5 000 9 820 720	+ 48 %

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
322	36/EZ 25 A 38	8 927					Bimax Investments (Pty) Ltd.	1969 1968 1969 1970	257 800	1 782	18 080 18 010	55 060	
323	36/EZ 25 A 39	8 927	13. 8. 68	48 511	5-43	-	A. Barker & Son S. A.	1969 1970 1970(2) 1971(1) 1971(2)	407 300	) ) 11 651) 11	33 000	200 000 165 000 57 000 360	
324	36/EZ 25 A 69	18 712	19.11.68	71 486			Not Recorded.	1971(1)			Agreed 48 630	8 000	
325	36/EZ 25 A 45	17 903	10.11.67	53 090			Skiliad Enterprises	1969(1) 1969(2)	106 230	2 431	36 120	40 000 37 670	
326	36/EZ 25 A 46	8 351	1. 3. 68	24 763	2-97		Isobar (Edms) Bpk.	1971	159 455	710 + 116	16 850	29 720 4 010 1 000	inc. inc.
327	36/EZ 25 A 71	12 138	29. 6. 67	60 875	2-97		Cadema Properties C. C. C.	1967 1970	198 460		16 850	147 560	
328	36/EZ 25 A 41	20 234	29. 6. 67	59 998	2-97		Venus Clothing Reval.	70/71 1967 1969 1970 1971(1)	367 980		40 000 40 820	65 000 160 870	

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
329	36/EZ 25 A 48	16 187	26.10.67	48 000	2-97		H. M. S. Distributors	1970 1966 1970 1971 1972	570 000	± 650 180 ± 3 360 ± 760 4 950	A. V. 38 660	28 000 135 590 40 520	
330	36/EZ 25 A 44	8 094	28. 9.67	24 001	2-97		Arora Drinks & Foods (Pty)	1968 1969 1969(1) 1969(2) 1970	57 500	1 984 57	16 330	30 000 33 160 430	
331	36/EZ 25 A 43	1 748					Ault & Wiborg Co.	1969 1969(1) 1969(2) 1971(1)	41 508	± 140 ± 130 ± 20 ± 570 ± 860	A. V. 35 270	6 000 5 660 1 150 22 820	
332	36/EZ 25 A 47						C. C. C. Sub-Station			98		6 870	
333	36/EZ 25 A 4	8 094	28. 9.67	24 000	2-97		Casma Mfcr. & Co.	1966 1970 1971(1)	288 940	3 856	16 330	90 000 69 960	
334	36/EZ 25 A 50	10 236	3. 4.67	53 090	5-19		Barlows Mfcr. Props.	1970 1971(1)	145 110	2 963	32 120 37 120	50 000 65 910	
335	36/EZ 25 A 54	18 020	18.12.69	53 438	2-99		Berktsil (Pty) Ltd.		-	± 1 440 incompl.	18 170	62 000 inc.	

APPENDIX "A" EPPING 4

CONSOLIDATED VALUATION ROLL

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
401	EAA 25 67	26 412					P. O. S.	1966			26 640		
402	EAA 25 A 61	6 959					C. C. C.	1966			7 020		
403	EZ 25 A 22 (See 313 36/EZ 25 A 22)	82 878	20.10.68	163 840	1-98		Plate Glass Properties	1970 1970 1971		6 466 13 520 9 548	A. V. 83 600	1 026 680	
404	EZ 25 A 23	32 375	23.12.65	64 800	1-98		Conlew Properties	1969 1971 1971			32 660	8 790 7 600 59 990	
405	EZ 25 A 25	8 094	25. 6. 69	24 000	2-97		Vehicle Body Building (Pty) Ltd.	1971(2)		± 230 incompl.	8 160	10 000	
406	EZ 25 A 24	9 309	9. 4. 68	27 603	2-97		Laymond Investments				9 390		
407	36/EZ 25 A 21	47 151	1969		2-97		Frye Starck				45 660		

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMPs	COST OF IMPs	BLDGS ₂ AREA m	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
408	36/EAA 25 A 2	49 641	3. 4. 68	147 200			Metal Box Co. of S. A.	1969 1970(2) 1971(1) 1971(1) 1971(2)		± 19 530	50 070 100 270 736 360 104 530	112 000 298 700 325 660	inc. inc. inc. Total
409	36/EAA 25 A 3	24 281					Hillman Investments	1971(2)		± 5 140	24 490 49 050 49 050	115 000 221 320	inc.
410	36/EAA 25 A 7	41 741					Mewa Manufacturing						See 408
411	36/EAA 25 A 5	±12 193	9.11.67	35 999			Cape Mountain Holdings				24 520	-	
412	36/EAA 25 A 4	14 835	25.10.68	43 990			William De Vries (Pty). Vribuild Investments (Pty) Ltd.	1969 1971 1971(2)		42 603	14 950 29 940 29 940	36 100 100 810	inc.
413	36/EAA 25 A 6	19 770					Lastonet (Pty) Ltd.				19 940 A.V.	-	
414							P. O. S. (Erf 101503) Public Place						

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMPs	COST OF IMPs	BLDGS ₂ AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
415	36/EAA 25 A	10 245					W. S. Thomas-Taylor						
416	36/EAA 25 A 16 - 20	84 373					P. O. S.	1966			85 110		
417	36/EAA 25 A 13	12 370	10. 6. 68	36 680	2-97		Masterthreads				24 740	-	
418	36/EAA 25 A 12	16 187	15.11.67	48 000	2-97		Maxmore Investments (Pty) Ltd.	1969 1971 1971(1) 1972(2)	571 000 74 000 645 000	± 6 690	16 320 32 690 32 690	20 000 87 590 250 870	
419	36/EAA 25 A 14	32 378	24. 8. 68	96 001	2-97		Stanley Porter	1969			43 910 A. V. 65 660	-	
420	36/EAA 25 A 11 Erf. 102571	20 060	29. 1. 68	60 000			Gresmac Investments (Pty) Ltd.	1971(1)	130 050		20 400 40 870	102 000 inc.	
421	36/EAA 25 A 54	18 022					Not Recorded.						
422	36/EA 25 A 72	±11 000					Not Recorded.						
423	36/EZ 25 A 51	8 093	7. 5. 68	24 000	2-97		Langman Investments (Pty) Ltd.	1969 1969(1) 1969(2)		1 903	8 160	40 000 16 800	

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
424	36/EAA 25 A 53	10 549	9. 4. 68	31 550	2-99		Not Recorded						
425 & 428	36/EZ 25 A 62	59 070	2. 11. 68	173 583	2-94		Dickinson Robinson (Pty).	1969 1970(2) 1971(1) 1971(2)		1 208 8 12 843	59 150	56 410 219 310 208 690	
426	36/EAA 25 A 64	27 392					P. O. S.						
427	36/EAA 25 A 63	6 941					P. O. S.						
429	36/EZ 25 A 65	8 094	16. 4. 68	23 999	2-97		Coastguard (Pty) Ltd.	1969 1971(2)		±1 616	8 160 65 290	69 590	inc.
430	36/EZ 25 A 68	14 488	25. 10. 68	42 961	2-97		Wonspec (Pty) Ltd.	1970(2) 1971(1)		10 169	14 610	80 500 273 590	
431	36/EZ 25 A 52	45 367					Vacant						
432	36/EAA 25 A 32	8 094	26. 9. 68	23 999	2-97		Ian Dickie Holdings (Pty).	1971 1971(2)	62 050	2 364	16 350	7 010 53 820	

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
433	36/EAA 25 A 26	10 683	March '72	193 000			Hewett Ave. Props. (Pty). (Cerebos) Barlows (D.P. Sale)	1969 1971 1971		1 862	1 080 21 580	52 000 6 820	
434	36/EAA 25 A 29	8 094	23. 8. 68	24 000	2-97		Myer Goldberg (Pty) Ltd.	1969 1971		±2 830	16 350	42 630 87 290	
435	36/EAA 25 A 30	7 538	3. 9. 68	22 353	2-97		Halliday Properties (Pty) Ltd.	70/71 1969 1971 1971(1) 1971(2)	109 380	1 641	7 600 15 230	35 000 34 430	
436 & 437	36/EAA 25 A 28	73 655	9. 11. 67	218 406	2-97		Herzberg Mullne			10 669	74 240 148 780	143 090 166 930	
438	36/EAA 25 A 36	8 095					Gypsum Industries	1971(1)	62 655	± 500	8 160 16 350	20 000	
439	36/EAA 25 A 41	8 094	12. 12. 67	24 000	2-97		S. A. Uitgerawins Maatskappy S. A. V. M.			915	16 350	23 000 5 610	
440							Not Recorded.						

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMP ^s	COST OF IMP ^s	BLDGS ₂ AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
441	36/EEA25 A40	8 094	12. 3. 68	24 000	2-97		Ciba-Geigy (Pty) Ltd.						
442	36/EAA25 A34	9 410	6. 5. 68	27 905	2-97		Shell Reg. (Pty) Ltd.	1971	60 000	1 668	9 490 19 010	49 530	
443	36/EAA25 A25	8 075	15.11.71	137 000			Randhof (Pty) Ltd.				16 440	-	
444	36/EAA25 A22	7 729	20. 6. 68	22 919	2-97		Corobin Properties	1969 1971 1971(1) 1971(2)	3 280	5 813	7 690 15 630	104 020 61 260 192 600	inc. inc.
445	36/EAA25 A42 21 & 22	7 730	24. 7. 68	22 927	2-97		Derkan Investments	1971	68 000	1 415 A. V.	7 800	38 060	
446	36/EAA25 A39 Erf. 101358	±8 094					Matsambern (Pty) Ltd.			±2 500	16 350	100 000	
447	36/EAA25 A33	8 094	26. 9. 68				Universal Lighting	1969 1971(1)		±1 240	8 160 16 350	inc. 50 000	
448	36/EAA25 A21	±4 500					B. H. J. Investments	1970 1971(1)		5 110		37 000 112 000	

REF. NO.	MAP REFERENCE	AREA m ²	DATE PURCHASED	PURCHASE PRICE	RATE m ²	ADJ. RATE m ²	OWNER	DATE IMPs	COST OF IMPs	BLDGS AREA m ²	M. V.		% INCREASE M. V. BLDGS
											LAND	BLDGS	
449	36/EAA 25 A 24 Erf. 103619	4 047	18.10.62	12 000			Brenton Investments	1969 1971(1)	7 250	630	4 080 8 170	27 050	inc.
450	36/EAA 25 A 38	± 4 047					Marita (Pty) Ltd.				8 170	-	
451	36/EAA 25 A 23	4 047	26. 9. 68	11 999			Bernal Investments	1969 1971(1) 1971(1)	2 020	1 313	4 080 8 170	20 220 21 430	inc.
452							Vacant						
453	36/EAA 25 A 27	± 248					C. C. C.						
454	36/EAA 25 A 1	± 347					C. C. C.						

APPENDIX 'B'

SYNOPSIS OF THESIS

This is an entirely independent thesis, except for those to whom acknowledgment is due, for had it not been so, it would have defeated the objectives of the hypothesis "THAT THE VALUATION ROLL OF A LOCAL AUTHORITY NORMALLY CONTAINS THE BASIC INFORMATION FOR THE CONSTRUCTION OF AN URBAN GROWTH MODEL".

No authoritative references are therefore given or quoted except for references, after the preliminary introduction to the thesis, to an actual Municipal Valuation Certificate and the collated and Consolidated Valuation Roll Appendix 'A', which is derived from the skill of Valuation Offices and their Assistants acting with the Authority of the Provincial Administration.

It has long been of concern to me from professional practice in several countries that the excellent records of urban assets contained in Valuation Offices are continuously in use as 'reference libraries' to gain information about specific properties, but rarely, except when a new General or Interim Valuation Roll is being compiled, is the information available used collectively to examine the Urban Form.

A Valuation Roll is a statement of fact established at a point of time and whilst opinions as to whether the valuations therein are equitable or not may be settled by Valuation Courts or Assessment Committees, what a wonderful store of factual information is available to the Urban Planner, to the Land Economist and others concerned with the urban fabric. It could be said that REAL or FIXED PROPERTY comprising land and buildings is the PRIMARY UNIT of the urban structure and that all other relationships within the fixed fabric are SECONDARY and terminable. Even the fixed fabric changes its appearance with the passage of time, but the Valuation Roll makes constant adjustments to take cognisance of the changes - the basic information it contains is invaluable !

Clearly, as properties must be accurately referenced for Rating purposes, the valuation record will contain a description of the property, its general use and its size apart from the value attributed to it at a point of time. If size for both land and buildings is known, as the crudest element of examination, then one can determine to what extent land is being utilised. That Epping was selected as an area for examination for the purposes of this thesis, is frankly not of importance so far as conception of the Growth Model is concerned.

APPENDIX 'B'

SYNOPSIS OF THESIS

(CONTD)

Tables 1. 1 - 15 pages 1 - 30 and explanatory notes deal with plot utilisation in grouped size frequencies and the 'bulk equivalent/coverage factor' is a device to measure realistically how the industrialist plans space utilisation - given a 'fairly free hand', in this instance. By establishing a 'mode characteristic' of desirable utilisation, the amount of land 'wasted' can be accurately calculated.

As the likelihood is that particular industries would reflect different characteristics, the information tabled in Series 1. 1-15 was translated into 'USE TYPES' tabled in Series 2. 1 - 24 pages 31 - 58 inclusive, re-scanned and summarised with commentary on Pages 59 to 61. The patterns established were definitive and could therefore be transferred into the Growth Model - explanatory notes on Pages 62 - 67.

It is believed that the method of rational anticipation of spatial growth suggested concomitant with the investment growth, which must accompany it, is valid to the Model, WHICH IS SUBSTANTIALLY BASED ON FACT.

ROY HORRELL