TRINITY CONTAINERS

Worden, Heather

From:

Fracassi, Paul

Sent:

Thursday, May 31, 2018 11:29 AM

To:

Worden, Heather; nick.lee

Subject: Attachments: Fwd: Trinity Containers - 2018 Cass County BOE Hearing Support and Evidence TRIN ND PT 2018 Cass-593 420 E Main Ave, West Fargo (Cass) RE 02-3920-00....pdf;

TRIN ND PT 2018 Cass-593 420 E Main Ave, West Fargo (Cass) RE Marshall &....pdf; TRIN ND PT 2018 Cass-593 420 E Main Ave, West Fargo (Cass) RE 02-0080-00....pdf; TRIN ND PT 2018 Cass-593 420 E Main Ave, West Fargo (Cass) RE 02-0080-00....pdf; TRIN ND PT 2018 Cass-593 420 E Main Ave, West Fargo (Cass) RE 02-0080-00....pdf; TRIN ND PT 2018 Cass-593 420 E Main Ave, West Fargo (Cass) RE 02-3920-00....pdf; TRIN ND PT

2018 Cass-593 420 E Main Ave, West Fargo (Cass) RE 02-0097-00....pdf

Hi,

Attached is the information Trinity Containers is submitting for the board on Monday.

Get Outlook for iOS

From: Grider, Brett <Brett.Grider@ryan.com> Sent: Thursday, May 31, 2018 11:04:41 AM

To: Fracassi, Paul

Subject: Trinity Containers - 2018 Cass County BOE Hearing Support and Evidence

Good Morning Paul,

Thank you again for taking the time to explain the hearing process and briefly go over the current valuation issue for Trinity Containers. Attached are the various work-ups associated with the accounts in questions for your review and submittal.

After discussing the property with Nick Lee at the West Fargo Assessor's Office I made some adjustments which ended up putting the opinion of value right around the initial assessment before adjusting for uniformity in land values and inclusion of external/functional obsolescence. It is our belief that if the current assessments were to be adjusted to include additional obsolescence on the various building improvements that have been vacant for the last few years as well as adjust the various land parcels to the \$/sq.ft. of the largest parcel (02-0097-00010-000) we could close the book on 2018.

Trinity recently shut down a number of facilities across the country due to various economic factors that saw no short-term relief. A number of these specialty facilities have been placed on the open market with little to no willing buyers. They are currently in talks to potentially list this property for roughly \$5-\$6MM.

I know that this is quite a bit of information to process, but please feel free to contact me if you wish to discuss further.

Thank you,

Brett Grider

Senior Consultant, Property Tax Complex Property Tax - Parent Ryan Three Galleria Tower 13155 Noel Road Suite 100 Dallas, Texas 75240 972.934.0022 Direct 972.934.0022 Ext. 10-1501 214.717.0062 Mobile

ryan.com





Reasons for Requested Valuation Change to the Cass County Board of Equalization for Review of Real Estate Valuation Determination

Subject Property: 420 E. Main – West Fargo, ND (Land Accounts)

Account #: 02-02-3920-00020-000 & 02-0080-00030-000

Thank you for your consideration in this matter.

The real estate land and improvement values at the above referenced address are currently being valued by the West Fargo City Assessor above the true fair market value of Trinity Industries closed special use facility. We believe that the 2018 assessment would be correct and a true representation of the market if additional obsolescence were included to reflect the external factors effecting the real estate. We are requesting that the county consider that external and functional obsolescence are both present at this facility and an additional adjustment of 30% (15% functional and 15% external) be included in the West Fargo City assessments.

Also, we also request that the price per square foot of land be adjusted to reflect the same price per square foot cost of the large land account 02-0097-00010-000. We do agree that land values have risen since the previous re-assessment period, and an increase is warranted, we believe the various parcels of land owned by Trinity Industries should be uniformly valued at the same \$/sq.ft.. The largest parcel of land is currently being assessed at \$0.74 per square foot. We would like for the County to take into consideration that if Trinity Industries were to sell the property today they would sell the land as a whole unit under which the purchase would encompass a single \$/sq.ft. rather than splitting the sale by parcel as the city assessor is indicating.

We accept that \$0.74 per square foot should be applied to each parcel to reflect the West Fargo City assessment of the substantially larger parcel 02-0097-0010-000. Please see our opinion of value for each land account in the value summaries provided using the uniform square foot cost of \$0.74 a square foot.

Below is a summary of the total value that has been proposed by the Henry County Assessor for this account as well as our recommended opinion of fair market value based on the uniform squre foot cost of \$0.74 a square foot.

Account #	enry County Real state Value	•	ommended 2018 larket Value
02-3920-00020-000	\$ 11,405,000	\$	9,020,028
02-0080-00030-000	\$ 972,100	\$	618,000



Reasons for Requested Valuation Change to the Cass County Board of Equalization for Review of Real Estate Valuation Determination

Subject Property: 420 E. Main – West Fargo, ND (Land Accounts) Account #: 02-0080-00050-000, 02-0080-00060-000, 02-0097-00010-000, 02-3920-00010-000

Thank you for your consideration in this matter.

The real estate land values at the above referenced address are currently being valued by the West Fargo City Assessor above the true fair market value of the price per square foot of land. Although we do agree that land values have risen since the previous re-assessment period, and an increase is warranted, we believe the various parcels of land owned by Trinity Industries should be uniformly valued at the same \$/sq.ft.. The largest parcel of land is currently being assessed at \$0.74 per square foot. We would like for the County to take into consideration that if Trinity Industries were to sell the property today they would sell the land as a whole unit under which the purchase would encompass a single \$/sq.ft. rather than splitting the sale by parcel as the city assessor is indicating.

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Account #	nry County Real tate Value	·	ommended 2018 arket Value		
02-0097-00010-000	\$ 1,632,700	\$	1,632,700		
02-0080-00050-000	\$ 393,400	\$	293,336		
02-0080-00060-000	\$ 443,700	\$	358,863		
02-3920-00010-000	\$ 1,351,100	\$	710,000		



County of									
Account #	002-02-	002-02-3920-00020-000							
Owner Name	Trinity	_							
Property Address	420 E Ma								
2018 Appraised Va	lue	_\$	11,405,000	\$	43.12				
Indicated Values:		7	Гotals	P	er SF				
Cost Approach		\$	9,020,028	\$	34.10				
MARKET VALUI	E ESTIMATE	\$	9,020,000	\$	34.10				

CALCULATOR COST FORM

Square Foot Cost

1	Creator of Survey:	Rya	an, LLC											1	Date	of:	survey:	1/1/20	018			
2	Account Number:	02-	3920-00020-	000													ity Conta					_
3	Located at:								420 E Main	Ave, \	Nest Fa	argo			_							_
					Bı	uilding B	12		Building A	1	E	Build	ding B1			Bui	ilding A	2	11 11 11 11	Buildir	ia A3	
4	Occupancy				Н	leavy Mfg	9	1	Light Mfg			Hea	vy Mfg			17.000.00	ght Mfg			Light		D2359
5	Buidling Class and Qu	uality	/	Cls:	S	Qual:	Low	CIs:	S Qual:	Low				Low	is:			Low	CIs:	•	Qual:	Lo
6	Exterior Wall			.		Metal			Metal				1etal				Metal			Met		
7	No. of stories & heigh	t per	story	. No.	1	Ht.	20	No.	1 Ht.	30	No.	1	Ht.	30	No.			33	No.	1	Ht.	33
	Average floor area					23,134			6,000				.000				3.000	•••		10,8		•
9	Average perimeter			.]		630			310				560	- 1		•	360			43		
	Age and condition				43	Cond:	Low	Age:	26 Cond:	1 ow	Age:			low	ae.	25		Low	Δαρ.			Lo
	Region: Western							15			ı, ıgo.		- Collar	2011	·go.	20	- Cona.		rage.		onu.	
	Climate: Mild																					
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13	Base Square Foot Cos	st						\$	76.01	\$	THE PERSON NAMED IN	31	\$	76.	Critical In Sec.	\$		31.31	S.		1.31	
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4.4			OOT REFINE					_	0.000			_										
	Heating, cooling, vent								0.000		0.000			.000			0.000			0.000		
	Elevator deduction								0.000		0.000	_		.000	_		0.000			0.000		
	Miscellaneous	•••••	• • • • • • • • • • • • • • • • • • • •					_	2.150		2.660			.260			2.410			2.410		
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	Height per story - mult								1.133		1.382	-		382	\dashv		1.450			1.450	-	
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	FIN. Refined square foot co	ost (I	ine 17x21).					\$ \$	81.83	\$	48.	ECVESVO.	\$	106.	44	\$	4	4 9,53	Se \$	49	5 0,82	
23	FIN. Refined square foot co Current cost multiplier	ost (I r (Se	ine 17x21). ct. 99, p. 3)					2.00	81.83 1.02	\$	48. 1.02	ECVESVO.	\$ 1	106.4 .02	44		4 1.02	CONTRACTOR AND	ORCHORNOL MANAGEMENT	49 1.02	APR 200	
23 24	FIN. Refined square foot co Current cost multiplier Local multiplier (Sect.	ost (I r (Se 99, p	ine 17x21). ct. 99, p. 3) pp. 5 through	h 10)		***********		\$	81.83 1.02 1.03	\$	48.4 1.02 1.03	82	\$ 1	106.4 .02 .03		\$	1.02 1.03	9.53	\$	49 1.02 1.03	0,82	
23 24 25	FIN Refined square foot co Current cost multiplier Local multiplier (Sect. Final sq. ft. cost (Line	ost (I r (Se 99, ¡ 22 x	ine 17x21). ct. 99, p. 3) pp. 5 through Line 23 x Li	h 10) ine 24)				\$	81.83 1.02 1.03 85.97	\$	48.4 1.02 1.03 51.3	82	\$ 1 1 \$	106.4 .02 .03 111.6			1.02 1.03 5	CONTRACTOR AND	\$	49 1.02 1.03 52	APR 200	
23 24 25 26	FIN Refined square foot co Current cost multiplier Local multiplier (Sect. Final sq. ft. cost (Line Area	ost (I r (Se 99, p 22 x	ine 17x21). ct. 99, p. 3) pp. 5 through Line 23 x Li	h 10) ine 24)		••••••	······································	\$	81.83 1.02 1.03 85.97 23,134	\$	48.4 1.02 1.03 51.3 5,000	82	\$ 1 1 \$	106.4 .02 .03 111.4 ,000		\$	1.02 1.03 5 8,000	9,53	\$ \$	49 1.02 1.03 52 0,800	0,82	
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23 24 25 26 27 28 29 30 31 32 33	FIN. Refined square foot of Current cost multiplier (Sect. Final sq. ft. cost (Line Area	ost (I r (Se 99,) 22 x 22 x 22 x 22 x 22 x 22 x 23 x 24 x 25 x 26 x 27 x 27 x 28 x 28 x 29 x 20 x 20 x 20 x 20 x 20 x 20 x 20 x 20	Line 17x21) ct. 99, p. 3) p. 5 through Line 23 x Li + Line 28) + Line 28)) soolescence tt (Line 29 x Line 30 and	h 10) ne 24)	ectio	on 97)	 	\$ \$ 1, 1, \$ \$ L OF	81.83 1.02 1.03 85.97 23,134 988,724 75% 30% 939,006 49,718	\$ (30)	48,4 1.02 1.03 51,3 5,000 07,769 See Bel 07,769 58% 30% 32,058 75,74	29 low 1	\$ 11 11 \$ 16 1,78 for Addd 1,78 4 3 1,04 \$	10602 .03 111.i ,000 89,187 ed Extr 89,187 5% 0% 6,675 742,5	332 a Fe	\$ atur	4 1.02 1.03 5 8,000 416,287 res Value 416,287 55% 30% 297,645	9.53 	\$ 5 5	49 1.02 1.03 52 0,800 65,316 42% 30% 08,662	2.34	
23 24 25 26 27 28 29 30 31 32 33	FIN. Refined square foot oc Current cost multiplier Local multiplier (Sect. Final sq. ft. cost (Line AreaLine 25 x Line 26Lump sums)	ost (I r (Se 99,) 22 x ne 27 on 97 al Ol mour	Line 17x21) ct. 99, p. 3) p. 5 througl Line 23 x Li + Line 28)) solescence tt (Line 29 x Line 30 and	h 10) ne 24)	ectio	on 97)	 	\$ \$ 1, 1, \$ \$ L OF	81.83 1.02 1.03 85.97 23,134 988,724 988,724 75% 30% 939,006 49,718	\$ (30)	48.4 1.02 1.03 51.3 3,000 07,769 See Bel 07,769 58% 30% 32,058 75,74	29 low 1	\$ 11 11 \$ 16 1,78 for Addd 1,78 4 3 1,04 \$	10602 .03 111.i ,000 89,187 ed Extr 89,187 5% 0% 6,675 742,5	332 a Fe	\$ atur	4 1.02 1.03 5 8,000 416,287 res Value 416,287 55% 30% 297,645	9.53 22.04 7 8 e 8 7 7 8 5 8 642	\$ 1 56 56 56 \$	49 1.02 1.03 52 0,800 65,316 42% 30% 08,662	2.34	
23 24 25 26 27 28 29 30 31 32 33	FIN. Refined square foot of Current cost multiplier (Sect. Final sq. ft. cost (Line Area	post (I r (Se 99,) 22 x	tine 17x21).ct. 99, p. 3)p. 5 through Line 23 x Line 23 x Line 23 x Line 28))solescence at (Line 29 x Line 30 and 1,243,237	h 10) ne 24)	ectio	on 97)	 	\$ 1, 1, \$ L OF	81.83 1.02 1.03 85.97 23,134 988,724 75% 30% 939,006 49,718 ALL SECTIO ment Cost	\$ \$ (1) \$ (2) \$ \$ \$ DNS \$ \$ (4)	48.4 1.02 1.03 51.3 5000 57,769 See Bel 57,769 58% 30% 32,058 75,74	82 29 low 1	\$ 11 11 \$ 16 1,78 for Addd 1,78 4 3 1,04 \$	10602 .03 111.i ,000 89,187 ed Extr 89,187 5% 0% 6,675 742,5	332 a Fe	\$ atur	4 1.02 1.03 5 8,000 416,287 res Value 416,287 55% 30% 297,645	9.53 22.04 7 8 e 8 7 7 8 5 8 642	\$ 1 56 56 56 \$	49 1.02 1.03 52 0,800 65,316 42% 30% 08,662 256,	2.34	
23 24 25 26 27 28 29 30 31 32 33	FIN. Refined square foot of Current cost multiplier (Sect. Final sq. ft. cost (Line Area	ost (I r (Se 99,) 22 x 22 x 22 x 22 x 22 x 22 x 23 x 24 x 25 x 26 x 27 x 27 x 28 x 28 x 29 x 20 x 20 x 20 x 20 x 20 x 20 x 20 x 20	Line 17x21) ct. 99, p. 3) p. 5 through Line 23 x Li + Line 28) + Line 28)) soolescence tt (Line 29 x Line 30 and	h 10) ne 24)	ectio	on 97)	 	\$ 1, 1, \$ L OF	81.83 1.02 1.03 85.97 23,134 988,724 75% 30% 939,006 49,718	\$ \$ (1) \$ (2) \$ \$ \$ DNS \$ \$ (4)	48,4 1.02 1.03 51,3 5,000 07,769 See Bel 07,769 58% 30% 32,058 75,74	82 29 low 1	\$ 11 11 \$ 16 1,78 for Addd 1,78 4 3 1,04 \$	10602 .03 111.i ,000 89,187 ed Extr 89,187 5% 0% 6,675 742,5	332 a Fe	\$ atur	4 1.02 1.03 5 8,000 416,287 res Value 416,287 55% 30% 297,645	9.53 22.04 7 8 e 8 7 7 8 5 8 642	\$ 1 56 56 56 \$	49 1.02 1.03 52 0,800 65,316 42% 30% 08,662 256,	2.34	
23 24 25 26 27 28 29 30 31 32 33	FIN. Refined square foot of Current cost multiplier (Sect. Final sq. ft. cost (Line Area	post (I r (Se 99,) 22 x	tine 17x21).ct. 99, p. 3)p. 5 through Line 23 x Line 23 x Line 23 x Line 28))solescence at (Line 29 x Line 30 and 1,243,237	h 10) ne 24)	ectio	on 97)	 	\$ 1, 1, \$ L OF	81.83 1.02 1.03 85.97 23,134 988,724 75% 30% 939,006 49,718 ALL SECTIO ment Cost	\$ \$ (1) \$ (2) \$ \$ \$ DNS \$ \$ (4)	48.4 1.02 1.03 51.3 5000 57,769 See Bel 57,769 58% 30% 32,058 75,74	82 29 low 1	\$ 11 11 \$ 16 1,78 for Addd 1,78 4 3 1,04 \$	10602 .03 111.i ,000 89,187 ed Extr 89,187 5% 0% 6,675 742,5	332 a Fe	\$ atur	4 1.02 1.03 5 8,000 416,287 res Value 416,287 55% 30% 297,645	9.53 22.04 7 8 e 8 7 7 8 5 8 642	\$ 1 56 56 56 \$	49 1.02 1.03 52 0,800 65,316 42% 30% 08,662 256,	2.34	

CALCULATOR COST FORM

Square Foot Cost

2	Creator of Survey: Ryan, LLC Account Number: 02-3920-00020 Located at:	-000		420 E Main	Ave, V	Vest Fa	irgo	Ov			vey: 1/1/2 Containers			
			olesida serrana			Total Control Control								
4	Occupancy	Building A5		Building A	5	Age comments		ing A7	Bu		1: Office	Bu	Iding A4: O	ffice
	Occupancy Building Class and Quality		Cle	Light Mfg S Qual:	Loui		•	it Mfg Qual: Low	Cia.	Offic		CI-	Office	
	Exterior Wall		V Cis:	S Qual: Metal	LOW	Cis:		Quai: Low etal	CIS:	S Qu		Cls:	C Qual: Brick/Venee	
	No. of stories & height per story		No.		32	No.		Ht. 26	No.		ու Ht. 12	No.		12
	Average floor area		1,40.	135,680	02	NO.		176	140.	3.00		INO.	2.400	12
	Average perimeter	1		1,572				96		220		İ	2,400	
	Age and condition		Age:		Low	Ane:			Δae.			Δne.	21 Cond:	· Low
	Region: Western Central		1.3						1 13 -1		2011	, .g.,	z, conta	
12	Climate: Mild Moderate X	Extreme												
			S	ection 1	Se	ction 2	2	Section	3	Sec	tion 4	S	ection 5	
13	Base Square Foot Cost		. \$	31.31	\$	31.	31	\$ 3	1.31	\$	65,50	\$	76.00	}
	SQUARE FOOT REFINE	EMENTS												
14	Heating, cooling, ventilation			0.000	(0.000		0,000		0.	000	Г	0.000	l
	Elevator deduction			0.000	(0,000		0.000		0.	000	 	0.000	
16	Miscellaneous			2.060	1	1.640		2.150	\neg	3.	900	t	4.160	
17		Total lines 13 through	15	33.37	3	32.95	T	33.46		69	9.40		80.16	
	HEIGHT AND SIZE REFIN	MEMENTS												
18	Number of stories - multiplier			1.000	-	.000	-	1.000		1	000	Т	1.000	ı
	Height per story - multiplier (see line 7		-	1.575		.425	\dashv	1,281			000		1.515	
	Floor area/perimeter multiplier (see lin		-	0.945).867	-	0.942	-		018		1,052	
21	Combined height and size		20)	1.488		.235	\dashv	1.207	-		018		1.594	
				1,100		.200		1.201	1		010	L	1.004	l
	FINAL CALCULATION	ONS	S	ection 1	Se	ction 2		Section	3	Sec	tion 4	S	ection 5	
	Refined square foot cost (Line 17x21).		. \$	49.67	\$	40.7	71	\$ 4	0.38	\$	70.65	\$	127.76	
	Current cost multiplier (Sect. 99, p. 3).			1.02		1.02		1.02		0	.98		0.99	
	Local multiplier (Sect. 99, pp. 5 throug			1.03		1.03		1.03			.03		1.01	
	Final sq. ft. cost (Line 22 x Line 23 x L	•	\$	52.18			77		2.42		71,31	\$	127.74	
	Area			37,310		5,680	_	44,352	_		000		4,800	
	Line 25 x Line 26		1	,946,844		02,867		1,881,38			3,940	6	13,174	
	Lump sums)		<u> </u>	046 044				or Added Ex					40.474	
	Replacement Cost (Line 27 + Line 28). Depreciation % (Section 97)			946,844		02,867 15%		1,881,38 34%	U		3,940 0%	- 6	13,174	
	Economic or Functional Obsolescence			30%		30%	-	34%	\dashv		0% 0%	<u> </u>	25%	
	Total Obsolescence amount (Line 29 x			784,578		31,559	-+	831,570	-		2,498		30% 99,282	
	Depreciated Cost (Line 29 - Line 30 an	•		1,162,266		.671.30						l		
•••	Depresiated Gost (Line 25 - Line 50 an	u o 1/	Ψ	1,102,200	Ψ	,071,30	00	φ 1,049,	010	φ	(8,558)	Ф	413,893	
		TC	TAL OF	ALL SECTION	ONS									
34	Depreciated Cost \$ 7,288,719			ment Cost		.458.20	06							
	· · · · · · · · · · · · · · · · · · ·	•	•	•	•	, ,	_							
	Extra Features (FMV) \$ -													
	-	•												
	Land Value: \$ -			Land Sqft		-		Land	l Valu	ie per S	qft			
		-												
					_									
	Total Cost Value: \$ 7,288,719	-	Pri	ce per Sqft	\$	33.0	80							



County of		Cass								
Account #	02-00	02-0080-00030-000								
Owner Name	Trinity (Trinity Containers, LLC								
Property Address	420 E Maii	420 E Main Ave, West Fargo								
2018 Appraised Va	lue	\$	972,100	. \$	28.10					
Indicated Values:		7	Γotals	P	er SF					
Cost Approach		\$	617,947	\$	17.86					
MARKET VALUI	E ESTIMATE	\$	618,000	\$	17.86					

CALCULATOR COST FORM Square Foot Cost

1	Creator of Survey:	Ryan,	LLC											Date o	of su	rvev:		1/1/201	18
2	Account Number:		80-00030-	000													Trin	ity Conta	
3	Located at:						406 E	: Mai	n Av	e, West F	argo								

				Bı	ildi	ng MTL \	WHSE	В	uildi	ng A1: O	ffice	Е	uilo	ling B2			Bu	ilding B	3
4	Occupancy		•••••		٧	/arehous	е			Office			Ligh	nt Mfg				arehouse	
5	Buidling Class and Q	uality		Cls:	S	Qual:	Low	Cls	: 8	Qual:	Avg	Cls:	s	Qual:	Avg	Cls:	s	Qual:	Avg
6	Exterior Wall			.		Metal				Metal	-		М	etal	·			Metal	J
7	No. of stories & heigh	nt per s	tory	No.	1	Ht.	14	No	. 1	Ht.	12	No.	1	Ht.	21	No.	1	Ht.	20
8	Average floor area					24,000				1,600			6.0	000				3.000	
9	Average perimeter			.		880				160			,	20				260	
	Age and condition				59	Cond:	Low	Age	e: 1	4 Cond:	Ava	Age:			Ava	Age:	8		Avg
	Region: Western							, ,				1-3			5				,
	Climate: Mild																		
		•																	
									Sect	tion 1	Se	ction 2		Son	tion	2		Section	
13	Base Square Foot Co	st						\$		25.94	\$	97,	000000000	\$	COMPROVINGE,	4.05	\$	Occinon	37.02
	· ·									20.01	Ψ	07.	00	Ψ		7.00	Ψ		37.02
			T REFINE																
	Heating, cooling, ven							<u> </u>		000		0.000			.000			0.000	
	Elevator deduction									000		0.000			.000			0.000	
	Miscellaneous	• • • • • • • • • • • • • • • • • • • •			• • • • • •	•••••			2.:	280		0.000		0.	.000			0.000	
17				Tota	l lin	es 13 thr	ough 15		28	.22	,	97.00		4	4.05			37.02	
	HEIGHT	AND S	IZE REFIN	IEMEN	ITS														
18	Number of stories - m								1 (000		1.000		1	000	1		1,000	
	Height per story - mul	-								000		1.000			150			1.133	
	Floor area/perimeter r							<u> </u>		977		1.105	\dashv		040			1.182	
21	Combined	•	•			•		<u> </u>		977		1.105	\dashv		196			1.339	
	Combined	neignt	ana size i	nuitipi	1101 (Lines 10	13,20		0.3	211		1.105			190			1.339	
	FIN	JAI CAI	LCULATIO	NS					Soci	ion 1	86	ction 2		e _{nn}	tion	2		Contina	4
22	Refined square foot c							\$	3661	27.57	\$	107.	distriction of	\$	Administration of	2.68	\$	Section	49.58
	Current cost multiplie							۳		02	•	0.98	13		.02	2.00	Ψ	1.02	49.56
	Local multiplier (Sect.									03		1.03	-+		.02			1.02	
	Final sq. ft. cost (Line							\$		28.97	\$	108.	10	\$		5.35	\$		52.09
	Area							۳	24	000		1,600	10		000	,,,,,,	φ	3,000	52.09
	Line 25 x Line 26									.185		73,108	-		2,098			156,25	
	Lump sums)								033	,			440	d Extra			oluc		٥
	Replacement Cost (Li							\vdash	605	.185		73,108	T		2.098		aiut	156.25	
	Depreciation % (Section								-)%		13%	-		<u>4%</u>			,	<u>^</u>
	Economic or Function)%		30%	-		4% 0%			8%	
	Total Obsolescence a									.992		9,255	\dashv		0% 3,614			30% 16,251	
								•					_				_		
33	Depreciated Cost (Lin	e 29 - L	ine so an	u 51)	• • • • • •	**********	••••••	\$		(27,807)	\$	143,8	03	\$	228,	483	\$	14	0,007
						TOTA			'ОТ'	ONG									
2.4	Depresieted Cost		404 E26			IOIA	L OF AL				* 4	250.0							
J#	Depreciated Cost	\$	484,536				R	epiac	:eme	ent Cost_	\$,356,64	ŀδ						
	Ever Francisco (FM)	•																	
	Extra Features (FMV)	\$																	
	Land Value:	\$	133,411						La	and Sqft		180,28	5		Lanc	i Valu	ере	er Sqft_	\$0.74
	Total Cost Value:	\$	617,947					Pi	ice	per Sqft	\$	17.8	6						



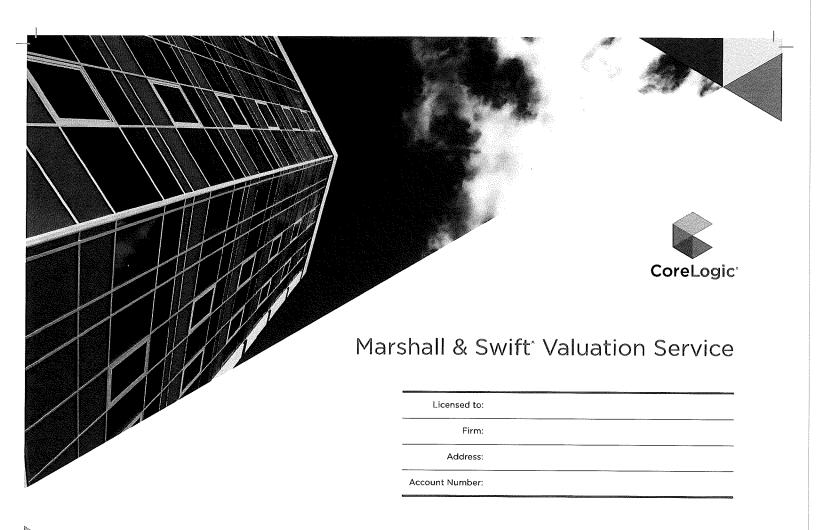
County of		Cass							
Account #	02-00	02-0080-00050-000							
Owner Name	Trinity	Trinity Containers, LLC							
Property Address	420 E Mai	420 E Main Ave, West Fargo							
2018 Appraised Va	lue	\$	393,400	\$	0.99				
Indicated Values:		Т	otals	P	er SF				
Cost Approach		\$	293,336	\$	0.74				
MARKET VALUI	E ESTIMATE	\$	293,000	\$	1.00				



County of		Cass							
Account #	02	2-3920-00010-000							
Owner Name	Trir	Trinity Containers, LLC							
Property Address	420 E	420 E Main Ave, West Fargo							
2018 Appraised Va	lue	\$	1,351,100	\$	1.41				
Indicated Values:		Т	otals	Pe	er SF				
Cost Approach		\$	709,736	\$	0.74				
MARKET VALU	E ESTIMATE	\$	710,000	\$	0.74				



County of		Cass		_					
Account #	02-	-							
Owner Name	Trinit	Trinity Containers, LLC							
Property Address	dress 420 E Main Ave, West Fargo								
2018 Appraised Va	lue	\$	1,632,700	\$	0.74				
Indicated Values:		Т	otals	Pe	er SF				
Cost Approach		\$	1,632,700	\$	0.74				
MARKET VALUI	E ESTIMATE	\$	1,633,000	\$	0.74				



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INDUSTRIALS, LIGHT MANUFACTURING (494)

CLASS	TYPE	EXTERIOR WALLS	INTERIOR FINISH	LIGHTING, PLUMBING AND MECHANICAL	HEAT	Sq. M.	COST Cu. Ft.	Sq. Ft.
Α	Average	Brick on block or tile, concrete or metal panels, storefront entry	Painted walls and ceilings, finished floors and ceilings in offices	*Adequate lighting and plumbing	Hot water	846.80	5.62	78.67
	Low cost	Low-cost brick or block, little fenestration, precast floors	Painted walls, few offices, very plain and open	*Minimum lighting and plumbing	Space heaters	587,07	3,90	54.54
В	Average	Brick, formed concrete, or precast walls, little trim, storefront entry	Painted walls and ceilings, finished floors and ceilings in offices	*Adequate lighting and plumbing	Hot water	796.00	5.28	73,95
U	Low cost	Low-cost brick or block, little fenestration, precast floors	Painted walls, few offices, very plain and open	*Minimum lighting and plumbing	Space heaters	548.21	3.64	50.93
	Good	Bearing walls or frame, brick, con- crete panels, good glass storefront	Some finished walls, finished floors and ceilings in offices	Good fluorescent lighting, adequate plumbing	Space heaters	746.38	4.95	69.34
С	Average	Light frame or bearing walls, brick, block or tilt-up, some trim	Painted walls and exposed frame, small finished offices	Exposed conduit, fluorescent lighting, adequate plumbing	Space heaters	537.77	3.57	49.96
	Low cost	Very plain, brick, block, or tilt-up, few openings	Small office area, unfinished floors and ceilings	Minimum lighting and plumbing	Space heaters	389.76	2.59	36.21
	Good	Good frame with stucco or siding, some ornamentation	Some good offices and interior finish	Good lighting, exposed conduit, adequate plumbing	Space heaters	689.43	4.58	64.05
D	Average	Wood studs, stucco, wood rafters and sheathing, some trim	Drywall, finished office area, exposed rafters or trusses	Adequate lighting and plumbing	Space heaters	490.41	3.25	45.56
	Low cost	Wood studs or frame, cheap stucco or siding	Unfinished, low-cost slab, small office, minimum code	Minimum lighting and plumbing	Space heaters	351.12	2.33	32.62
	Good	Pole frame, metal siding, lined and insulated, some trim, glass entry	Some good offices and interior finish	Good lighting, exposed conduit, adequate plumbing	Space heaters	613.76	4.07	57.02
\mathbf{D}_{POLE}	Average	Pole frame, metal siding, fully lined and insulated	Finished office area, slab, some floor finish	Adequate lighting and plumbing	Space heaters	439.71	2.92	40.85
	Low cost	Pole frame, metal siding, insulated, few openings	Low-cost slab, few partitions, small office	Minimum code, factory lighting	Space heaters	317.11	2.10	29.46
	Good	Steel frame, sandwich panels, good glass storefront entry and trim	Some good offices and interior finish	Good lighting, exposed conduit, adequate plumbing	Space heaters	671.67	4.46	62.40
S	Average	Steel frame, steel or aluminum siding, some trim	Finished office area, slab, some floor finish	Adequate lighting and plumbing	Space heaters	474.15	3.15	44.05
	Low cost	Light steel frame, steel or aluminum siding, few openings	Low-cost slab, unfinished interior, small office	Minimum code, factory lighting	Space heaters	337.02	2.24	31.31

DOCK-HEIGHT FLOORS - See Page 27.

SPRINKLERS - Systems are not included. Costs should be added from Page 37.

BASEMENTS - See Page 18.

MEZZANINES - See Page 27.

ELEVATORS – Buildings with base costs which include elevators are marked with an asterisk (). If the subject building has no elevators, deduct the following from the base costs for the buildings on this page which are so marked. For buildings not marked or for basement stops, add costs from Page 36.

MULTISTORY BUILDINGS - Add .5% (1/2%) for each story over three, above ground, to all base costs of the building, including basements, but excluding mezzanines.

Sq. Ft. 2.19 Classes A and B Sq. M. 23,57 Sq. Ft. 1.67 Average Low cost

INDUSTRIALS, HEAVY (PROCESS) MANUFACTURING (495)

CLASS	TYPE	EXTERIOR WALLS	INTERIOR FINISH	LIGHTING, PLUMBING AND MECHANICAL	HEAT	Sq. M.	COST Cu. Ft.	Sq. Ft.
	Excellent	Heavy structural frame and masonry or concrete walls	Extra heavy floors, partitions and craneways, specialized plant	*Excellent lighting and plumbing, spark-proof fixtures	Hot and chilled water (zoned)	2,612.53	17.34	242.71
Α	Good	Good curtain walls, good brick and glass, with ornamentation	Finished walls and ceilings, some finished floors, heavy craneways	*Good fluorescent lighting, good plumbing, some extras	Hot and chilled water (zoned)	2,100.92	13.94	195.18
^	Average	Face brick, metal panels, industrial glass, ornamentation	Plaster walls, some trim, heavy- duty floors, good offices, craneways	*Good fluorescent lighting, adequate plumbing, locker rooms	Warm and cool air (zoned)	1,608.79	10.68	149.46
	Low cost	Brick on block or tile, concrete or metal panels, little trim	Painted walls and ceilings, heavy-duty floors, open fabrication	*Adequate lighting and plumbing	Hot water	1,250.02	8.30	116.13
	Excellent	Heavy concrete frame and masonry or concrete walls	Extra heavy floors, partitions and craneways, specialized plant	*Excellent lighting and plumbing, spark-proof fixtures	Hot and chilled water (zoned)	2,511.67	16.67	233,34
В	Good	Good curtain walls, good brick and glass, with ornamentation	Finished walls and ceilings, some finished floors, heavy craneways	*Good fluorescent lighting, good plumbing, some extras	Hot and chilled water (zoned)	2,018.90	13.40	187.56
D	Average	Face brick, concrete curtain walls, some ornamentation	Plaster walls, some trim, heavy- duty floors, good offices, craneways	*Good fluorescent lighting, adequate plumbing, locker rooms	Warm and cool air (zoned)	1,541.94	10.23	143.25
	Low cost	Brick, formed concrete, or precast walls, little trim	Painted walls and ceilings, heavy- duty floors, open fabrication	*Adequate lighting and plumbing	Hot water	1,195,56	7.93	111.07
	Good	Heavy steel or concrete frame, good masonry walls	Heavy floors, grating, good partitions and craneways	Good fluorescent lighting, good plumbing, some extras	Warm and cool air (zoned)	1,615.57	10.72	150.09
С	Average	Structural frame, brick, concrete panels	Heavy slab floors, offices, stores, some heavy assembly, craneways	Good fluorescent lighting, adequate plumbing, locker rooms	Hot water	1,207.94	8.02	112.22
	Low cost	Steel or glulam frame, brick, block, or tilt-up, some trim	Painted walls and exposed frame, small finished offices, good slab	Exposed conduit, fluorescent lighting, adequate plumbing	Space heaters	870,92	5.78	80.91
CMILL	Good	Mill-type construction, brick walls, wood or steel trusses	Finished walls and ceilings, some floor finish, heavy mill-type floors	*Fluorescent lighting, modernized plumbing	Steam	1,030.33	6.84	95.72
OMILL	Average	Mill-type construction, brick walls, wood trusses	Painted walls, few small offices, mill-type floors	*Average lighting and plumbing	Steam	785.13	5.21	72.94
D	Average	Heavy wood frame, wood or stucco siding	Heavy slab or mill-type floors, finished office area, some heavy assembly	Good lighting, adequate plumbing and locker rooms	Space heaters	1,078.45	7.16	100,19
U	Low cost	Wood frame, stucco or siding	Finished office area, good slab, some floor finish, open fabrication	Adequate lighting and plumbing	Space heaters	829.69	5.51	77.08
	Good	Structural steel, heavy steel siding, transite, sandwich panels	Heavy floors, grating, good partitions and craneways	Good fluorescent lighting and plumbing, some extras	Warm and cool air (zoned)	1,510.08	10.02	140.29
S	Average	Heavy steel frame, transite or metal siding, sandwich panels	Heavy slab floors, offices, stores, some heavy assembly, craneways	Good lighting, exposed conduit, adequate plumbing, locker rooms	Space heaters	1,070.91	7.11	99,49
	Low cost	Steel frame, steel or aluminum siding, some trim	Finished office area, good slab, some floor finish, open fabrication	Adequate lighting and plumbing	Space heaters	818,17	5.43	76,01

CRANES - Material-handling systems are not included. See Section 58.

DOCK-HEIGHT FLOORS - See Page 27.

BASEMENTS - See Page 18.

MEZZANINES - See Page 27.

MULTISTORY BUILDINGS – Add .5% (1/2%) for each story over three, above ground, to all base costs of the building, including basements, but excluding mezzanines.

SPRINKLERS - Systems are not included, Costs should be added from Page 37.

ELEVATORS - Buildings with base costs which include elevators are marked with an asterisk (). If the subject building has no elevators, deduct the following from the base costs for the buildings on this page which are so marked. For buildings not marked or for basement stops, add costs from Page 36.

Classes A and B & CMILL	Sq. M.	Sq. Ft.		Sq. M.	Sq. Ft.
Excellent	38.97	3.62	Average	24.65	2.29
Good	31.00	2.88	Low	18.62	1.73

STORAGE WAREHOUSES (406)

CLASS	TYPE	EXTERIOR WALLS	INTERIOR FINISH	LIGHTING, PLUMBING AND MECHANICAL	HEAT	Sq. M.	COST Cu. Ft.	Sq. Ft.
	Good	Ornamental concrete or brick, small office front	Plaster or drywall with partitions, some finished ceilings	*Good lighting, plumbing, adequate restrooms	Hot water	954.66	6.34	88.69
Α	Average	Brick on block or tile, concrete panels, very plain	Painted walls, few partitions, small offices	*Adequate lighting and plumbing	Space heaters	701.38	4.65	65.16
	Low cost	Low-cost block, tile or concrete	Unfin., small office, few partitions	*Minimum lighting/plumbing	Space heaters	552.09	3.66	51.29
	Good	Ornamental concrete or brick, small office front	Plaster or drywall with partitions, finished ceilings in most areas	*Good lighting, plumbing, adequate restrooms	Hot water	899.22	5.97	83.54
В	Average	Brick on block or tile, concrete panels, very plain	Painted walls, few partitions, small offices	*Adequate lighting and plumbing	Space heaters	654.56	4.34	60.81
	Low cost	Low-cost block, tile or concrete	Unfin., small office, few partitions	*Minimum lighting/plumbing	Space heaters	512.69	3.40	47.63
	Excellent	Brick, concrete, good facade	Plaster or drywall, partitioned, finished ceilings in most areas	Good lighting and plumbing	Package A.C.	997.28	6.62	92.65
C	Good	Steel frame, good brick, block, or tilt-up, tapered girders	Plaster or drywall, some masonry partitions, good offices	Good lighting, adequate plumbing	Space heaters	645.73	4.29	59.99
	Average	Steel or wood frame or bearing walls, brick, block, or tilt-up	Painted walls, finished office, hardened slab	Adequate lighting, low-cost plumbing fixtures	Space heaters	453.59	3.01	42.14
	Low cost	Block, cheap brick, tilt-up, light construction	Unfinished, small office, shell type, minimum code	Minimum lighting and plumbing	Space heaters	320,98	2.13	29.82
CMILL	Good	Mill-type construction, brick walls, wood or steel trusses	Plaster walls, masonry partitions, painted trusses	*Good lighting, adequate plumbing	Steam	882.00	5.85	81.94
OMILL	Average	Mill-type construction, brick and block, wood trusses	Painted walls, few partitions, small offices	*Adequate lighting and plumbing	Space heaters	611.72	4.06	56.83
	Good	Heavy wood frame, wood or stucco siding	Heavy slab or mill-type floors	Good lighting, adequate plumbing	Space heaters	583.84	3.87	54.24
D	Average	Stucco on wood frame, wood trusses	Small office, average slab	Adequate lighting, low-cost plumbing fixtures	Space heaters	408.82	2,71	37.98
	Low cost	Stucco or siding on wood	Unfinished, slab, utility type, minimum office	Minimum lighting and plumbing	Space heaters	288.69	1.92	26.82
DPOLE	Average	Pole frame, good metal siding, insulated	Small office, some finish, slab	Adequate lighting, little plumbing	Space heaters	350.69	2.33	32.58
POLE	Low cost	Pole frame, metal siding	Unfinished utility type, light slab, minimum office	Minimum lighting and plumbing	Space heaters	248.65	1.65	23.10
	Excellent	Heavy steel frame, insulated panels, good facade	Plaster or drywall, partitioned, finished ceilings in most areas	Good lighting and plumbing	Package A.C.	903.96	6.00	83.98
S	Good	Good steel frame, siding and fenestration	Some good office, interior finish and floor	Good lighting, adequate plumbing	Space heaters	573.72	3.81	53,30
3	Average	Rigid steel frame, siding	Small office, average slab	Adequate lighting, low-cost plumbing fixtures	Space heaters	398.48	2.64	37.02
	Low cost	Pre-engineered frame, metal siding	Unfinished utility type, light slab, minimum office	Minimum lighting and plumbing	Space heaters	279.22	1.85	25.94

NOTE: For light commodity storage, see Section 17.

SPRINKLERS - Systems are not included. Costs should be added from Page 37.

DOCK-HEIGHT FLOORS - See Page 27.

WAREHOUSE SHELLS - See Page 35.

ELEVATORS – Buildings with base costs which include elevators are marked with an asterisk (). If the subject building has no elevators, deduct the following from the base costs for buildings on this page, which are so marked. For buildings not marked or for basement stops, add costs from Page 36.

Sq. M. Sq. Ft.

Sq. M. Sq. Ft.

Sq. M. Sq. Ft.

Good \$26.59 \$2.47 Average ... \$21.64 \$2.01

Low Cost . . \$16.68 \$1.55

GARAGES, INDUSTRIALS, LOFTS AND WAREHOUSES FLOOR AREA - PERIMETER MULTIPLIERS

AVE	AGE							.OOK 7			PERIMET		111	.11.0						A) (FB	
	RAREA	M.	30	38	46	53	61	76	91	107	122	137	152	183	213	244	274	305	М.	AVER/ FLOOR	
Sq.M.	Sq. Ft.	FT.	100	125	150	175	200	250	300	350	400	450	500	600	700	800	900	1000	m. FT.	Sq. Ft.	
93	1,000		1.252	1.360	1.468	1.576												1000	rı.	1.000	•
139	1,500		1.112	1.182	1.252	1.323	1.395													1,500	93 139
186	2,000			1.095	1.147	1.199	1.252	1.360												2,000	186
232	2,500				1.083	1,125	1.168	1.252	1,340	1.430										2,500	232
279	3,000					1.077	1.112	1.182	1.252	1.323	1.395									3,000	279
372	4,000					1.013	1.040	1.094	1.147	1.199	1,252	1.306								4,000	372
465	5,000						.996	1.040	1.083	1.125	1.168	1.210	1.252							5,000	465
557	6,000							1.004	1.040	1.077	1.112	1,147	1.182	1,252						6,000	557
650	7,000			-					1.008	1.040	1.071	1.102	1.132	1.192	1,252					7,000	650
743	8,000		*****						.984	1.013	1.040	1.068	1.094	1,147	1.199	1,252				8,000	743
929	10,000									.972	.996	1.019	1.040	1.083	1.125	1,168	1.210			10,000	929
1,115	12,000										.965	.984	1.003	1.040	1.077	1.112	1.147	1.182		12,000	1,115
1,301	14,000										.945	.961	.977	1,008	1.040	1.071	1.102	1.132		14,000	1,301
1,486	16,000							******				.943	.957	.984	1.013	1.040	1.068	1.094		16,000	1,486
1,672	18,000											.929	.942	.967	.991	1.016	1.040	1.065		18,000	1,672
1,858	20,000												.926	.949	.972	.996	1.019	1.040		20,000	1,858
2,323	25,000												.907	.924	.942	.959	.977	.996		25,000	2,323
2,787	30,000													,907	.921	.935	.949	.965		30,000	2,787
3,252	35,000													.896	.907	.919	.932	.945		35,000	3,252
3,716	40,000														.899	.907	.916	.926		40,000	3,716
4,181	45,000									*****						.898	.907	.916		45,000	4,181
4,645	50,000						-									.891	.898	.907		50,000	4,645
AVER	ACE									(CD LOE	PERIMET										
FLOOR		м.	274	305	335	366	396	427	457	488	518	549	579	610	671	731	792			AVER/	
Sq.M.	Sq. Ft.	FT.	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2200	2400	2600	914 3000	M.	FLOOR	
1,858	20,000		1.019	1.040	1.062	1.083		1700		1000	1700		1500	2000	2200	2400	2000		FT.	Sq. Ft.	Sq. M.
2,323	25,000		.977	.996	1.015	1.032	1.049	1.066												20,000	1,858
2,787	30,000		.949	.965	.980	.995	1.010	1.025	1.040											25,000 30,000	2,323
3,252	35,000		.932	.945	.957	.969	.982	.995	1.008	1.021										35,000	2,787 3,252
3,716	40,000		.916	.926	.937	.949	.961	,972	.984	.995	1.007	1.019								40,000	3,716
4,181	45,000		.907	.916	.926	.935	.945	.955	.965	.975	.985	.995	1,005	1.015						45,000	
4,645	50,000		.898	.907	.916	.924	.933	.942	.950	.959	.968	.977	.986	.996	1.015					50,000	4,181 4,645
5,574	60,000		.889	.895	.901	.907	.914	.921	.928	.935	.942	.949	.957	.965	.980	.995				60,000	4,645 5,574
6,503	70,000		.877	.884	.890	.896	.902	.907	.913	.919	.925	.932	.939	.945	.957	.969	,982			70,000	6,503
7,432	80,000		.869	.875	.881	.887	.893	.898	.903	.907	,911	.916	.921	.926	.937	.949	.961	.984		80,000	7,432
9,290	100,000			.863	.868	.872	.877	,882	.887	.891	.895	.899	.903	.907	.916	.924	.933	.950		100,000	9,290
11,148	120,000			.856	.859	.863	.867	.871	.875	.879	.883	.887	.891	.895	.901	.907	.914	.928		120,000	11,148
13,006	140,000			.851	.854	.857	.860	.863	.867	.871	.874	.877	.880	.884	.890	.896	.902	.913		140,000	13,006
14,864	160,000				.850	.853	,855	.858	.860	.863	.866	.869	.872	.875	.881	.887	.893	.903		160,000	14,864
16,722	180,000				.846	.849	.851	.854	.856	.858	.860	.863	.866	.869	.874	.879	.884	.895		180,000	16,722
18,580	200,000					.846	.848	.850	.853	.855	.857	.859	.861	.863	.868	.873	.877	.887		200,000	18,580
20,903	225,000						.845	.847	.849	.851	.853	.855	.856	.858	.862	.867	.871	.879		225,000	20,903
23,226	250,000						.842	.844	.846	.848	.849	.851	.853	.855	.858	.862	.866	.873		250,000	23,226
05.540	275,000			_			.839	.841	.843	.845	,847	,848	.850	.852	,855	.858	.862	.868			25,548
25,548															.852						
25,548 27,871	300,000							.839	.841	.842	.844	.846	.847	.849		.855		.863		300 000	27 871
								.835	.836	.842	.844 .840	.846 .841	.847 .843	.849 .845		.855 .850	.857 .853	.863 .857			27,871 32,516
27,871	300,000									.839	.840	.841	.843	.845	.847	.850	.853	.857		350,000	32,516
27,871 32,516	300,000 350,000							.835	.836												32,516 37,161

MARSHALL VALUATION SERVICE

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GARAGES, INDUSTRIALS, LOFTS AND WAREHOUSES FLOOR AREA - PERIMETER MULTIPLIERS

AVER	AGE								AVERAGE	PERIME	TER							AVERAGE
FLOOR	AREA	M.	610	671	731	792	914	1067	1219	1372	1524	1676	1829	1981	2133	2286	2438 M.	FLOOR AREA
Sq.M.	Sq. Ft.	FT.	2000	2200	2400	2600	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000 FT.	Sq. Ft. Sq. M
27,871	300,000		.849	.852	.855	.857	.863	.872	.880							7500		300,000 27.87
32,516	350,000		.845	.847	.850	.853	.857	.863	.871									350,000 32,510
37,161	400,000		.841	.843	.846	.848	.853	.858	.863	.870	.875							400,000 37,16
46,451	500,000		.835	.838	.840	.842	.846	.850	.855	.859	.863	.868	.873					500,000 46,45
55,741	600,000					.837	.841	.845	.849	.853	.856	.859	.863	.867				600,000 55,74
65,032	700,000						.836	.841	.845	.848	.851	.854	.857	.860	.863	.867		700,000 65,032
74,322	800,000						.834	.837	.841	.844	.847	.850	.853	.856	.858	.860	.863	800,000 74,322
83,612	900,000						.832	.835	.838	.841	.843	.847	.849	.851	.854	.856	.858	900,000 83,612
92,902	1,000,000							.832	.835	.838	.841	.843	.846	.848	.850	.853	.855	1,000,000 92,902
102,192	1,100,000				*****			.831	.833	.835	.839	.841	.843	.846	.848	.850	.852	1,100,000 102,192
111,483	1,200,000								.832	.834	.836	.839	.841	.843	.845	.847	.849	1,200,000 111,483
120,773	1,300,000									.832	.834	.836	.839	.841	.843	.845	.847	1,300,000 120,773
130,063	1,400,000									.831	.833	.835	.836	.839	.841	.843	.845	1,400,000 130,063
139,353	1,500,000									.830	.832	.833	.835	.837	.839	.841	.843	1,500,000 139,353

NOTE: For larger buildings, enter the table by taking half the area and half the perimeter.

STORY HEIGHT MULTIPLIERS

Multiply the base cost by the following multipliers for any variation in average story height from the base of 14 feet (4.27 meters). For extremely high-pitched roofs (see Section 10), use the height of the eaves plus one-half the height from the eaves to the ridge as the effective height.

In some buildings it is better to compute the total volume and divide by the total square feet of floor area to get an effective height to use.

AVERAG HEI	SE WALL GHT	SQUARE FOOT OR SQUARE METER	CUBIC FOOT	AVERAG HEI		SQUARE FOOT OR SQUARE METER	CUBIC FOOT	AVERAG HEI		SQUARE FOOT OR SQUARE METER	CUBIC
(M.)	(FT.)	MULTIPLIER	MULT.	(M.)	(FT.)	MULTIPLIER	MULT.	(M.)	(FT.)	MULTIPLIER	MULT.
2.44	8	.885	1.567	7.31	24	1.231	.718	16.76	55	2.075	.528
3.05	10	.921	1.289	7.92	26	1.281	.690	18.29	60	2.225	.519
3.66	12	.960	1.120	8.53	28	1.331	.666	21.33	70	2.530	.506
4.27	14	1.000 (base)	1.000	9.14	30	1.382	.645	24,38	80	2.845	.498
4.88	16	1,041	.911	10.67	35	1,515	.606	27.43	90	3.161	.492
5.49	18	1.086	.844	12.19	40	1,650	.577	30.48	100	3,461	.485
6.10	20	1.133	.794	13.72	45	1.788	.556	33.52	110	3.738	.476
6.71	22	1.181	.752	15.24	50	1.930	.540	36.57	120	3.977	.464

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OFFICE BUILDINGS (344)

CLASS	TYPE	EXTERIOR WALLS	INTERIOR FINISH	LIGHTING, PLUMBING AND MECHANICAL	HEAT	Sq. M.	COST Cu. Ft.	Sq. Ft.
	Excellent	Best metal or stone, brick or block backup, solar glass	Plaster, best veneers, vinyl wall coverings, vinyl, terrazzo, carpet	*Luminous ceilings, many outlets, many private restrooms	Hot and chilled water (zoned)	2906.25	22.49	270.00
Α	Good	Good metal and solar glass, face brick, precast concrete panels	Drywall or plaster, some wall cover, acoustic tile, vinyl tile, carpet	*Good fluorescent, high intensity lighting, good restrooms	Hot and chilled water (zoned)	2303.47	17.83	214.00
^	Average	Brick, concrete or metal and glass panels, little trim	Average partitions, acoustic tile, vinyl composition, some extras	*Average intensity fluorescent lighting, average restrooms	Warm and cool air (zoned)	1732.99	13.41	161.00
	Low cost	Minimum-cost walls and fenestration, little trim	Drywall, acoustic ceilings, asphalt tile, few partitions	*Minimum office lighting and plumbing	Warm and cool air (zoned)	1388,54	10.75	129.00
	Excellent	Best metal or stone, brick or block backup, tinted glass	Plaster, best veneers, vinyl wall coverings, vinyl tile, terrazzo	*Luminous ceilings, many outlets, many private restrooms	Hot and chilled water (zoned)	2852.43	22.07	265.00
В	Good	Good metal and solar glass, face brick, precast concrete panels	Drywall/plaster, some wall cover, acoustic tile, vinyl tile, carpet	*Good fluorescent, high intensity lighting, good restrooms	Hot and chilled water (zoned)	2238.89	17.33	208.00
D	Average	Brick, concrete or metal and glass panels, little trim	Average partitions, acoustic tile, vinyl composition, some extras	*Average intensity fluorescent lighting, average restrooms	Warm and cool air (zoned)	1679.17	12.99	156.00
	Low cost	little trim	Drywall, acoustic ceilings, asphalt tile, few partitions	*Minimum office lighting and plumbing	Warm and cool air (zoned)	1323.96	10.25	123.00
	Excellent	Steel frame, masonry and glass, stone ornamentation, top quality	Plaster, paneling, carpet and terrazzo, suspended ceilings	*Best fluorescent ceiling panels, tiled restrooms, good fixtures	Warm and cool air (zoned)	2443.41	18.91	227.00
C	Good	Steel frame or bearing walls, brick/ conc. panels, some ornamentation	Plaster or drywall, good partitions, acoustic tile, carpet and vinyl	*Good fluorescent lighting, good restrooms and fixtures	Package A.C.	1711.46	13.24	159.00
C	Average	Steel or concrete frame, or bearing walls, some trim	Paint, drywall partitions, acoustic tile, vinyl composition	*Fluorescent lighting, adequate outlets and plumbing	Forced air	1216.32	9.41	113.00
	Low cost	Masonry bearing walls, light rafters, very plain	Paint, few low-cost partitions, acoustic tile, asphalt tile	Minimum office lighting and plumbing	Wall furnace	818.06	6.33	76.00
	Excellent	Studs or steel columns, bar or web joists, brick or stone veneer, EIFS	Best plaster, paneling, carpet and vinyl tile	*Fluorescent panels, many outlets, good tiled restrooms	Warm and cool air (zoned)	2325.00	17.99	216.00
D	Good	Best stucco on good frame, brick or stone trim, good front	Plaster or drywall, good partitions, acoustic tile, carpet and vinyl	*Good fluorescent lighting, good restrooms and fixtures	Package A.C.	1625.35	12.58	151.00
ט	Average	Stucco or wood siding on wood or steel studs, some trim	Drywall, acoustic tile, low-cost carpet or vinyl composition	*Adequate lighting and plumbing	Forced air	1151.74	8.91	107.00
	Low cost	Light stucco or siding on wood or steel studs, very plain	Drywall, few partitions, acoustic tile, asphalt tile	Minimum lighting and plumbing	Wall furnace	769.62	5.96	71.50
	Good	Good metal panels, fenestration, some brick or stone trim	Plaster or drywall, good partitions, acoustic tile, carpet and vinyl	*Good fluorescent lighting, good restrooms and fixtures	Package A.C.	1485.42	11,50	138.00
DPOLE	Average	Pole frame, insulated metal panels, some ornamentation	Drywall, acoustic tile, low-cost carpet or vinyl composition	Adequate lighting and plumbing	Forced air	1017.19	7.87	94.50
	Low cost	Pole frame, finished interior, some insulation	Drywall, few partitions, acoustic tile, asphalt tile	Minimum lighting and plumbing	Wall furnace	688.89	5.33	64.00
	Good	Good sandwich panels and fenestration, some brick or stone	Plaster or drywall, good partitions, acoustic tile, carpet and vinyl	*Good fluorescent lighting, good restrooms and fixtures	Package A.C.	1517.71	11.75	141.00
s	Average	Insulated wall or sandwich panels,	Drywall, acoustic tile, low-cost carpet or vinyl composition	Adequate lighting and plumbing	Forced air	1044,10	8,08	97.00
_	Low cost	Steel or aluminum on light frame, finished interior, some insulation	Drywall, few partitions, acoustic tile, asphalt tile	Minimum lighting and plumbing	Wall furnace	705.04	5.46	65.50

 $MULTISTORY\ BUILDINGS-Add\ .5\%\ (1/2\%)$ for each story, over three, above ground, to all base costs, including basements but excluding mezzanines, up to 30 stories; over 30 add .4% (4/10%) for each additional story.

SPRINKLERS – Systems are not included. Costs should be added from Page 37.

BALCONIES - Exterior balconies see Page 37, or they may be computed from the Segregated Costs.

CANOPIES - For large entrance marquees or carport canopies, see Page 37.

ELEVATORS – Base costs of buildings marked with an asterisk () include elevator costs. If the subject building has no elevators, deduct the following from the base costs for buildings on this page. See Notes on Page 19.

Classes A & B	Excellent	Sq. M. 130.78 89.13	Sq. Ft. 12.15 8.28	Average Low cost	Sq.M. 60.92 41.66	Sq.Ft 5.66 3.87
Classes C/D/S	Excellent	65.98 39.61	6.13 3.68	Average	23.90	2.22

OFFICES, MEDICAL AND PUBLIC BUILDINGS FLOOR AREA - PERIMETER MULTIPLIERS

	AGE									AVERA	AGE PER	IMITER									AVEF	RAGE
FLOOR	AREA	M.	38	46	53	61	76	91	122	152	183	213	244	305	366	427	488	549	610	M.	FLOOF	RAREA
Sq. M.	Sq. Ft.	FT.	125	150	175	200	250	300	400	500	600	700	800	1000	1200	1400	1600	1800	2000	FT.	Sq. Ft.	Sq. M.
93	1,000		1.168	1.235	1.299	1.364	1.494	1.624	1.884												1,000	93
139	1,500		1.061	1.105	1.146	1.191	1.277	1.364	1.537												1,500	139
186	2,000		1.007	1.040	1.072	1.105	1.168	1.235	1.364												2,000	186
232	2,500			1.000	1.027	1.052	1.105	1.155	1.259												2,500	232
279	3,000			.975	.997	1.018	1.061	1.105	1.191												3,000	279
372	4,000				.958	.975	1.007	1.040	1.105	1.168											4,000	372
465	5,000				.936	.949	.975	1.000	1.052	1.105	1.155			*****							5,000	465
557	6,000					.932	.952	.975	1.018	1.061	1.105	1.146									6,000	557
743	8,000		-			*****	.926	.942	.975	1.007	1.040	1,072	1,105								8,000	743
929	10,000						.910	.923	.949	.975	1.000	1.027	1.052	1.105	1.155						10,000	929
1,115	12,000							.910	.932	.952	.975	.997	1,018	1.061	1.105	1.146					12,000	1,115
1,301	14,000							.900	.920	.938	.956	.975	.993	1.030	1.067	1.105	1.140				14,000	1,301
1,486	16,000								.910	,926	.942	.958	,975	1,007	1.040	1.075	1.105	4.405			16,000	1,486
1,672 1,858	18,000								.903	.918	.932	.946	.960	.990	1.018	1.046	1.076	1.105			18,000	1,672
	20,000 25,000									.910	.923	.936	.949	.975	1.000	1.027	1.052	1.078	1.105		20,000	1,858
1 '	30,000						*****			.897	.908	.918	.928	.948	.969	.990	1.011	1.032	1.052		25,000	2,323
	35,000										.897	.906	.915	.932	.949	.965	.983	1.000 .978	1.018		30,000	2,787
	40,000											.897	.904	.919 .910	.934	.949	.963	.962	.993		35,000	3,252
	50,000										*****	.890	.897 .887	.897	.923 .908	.936 .918	.949	.938	.975		40,000	3,716
	75,000												.873	.879	.885	.892	.928 .900	.908	.948 .915		50,000 75,000	4,645 6,968
	100,000												.866	.871	.876	.881	.887	.892	.897		100,000	9,290

NOTE: For small buildings, enter the table by doubling the average floor area and doubling the perimeter. For larger buildings, take half the area and half the perimeter.

STORY HEIGHT MULTIPLIERS

Multiply base cost by following multipliers for any variation in average story height from the base of 12 feet (3.66 meters). For extremely high-pitched roofs (see Section 10), use the height of the eaves plus one-half the height from the eaves to the ridge as the effective height. In some

buildings or for a complete facility average, it is better to compute the total cubage and divide by the total square footage of floor area to get an effective height to use.

AVER WALL I		SQUARE FOOT OR SQUARE METER MULTIPLIER	CUBIC FOOT MULTIPLIER	AVER WALL I		SQUARE FOOT OR SQUARE METER MULTIPLIER	CUBIC FOOT MULTIPLIER	AVER WALL H		SQUARE FOOT OR SQUARE METER MULTIPLIER	CUBIC FOOT MULTIPLIER
(M.)	(FT.)			(M.)	(FT.)		mozim Elek	(M.)	(FT.) 20	MOLTH LIER	MOLTIFLIER
2.44	8	.900	1.350	3.96	13	1.023	.944	6.10	20	1.184	.710
2.74	9	.928	1.350 3.96 13 1.237 4.27 14		1.046	.897	7.31	24	1.276	.638	
3.05	10	.953	1.144	4.57	15	1.069	.855	8.53	28	1,367	.586
3,35	11	.977	1.066	4.88	16	1.092	,819	9.75	32	1.459	.547
3.66	12	1.000 (base)	1.000	5,49	18	1.138	.758	10.97	36	1.552	.517

CURRENT COST MULTIPLIERS

CURRENT COST MULTIPLIERS (Section 99, Page 3) are the multipliers for bringing costs published on the preceding pages up-to-date. This page is republished monthly and is based primarily on the Building Cost Indexes.

LOCAL MULTIPLIERS

LOCAL MULTIPLIERS

LOCAL MULTIPLIERS (Section 99, Pages 5 thru 10) reflect local cost conditions and are designed to adjust the basic costs to each locality. They are based on weighted labor and material costs, including local sales taxes and the Canadian GST, but do not include any new construction rebate where applicable. Local multipliers apply to all costs in the manual but not to any cost indexes or replacement cost multipliers. The local multipliers, when applied to the total replacement cost, will adjust for variations in component costs as a whole for a particular geographical area. Multipliers may not adequately adjust when applied to specific components or Unit-in-Place costs, e.g., in the case of a specific piece of equipment which may be national in scope requiring no significant localization. For most Unit-in-Place costs, the predominant building or material Class factor can be used (e.g., wood, Class D; masonry, Class C) or an average of all Classes may be appropriate. In some cases, local building problems and practices must be considered. In the best residential neighborhoods, costs are often higher than those for identical construction in a lower-cost neighborhood. These pages are republished every January, April, July and October. July and October.

July and October.

SPECIAL LOVAL CONDITIONS: Normally, smaller cities and suburbs hear larger cities fail under the same cost influence as the larger city; however, local wage scales, inspection practices, licenses, codes and fees may vary, and the valuator should consider these possible deviations. Within a large city, costs will often vary by distance from sources of materials, such as ready-mix plants, and the local multipliers apply only to typical conditions prevailing. The state multipliers are merely weighted averages of the various cities and do not have any other significance. They may fit quite closely to many of the cities in the state which are not listed, but some localities may vary appreciably.

SEISMIC AND WIND: In high wind (over 90 mph) and earthquake (zones 2, 3 & 4) prone areas, you can have additional structural elements which will affect the overall building costs. Lifeline structures, such as Hospitals, Governmental and Data Centers must meet stringent building and life safety codes. See Section 85 for further information. Individual components can be priced using the Segregated Method.

NATURAL DISASTERS: Widespread major natural disasters can create isolated materials and/or labor shortages requiring some upward adjustment to the multipliers. Some specific materials,

labor shortages requiring some upward adjustment to the multipliers. Some specific materials, such as roofing, can temporarily increase 30% to 50% or more above normal repair estimates, such as roofing, can temporarily increase 30% to 50% or more above normal repair estimates. ABNORMAL CONTRACTOR'S PROFIT: In areas of high growth, contractors are able to take higher than normal profits due to an increased demand with limited contractors and/or workforce availability. ABNORMAL SHORTAGES: Temporary supply-demand imbalances caused by events other than major catastrophes, such as factory closures, strikes, inadequate inventories, environmental legislation, trade embargoes, commodities speculation, etc., may require upward adjustment to

NOTE: Even though a particular material or trade may increase dramatically in a short span of time, it may only be a small part of an entire structure, and valuators should use caution.

COMPLEX SITES: Hillside construction will be much more expensive, due to added foundation and sitework. Downtown buildings are usually somewhat more expensive than outlying buildings. Sidewalks must be barricaded or roofed for the protection of pedestrians. Due to the lack of adequate space, material storage and handling is often more costly. Bordering property must often be protected, Such expenses are a part of construction costs.

often be protected. Such expenses are a part of construction costs.

GREEN BUILDINGS: High performance sustainable construction that is LEED certified can be more expensive, requiring some upward adjustments to the base costs.

WEATHER EXTREMES: Extreme cold, heat or wet weather may require temporary enclosures or covers, or special storage handling and wrapping of materials. Added costs may require some upward adjustment to the multipliers.

upward adjustment to the multipliers.

REMOTE LOCATIONS: Upward modification of the multipliers is appropriatelf a building or other structure is far removed from supplies of labor and materia, if its location is accessible with difficulty requiring higher freight charges on material, contains noncompetitive conditions for labor or materials, disproportionate crewing or labor per diem charges, or unusual climatic conditions occur. Examples are island, mountain, desert or resort locations and others not enjoying reasonable and adequate transportation facilities, for which no local modifier has been computed. When using the Mountain and Resort Cottage costs in Section 12, normal erection in remote areas is already included.

QUANTITY OR DEVELOPMENT CONSTRUCTION: There are usually cost savings in quantity or duplicate construction, which may or may not be passed on to the prospective buyer; usually, only part of the savings are passed on. Since costs in this manual will be based to some extent on such construction, the costs may require small, or

no percentage reductions to reflect actual sales conditions in the area. Large industrial projects, using multiple tilt-up or residential modular construction can have savings double the listed averages.

AMATEUR WORKMANSHIP: All costs in this manual are based on professional labor supervised by a contractor or job foreman. For amateur workmanship or work done by farm or ranch help, costs should be decreased to reflect the proper wage rate and lack of contractor and architectural supervision relative to the quality of the work.

REPAIR AND REMODEL: All costs in this manual are based on new construction. Typical repair work will run 10% to 20% higher because of restricted area, movement of materials, temporary supports, shoring, etc., and other contingencies not encountered in new construction, excluding demolition and removal. For detailed costs we would recommend using our repair and claims products.

MODIFYING ADJUSTMENTS

The following are rough overall percentage ranges to apply for certain unusual conditions, which

can be camalative.							
ADD FOR THE FOLLOW	NG:			ADDITIONS - CONTINUED			
Abnormal contractor's prof	it 5%	to	25%	Green Buildings, Commercial	0%	to	7%
Abnormal shortages	2%	to	10%	Residential	3%	to	20%
Complex/congested areas	2%	to	5%				
Hillside buildings	5%	to	20%	SUBTRACT FOR THE FOLLOW	WING:		
Remote areas	5%	to	15%	Quantity or Development			
Resort locations	15%	to	30%	construction	1%	to	5%
Weather extremes	2%	to	6%	Abnormal labor surplus	1%	to	5%
Seismic or high wind	2%	to	5%	Amateur workmanship	15%	to	30%
lifeline occ., high event				Architects' fee adjustments:			
(Zone 3/4)	5%	to	10%	see discussion below and on	Page 2.		

SPECIAL LOCAL MULTIPLIERS

If no multiplier is published for your city or if you desire a check on the published multipliers, we suggest that you send us your local data, and we will compute one for you. Forms for the required data may be obtained by writing, fax or email. See inside front cover for details.

ARCHITECTS' FEES

The architects' fees listed on the next page are based on averages of fees actually charged or recommended. Actual fees, (based on the size of the project, technical difficulty, artistic requirements, and the reputation of the architect and his willingness to accept the assignment), vary greatly, and the estimate of the fee is a matter for the valuator's judgment. Architects' fees will normally include part or all of the following:

- Plans and specifications including consultations, estimates and engineering studies.

 General administration and overall supervision of construction, not including superintending construction.

 Approving payment vouchers to the contractor.

 Approval and acceptance of completed construction.

4. Approval and acceptance of completed construction.
Regardless of the size and type of construction, all of these services must be performed by someone. On some projects, the owner or general contractor may supervise. On governmental projects, many services are performed by government employees; however, in replacing the building, the cost of these services, whether performed by the architect or others, must be included.

The architects' fee percentages given here are only a guide. On a simple pre-engineered structure or residence, stock plans and specifications may be purchased for under \$300, plus \$50 for each additional set. On a large housing development, the architect may get full fees for each individual design and payments as low as \$325 per unit for additional uses of the plans, perform work as a corporate employee. Also, many shed, farm and utility buildings are commonly built without plans or from standard plans which can be obtained free, or at a small price. To add a full architects' fee would be unsuitable.

In actual practice, architects' fees are normally based, by contract, either on a percentage of the entire cost, a multiplier of the technical payroll plus incidental expenses, or on a fixed sum plus listed expenses.

Insteu expenses.

In the final analysis, the architect's function, when fully performed, is a proper cost of construction. A well-considered matching of structure to land may enhance the end value by more than the fees involved. However, when poorly performed, the cost of design and drafting work may be wasted and result in functional obsolescence in a brand-new structure. This determination is a matter of judgment.

The average fees listed for buildings do not include fees for design of furniture, built-in equipment or appliances, plant or off-site, utilities or subdivision layout, or other detailed special items designed for a specific trade or personal use.

CALCULATOR COST SECTIONS

1.02

1.02

1.02

Roofs.....

Cold Storage Elevators, Conveying Systems ...

1.00

0.99

0.98

1.02

1.03

1.01

SEGREGATED COST SECTIONS

These multipliers bring costs from preceding pages up to date. Also apply Local Multipliers, Section 99, Pages 5 through 10.

																		_						00	
		fective D			11	12	13	14	15	16	17	18		(Effe	ective	Date		41	42	43	44	45	46	47	48
	of C	Cost Pag	jes)		(11/16)	(8/16)	(5/16)	(2/16)	(11/17)	(8/17)	(5/17)	(2/17)		of C	ost P	ages)		(12/16)	(9/16)	(6/16)	(3/16)	(12/17)	(9/17)	(6/17)	(3/17)
				Α	1.06	1.05	1.05	1.03	1.02	1.03	1.05	1.07					Α	1.06	1.05	1.05	1.03	1.02	1.03	1.05	1.07
				В	1.07	1.07	1.05	1.06	1.01	1.02	1.05	1.07					В	1.07	1.07	1.05	1.06	1.01	1.02	1.05	1.07
	E	ASTER	N	С	1.07	1.06	1.07	1.06	1.04	1.05	1.06	1.05		E/	ASTE	RN	С	1.07	1.06	1.07	1.06	1.04	1.05	1.06	1.05
				D	1.06	1.06	1.06	1.05	1.02	1.04	1.04	1.05					D	1.06	1.06	1.06	1.05	1.02	1,04	1.04	1.05
				S	1.10	1.09	1.07	1.06	1.04	1.04	1.04	1.08					s	1.10	1.09	1.07	1.06	1.04	1.04	1.04	1.08
+4																	•	1.10	1.00	1.01	1.00	1.07	1.04	1.04	1.00
в				Α	1.01	1.00	0.99	1.00	0.97	0.99	1.00	1.00					Α	1.01	1.00	0.99	1.00	0.97	0.99	1.00	1.00
ш				В	1.01	1.02	1.01	1.01	0.99	0.99	0.99	1.00					В	1.01	1.02	1.01	1.01	0.99	0.99	0.99	1.00
ηd	С	ENTRA	L	С	1.03	1.03	1.03	1.02	0.99	0.98	1,00	1.01		CE	ENTR	RAL	č	1.03	1.03	1.03	1.02	0.99	0.98	1.00	1.01
'n				D	1.02	1.03	1.03	1.02	1.01	1.02	1.00	1.02					Ď	1.02	1.03	1.03	1.02	1.01	1.02	1.00	1.02
2				S	1.00	1,02	1.00	1.02	0.98	0.98	1.01	1.01					s	1.00	1.02	1.00	1.02	0.98	0.98	1.01	1.02
ee				•	1,00		,,,,,	1.02	0.00	0.00	1.01	1.01						1.00	1.02	1.00	1.02	0.90	0.90	1.01	1.01
2017 Green Supplement.				Α	1.01	1.03	1.04	1.05	1,01	1.01	1.02	1.01					Α	1.01	1.03	1.04	1.05	1.01	1.01	1,02	1.01
1				В	1.01	1.02	1.05	1.04	1.01	1,03	1.03	1,01					В	1.01	1.03	1.05	1.03	1.01	1.01 1.03		1.01
0.	W	ESTER	N	č	1.03	1.05	1.04	1.06	1.01	1.03	1.02	1.05		W	ESTE	RN	C	1.03	1.05	1.03	1.04			1.03	1.01
				Ď	1.05	1.05	1.05	1.06	1.00	1.03	1.05	1.04					D	1.05	1.05	1.05		1.01	1.03	1.02	1.05
be				s	1.02	1.02	1.05	1.04	1.00	1.04	1.03	1.04					S				1.06	1.00	1.01	1.05	1.04
ш				3	1.02	1.02	1.03	1.04	1.00	1.04	1.03	1.01					3	1.02	1.02	1.05	1.04	1.00	1.04	1.03	1.01
ec.																									
Q									UNIT	-IN-P	LAC	E CC	ST S	SEC.	TIO	NS (5	1 -	70)							
the																•		•							
supersedes the December	Sec.	Page	Date						Faste	rn Coi	ntral W	lactora	e	ec. P	300	Date						F4	n Cent	1 18/-	_4
ea	51 -	-	(3/17)		Concrete F		41								-		_								
er.s	51 -	2-3 4	(3/17)		Pilings							1.03 1.04		1 - 1 2 - 1	-8	(12/16)	Tai	nks			•••••	1.04	1.03		.05
ďn	51 -		(3/17)		Steel and							1.04		2 - 1 2 - 2	2 6	(6/16)		ustrial Pu				1.07	0.99		.08
<i>ο</i> 2	51 -	3,7	(3/17)		Vood Fou							1.04		2 - 2. 2 - 4	-3, 0	(6/16) (6/16)		ing ctrical M				1.07 1.07	0.99		.08 .08
page	52 -		(3/17)		nterior Co							1.03		2 - 5		(6/16)		el Stacks				1.07	0.99		.08 .08
Ď	52 -	5	(3/17)		Bank Vaul							1.02		2 - 5		(6/16)		sonry &				1.07	1.00		.06
This	53 -	1-8	(6/17)		leating, C							1.03		2 - 6		(6/16)		mpactors				1.07	0.99		.08
I	53 -	9-12	(6/17)		lumbing,							1.04		3 - 1	-4	(9/16)		iler and I				1.03	1.02		.06
	54 -	1-6	(6/17)		lectrical,					2 1.	03	1.01	6	3 - 5	-10	(9/16)		nufacture				1.05	1.04		.06
	55 -	3-7	(8/17)	V	Vall Costs	3			. 1.02	2 0.	99	1.03	6	4 - 1-	-6	(3/16)		vice Stat				1.07	1.03		.03
	56 -	1-2	(8/17)		Stained Gl					3 0.	99	1.02	64	4 - 7	-9	(3/16)		fabricate				1.06	1.01		.06
	56 -	3-6	(8/17)		Storefronts						99	1.02	64	4 - 7-	-8	(3/16)	Pre	fab. Woo	od & Air	Structu	ıres	1.05	1.03		.05
	56 -		(8/17)		Stonework						01	1.04	6	5 - 1-	-12	(3/16)	Eq	uipment (Costs		•••••	1.04	1.03		.03
	56 -		(8/17)		Columns, S							1.04		6 - 1		(12/17)	Sul	odivision	Costs			1.01	0.98		.02
	56 -	-	(8/17)		Columns, \	Wood 8	k Alumii	num				1.04		6 - 2-	-	(12/17)		d Improv				1.01	0.97	7 1.	.03
	57 -	1_6	(0/17)		onte				4 00	. 1	α	1 00	e.	. 46	N 44	1401471	D -		D	Att - 42 -		4 00			

58 - 1

57 - 1-6

58 - 2-8

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(9/17)

70 - 1-20

66 - 10-11 (12/17) 67 - 1-2 (12/17) 67 - 3-7 (12/17)

(1/18)

Demolition & Remediation

Golf Courses

Recreational Facilities.....

Green Section.....

1.00

1.00

1.00

1.00

0.99

1.00

0.99

1.02

1.01

1.02

1.02

Apply to costs brought up-to-date from preceding pages. Do not apply to Section 98 or any other indexes.

UNITED STATES

CLASS	Α	В	С	D	s	CLASS	A	В	С	D	s	CLASS	Α	В	С	D	s
		_	-	_	_			_	_	_			A	ь	·	υ	3
NEW JERSEY	1.29	1.28	1.27	1.27	1.28	Plattsburgh	1.01	0.99	1.01	1.04	1.02	OHIO (Continued)					
Asbury Park	1.19	1.17	1.16	1.17	1.19	Poughkeepsie	1.19	1.19	1.20	1.22	1.20	Lima	0.96	0.97	0.97	0.95	0.97
Atlantic City	1.33	1.31	1.32	1.34	1.33	Rochester Rome	1.10	1.15	1.13	1.12	1,12	Lorain County	1.04	1.05	1.06	1.05	1.06
Bayonne	1.34	1.32	1.30	1.31	1.31	Schenectady	1.08	1.05 1.08	1.05 1.10	1.08 1.13	1.05 1.11	Mansfield Marion	1.00 1.00	1.02 1.02	0.98	0.98 0.98	1.00 1.00
Camden	1.24	1.21	1.19	1.19	1.21	Syracuse	1.13	1.12	1.12	1.13	1.11	Middletown	0.94	0.94	0.98	0.98	0.95
Clifton	1.31	1.30	1.29	1.29	1.29	Troy	1.11	1.12	1.14	1.15	1.13	Newark	1.00	1.02	1.00	1.00	1.00
East Orange	1.32	1.30	1.29	1.30	1.30	Utica	1.05	1.05	1.06	1.08	1.05	Portsmouth	0.93	0.91	0.91	0.92	0.94
Edison	1.32	1.30	1.29	1.30	1.29	Watertown	1.03	1.02	1.02	1.04	1.02	Springfield	0.97	0.96	0.96	0.98	0.97
Elizabeth	1.34	1.31	1.30	1.30	1.30			,,,,,	,,,,,			Toledo	1.08	1.09	1.08	1.08	1.11
Fairlawn	1.32	1.31	1.29	1.30	1.31	NEW YORK CITY AREA	1.45	1.41	1.42	1.44	1.47	Youngstown	1.09	1.10	1.06	1.04	1.09
Hackensack	1.32	1.32	1.30	1.30	1.31	Bronx	1.47	1.42	1.44	1.46	1.49						
Irvington	1,34	1.32	1.32	1.32	1.32	Brooklyn	1.46	1.42	1.43	1.44	1.47	OKLAHOMA	0.92	0.91	0.92	0.91	0.91
Jersey City	1.33	1.32	1.30	1,31	1.31	Manhattan	1.48	1.44	1.44	1.46	1.50	Ardmore	0.95	0.92	0.95	0.92	0.92
Lakewood	1,18	1.17	1.17	1.18	1.18	Nassau County	1.47	1.43	1.43	1.45	1.48	Bartlesville Enid	0.87 0.93	0.86 0.92	0.87 0.94	0.87	0.87 0.93
Morristown	1.33	1,31	1.31	1.32	1.32	Orange County	1.30	1.27	1.28	1.28	1.31	Lawton	0.88	0.92	0.88	0.94 0.86	0.86
New Brunswick	1.32	1.30	1.29	1.30	1.29	Putnam County	1.33	1.28	1.29	1.31	1.33	Norman	0.96	0.95	0.95	0.94	0.95
Newark	1.35	1.33	1.33	1,34	1,33	Queens Rockland County	1.46 1.33	1.42 1.30	1.43	1.44	1.47	Oklahoma City	0.96	0.95	0.95	0.94	0.95
Passaic	1.31	1,30	1,29	1,29	1.29	Staten Island	1.33	1.34	1.31 1.33	1.32 1.36	1.33 1.39	Tulsa	0.91	0.89	0.90	0.91	0.92
Paterson	1,32	1.31	1.29	1.30	1.31	Suffolk County	1.49	1.46	1.46	1.47	1.50						0.02
Plainfield	1.21	1.19	1.19	1.18	1.19	Westchester County	1.34	1.30	1.31	1.33	1.34	OREGON	1.09	1.07	1.06	1.05	1.08
Somerville	1.30	1.28	1.28	1.26	1.19	Yonkers	1,47	1.44	1,44	1.46	1.48	Albany	1.09	1.06	1.05	1.03	1.06
Teaneck	1.32	1.32	1.30	1.30	1.30	7 57111.01.0				1,40	1.10	Altamont	1.07	1.04	1.03	1.03	1.07
Trenton	1.29	1.27	1.25	1.26	1.26	NORTH CAROLINA	0.90	0.91	0.90	0.90	0.90	Astoria	1.07	1.07	1.04	1.03	1.06
Vineland						Asheville	0.94	0.93	0.92	0.91	0.93	Bend	1.12	1.12	1.12	1.13	1.13
	1.20	1.19	1.19	1.20	1.21	Charlotte	0.90	0.92	0.91	0.91	0.92	Coos Bay Corvallis	1.07 1.09	1.05 1.06	1.04 1.05	1.04	1.06
West Orange	1.31	1.29	1.28	1.29	1.28	Durham	0.95	0.95	0.93	0.93	0.95	Eugene	1.14	1.12	1.11	1.03 1.10	1.05 1.12
						Fayetteville	0,90	0.92	0.89	0.90	0.89	Grants Pass	1.07	1.04	1.02	1.02	1.07
NEW MEXICO	0.95	0.92	0.93	0.93	0.94	Gastonia Goldsboro	0.92 0.89	0.92 0.90	0.94 0.87	0.92 0.88	0.93 0.89	Klamath Falls	1.06	1.04	1.02	1.02	1.07
Alamogordo	0.90	0.88	0.89	0.86	0.89	Greensboro	0.89	0.90	0.89	0.89	0.89	Medford	1.08	1.06	1.05	1.05	1.08
Albuquerque	0.92	0.91	0.91	0.90	0.92	Greenville	0.86	0.88	0.86	0.86	0.86	North Bend	1.07	1.05	1.04	1.05	1,06
Carlsbad	0.92	0.89	0.91	0.91	0.90	Hickory	0.86	0.87	0.87	0.88	0.86	Pendleton	1.11	1.09	1.08	1.10	1.10
Clovis	0.97	0.95	0.95	0.94	0.93	Jacksonville	0.87	0.89	0.86	0.86	0.87	Portland	1.12	1.09	1.09	1.08	1.09
Farmington	1.00	0.96	0.96	0.96	0,96	Raleigh	0.95	0.95	0.93	0.93	0.95	Roseburg	1.07	1.04	1.01	1.01	1.07
Gallup	0.93	0.89	0.90	0.90	0.92	Rocky Mount	0.90	0.91	0.88	0.89	0.89	Salem	1.11	1.10	1.07	1.06	1.07
Hobbs	0.90	88.0	0.90	0.90	88.0	Wilmington	0.90	0.91	0.90	0.91	0.91	Springfield The Dalles	1.06 1.13	1.03 1.12	1.03 1.09	1.03 1.08	1.06 1.10
Las Cruces	0.94	0.91	0.92	0.91	0.95	Winston-Salem	88.0	0.88	0.88	0.86	0.86	The Dalles	1.13	1.12	1.09	1.00	1.10
Los Alamos	0.98	0.94	0.97	0.98	0.97	NORTH DAKOTA	1.03	1.02	1.02	1.00	1.04	PENNSYLVANIA	1.13	1.12	1.10	1.11	1.11
Portales	0.89	0.87	0.85	0.85	0.86	Bismarck	1,02	1.03	1.02	1.01	1.03	Allentown	1.16	1.18	1.13	1.16	1.11
Roswell	0.99	0.93	0.95	0.94	0.96	Fargo	1.01	1.01	$\frac{1.01}{1.01}$	0.98	1.03	Altoona	1.13	1.13	1.10	1.10	1.12
Santa Fe	0.97	0.94	0.97	0.96	0.96	Grand Forks	1.02	1.01	1.01	0.99	1.03	Bethlehem	1.13	1.15	1.10	1.13	1.10
Taos	1.06	1.03	1.07	1.07	1.06	Jamestown	1.02	1.03	1.02	1.00	1.04	Easton	1.11	1.14	1.09	1.11	1.07
						Mandan	1.02	1.03	1.01	1.01	1.03	Erie	1.12	1.12	1.12	1.10	1.10
NEW YORK	1,08	1.08	1.09	1.10	1.09	Minot	1.04	1.02	1.03	1.01	1.05	Harrisburg	1.10	1.08	1.06	1.05	1.08
Jamestown	1.04	1.04	1.06	1.05	1.05	Williston	1.05	1.03	1.04	1.01	1.06	Johnstown Lancaster	1.11 1.10	1.09 1.08	1.09 1.06	1.07	1.07
Kingston	1.19	1,19	1.19	1.21	1.21	ОНЮ	1.01	1,01	1.01	1.00	1.01	Norristown	1.27	1.25	1.25	1.07 1.27	1.07 1.25
Niagara Falls	1.15	1.13	1.13	1.14	1.13	Akron	1.02	1.03	1.03	1.03	1.03	Philadelphia	1,28	1.26	1.26	1.28	1.26
Albany	1.08	1.09	1.13	1.13	1.11	Canton	1.00	1.01	1.00	0.99	1.01	Pittsburgh	1.14	1.14	1.11	1.11	1.14
Amsterdam	1.07	1.08	1.11	1,13	1.09	Cincinnati	0.97	0.99	0.98	0.98	0.99	Reading	1.14	1.15	1.11	1.12	1.08
Auburn	1.04	1.03	1.03	1.05	1.04	Cleveland	1.05	1.07	1.07	1.06	1,08	Scranton	1.05	1.04	1.04	1.04	1.06
Binghamton	1.03	1.02	1.01	1.02	1.02	Columbus	1.02	1.03	1.02	1.01	1.02	State College	1.08	1.06	1.05	1.05	1.06
Buffalo	1.15	1.14	1.17	1.16	1.15	Dayton	0.97	0.97	0.98	0.99	0.97	Wilkes-Barre	1.05	1.06	1.06	1.04	1.07
Elmira	1.01	1.00	1.01	1.02	1.01	East Liverpool	1.08	1.07	1.09	1.06	1.07	Williamsport	1.10	1.06	1.05	1.05	1.10
Ithaca	1.01	0.99	1,02	1,03	1.00	Hamilton	0.94	0.94	0.96	0.95	0.95	York	1.10	1.09	1.07	1.06	1.10

MARSHALL VALUATION SERVICE

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1/2018

DEPRECIATION

DEFINITIONS

Depreciation is loss in value due to any cause. It is the difference between the market value of a structural improvement or piece of equipment and its reproduction or replacement cost as of the date of valuation. Depreciation is divided into three general categories, as discussed below.

- 1. Physical depreciation is loss in value due to physical deterioration.
- 2. Functional or technical obsolescence is loss in value due to lack of utility or desirability of part or all of the property, inherent to the improvement or equipment. Thus a new structure or piece of equipment may suffer obsolescence when built.
- 3. External, locational or economic obsolescence is loss in value due to causes outside the property and independent of it, and is not directly included in the tables

Effective age of a property is its age as compared with other properties performing like functions. It is the actual age less the age which has been taken off by face-lifting, structural reconstruction, removal of functional inadequacies, modernization of equipment, etc. It is an age which reflects a true remaining life for the property, taking into account the typical life expectancy of buildings or equipment of its class and its usage. It is a matter of judgment, taking all factors, current and those anticipated in the immediate future, into consideration. Effective age on older structures may best be calculated by establishing a remaining life which, subtracted from a typical life expectancy, will result in an appropriate effective age with which to work. Effective age can fluctuate year by year or remain somewhat stable in the absence of any major renewals or excessive deterioration.

Extended life expectancy is the increased life expectancy due to seasoning and proven ability to exist. Just as a person will have a total normal life expectancy at birth which increases as he grows older, so it is with structures and equipment.

Remaining life is the normal remaining life expectation. It is the length of time the structure may be expected to continue to perform its function economically at the date of the appraisal. This does not imply a straight-line expiration, particularly for mortgage purposes, since normal recurring maintenance and renewal of replaceable items will continue to contribute toward an extended life expectancy. This extended life process is accomplished by use of effective age as the sliding scale and not by continually lengthening the typical life expectancy as the structure ages chronologically.

Percent good equals 100% less the percentage of cost represented by depreciation. It is the present value of the structure or equipment at the time of appraisal, divided by its replacement cost.

APPROACHES TO DEPRECIATION

APPROACHES TO DEPRECIATION

The simplest and, in past years, a widely used accounting-type concept of depreciation, particularly with individual short-lived components, is the straight-line (age/life) approach. A life expectancy is estimated and a constant annual percentage (equal wear or serviceability each year) is taken for depreciation so that at the end of that life the depreciation equals 100% of the intilial cost. This linear approach is simple and easy to use but does not represent reality in most cases since time is not the only factor affecting depreciation and it fails to recognize any value-in-use. The passage of time may not in itself create additional depreciation if the property or component is well maintained and functionally sound.

While age is a critical factor, the best approach to the physical depreciation estimate is a combination of age and condition. The observed condition of each component subject to wear is estimated relative to new condition. A major replaceable component, such as a HVAC system under heavy loading in a hot, humid climate, can wear out quiter rapidly, shortening the life expectancy before replacement, while many other portions of a structure, such as excavations, foundations, and concrete exterior walls, wear out slowly if at all. Such long-lived portions often represent a major portion of the total reproduction cost and if still functional will contribute toward an extended life expectancy. Physical depreciation cannot be considered a straight-line deduction from reproduction cost, since necessary and normal maintenance can offset, retard and, in some cases, even eliminate deterioration.

Another approach to depreciation was called the mid-life theory. This takes into account that most

Another approach to depreciation was called the mid-life theory. This takes into account that most buildings depreciate little during the first few years. When it becomes evident that the buildings are no longer new, even though they are adequately maintained, the maintenance expenses rise, rentals tend to decrease and the building depreciates faster. After a number of years, they reach the period called mid-life, at which time, if the buildings are structurally sound and properly maintained, the depreciation remains constant. The mid-life theory suffers from the fact that maintenance expenses on the average building continue to go up in order to maintain the same appearance and utility, and at any age, certain building features may suffer from obsolescence.

These concepts lead to a third theory, the extended life concept, which starts with the hypothesis that buildings age in much the same manner as people and that the older they get, the greate their total life expectancy. This concept recognizes that a building is in the prime of life before

mid-life and that the road is downhill after that, but that correction of deficiencies may lower the effective age and lengthen the remaining life. This recurring revitalization process periodically reverses a continuous progression down the effective age scale, reducing the indicated depreciation percentage as components are renewed throughout the life-span of the building. This nonlinear approach accounts for a greater present value or slower depreciation rate in the early years as compared to the later years when diminishing serviceability and higher maintenance can accelerate depreciation.

EXPLANATION OF DEPRECIATION TABLES

The general depreciation tables in this section were developed from actual case studies of sales and market value appraisals and formed the basis of the extended life theory which encompasses a remaining life and effective age approach. From confirmed sales prices the land value was deducted to obtain a building residual, and the replacement cost of the building was computed. The difference between the replacement cost new of the building and the residual sales price of the building was divided by the replacement cost new, to give the market depreciation in percentage. A similar procedure was followed with the market value appraisals, always excluding those observed cases having excessive obsolescence.

The data was then collated by type of construction and usage, plotted with similar typical total life expectancies, with curves computed for the groupings, for which sufficient data was available, for statistical reliability. From these curves, a matching family of empirical mathematical curves was found, from which the depreciation for any initial (when new) life expectancy could be computed under normal market conditions.

A check of equipment depreciation by similar procedures showed that portions of the family of curves, which was used for nonresidential properties, were suitable as an indicator of that depreciation.

Churches were found to fit in the depreciation category of residential structures, and those tables should therefore be used. Motels, hotels and larger apartments are included in the nonresidential tables, while small apartments or multiples are residential in nature. The division between residential and nonresidential depreciation appears to lie in the usage, whether operated solely

Thus, a hotel operated commercially would be expected to fit into the commercial family of curves, but if the same building were operated as a private club, its normal depreciation would be expected to follow the residential curve. The proper curve to use is therefore a matter of judgment on the part of the appraiser, considering the usage and the type of return normally expected, whether cash, equity or intangible amenities.

USE OF THE DEPRECIATION TABLES (See Example on page 22)

- Note from your inspection the overall and/or individual condition, severity of use, utility and remaining life of all building or equipment components.
- 2. Determine the true age of the structure or equipment.
- Compare with like properties and study the effect of, or the lack or need of, typical maintenance or any modernization or major repair to determine the effective age.
- 4. Check the tables and discussion on Pages 10 through 21 for the recommended initial typical (normal) useful life of the occupancy, component or piece of equipment and for any further modification before establishing an appropriate life.
- 5. Check the properties listed in each depreciation table to see which to use. (Page 24, Non-residential; Page 25, Residential; Page 26, Fixtures and Equipment.)
- Enter the proper table choosing a typical life expectancy and effective age and read off the normal depreciation, or use the remaining life expectancy as an aid as described below.
- 7. Note any excessive obsolescence that may require special consideration separate from the normal depreciation developed from the tables. (Review Pages 2 and 3.)

REMAINING LIFE TABLES

The remaining life tables are based on mortality tables derived from studies of building and equipment, discarding all cases of mortality due to excessive obsolescence. Their primary mission is to provide an easy way for the appraiser to determine the normal remaining life expectancy of buildings for use in the capitalization process, using the effective age and the typical life expectancy.

Many times, the remaining life expectancy of a building or piece of equipment can be established more readily than the effective age. The Remaining Life Table on the right side of each depreciation page may then be entered with the remaining life in the proper typical life column and the effective age read off at the left, or the appraiser may move straight across to the left side of the page and read the depreciation directly.

FUNCTIONAL INDICATORS (Continued)

Some of the external factors affecting the extent of functional obsolescence are:

- Code Requirements Most current building codes or zoning for conforming use, height, stories, area, setback, building separation, size/mansionization, energy equivalency tradeoffs, etc., OSHA, fire and life safety, etc. compliance (see below).
- 2. Fire Protection Requirements Proper rating, detection for life safety and security, signaling controls, communications, signage, standpipe, sprinklers, extinguishers, hydrants, venits, draft curtains, fans, pumps, door and smoke controls, standby power, emergency phones, appropriate exits, overhang, balcony and deck exposures, stainways, roofing classification, safety or double glazing, fire doors and shutters, etc.
- 3. Handicapped Requirements ADA compliance, barrier-free design, parking, ramps, automatic entry, door, hallway widths, markings, signage, alarms, service, cabinet and railing heights, drinking fountains, grab bars, exposed hot-water piping, handicap fixtures, turnaround space, elevator controls, cab size, lifts, etc.
- elevator controls, cab size, lifts, etc.

 4. Environmental EPA, wetlands and air quality compliance, water, soil, radon, asbestos, UREA formaldehyde foam insulation, PCBs, CFCs, high-voltage lines, halon, heavy metal or lead contamination, runoff, emissions or sediment containment, detection and testing, septic tanks, leach fields, demolition constraints, disposal or remediation. Evidence of leakage, absence of plants or animals, sick or stressed plants or animals, discolored soil or water, surface sheens and noxious odors, presence of discarded batteries, abandoned wells, sumps, tanks, barrels or other containers of fertilizer, pesticides and herbicides, paints and thinners, heating oil, petroleum or other hazardous chemical substances.
- 5. Weather Extremes Appropriate insulation levels, heat gain or loss, shading, passive or active alternatives, energy equivalency tradeoffs, window treatment, glass strength, proper trusses, size, spacing, pitch and drainage for rain and snow loading, proper flashings and penetrations, proper connections for hurricane wind forces, uplift exposure, operable shutters, impact glazing.
- Earthquakes Appropriate bracing, connections to structural shell or foundation, shear walls, storefront facade or parapet, overhang exposure, irregular shape, framing stress, torsion,

Citatace from other structures for pounding, etc.

External Obsolescence is a change in the value of a property, usually negative but can be an enhancement, caused by forces outside the property itself, and is not included directly in the tables that follow. It can be divided into two types, locational and economic. Locational factors are generally incurable and may affect only a small area, while economic factors can cover a wide geographic area and may be only temporary and reversible. Different types of property, residential or commercial, will be affected differently by these external forces. For example, it is desirable or advantageous for a manufacturing plant to be situated close to a railroad spur; conversely, it is a disadvantage for a residential property to be located close to that same spur. Close proximity to a major highway is generally much more beneficial for an apartment complex than a single-family residence, etc. Any abnormal, isolated or temporary cases of external obsolescence, usually computed separately, can be measured by market abstraction and capitalization of the imputed loss or gain, which generally affects land values first, then the improvements, by changing the possible uses and altering remaining life.

EXTERNAL INDICATORS

When considering the extent of external obsolescence, pay particular attention to the following indicators in the immediate vicinity, marketing area or community as a whole:

- 1. Physical Factors Proximity of desirable or unattractive natural or artificial features or barriers, general neighborhood maturity, conformity, deterioration, rehabilitation or static character, known cleanup sites, fumes, noise, traffic or flight patterns, nuisances, graffiti, waste dump, swamp, toxic industry, electromagnetic fields, brush area, lack of view or landscaping, floodplain, dam inundation area, drainage, water table, sinkholes, fault or seismic zones, soil types, cut and fill, liquefaction, landslides, etc. local ecosystem, endangered species, habitat areas.
- 2. Economic Demand/supply imbalance, saturation or monopoly, competition or alternatives, market share, industry or major plant relocation, employment development and growth patterns, downsizing, utility and insurance rates, availability of funds or terms, labor and materials, interest rates, vacancy, building rates, general inflation or deflation rates, tenant ratings, length of time on market or lease up or absorption, income streams and returns, changing consumer habits, purchasing power, property association or government forces, zoning, land use, air rights, legal nonconformity, permit, taxing and assessment policies and bureaucracy or other limiting conditions or restrictions.

 Infrastructure – Surrounding highest and best use; availability, quality and source of utilities; public services; fire stations, staffed or volunteer; distance from hydrants; street improvements; public services; fire stations, staffed or volunteer; distance from hydrants; street improvements; traffic patterns; emergency response, evacuation routes; public parking, transportation and shipping facilities; retail; recreation; education facilities, etc.

General condition ratings can be assigned to the improvement to assist in the development of an appropriate effective age based on observed condition, utility and age. The better the overall condition, the younger or lower the effective age, which lowers the percentage and amount of depreciation. Condition is an integral part in measuring the degree at which items subject to depreciation have been maintained. Applying any additional condition modifier once the effective age has been established based on condition would be redundant.

age has been established based on condition would be redundant.

Effective age will change as conditions fluctuate, determined by the amount of observed deterioration and obsolescence at the date of the appraisal. Over the life of a structure, you could expect the condition rating and effective age to move up and back down the effective age scale many times over. During the mid-life cycles, the effective age will drift upward at a relatively slow pace, assuming normal maintenance, for longer periods of time than at any other period over the structure's entire life span. With each evaluation, the effective age choice must be reconsidered based on the actual conditions encountered at the current date, taking into account any changes that may have taken place since the last appraisal. Neglect or weather extremes could have accelerated condition and age, while major repairs will correct deficiencies to a like-new condition, lowering the effective age and starting the cycle all over again. Operating extremes, such as abrupt increases or decreases in plant or equipment activity from normal or designed usage or excessive rental turnover can certainly impact the rate of wear and tear and maintenance performed.

Certain industries such as fast food, hotels, markets, and other retail chains which are highly competitive and responsive to rapidly changing consumer tastes and/or investor holding periods, may require frequent major renovations and fixture change-outs in search of market share. Consequently, excessive functional and separate economic obsolescence rates that move much Consequently, excessive functional and separate economic obsolescence rates that move much faster than normal physical deterioration, may require special consideration, depending on the value sought, before establishing an appropriate effective age and/or typical life expectancy with which to work. Due to the unique character of certain outdoor recreational facilities like golf courses, special attention should be paid to the possible shorter lives of individual land improvements which are subject not only to the constant exposure of the elements, but to the wear and tear from selective use or play. The functionality, composition and age or maturity of the various features that make up each improvement or golf hole can also have a great effect on a facility's maintenance, operational and reserve schedules and expenses, which in turn affect condition, usability or playability and ultimately, depreciation.

CONDITION RATING INDICATORS

Excellent Condition — All items that can normally be repaired or refinished have recently been corrected, such as new roofing, paint, furnace overhaul, state-of-the-art components, etc. With no functional inadequacies of any consequence and all major short-lived components in like-new condition, the overall effective age has been substantially reduced upon complete revitalization of the structure regardless of the actual chronological age.

Very Good Condition – All items well maintained, many having been overhauled and repaired as they've shown signs of wear, increasing the life expectancy and lowering the effective age, with little deterioration or obsolescence evident and a high degree of utility.

Good Condition – No obvious maintenance required, but neither is everything new. Appearance and utility are above the standard, and the overall effective age will be lower than the typical property.

Average Condition - Some evidence of deferred maintenance and normal obsolescence with age in that a few minor repairs are needed, along with some refinishing. But with all major components still functional and contributing toward an extended life expectancy, effective age and utility are standard for like properties of its class and usage.

Fair Condition (Badly Worn) – Much repair needed. Many items need refinishing or overhauling, deferred maintenance obvious, inadequate building utility and services all shortening the life expectancy and increasing the effective age.

Poor Condition (Worn Out) — Repair and overhaul needed on painted surfaces, roofing, plumbing, heating, numerous functional inadequacies, substandard utilities, etc. (found only in extraordinary circumstances). Excessive deferred maintenance and abuse, limited value-in-use, approaching abandonment or major reconstruction; reuse or change in occupancy is imminent. Effective age is near the end of the scale regardless of the actual chronological age.

LIFE EXPECTANCY GUIDELINES

TYPICAL BUILDING LIVES

						AL DU	ILDING LIVES					
OCCUPANCY	CLASS	Α	В	С	D	s	OCCUPANCY CLASS	Α	В	С	D	s
SECTIONS 14 & 44, GAR	RAGES, INDUSTRIALS AND WA	REHOL	JSES				SECTIONS 14 & 44, GARAGES, INDUSTRIALS AND WA	REHOL	JSES (C	ontinu	ed)	
Armories, good and exce	llent			55	50		industrials, manufacturing, heavy, good and excellent	60	60	55		50
average				50	40	40	low cost and average	55	55	50	45	45
	rs, good			45	40	40	light, good	50	50	45	40	40
				40	35	35	average	50	50	40	35	35
-				35	30	30	low cost	45	45	40	35	35
	ood and excellent	55	55	50	45	45	Laboratory buildings, good and excellent	55	55	50	45	45
		50	50	45	40	40	low cost and average	50	50	45	40	40
		45		40	35		Lofts, excellent	60	60			
		40	45			35	average and good	55	55	50	40	40
	cellent			50		45	low cost	50	50	40	35	
	• • • • • • • • • • • • • • • • • • • •	50	50	45	40	40	Mini-lube garages, good and excellent			40	35	35
				40	35	35	low cost and average			35	30	30
	s, good and excellent	50	50	45	40	40	Mini-warehouses, low and high rise, good			45	40	40
-		45	45	40	35	35	average	45	45	40	35	35
low cost				35	30	30	low cost			35	30	30
Computer centers, good a	and excellent	50	50	45	40	40	Parking structures/parkades, good	45	45			
low cost and average .		45	45	40	35	35	low cost and average	40	40			35
Creameries, good				45	45	45	cheap	45	45	40	40	30
average		45	45	35	30	30	Passenger terminals, very good and excellent	45	45	40	40	
				25	20	20	average and good	40 35	40 35	35 30	35 30	35
	ce, excellent			45		40		35	35	30	30	30
- · ·				40	35	35	control towers, good	30	30			
	ges, good and excellent			40	35	35	low cost	25	25			
	yes, good and excellent	40		35	30		Post offices, main and branch, good and excellent	60	60	55	50	50
		40	40			30	low cost and average	55	55	50	45	45
	good			35	30	30	mail processing facilities, good			50	40	45
-	• • • • • • • • • • • • • • • • • • • •			30	25	25	average	50	50	45		40
		45	45	40	35	35	Showrooms, good and excellent	50	50	45	40	40
Hangars, maintenance, ex	xcellent			45		40	average	45	45	40	35	35
good				40		40	low cost			35	30	30
average				40	35	35	Transit warehouses, average and good			45	40	40
low cost				35	30	30	Underground parking garages, average	45	45			
Storage, excellent				40		40	Warehouses, distribution, good and excellent	55	55	50	45	45
good				40		35	average	50	50	45	40	40
average				35	30	30	low cost			40	35	35
-				30	30	30	Storage and mega storage, excellent			50		45
					20	20	average and good	50	50	45	40	40
•				30	2.0	30	cheap and low cost	45	45	40	35	35
				30			Miscellaneous buildings, excellent	60	60	55	45	45
					20	20	average and good	55	55	50	40	40
	gs, average and good			50	40	40	low cost	50	50	40	35	35
				40	35	35	Misc. structures, shipping docks				40	40
	ood and excellent	55	55	50	45	45	loading docks, excellent				35	35
average		50	50	45	40	40	average and good				30	30
low cost		50	50	40	35	35	low cost				25	25

TYPICAL BUILDING LIVES

OCCUPANCY	CLASS	Α	В	С	D	S	OCCUPANCY CLASS	Α	В	С	D	s
SECTIONS 15 & 45, BAN	IKS, OFFICES AND PUBLIC BU	ILDING	s				SECTIONS 16 & 46, CHURCHES, THEATERS AND AU	DITORIU	MS			
Atriums, good and excelle	nt	60	60	55	50	50	Arcade buildings, good and excellent			45	40	
average		55	55	50	45	45	average			40	35	35
	I, good and excellent	60	60	55	50	50	low cost			35	30	30
		55	55	50	45	45	Auditoriums, excellent		55	50	45	
low cost		50	50	45	40	40	average and good	. 50	50	45	40	40
mini, drive-up, good and	d excellent	55	55	50	45	45	low cost			40	35	35
	·	50	50	45	40	40	Bowling centers, good and excellent			40	35	35
Convalescent hospitals, go	ood and excellent	50	50	45	40		low cost and average			35	30	30
low cost and average .		45	45	40	35	35	Casinos, very good			50		
Dispensaries and urgent of	are, good	50	50	40	35	35	good			45	40	
average		45	45	35	30	30	average			40 35	35 30	35 30
Fire stations, staffed, good	d, very good and excellent	50	50	45	40	40	Churches, sanctuaries, narthexes, classrooms, excellent		60	60	50 50	
		45	45	40	35	35	good		60	50	45	45
	**********************			40	35	35	average		50	45	40	45 40
	•	40	40	35	30	30	cheap and low cost		50	40	35	35
	nd excellent	50	50	45	40		Community recreation centers, good and excellent	50	50	45	40	40
		45	45	40	35	35	low cost and average	45	45	40	35	35
Governmental buildings, o	ood and excellent	60	60	55	50		Convention centers, good and excellent	55	55	50	45	
		55	55	50	40	40	average		50	45	40	40
	dings, excellent			55	50		low cost		45	40	35	35
		55	55	50	40	40	Fellowship halls, good and excellent	50	50	45	40	40
low cost		50	50	45	35	35	low cost and average	45	45	40	35	35
	, good and excellent	55	55	45	40	35	cheap				30	30
	, good and excellent	50	50	40	35	35	Fitness centers, good and excellent		50	45	40	40
		55		50	45	33	average		45	40	35	35
	nd excellent		55				Fraternal buildings, excellent.		55	50	45	
	• • • • • • • • • • • • • • • • • • • •	50	50	45	40		good		50	45	40	
		45	45	40			average		45	40	35	35
	xcellent			45	40		low cost			35	30	30
				40	35	35	Handball/racquetball clubs, good			45	40	40
				35	30	30	average			40	35	35
				25	20	20	Indoor tennis clubs, good			45	40	40
	excellent	50	50	45	40	40	average			40	35	35
		45	45	40	35	35	low cost			35	30	30
	l excellent			45	40	40	Museums, good and excellent		60	55	50	
low cost and average				40	35	35	average		55	50	45	
Offices, good and excellen	nt	60	60	55	50	50	low cost			40	35	35
average		55	55	50	45	45	Pavillions, excellent			50	45	
low cost		50	50	45	40	40	very good			45	40	
Outpatient (surgical) cente	rs, good and excellent	50	50	45	40		good			40	35	
		45	45	40	35	35	fair and averge			35	30	30
		60	60				low cost			30	25	25
		55	55	50	50	50	cheap			25	20	20
		50	50	45	45	45	Skating rinks, good and excellent	50	50	45	40	40
		30	30	25	25	25	average	45	45	40	35	35
		25	25	20	20	20	low cost			35	30	30
	good and excellent	60	60	55	50	50	Theaters, live-stage presentation, good and excellent	50	50	45	40	
	· · · · · · · · · · · · · · · · · · ·	55	55	50	45	45	fair and average	45	45	45	40	40
low cost		55		45	40	40	low cost			40	35	35
Vatarinary hospitale avail	lent			45 45	40	40	Motion picture/cinema, very good and excellent		50	45	40	
avorage and good	IGIN		45	45 40	40 35		average and good	45	45	40	35	35
		45				35	low cost and fair			35	30	30
				35	30	30	Visitor centers, good and excellent		55	50	45	
	es, good and excellent			45	40	40	average	50	50	45	40	40
iow cost and average				40	35	35	low cost			40	35	35

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DEPRECIATION - COMMERCIAL PROPERTIES

AGE IN YEARS 70 60 8 1 0 0 2 0 1 3 0 1 4 1 1 5 1 1 6 1 2 7 1 2 8 1 2 9 2 3 10 2 3 11 2 4 12 2 4 13 2 5 14 3 5 15 3 6 16 3 7 17 4 7 1 18 4 8 1 19 4 9 1 20 5 9 1 21 5 10 1 22 6 11 1 23 6 12 1 24 7 13 1 25 7 14 1 26 8 15 2 27 9 16 2 27 9 16 2 28 9 17 2 29 10 18 2 30 11 20 2 31 11 20 2 32 13 22 3 34 15 25 3 36 17 28 3 38 19 32 4 40 21 35 4 40 21 35 4 40 21 35 4	TYPICAL LIFE EXPECTAN 55	35 30 25 20 E	### TYPICAL LIFE EXPECTANCY IN YEARS AGE IN YEARS Fig. Fig.
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38 19 32 4: 40 21 35 4: 42 25 39 5 44 28 43 5(38 48 61 73	77	34 36 26 21 16 11 7 4 36 34 24 19 14 10 6 3
40 21 35 40 42 25 39 5 44 28 43 50	42 53 67 77	80	
42 25 39 5 44 28 43 50	46 59 72 79		
44 28 43 5	51 65 75 80	PROPERTIES INCLUDED	40 30 20 15 10 7 4 42 28 18 13 9 6 3
	56 70 77	Section 11 All apartments, hotels, resorts	44 26 16 12 8 5
46 31 48 6 6	60 74 78	Section 12 Motels, lodges, large multiples & resorts	46 24 14 10 7 4
	64 77 79	Section 13 All	48 22 13 9 6 3
		Section 14 All Section 15 All except libraries	50 20 11 8 5 3
55 48 67 79	68 79 80	Section 16 All except churches and fraternal bldgs.	55 16 8 6 3
60 57 74 78		Section 17 All commercial and industrial uses	M 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	68 79 80		№ 60 № 1 12 6 4
70 71 80	68 79 80 75 80	Section 18 None	60 12 6 4 65 9 4 3
75 75	68 79 80 75 80 78	Section 18 None Section 64 All commercial and industrial uses	65 9 4 3
80 78	68 79 80 75 80 78	Section 18 None	65 9 4 3

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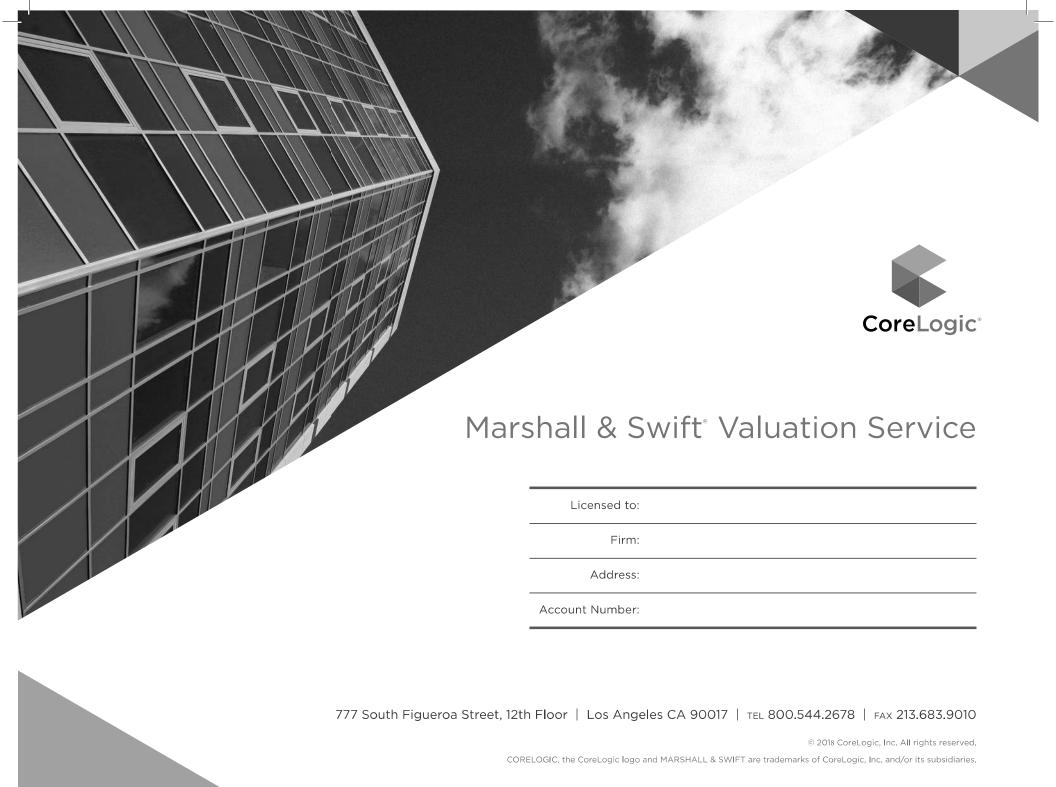
SEGREGATED COST METHOD

GARA	GES	S, INC	UST	RIALS	, LOFTS AND WAREHOUSES				
PLUMBING - Apply Table I to total floor area. Use Table	ll or S	ection 53		re detail.	SPRINKLERS (Continued)	1	2	3	4
TABLE I – Typical cost ranges. Armories	4.70	6.79	3 9.78	14.10	125,000 square feet	1.64	2.08	2.65	3.37
Automotive centers	2.73	4.06	6.03		150,000	1.59	2.02	2,57	3.26
Auto dealerships, complete	2.73	4.06			200,000	1.53	1.94	2.45	3.10
Broadcasting facilities	2.76	4.10	6.21 6.37		250,000	1.48	1.86	2.35	
Cold storage facilities	1.10	1.96	3.23		300,000	1.44	1.81	2.27	2,84
Computer centers	4.55	6.01	7.93		400,000	1.39	1.74	2.17	2.70
Creameries	5.60	8.85	13.70		600,000	1.29	1.61	2.01	2.52
Garages, minilube	5.27	8.43	13.15		800,000	1.24	1.55	1.93	2.40
service, lower qualities	2.04	3.42	5.48		1,000,000	1.19	1.48	1.84	2.29
higher qualities (incl. municipal service centers)	3.43	5.60	8.83		HEATING, COOLING AND VENTILATING - Apply to total			7.04	2.23
service shed	0.30	0.44	0.66		Add or deduct 3% for each foot of variation in average stor				
storage	1,34	2.05	3.12		Costs are given for gas-fired heating surfaces. Add or dedu				
underground parking	1.47	1.89	2.43		Oil-fired +7% Coal, stoker +7%	ct as ion			
Hangars, storage	0.59	1.20	2.13		For Passenger Terminals, Research Labs and Cold Storage	. n		hand-fire	
maintenance and offices	2.01	3.63	6.05	9.66		Bullaine	gs, use c	osts in S	ection 14,
Industrials, manufacturing, light	1.48	2.42	3.83	5.92	Heating Only				
heavy	5.34	6.42	7.72	9.29	Electric cable or baseboard	2.62	3.40	4.41	5.73
engineering and research	3.80	5.54	8.09		radiant panels	2.49	2.97	3.53	4.21
laboratories	14.65	21.15	30.50		Electric wall heaters (including FWA)	1.37	1.63	1.95	2.33
Lofts	1.97	3.59	6.02		Forced air	2.99	3.86	5.00	6.47
flex buildings	1.59	2.67	4.27	6,66	Hot water, baseboard or radiators	4.84	6.45	8.59	11.45
Miniwarehouses	0.33	0.89	1.72		radiant floor	4.69	6.47		
high-rise facilities	0.53	1.14	2.05					8.90	12.25
Parking structures, parkades	0.61	1.19	2.06	3.37	Radiant heat, gas, suspended	1.45	1.97	2.68	3.65
Passenger terminals	6.71	9.88	14.55		Space heaters, gas, with fan	1.21	1.68	2.35	3.26
Post offices, branch	3.65	4.92	6.62	8.92	steam coil, with boiler	2.05	2.67	3.46	4.49
mainprocessing facilities	4.12	5.77 6.27	8.09	11.35	steam coil, without boiler	1.45	1.95	2.62	3.52
Showrooms	4.53 4.02	5.66	8.68 7.96	12.00	Steam radiator, with boiler	4.62	5.98	7.72	9.99
T-hangars	0.42	0.71	1.14	11.20 1.78	without boiler	3.72	4.94	6.55	8.70
Warehouses, storage	0.42	1.57	2.62	4.18	Wall or floor furnace	1.45	1.77	2.15	2.62
distribution	2.27	3.41	5.11	7.65	Heating and Cooling				
mega storage/distribution	0.30	0.64	1.14	1.89		40.55	40.00		
transit	3.36	4.36	5.66	7.35	Zoned A.C., hot and chilled water	12.55	16.60	21.90	29.00
TABLE II - ALTERNATE METHOD - Apply to total num					warm and cooled air	7.24	9.67	12.95	17.25
costs if Table I is used,					Package heating and cooling, short ducts	5.51	7.26	9.56	12.60
Cost per fixture 2	,650.00	3,750.00	5,350.00	7,600.00	Heat-pump system	5.93	8.22	11.40	15.80
	510,00		840.00	1,090.00	add for ground-loop heat source	1.53	2.22	3.23	4.69
SPRINKLERS - Apply to sprinklered area. Costs inclu	de all p	oiping fo	r ordina	ary-hazard	Individual thru-wall heat pump	2.57	3.52	4.84	6.63
occupancies but do not include tanks. For extra-hazar add 15% to the costs below. For supplemental in-rack sy	stems, :	add 30%	to 100%	per level.	Cooling Only				
For early-suppression, fast-response system, add \$.5 Chemical systems: see Section 53. For further discussions	ou plus	\$1.00 -	\$1.48 fc	or pumps.	Evaporative coolers	2.57	3.07	3.68	4.40
2,500 square feet	2.96	3.94	5,26	7.00	Refrigerated air conditioning only, zoned system	4.97	6.41	8.24	10.65
5,000	2.66	3.94 3.52	4.65	6.16	package unit, short ducts	3.52	4.44	5.59	7.04
10,000	2.41 2.26	3.16 2.95	4.14	5.42	Ventilation only, with ducts & blowers	0.90	1.16	1.48	
15,000	2.20	2.79	3.85 3.64	5.03 4.74	•				1.89
30,000	2.03	2.63	3.41	4.40	MISCELLANEOUS - Apply to square feet of floor area of	describ	ed lamir	ar flow	coverage.
40,000	1.94 1.89	2.51	3.23	4.17	These costs vary greatly and the following typical cost ra	nges sh	ould be	used wit	
50,000	1.89	2.42 2.34	3.12 3.01	4.00 3.85	Clean rooms, class 100,000 to 10,000	164.00	221.00	293.00	390.00
80,000	1.75	2.23	2.85	3.65	dass 1,000 to 100				855.00
100,000	1.70	2.17	2.76	3.52	class 100 to 10	820.00 1	,430.00 2	2,320.00	3,675.00

MARSHALL VALUATION SERVICE

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INDUSTRIALS, LIGHT MANUFACTURING (494)

CLASS	TYPE	EXTERIOR WALLS	INTERIOR FINISH	LIGHTING, PLUMBING AND MECHANICAL	HEAT	Sq. M.	COST Cu. Ft.	Sq. Ft.
Α	Average	Brick on block or tile, concrete or metal panels, storefront entry	Painted walls and ceilings, finished floors and ceilings in offices	*Adequate lighting and plumbing	Hot water	846.80	5.62	78.67
_	Low cost	Low-cost brick or block, little fenestration, precast floors	Painted walls, few offices, very plain and open	*Minimum lighting and plumbing	Space heaters	587.07	3.90	54.54
В	Average	Brick, formed concrete, or precast walls, little trim, storefront entry	Painted walls and ceilings, finished floors and ceilings in offices	*Adequate lighting and plumbing	Hot water	796.00	5.28	73.95
	Low cost	Low-cost brick or block, little fenestration, precast floors	Painted walls, few offices, very plain and open	*Minimum lighting and plumbing	Space heaters	548.21	3.64	50.93
	Good	Bearing walls or frame, brick, concrete panels, good glass storefront	Some finished walls, finished floors and ceilings in offices	Good fluorescent lighting, adequate plumbing	Space heaters	746.38	4.95	69.34
С	Average	Light frame or bearing walls, brick, block or tilt-up, some trim	Painted walls and exposed frame, small finished offices	Exposed conduit, fluorescent lighting, adequate plumbing	Space heaters	537.77	3.57	49.96
	Low cost	Very plain, brick, block, or tilt-up, few openings	Small office area, unfinished floors and ceilings	Minimum lighting and plumbing	Space heaters	389.76	2.59	36.21
	Good	Good frame with stucco or siding, some ornamentation	Some good offices and interior finish	Good lighting, exposed conduit, adequate plumbing	Space heaters	689.43	4.58	64.05
D	Average	Wood studs, stucco, wood rafters and sheathing, some trim	Drywall, finished office area, exposed rafters or trusses	Adequate lighting and plumbing	Space heaters	490.41	3.25	45.56
	Low cost	Wood studs or frame, cheap stucco or siding	Unfinished, low-cost slab, small office, minimum code	Minimum lighting and plumbing	Space heaters	351.12	2.33	32.62
	Good	Pole frame, metal siding, lined and insulated, some trim, glass entry	Some good offices and interior finish	Good lighting, exposed conduit, adequate plumbing	Space heaters	613.76	4.07	57.02
DPOLE	Average	Pole frame, metal siding, fully lined and insulated	Finished office area, slab, some floor finish	Adequate lighting and plumbing	Space heaters	439.71	2.92	40.85
	Low cost	Pole frame, metal siding, insulated, few openings	Low-cost slab, few partitions, small office	Minimum code, factory lighting	Space heaters	317.11	2.10	29.46
	Good	Steel frame, sandwich panels, good glass storefront entry and trim	Some good offices and interior finish	Good lighting, exposed conduit, adequate plumbing	Space heaters	671.67	4.46	62.40
S	Average	Steel frame, steel or aluminum siding, some trim	Finished office area, slab, some floor finish	Adequate lighting and plumbing	Space heaters	474.15	3.15	44.05
	Low cost	Light steel frame, steel or aluminum siding, few openings	Low-cost slab, unfinished interior, small office	Minimum code, factory lighting	Space heaters	337.02	2.24	31.31

DOCK-HEIGHT FLOORS - See Page 27.

SPRINKLERS - Systems are not included. Costs should be added from Page 37.

BASEMENTS – See Page 18.

MEZZANINES - See Page 27.

ELEVATORS – Buildings with base costs which include elevators are marked with an asterisk (). If the subject building has no elevators, deduct the following from the base costs for the buildings on this page which are so marked. For buildings not marked or for basement stops, add costs from Page 36.

MULTISTORY BUILDINGS – Add .5% (1/2%) for each story over three, above ground, to all base costs of the building, including basements, but excluding mezzanines.

 Classes A and B
 Sq. M.
 Sq. Ft.
 Sq. M.
 Sq. Ft.
 Sq. M.
 Sq. Ft.

 Average
 23.57
 2.19
 Low cost
 17.98
 1.67

INDUSTRIALS, HEAVY (PROCESS) MANUFACTURING (495)

CLASS	TYPE	EXTERIOR WALLS	INTERIOR FINISH	LIGHTING, PLUMBING AND MECHANICAL	HEAT	Sq. M.	COST Cu. Ft.	Sq. Ft.
	Excellent	Heavy structural frame and masonry or concrete walls	Extra heavy floors, partitions and craneways, specialized plant	*Excellent lighting and plumbing, spark-proof fixtures	Hot and chilled water (zoned)	2,612.53	17.34	242.71
٨	Good	Good curtain walls, good brick and glass, with ornamentation	Finished walls and ceilings, some finished floors, heavy craneways	*Good fluorescent lighting, good plumbing, some extras	Hot and chilled water (zoned)	2,100.92	13.94	195.18
Α	Average	Face brick, metal panels, industrial glass, ornamentation	Plaster walls, some trim, heavy- duty floors, good offices, craneways	*Good fluorescent lighting, adequate plumbing, locker rooms	Warm and cool air (zoned)	1,608.79	10.68	149.46
	Low cost	Brick on block or tile, concrete or metal panels, little trim	Painted walls and ceilings, heavy-duty floors, open fabrication	*Adequate lighting and plumbing	Hot water	1,250.02	8.30	116.13
	Excellent	Heavy concrete frame and masonry or concrete walls	Extra heavy floors, partitions and craneways, specialized plant	*Excellent lighting and plumbing, spark-proof fixtures	Hot and chilled water (zoned)	2,511.67	16.67	233.34
В	Good	Good curtain walls, good brick and glass, with ornamentation	Finished walls and ceilings, some finished floors, heavy craneways	*Good fluorescent lighting, good plumbing, some extras	Hot and chilled water (zoned)	2,018.90	13.40	187.56
D	Average	Face brick, concrete curtain walls, some ornamentation	Plaster walls, some trim, heavy- duty floors, good offices, craneways	*Good fluorescent lighting, adequate plumbing, locker rooms	Warm and cool air (zoned)	1,541.94	10.23	143.25
	Low cost	Brick, formed concrete, or precast walls, little trim	Painted walls and ceilings, heavy- duty floors, open fabrication	*Adequate lighting and plumbing	Hot water	1,195.56	7.93	111.07
	Good	Heavy steel or concrete frame, good masonry walls	Heavy floors, grating, good partitions and craneways	Good fluorescent lighting, good plumbing, some extras	Warm and cool air (zoned)	1,615.57	10.72	150.09
C	Average	Structural frame, brick, concrete panels	Heavy slab floors, offices, stores, some heavy assembly, craneways	Good fluorescent lighting, adequate plumbing, locker rooms	Hot water	1,207.94	8.02	112.22
	Low cost	Steel or glulam frame, brick, block, or tilt-up, some trim	Painted walls and exposed frame, small finished offices, good slab	Exposed conduit, fluorescent lighting, adequate plumbing	Space heaters	870.92	5.78	80.91
CMILL	Good	Mill-type construction, brick walls, wood or steel trusses	Finished walls and ceilings, some floor finish, heavy mill-type floors	*Fluorescent lighting, modernized plumbing	Steam	1,030.33	6.84	95.72
C MILL	Average	Mill-type construction, brick walls, wood trusses	Painted walls, few small offices, mill-type floors	*Average lighting and plumbing	Steam	785.13	5.21	72.94
D	Average	Heavy wood frame, wood or stucco siding	Heavy slab or mill-type floors, finished office area, some heavy assembly	Good lighting, adequate plumbing and locker rooms	Space heaters	1,078.45	7.16	100.19
D	Low cost	Wood frame, stucco or siding	Finished office area, good slab, some floor finish, open fabrication	Adequate lighting and plumbing	Space heaters	829.69	5.51	77.08
	Good	Structural steel, heavy steel siding, transite, sandwich panels	Heavy floors, grating, good partitions and craneways	Good fluorescent lighting and plumbing, some extras	Warm and cool air (zoned)	1,510.08	10.02	140.29
S	Average	Heavy steel frame, transite or metal siding, sandwich panels	Heavy slab floors, offices, stores, some heavy assembly, craneways	Good lighting, exposed conduit, adequate plumbing, locker rooms	Space heaters	1,070.91	7.11	99.49
	Low cost	Steel frame, steel or aluminum siding, some trim	Finished office area, good slab, some floor finish, open fabrication	Adequate lighting and plumbing	Space heaters	818.17	5.43	76.01

CRANES - Material-handling systems are not included. See Section 58.

DOCK-HEIGHT FLOORS - See Page 27.

BASEMENTS - See Page 18.

MEZZANINES - See Page 27.

MULTISTORY BUILDINGS – Add .5% (1/2%) for each story over three, above ground, to all base costs of the building, including basements, but excluding mezzanines.

SPRINKLERS – Systems are not included. Costs should be added from Page 37.

ELEVATORS – Buildings with base costs which include elevators are marked with an asterisk (). If the subject building has no elevators, deduct the following from the base costs for the buildings on this page which are so marked. For buildings not marked or for basement stops, add costs from Page 36.

Classes A and B & CMILL	Sq. M.	Sq. Ft.		Sq. M.	Sq. Ft.
Excellent	38.97	3.62	Average	24.65	2.29
Good	31.00	2.88	Low	18.62	1.73

STORAGE WAREHOUSES (406)

CLASS	TYPE	EXTERIOR WALLS	INTERIOR FINISH	LIGHTING, PLUMBING AND MECHANICAL	HEAT	Sq. M.	COST Cu. Ft.	Sq. Ft.
_	Good	Ornamental concrete or brick, small office front	Plaster or drywall with partitions, some finished ceilings	*Good lighting, plumbing, adequate restrooms	Hot water	954.66	6.34	88.69
Α	Average	Brick on block or tile, concrete panels, very plain	Painted walls, few partitions, small offices	*Adequate lighting and plumbing	Space heaters	701.38	4.65	65.16
	Low cost	Low-cost block, tile or concrete	Unfin., small office, few partitions	*Minimum lighting/plumbing	Space heaters	552.09	3.66	51.29
	Good	Ornamental concrete or brick, small office front	Plaster or drywall with partitions, finished ceilings in most areas	*Good lighting, plumbing, adequate restrooms	Hot water	899.22	5.97	83.54
В	Average	Brick on block or tile, concrete panels, very plain	Painted walls, few partitions, small offices	*Adequate lighting and plumbing	Space heaters	654.56	4.34	60.81
	Low cost	Low-cost block, tile or concrete	Unfin., small office, few partitions	*Minimum lighting/plumbing	Space heaters	512.69	3.40	47.63
	Excellent	Brick, concrete, good facade	Plaster or drywall, partitioned, finished ceilings in most areas	Good lighting and plumbing	Package A.C.	997.28	6.62	92.65
С	Good	Steel frame, good brick, block, or tilt-up, tapered girders	Plaster or drywall, some masonry partitions, good offices	Good lighting, adequate plumbing	Space heaters	645.73	4.29	59.99
0	Average	Steel or wood frame or bearing walls, brick, block, or tilt-up	Painted walls, finished office, hardened slab	Adequate lighting, low-cost plumbing fixtures	Space heaters	453.59	3.01	42.14
	Low cost	Block, cheap brick, tilt-up, light construction	Unfinished, small office, shell type, minimum code	Minimum lighting and plumbing	Space heaters	320.98	2.13	29.82
CMILL	Good	Mill-type construction, brick walls, wood or steel trusses	Plaster walls, masonry partitions, painted trusses	*Good lighting, adequate plumbing	Steam	882.00	5.85	81.94
MILL	Average	Mill-type construction, brick and block, wood trusses	Painted walls, few partitions, small offices	*Adequate lighting and plumbing	Space heaters	611.72	4.06	56.83
	Good	Heavy wood frame, wood or stucco siding	Heavy slab or mill-type floors	Good lighting, adequate plumbing	Space heaters	583.84	3.87	54.24
D	Average	Stucco on wood frame, wood trusses	Small office, average slab	Adequate lighting, low-cost plumbing fixtures	Space heaters	408.82	2.71	37.98
	Low cost	Stucco or siding on wood	Unfinished, slab, utility type, minimum office	Minimum lighting and plumbing	Space heaters	288.69	1.92	26.82
D _{POLE}	Average	Pole frame, good metal siding, insulated	Small office, some finish, slab	Adequate lighting, little plumbing	Space heaters	350,69	2,33	32,58
POLE	Low cost	Pole frame, metal siding	Unfinished utility type, light slab, minimum office	Minimum lighting and plumbing	Space heaters	248.65	1.65	23.10
	Excellent	Heavy steel frame, insulated panels, good facade	Plaster or drywall, partitioned, finished ceilings in most areas	Good lighting and plumbing	Package A.C.	903.96	6.00	83.98
S	Good	Good steel frame, siding and fenestration	Some good office, interior finish and floor	Good lighting, adequate plumbing	Space heaters	573.72	3.81	53.30
3	Average	Rigid steel frame, siding	Small office, average slab	Adequate lighting, low-cost plumbing fixtures	Space heaters	398.48	2.64	37.02
	Low cost	Pre-engineered frame, metal siding	Unfinished utility type, light slab, minimum office	Minimum lighting and plumbing	Space heaters	279.22	1.85	25.94

NOTE: For light commodity storage, see Section 17.

MULTISTORY BUILDINGS - Add .5% (1/2%) for each story, over three above ground, to all base costs of the building, including basements but excluding mezzanines.

SPRINKLERS – Systems are not included. Costs should be added from Page 37.

DOCK-HEIGHT FLOORS - See Page 27.

WAREHOUSE SHELLS - See Page 35.

ELEVATORS - Buildings with base costs which include elevators are marked with an asterisk (). If the subject building has no elevators, deduct the following from the base costs for buildings on this page, which are so marked. For buildings not marked or for basement stops, add costs from Page 36.

Sq. M. Sq. Ft. Sq. M. Sq. Ft. Sq. M. Sq. Ft. Good \$26.59 \$2.47 Average \$21.64 \$2.01 Low Cost \$16.68 \$1.55

GARAGES, INDUSTRIALS, LOFTS AND WAREHOUSES FLOOR AREA - PERIMETER MULTIPLIERS

AVER	AGE								A'	/ERAGE	PERIMET	ER								AVER/	AGE
FLOOR	AREA	Μ.	30	38	46	53	61	76	91	107	122	137	152	183	213	244	274	305	Μ.	FLOOR A	AREA
Sq.M.	Sq. Ft.	FT.	100	125	150	175	200	250	300	350	400	450	500	600	700	800	900	1000	FT.	Sq. Ft.	Sq. M.
93	1,000		1.252	1.360	1.468	1.576														1,000	93
139	1,500		1.112	1.182	1.252	1.323	1.395													1,500	139
186	2,000			1.095	1.147	1.199	1.252	1.360												2,000	186
232	2,500				1.083	1.125	1.168	1.252	1.340	1.430										2,500	232
279	3,000					1.077	1.112	1.182	1.252	1.323	1.395									3,000	279
372	4,000					1.013	1.040	1.094	1.147	1.199	1.252	1.306								4,000	372
465	5,000						.996	1.040	1.083	1.125	1.168	1.210	1.252							5,000	465
557	6,000							1.004	1.040	1.077	1.112	1.147	1.182	1.252						6,000	557
650	7,000								1.008	1.040	1.071	1.102	1.132	1.192	1.252					7,000	650
743	8,000								.984	1.013	1.040	1.068	1.094	1.147	1.199	1.252				8,000	743
929	10,000									.972	.996	1.019	1.040	1.083	1.125	1.168	1.210			10,000	929
1,115	12,000										.965	.984	1.003	1.040	1.077	1.112	1.147	1.182		12,000	1,115
1,301	14,000										.945	.961	.977	1.008	1.040	1.071	1.102	1.132		14,000	1,301
1,486	16,000											.943	.957	.984	1.013	1.040	1.068	1.094		16,000	1,486
1,672	18,000											.929	.942	.967	.991	1.016	1.040	1.065		18,000	1,672
1,858	20,000												.926	.949	.972	.996	1.019	1.040		20,000	1,858
2,323	25,000												.907	.924	.942	.959	.977	.996		25,000	2,323
2,787	30,000													.907	.921	.935	.949	.965		30,000	2,787
3,252	35,000													.896	.907	.919	.932	.945		35,000	3,252
3,716	40,000														.899	.907	.916	.926		40,000	3,716
4,181	45,000															.898	.907	.916		45,000	4,181
4,645	50,000															.891	.898	.907		50,000	4,645
I AVER	2AGF								Δ\	/FRAGE	PERIMET	FR								ΔVFR/	∆GF I
AVER FLOOR		м	274	305	335	366	396	427			PERIMET 518		579	610	671	731	792	914	м	AVER/	
FLOOR	AREA	M. FT	274 900	305 1000	335 1100	366 1200	396 1300	427 1400	457	488	518	549	579 1900	610 2000	671 2200	731 2400	792 2600	914 3000	M. FT	FLOOR	AREA
FLOOR Sq.M.	AREA Sq. Ft.		900	1000	1100	1200	1300	427 1400	457 1500				579 1900	610 2000	671 2200	731 2400	792 2600	914 3000	M. FT.	FLOOR A	AREA Sq. M.
FLOOR Sq.M. 1,858	AREA Sq. Ft. 20,000		900 1.019	1000 1.040	1100 1.062	1200 1.083	1300	1400 	457	488	518	549 1800								FLOOR A Sq. Ft. 20,000	AREA Sq. M. 1,858
FLOOR Sq.M. 1,858 2,323	AREA Sq. Ft. 20,000 25,000		900 1.019 .977	1000 1.040 .996	1100 1.062 1.015	1200 1.083 1.032	1300 1.049	1400 1.066	457 1500 	488 1600 ——	518 1700 	549 1800 	1900 	2000	2200 	2400 	2600 	3000		FLOOR A Sq. Ft. 20,000 25,000	AREA Sq. M. 1,858 2,323
FLOOR Sq.M. 1,858 2,323 2,787	AREA Sq. Ft. 20,000 25,000 30,000		900 1.019 .977 .949	1000 1.040 .996 .965	1100 1.062 1.015 .980	1200 1.083 1.032 .995	1300 1.049 1.010	1400 1.066 1.025	457 1500 1.040	488 1600 	518 1700 	549 1800 	1900 	2000	2200 	2400 	2600 	3000 		FLOOR A Sq. Ft. 20,000 25,000 30,000	AREA Sq. M. 1,858 2,323 2,787
FLOOR Sq.M. 1,858 2,323 2,787 3,252	AREA Sq. Ft. 20,000 25,000 30,000 35,000		900 1.019 .977 .949 .932	1000 1.040 .996 .965 .945	1100 1.062 1.015 .980 .957	1200 1.083 1.032 .995 .969	1300 1.049 1.010 .982	1400 1.066 1.025 .995	457 1500 1.040 1.008	488 1600 1.021	518 1700 	549 1800 	1900 	2000	2200 	2400 	2600 	3000 		FLOOR A Sq. Ft. 20,000 25,000 30,000 35,000	AREA Sq. M. 1,858 2,323 2,787 3,252
FLOOR Sq.M. 1,858 2,323 2,787 3,252 3,716	AREA Sq. Ft. 20,000 25,000 30,000 35,000 40,000		900 1.019 .977 .949 .932 .916	1000 1.040 .996 .965 .945 .926	1100 1.062 1.015 .980 .957 .937	1200 1.083 1.032 .995 .969 .949	1300 1.049 1.010 .982 .961	1.066 1.025 .995 .972	457 1500 1.040 1.008 .984	488 1600 1.021 .995	518 1700 1.007	549 1800 1.019	1900 	2000 	2200 	2400 	2600 	3000		FLOOR A Sq. Ft. 20,000 25,000 30,000 35,000 40,000	AREA Sq. M. 1,858 2,323 2,787 3,252 3,716
FLOOR Sq.M. 1,858 2,323 2,787 3,252 3,716 4,181	AREA Sq. Ft. 20,000 25,000 30,000 35,000 40,000 45,000		900 1.019 .977 .949 .932 .916 .907	1000 1.040 .996 .965 .945 .926 .916	1100 1.062 1.015 .980 .957 .937 .926	1200 1.083 1.032 .995 .969 .949	1300 1.049 1.010 .982 .961 .945	1400 1.066 1.025 .995 .972 .955	457 1500 1.040 1.008 .984 .965	488 1600 1.021 .995 .975	518 1700 1.007 .985	549 1800 1.019 .995	1900 1.005	2000 1.015	2200 	2400 	2600 	3000		FLOOR A Sq. Ft. 20,000 25,000 30,000 35,000 40,000 45,000	AREA Sq. M. 1,858 2,323 2,787 3,252 3,716 4,181
FLOOR Sq.M. 1,858 2,323 2,787 3,252 3,716	AREA Sq. Ft. 20,000 25,000 30,000 35,000 40,000		900 1.019 .977 .949 .932 .916	1000 1.040 .996 .965 .945 .926	1100 1.062 1.015 .980 .957 .937	1200 1.083 1.032 .995 .969 .949	1300 1.049 1.010 .982 .961	1.066 1.025 .995 .972	457 1500 1.040 1.008 .984	488 1600 1.021 .995	518 1700 1.007	549 1800 1.019	1900 	2000 	2200 	2400 	2600 	3000		FLOOR A Sq. Ft. 20,000 25,000 30,000 35,000 40,000	AREA Sq. M. 1,858 2,323 2,787 3,252 3,716
FLOOR Sq.M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645	AREA Sq. Ft. 20,000 25,000 30,000 35,000 40,000 45,000 50,000		900 1.019 .977 .949 .932 .916 .907 .898	1000 1.040 .996 .965 .945 .926 .916 .907	1100 1.062 1.015 .980 .957 .937 .926 .916	1200 1.083 1.032 .995 .969 .949 .935 .924	1300 1.049 1.010 .982 .961 .945 .933	1.066 1.025 .995 .972 .955 .942	457 1500 1.040 1.008 .984 .965 .950	488 1600 1.021 .995 .975 .959	518 1700 1.007 .985 .968	549 1800 1.019 .995 .977	1900 1.005 .986	2000 1.015 .996	2200 1.015	2400 	2600 	3000		FLOOR A Sq. Ft. 20,000 25,000 30,000 35,000 40,000 45,000 50,000	AREA Sq. M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645
FLOOR Sq.M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574	AREA Sq. Ft. 20,000 25,000 30,000 35,000 40,000 45,000 50,000		900 1.019 .977 .949 .932 .916 .907 .898 .889	1000 1.040 .996 .965 .945 .926 .916 .907	1100 1.062 1.015 .980 .957 .937 .926 .916	1200 1.083 1.032 .995 .969 .949 .935 .924	1300 1.049 1.010 .982 .961 .945 .933 .914	1.066 1.025 .995 .972 .955 .942	457 1500 1.040 1.008 .984 .965 .950	488 1600 1.021 .995 .975 .959 .935	518 1700 1.007 .985 .968 .942	549 1800 1.019 .995 .977 .949	1900 1.005 .986 .957	2000 1.015 .996	2200 1.015	2400 .995	2600 	3000		FLOOR A Sq. Ft. 20,000 25,000 30,000 35,000 40,000 45,000 50,000	AREA Sq. M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574
FLOOR Sq.M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503	AREA Sq. Ft. 20,000 25,000 30,000 35,000 40,000 45,000 50,000 70,000		900 1.019 .977 .949 .932 .916 .907 .898 .889 .877	1000 1.040 .996 .965 .945 .926 .916 .907 .895 .884	1100 1.062 1.015 .980 .957 .937 .926 .916 .901	1200 1.083 1.032 .995 .969 .949 .935 .924 .907	1300 1.049 1.010 .982 .961 .945 .933 .914 .902	1.066 1.025 .995 .972 .955 .942 .921	457 1500 1.040 1.008 .984 .965 .950 .928 .913	488 1600 1.021 .995 .975 .959 .935 .919	518 1700 1.007 .985 .968 .942 .925	549 1800 1.019 .995 .977 .949 .932	1900 1.005 .986 .957 .939	2000 1.015 .996 .965 .945 .926	2200 1.015 .980 .957	2400 .995 .969	2600 .982	3000		FLOOR A Sq. Ft. 20,000 25,000 30,000 35,000 40,000 45,000 50,000 70,000	AREA Sq. M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503
FLOOR Sq.M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503 7,432	AREA Sq. Ft. 20,000 25,000 30,000 35,000 40,000 45,000 50,000 60,000 70,000 80,000		900 1.019 .977 .949 .932 .916 .907 .898 .889 .877	1000 1.040 .996 .965 .945 .926 .916 .907 .895 .884	1100 1.062 1.015 .980 .957 .937 .926 .916 .901 .890	1200 1.083 1.032 .995 .969 .949 .935 .924 .907 .896	1300 1.049 1.010 .982 .961 .945 .933 .914 .902 .893	1400 1.066 1.025 .995 .972 .955 .942 .921 .907 .898	457 1500 1.040 1.008 .984 .965 .950 .928 .913 .903	488 1600 1.021 .995 .975 .959 .935 .919 .907	518 1700 1.007 .985 .968 .942 .925 .911	549 1800 1.019 .995 .977 .949 .932 .916	1900 1.005 .986 .957 .939 .921	2000 1.015 .996 .965	2200 1.015 .980 .957 .937	2400 .995 .969 .949	2600 .982 .961	3000 .984		FLOOR A Sq. Ft. 20,000 25,000 30,000 40,000 45,000 50,000 70,000 80,000	AREA Sq. M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503 7,432 9,290
FLOOR Sq.M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503 7,432 9,290	AREA Sq. Ft. 20,000 25,000 30,000 35,000 40,000 50,000 60,000 70,000 80,000 100,000		900 1.019 .977 .949 .932 .916 .907 .898 .889 .877 .869	1000 1.040 .996 .965 .945 .926 .916 .907 .895 .884 .875	1100 1.062 1.015 .980 .957 .937 .926 .916 .901 .890 .881	1200 1.083 1.032 .995 .969 .949 .935 .924 .907 .896 .887	1300 1.049 1.010 .982 .961 .945 .933 .914 .902 .893 .877	1.066 1.025 .995 .972 .955 .942 .921 .907 .898 .882	457 1500 1.040 1.008 .984 .965 .950 .928 .913 .903 .887	488 1600 1.021 .995 .975 .959 .935 .919 .907	518 1700 1.007 .985 .968 .942 .925 .911	549 1800 1.019 .995 .977 .949 .932 .916	1900 1.005 .986 .957 .939 .921 .903	2000 1.015 .996 .965 .945 .926 .907	2200 1.015 .980 .957 .937 .916	2400 .995 .969 .949 .924	2600 .982 .961 .933	3000 .984 .950		FLOOR A Sq. Ft. 20,000 25,000 30,000 40,000 45,000 50,000 60,000 70,000 80,000	AREA Sq. M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503 7,432 9,290 11,148
FLOOR Sq.M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503 7,432 9,290 11,148	AREA Sq. Ft. 20,000 25,000 30,000 35,000 40,000 45,000 50,000 60,000 70,000 80,000 100,000 120,000		900 1.019 .977 .949 .932 .916 .907 .898 .889 .877 .869	1000 1.040 .996 .965 .945 .926 .916 .907 .895 .884 .875 .863	1100 1.062 1.015 .980 .957 .937 .926 .916 .901 .890 .881 .868	1200 1.083 1.032 .995 .969 .949 .935 .924 .907 .896 .887 .872	1300 1.049 1.010 .982 .961 .945 .933 .914 .902 .893 .877 .867	1400 1.066 1.025 .995 .972 .955 .942 .921 .907 .898 .882 .871	457 1500 1.040 1.008 .984 .965 .950 .928 .913 .903 .887 .875	488 1600 1.021 .995 .975 .959 .935 .919 .907 .891	518 1700 1.007 .985 .985 .942 .925 .911 .895 .883	549 1800 1.019 .995 .977 .949 .932 .916 .899 .887	1900 1.005 .986 .957 .939 .921 .903	2000 1.015 .996 .965 .945 .926 .907	2200 1.015 .980 .957 .937 .916	2400 .995 .969 .949 .924 .907	2600 .982 .961 .933 .914	3000 .984 .950 .928		FLOOR A Sq. Ft. 20,000 25,000 30,000 40,000 45,000 60,000 70,000 80,000 120,000 120,000	AREA Sq. M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503 7,432 9,290 11,148 13,006
FLOOR Sq.M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503 7,432 9,290 11,148 13,006	AREA Sq. Ft. 20,000 25,000 30,000 35,000 40,000 45,000 60,000 70,000 80,000 100,000 120,000 140,000		900 1.019 .977 .949 .932 .916 .907 .898 .889 .877 .869	1000 1.040 .996 .965 .945 .926 .916 .907 .895 .884 .875 .863 .856	1100 1.062 1.015 .980 .957 .937 .926 .916 .901 .890 .881 .868 .859	1200 1.083 1.032 .995 .969 .949 .935 .924 .907 .896 .887 .872 .863	1300 1.049 1.010 .982 .961 .945 .933 .914 .902 .893 .877 .867	1400 1.066 1.025 .995 .972 .955 .942 .921 .907 .898 .882 .871	457 1500 1.040 1.008 .984 .965 .950 .928 .913 .903 .887 .875 .867	488 1600 1.021 .995 .975 .959 .935 .919 .907 .891 .879	518 1700 1.007 .985 .968 .942 .925 .911 .895 .883 .874	549 1800 1.019 .995 .977 .949 .932 .916 .899 .887 .877	1900 1.005 .986 .957 .939 .921 .903 .891	2000 1.015 .996 .965 .945 .926 .907 .895 .884	2200 1.015 .980 .957 .937 .916 .901	2400 .995 .969 .949 .924 .907 .896	2600 .982 .961 .933 .914	3000 .984 .950 .928 .913		FLOOR A Sq. Ft. 20,000 25,000 30,000 40,000 50,000 60,000 70,000 100,000 120,000 140,000 140,000	AREA Sq. M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503 7,432 9,290 11,148 13,006 14,864
FLOOR Sq.M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503 7,432 9,290 11,148 13,006 14,864	AREA Sq. Ft. 20,000 25,000 30,000 35,000 40,000 50,000 70,000 80,000 100,000 120,000 140,000 160,000		900 1.019 .977 .949 .932 .916 .907 .898 .889 .877 .869	1000 1.040 .996 .965 .945 .926 .916 .907 .895 .884 .875 .863 .856	1100 1.062 1.015 .980 .957 .937 .926 .916 .901 .890 .881 .868 .859 .854	1200 1.083 1.032 .995 .969 .949 .935 .924 .907 .896 .887 .872 .863 .857	1300 1.049 1.010 .982 .961 .945 .933 .914 .902 .893 .877 .867 .860 .855	1400 1.066 1.025 .995 .972 .955 .942 .921 .907 .898 .882 .871 .863 .858	457 1500 1.040 1.008 .984 .965 .950 .928 .913 .903 .887 .875 .867	488 1600 1.021 .995 .975 .959 .935 .919 .907 .891 .879 .871	518 1700 1.007 .985 .968 .942 .925 .911 .895 .883 .874	549 1800 1.019 .995 .977 .949 .932 .916 .899 .887 .877	1900 1.005 .986 .957 .939 .921 .903 .891 .880 .872	2000 1.015 .996 .965 .945 .945 .926 .907 .895 .884	2200 1.015 .980 .957 .937 .916 .901 .890 .881	2400 .995 .969 .949 .924 .907 .896 .887	2600 	3000 .984 .950 .928 .913 .903		FLOOR A Sq. Ft. 20,000 25,000 30,000 45,000 60,000 70,000 80,000 120,000 140,000 160,000 160,000	AREA Sq. M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503 7,432 9,290 11,148 13,006 14,864 16,722
FLOOR Sq.M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503 7,432 9,290 11,148 13,006 14,864 16,722	AREA Sq. Ft. 20,000 25,000 30,000 35,000 40,000 50,000 70,000 80,000 100,000 120,000 140,000 160,000 180,000		900 1.019 .977 .949 .932 .916 .907 .898 .889 .877 .869	1000 1.040 .996 .965 .945 .926 .916 .907 .895 .884 .875 .863 .856 .851	1100 1.062 1.015 .980 .957 .937 .926 .916 .901 .890 .881 .868 .859 .854 .850	1200 1.083 1.032 .995 .969 .949 .935 .924 .907 .896 .887 .872 .863 .857 .853	1300 1.049 1.010 .982 .961 .945 .933 .914 .902 .893 .877 .867 .860 .855	1400 1.066 1.025 .995 .972 .955 .942 .921 .907 .898 .882 .871 .863 .858	457 1500 1.040 1.008 .984 .965 .950 .928 .913 .903 .887 .875 .867 .860	488 1600 1.021 .995 .975 .959 .935 .919 .907 .891 .879 .871 .863	518 1700 1.007 .985 .968 .942 .925 .911 .895 .883 .874 .866	549 1800 1.019 .995 .977 .949 .932 .916 .899 .887 .877 .869	1900 1.005 .986 .957 .939 .921 .903 .891 .880 .872	2000 1.015 .996 .965 .945 .926 .907 .895 .884 .875	2200 1.015 .980 .957 .937 .916 .901 .890 .881	2400 .995 .969 .949 .924 .907 .896 .887 .879	2600 	3000 .984 .950 .928 .913 .903 .895		FLOOR A Sq. Ft. 20,000 25,000 30,000 40,000 45,000 60,000 70,000 80,000 120,000 140,000 160,000 180,000 180,000 180,000	AREA Sq. M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503 7,432 9,290 11,148 13,006 14,864 16,722 18,580
FLOOR Sq.M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503 7,432 9,290 11,148 13,006 14,864 16,722 18,580	AREA Sq. Ft. 20,000 25,000 30,000 35,000 40,000 50,000 60,000 70,000 80,000 120,000 140,000 160,000 180,000 200,000		900 1.019 .977 .949 .932 .916 .907 .898 .889 .877 .869	1000 1.040 .996 .965 .945 .926 .916 .907 .895 .884 .875 .863 .856 .851	1100 1.062 1.015 .980 .957 .937 .926 .916 .901 .890 .881 .868 .859 .854 .850	1200 1.083 1.032 .995 .969 .949 .935 .924 .907 .896 .887 .872 .863 .857 .853 .849	1300 1.049 1.010 .982 .961 .945 .933 .914 .902 .893 .877 .867 .860 .855 .851	1400 1.066 1.025 .995 .972 .955 .942 .921 .907 .898 .882 .871 .863 .858 .854	457 1500 1.040 1.008 .984 .965 .950 .928 .913 .903 .887 .875 .867 .860 .856	488 1600 1.021 .995 .975 .959 .935 .919 .907 .891 .879 .871 .863 .858	518 1700 1.007 .985 .968 .942 .925 .911 .895 .883 .874 .866 .860	549 1800 1.019 .995 .977 .949 .932 .916 .899 .887 .877 .869	1900 1.005 .986 .957 .939 .921 .903 .891 .880 .872 .866	2000 1.015 .996 .965 .945 .926 .907 .895 .884 .875 .869	2200 1.015 .980 .957 .937 .916 .901 .890 .881 .874	2400 	2600	3000 		FLOOR A Sq. Ft. 20,000 25,000 30,000 40,000 60,000 70,000 120,000 140,000 160,000 180,000 200,000 200,000	AREA Sq. M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503 7,432 9,290 11,148 13,006 14,864 16,722 18,580 20,903
FLOOR Sq.M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503 7,432 9,290 11,148 13,006 14,864 16,722 18,580 20,903	AREA Sq. Ft. 20,000 25,000 30,000 35,000 40,000 50,000 60,000 70,000 80,000 120,000 140,000 140,000 180,000 200,000 225,000		900 1.019 .977 .949 .932 .916 .907 .898 .889 .877 .869	1000 1.040 .996 .965 .945 .926 .916 .907 .895 .884 .875 .863 .856 .851	1100 1.062 1.015 .980 .957 .937 .926 .916 .901 .890 .881 .868 .859 .854 .850 .846	1200 1.083 1.032 .995 .969 .949 .935 .924 .907 .896 .887 .872 .863 .857 .853 .849 .846	1300 1.049 1.010 .982 .961 .945 .933 .914 .902 .893 .877 .867 .860 .855 .851 .848	1400 1.066 1.025 .995 .972 .955 .942 .921 .907 .898 .882 .871 .863 .858 .854 .850 .847	457 1500 1.040 1.008 .984 .965 .950 .928 .913 .903 .887 .875 .867 .860 .856 .853	488 1600 1.021 .995 .975 .959 .935 .919 .907 .891 .879 .871 .863 .858 .855	518 1700 ——————————————————————————————————	549 1800 1.019 .995 .977 .949 .932 .916 .899 .887 .877 .869 .863	1900 1.005 .986 .957 .939 .921 .903 .891 .880 .872 .866 .861	2000 1.015 .996 .965 .945 .926 .907 .895 .884 .875 .869 .863	2200 1.015 -980 -957 -937 -916 -901 -890 -881 -874 -868 -862	2400 	2600	3000 		FLOOR A Sq. Ft. 20,000 25,000 30,000 45,000 60,000 70,000 120,000 140,000 160,000 180,000 200,000 225,000	AREA Sq. M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503 7,432 9,290 11,148 13,006 14,864 16,722 18,580 20,903 23,226
FLOOR Sq.M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503 7,432 9,290 11,148 13,006 14,864 16,722 18,580 20,903 23,226	AREA Sq. Ft. 20,000 25,000 30,000 35,000 40,000 50,000 60,000 70,000 100,000 120,000 140,000 180,000 200,000 225,000 250,000		900 1.019 .977 .949 .932 .916 .907 .898 .889 .877 .869	1000 1.040 .996 .965 .945 .926 .916 .907 .895 .884 .875 .863 .856 .851	1100 1.062 1.015 .980 .957 .937 .926 .916 .901 .890 .881 .868 .859 .854 .850 .846	1200 1.083 1.032 .995 .969 .949 .935 .924 .907 .896 .887 .872 .863 .857 .853 .849 .846	1300 1.049 1.010 .982 .961 .945 .933 .914 .902 .893 .877 .867 .860 .855 .851 .848 .845	1400 1.066 1.025 .995 .972 .955 .942 .921 .907 .898 .882 .871 .863 .858 .854 .850 .847	457 1500 1.040 1.008 .984 .965 .950 .928 .913 .903 .887 .875 .867 .860 .856 .853 .849	488 1600 1.021 .995 .975 .959 .935 .919 .907 .891 .879 .871 .863 .858 .855 .851	518 1700 ——————————————————————————————————	549 1800 1.019 .995 .977 .949 .932 .916 .899 .887 .869 .863 .859 .855	1900 1.005 .986 .957 .939 .921 .903 .891 .880 .872 .866 .851	2000 1.015 .996 .965 .945 .926 .907 .895 .884 .875 .869 .863 .858	2200 1.015 .980 .957 .937 .916 .901 .890 .881 .874 .868 .862 .858	2400 	2600 	3000 		FLOOR A Sq. Ft. 20,000 25,000 30,000 40,000 60,000 70,000 120,000 120,000 180,000 200,000 225,000 250,000	AREA Sq. M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503 7,432 9,290 11,148 13,006 14,864 16,722 18,580 20,903 23,226 25,548
FLOOR Sq.M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503 7,432 9,290 11,148 13,006 14,864 16,722 18,580 20,903 23,226 25,548	AREA Sq. Ft. 20,000 25,000 30,000 35,000 40,000 45,000 60,000 70,000 80,000 120,000 140,000 140,000 180,000 200,000 225,000 275,000		900 1.019 .977 .949 .932 .916 .907 .898 .889 .877 .869	1000 1.040 .996 .965 .945 .926 .916 .907 .895 .884 .875 .863 .856 .851	1100 1.062 1.015 .980 .957 .937 .926 .916 .901 .890 .881 .868 .859 .854 .850 .846	1200 1.083 1.032 .995 .969 .949 .935 .924 .907 .896 .887 .872 .863 .857 .853 .849 .846	1300 1.049 1.010 .982 .961 .945 .933 .914 .902 .893 .877 .867 .860 .855 .851 .848 .845 .842	1400 1.066 1.025 .995 .972 .955 .942 .921 .907 .898 .882 .871 .863 .858 .854 .850 .847 .844	457 1500 1.040 1.008 .984 .965 .950 .928 .913 .903 .887 .875 .867 .860 .856 .853 .849 .846	488 1600 1.021 .995 .975 .959 .935 .919 .907 .891 .879 .871 .863 .858 .855 .851	518 1700 1.007 .985 .968 .942 .925 .911 .895 .883 .874 .866 .860 .857 .853 .849	549 1800 1.019 .995 .977 .949 .932 .916 .899 .887 .877 .869 .863 .859 .855 .851	1900 1.005 .986 .957 .939 .921 .903 .891 .880 .872 .866 .853 .850	2000 1.015 .996 .965 .945 .926 .907 .895 .884 .875 .869 .863 .858 .855	2200 1.015 .980 .957 .937 .916 .901 .890 .881 .874 .868 .862 .858	2400 	2600 	3000 -984 .950 .928 .913 .903 .895 .887 .879 .873		FLOOR A Sq. Ft. 20,000 25,000 30,000 40,000 50,000 70,000 120,000 140,000 140,000 180,000 225,000 225,000 275,000	AREA Sq. M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503 7,432 9,290 11,148 13,006 14,864 16,722 18,580 20,903 23,226 25,548 27,871
FLOOR Sq.M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503 7,432 9,290 11,148 13,006 14,864 16,722 18,580 20,903 23,226 25,548 27,871	AREA Sq. Ft. 20,000 25,000 30,000 35,000 40,000 45,000 60,000 70,000 80,000 120,000 140,000 140,000 180,000 200,000 225,000 275,000 300,000		900 1.019 .977 .949 .932 .916 .907 .898 .889 .877 .869	1000 1.040 .996 .965 .945 .926 .916 .907 .895 .884 .875 .863 .856 .851	1100 1.062 1.015 .980 .957 .937 .926 .916 .901 .890 .881 .868 .859 .854 .850 .846	1200 1.083 1.032 .995 .969 .949 .935 .924 .907 .896 .887 .872 .863 .857 .853 .849 .846	1300 1.049 1.010 .982 .961 .945 .933 .914 .902 .893 .877 .867 .860 .855 .851 .848 .845 .842	1400 1.066 1.025 .995 .972 .955 .942 .921 .907 .898 .882 .871 .863 .858 .854 .850 .847 .844 .841 .839	457 1500 1.040 1.008 .984 .965 .950 .928 .913 .903 .887 .875 .867 .860 .856 .853 .849 .846 .843	488 1600 1.021 .995 .975 .959 .935 .919 .907 .891 .879 .871 .863 .858 .855 .851	518 1700 1.007 .985 .968 .942 .925 .911 .895 .883 .874 .866 .860 .857 .853 .849 .847	549 1800 1.019 .995 .977 .949 .932 .916 .899 .887 .877 .869 .863 .855 .851 .848	1900 1.005 .986 .957 .939 .921 .903 .891 .880 .872 .866 .853 .850	2000 1.015 .996 .965 .945 .926 .907 .895 .884 .875 .869 .863 .858 .855 .852	2200 1.015 .980 .957 .937 .916 .901 .890 .881 .874 .868 .862 .858 .855 .852	2400 	2600	3000 -984 .950 .928 .913 .903 .895 .887 .879 .873 .868		FLOOR A Sq. Ft. 20,000 25,000 30,000 40,000 45,000 50,000 100,000 120,000 120,000 180,000 200,000 225,000 275,000 300,000	AREA Sq. M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503 7,432 9,290 11,148 13,006 14,864 16,722 18,580 20,903 23,226 25,548 27,871 32,516
FLOOR Sq.M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503 7,432 9,290 11,148 13,006 14,864 16,722 18,580 20,903 23,226 25,548 27,871 32,516	AREA Sq. Ft. 20,000 25,000 30,000 35,000 40,000 50,000 60,000 70,000 80,000 120,000 140,000 140,000 180,000 225,000 225,000 275,000 300,000 350,000		900 1.019 .977 .949 .932 .916 .907 .898 .889 .877 .869	1000 1.040 .996 .965 .945 .926 .916 .907 .895 .884 .875 .863 .856 .851	1100 1.062 1.015 .980 .957 .937 .926 .916 .901 .890 .881 .868 .859 .854 .850 .846	1200 1.083 1.032 .995 .969 .949 .935 .924 .907 .896 .887 .872 .863 .857 .853 .849 .846	1300 1.049 1.010 .982 .961 .945 .933 .914 .902 .893 .877 .867 .860 .855 .851 .848 .845 .842	1400 1.066 1.025 .995 .972 .955 .942 .921 .907 .898 .882 .871 .863 .858 .854 .850 .847 .844 .841 .839 .835	457 1500 1.040 1.008 .984 .965 .950 .928 .913 .903 .887 .875 .867 .860 .856 .853 .849 .846 .843	488 1600 1.021 .995 .975 .959 .935 .919 .907 .891 .879 .871 .863 .858 .855 .851 .848 .845 .842	518 1700 1.007 .985 .968 .942 .925 .911 .895 .883 .874 .866 .860 .857 .853 .849 .847	549 1800 1.019 .995 .977 .949 .932 .916 .899 .887 .877 .869 .863 .859 .855 .851 .848 .846 .841	1900 1.005 .986 .957 .939 .921 .903 .891 .880 .872 .866 .853 .850 .847	2000 1.015 .996 .965 .945 .926 .907 .895 .884 .875 .869 .863 .858 .855 .852 .849	2200 1.015 .980 .957 .937 .916 .901 .890 .881 .874 .868 .862 .858 .855 .852 .847	2400	2600	3000 		FLOOR A Sq. Ft. 20,000 25,000 30,000 40,000 60,000 100,000 120,000 120,000 225,000 275,000 300,000 350,000 350,000	AREA Sq. M. 1,858 2,323 2,787 3,252 3,716 4,181 4,645 5,574 6,503 7,432 9,290 11,148 13,006 14,864 16,722 18,580 20,903 23,226 25,548 27,871 32,516 37,161

GARAGES, INDUSTRIALS, LOFTS AND WAREHOUSES FLOOR AREA – PERIMETER MULTIPLIERS

AVEF	RAGE								AVERAGE	PERIME	TER							AVERAGE
FLOOR	RAREA	М.	610	671	731	792	914	1067	1219	1372	1524	1676	1829	1981	2133	2286	2438 M.	FLOOR AREA
Sq.M.	Sq. Ft.	FT.	2000	2200	2400	2600	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000 FT.	Sq. Ft. Sq. M.
27,871	300,000		.849	.852	.855	.857	.863	.872	.880									300,000 27,871
32,516	350,000		.845	.847	.850	.853	.857	.863	.871									350,000 32,516
37,161	400,000		.841	.843	.846	.848	.853	.858	.863	.870	.875							400,000 37,161
46,451	500,000		.835	.838	.840	.842	.846	.850	.855	.859	.863	.868	.873					500,000 46,451
55,741	600,000					.837	.841	.845	.849	.853	.856	.859	.863	.867				600,000 55,741
65,032	700,000						.836	.841	.845	.848	.851	.854	.857	.860	.863	.867		700,000 65,032
74,322	800,000						.834	.837	.841	.844	.847	.850	.853	.856	.858	.860	.863	800,000 74,322
83,612	900,000						.832	.835	.838	.841	.843	.847	.849	.851	.854	.856	.858	900,000 83,612
92,902	1,000,000							.832	.835	.838	.841	.843	.846	.848	.850	.853	.855	1,000,000 92,902
102,192	1,100,000							.831	.833	.835	.839	.841	.843	.846	.848	.850	.852	1,100,000 102,192
111,483	1,200,000								.832	.834	.836	.839	.841	.843	.845	.847	.849	1,200,000 111,483
120,773	1,300,000									.832	.834	.836	.839	.841	.843	.845	.847	1,300,000 120,773
130,063	1,400,000									.831	.833	.835	.836	.839	.841	.843	.845	1,400,000 130,063
139,353	1,500,000									.830	.832	.833	.835	.837	.839	.841	.843	1,500,000 139,353

NOTE: For larger buildings, enter the table by taking half the area and half the perimeter.

STORY HEIGHT MULTIPLIERS

Multiply the base cost by the following multipliers for any variation in average story height from the base of 14 feet (4.27 meters). For extremely high-pitched roofs (see Section 10), use the height of the eaves plus one-half the height from the eaves to the ridge as the effective height.

In some buildings it is better to compute the total volume and divide by the total square feet of floor area to get an effective height to use.

AVERAG HEI		SQUARE FOOT OR SQUARE METER	CUBIC FOOT	AVERAG HEI		SQUARE FOOT OR SQUARE METER	CUBIC FOOT	AVERAG HEI		SQUARE FOOT OR SQUARE METER	CUBIC FOOT
(M.)	(FT.)	MULTIPLIER	MULT.	(M.)	(FT.)	MULTIPLIER	MULT.	(M.)	(FT.)	MULTIPLIER	MULT.
2.44	8	.885	1.567	7.31	24	1.231	.718	16.76	55	2.075	.528
3.05	10	.921	1.289	7.92	26	1.281	.690	18.29	60	2.225	.519
3.66	12	.960	1.120	8.53	28	1.331	.666	21.33	70	2.530	.506
4.27	14	1.000 (base)	1.000	9.14	30	1.382	.645	24.38	80	2.845	.498
4.88	16	1.041	.911	10.67	35	1.515	.606	27.43	90	3.161	.492
5.49	18	1.086	.844	12.19	40	1.650	.577	30.48	100	3.461	.485
6.10	20	1.133	.794	13.72	45	1.788	.556	33.52	110	3.738	.476
6.71	22	1.181	.752	15.24	50	1.930	.540	36.57	120	3.977	.464

CALCULATOR METHOD

OFFICE BUILDINGS (344)

CLASS	TYPE	EXTERIOR WALLS	INTERIOR FINISH	LIGHTING, PLUMBING AND MECHANICAL	HEAT	Sq. M.	COST Cu. Ft.	Sq. Ft.
	Excellent	Best metal or stone, brick or block backup, solar glass	Plaster, best veneers, vinyl wall coverings, vinyl, terrazzo, carpet	*Luminous ceilings, many outlets, many private restrooms	Hot and chilled water (zoned)	2906.25	22.49	270.00
_	Good	Good metal and solar glass, face brick, precast concrete panels	Drywall or plaster, some wall cover, acoustic tile, vinyl tile, carpet	*Good fluorescent, high intensity lighting, good restrooms	Hot and chilled water (zoned)	2303.47	17.83	214.00
A	Average	Brick, concrete or metal and glass panels, little trim	Average partitions, acoustic tile, vinyl composition, some extras	*Average intensity fluorescent lighting, average restrooms	Warm and cool air (zoned)	1732.99	13.41	161.00
	Low cost		Drywall, acoustic ceilings, asphalt tile, few partitions	*Minimum office lighting and plumbing	Warm and cool air (zoned)	1388.54	10.75	129.00
	Excellent	Best metal or stone, brick or block backup, tinted glass	Plaster, best veneers, vinyl wall coverings, vinyl tile, terrazzo	*Luminous ceilings, many outlets, many private restrooms	Hot and chilled water (zoned)	2852.43	22.07	265.00
_	Good	Good metal and solar glass, face brick, precast concrete panels	Drywall/plaster, some wall cover, acoustic tile, vinyl tile, carpet	*Good fluorescent, high intensity lighting, good restrooms	Hot and chilled water (zoned)	2238.89	17.33	208.00
В	Average	Brick, concrete or metal and glass panels, little trim	Average partitions, acoustic tile, vinyl composition, some extras	*Average intensity fluorescent lighting, average restrooms	Warm and cool air (zoned)	1679.17	12.99	156.00
	Low cost	Minimum-cost walls and fenestration, little trim	Drywall, acoustic ceilings, asphalt tile, few partitions	*Minimum office lighting and plumbing	Warm and cool air (zoned)	1323.96	10.25	123.00
	Excellent	Steel frame, masonry and glass, stone ornamentation, top quality	Plaster, paneling, carpet and terrazzo, suspended ceilings	*Best fluorescent ceiling panels, tiled restrooms, good fixtures	Warm and cool air (zoned)	2443.41	18.91	227.00
	Good	Steel frame or bearing walls, brick/ conc. panels, some ornamentation	Plaster or drywall, good partitions, acoustic tile, carpet and vinyl	*Good fluorescent lighting, good restrooms and fixtures	Package A.C.	1711.46	13.24	159.00
	Average	Steel or concrete frame, or bearing walls, some trim	Paint, drywall partitions, acoustic tile, vinyl composition	*Fluorescent lighting, adequate outlets and plumbing	Forced air	1216,32	9.41	113.00
	Low cost	Masonry bearing walls, light rafters, very plain	Paint, few low-cost partitions, acoustic tile, asphalt tile	Minimum office lighting and plumbing	Wall furnace	818.06	6.33	76.00
	Excellent	Studs or steel columns, bar or web joists, brick or stone veneer, EIFS	Best plaster, paneling, carpet and vinyl tile	*Fluorescent panels, many outlets, good tiled restrooms	Warm and cool air (zoned)	2325.00	17.99	216.00
_	Good	Best stucco on good frame, brick or stone trim, good front	Plaster or drywall, good partitions, acoustic tile, carpet and vinyl	*Good fluorescent lighting, good restrooms and fixtures	Package A.C.	1625.35	12.58	151.00
D	Average	Stucco or wood siding on wood or steel studs, some trim	Drywall, acoustic tile, low-cost carpet or vinyl composition	*Adequate lighting and plumbing	Forced air	1151.74	8.91	107.00
	Low cost	Light stucco or siding on wood or steel studs, very plain	Drywall, few partitions, acoustic tile, asphalt tile	Minimum lighting and plumbing	Wall furnace	769.62	5.96	71.50
	Good	Good metal panels, fenestration, some brick or stone trim	Plaster or drywall, good partitions, acoustic tile, carpet and vinyl	*Good fluorescent lighting, good restrooms and fixtures	Package A.C.	1485.42	11.50	138.00
DPOLE	Average	Pole frame, insulated metal panels, some ornamentation	Drywall, acoustic tile, low-cost carpet or vinyl composition	Adequate lighting and plumbing	Forced air	1017.19	7.87	94.50
	Low cost	Pole frame, finished interior, some insulation	Drywall, few partitions, acoustic tile, asphalt tile	Minimum lighting and plumbing	Wall furnace	688.89	5.33	64.00
	Good	Good sandwich panels and fenestration, some brick or stone	Plaster or drywall, good partitions, acoustic tile, carpet and vinyl	*Good fluorescent lighting, good restrooms and fixtures	Package A.C.	1517.71	11.75	141.00
S	Average	Insulated wall or sandwich panels, adequate fenestration	Drywall, acoustic tile, low-cost carpet or vinyl composition	Adequate lighting and plumbing	Forced air	1044.10	8.08	97.00
	Low cost	Steel or aluminum on light frame, finished interior, some insulation	Drywall, few partitions, acoustic tile, asphalt tile	Minimum lighting and plumbing	Wall furnace	705.04	5.46	65.50

MULTISTORY BUILDINGS – Add .5% (1/2%) for each story, over three, above ground, to all base costs, including basements but excluding mezzanines, up to 30 stories; over 30 add .4% (4/10%) for each additional story.

SPRINKLERS – Systems are not included. Costs should be added from Page 37.

BALCONIES – Exterior balconies see Page 37, or they may be computed from the Segregated Costs.

CANOPIES - For large entrance marquees or carport canopies, see Page 37.

ELEVATORS – Base costs of buildings marked with an asterisk () include elevator costs. If the subject building has no elevators, deduct the following from the base costs for buildings on this page. See Notes on Page 19.

		Sq. M.	Sq. Ft.		Sq.M.	Sq.Ft
Classes A & B	Excellent	130.78	12.15	Average	60.92	5.66
	Good	89.13	8.28	Low cost	41.66	3.87
Classes C/D/S	Excellent Good	65.98 39.61	6.13 3.68	Average	23.90	2.22

CALCULATOR METHOD

OFFICES, MEDICAL AND PUBLIC BUILDINGS FLOOR AREA – PERIMETER MULTIPLIERS

AVE	RAGE									AVERA	AGE PER	IMITER									AVEF	RAGE
FLOOF	R AREA	M.	38	46	53	61	76	91	122	152	183	213	244	305	366	427	488	549	610	M.	FLOOR	RAREA
Sq. M.	Sq. Ft.	FT.	125	150	175	200	250	300	400	500	600	700	800	1000	1200	1400	1600	1800	2000	FT.	Sq. Ft.	Sq. M.
93	1,000		1.168	1.235	1.299	1.364	1.494	1.624	1.884												1,000	93
139	1,500		1.061	1.105	1.146	1.191	1.277	1.364	1.537												1,500	139
186	2,000		1.007	1.040	1.072	1.105	1.168	1.235	1.364												2,000	186
232	2,500			1.000	1.027	1.052	1.105	1.155	1.259												2,500	232
279	3,000			.975	.997	1.018	1.061	1.105	1.191												3,000	279
372	4,000				.958	.975	1.007	1.040	1.105	1.168											4,000	372
465	5,000				.936	.949	.975	1.000	1.052	1.105	1,155										5,000	465
557	6,000					.932	.952	.975	1.018	1.061	1.105	1.146									6,000	557
743	8,000						.926	.942	.975	1.007	1.040	1.072	1.105								8,000	743
929	10,000						.910	.923	.949	.975	1.000	1.027	1.052	1.105	1.155						10,000	929
1,115	12,000							.910	.932	.952	.975	.997	1.018	1.061	1.105	1.146					12,000	1,115
1,301	14,000							.900	.920	.938	.956	.975	.993	1.030	1.067	1.105	1.140				14,000	1,301
1,486	16,000								.910	.926	.942	.958	.975	1.007	1.040	1.075	1.105	4.405			16,000	1,486
1,672	18,000								.903	.918	.932	.946	.960	.990	1.018	1.046	1.076	1.105			18,000	1,672
1,858	20,000									.910	.923	.936	.949	.975	1.000	1.027	1.052	1.078	1.105		20,000	1,858
2,323	25,000									.897	.908	.918	.928	.948	.969	.990	1.011	1.032	1.052		25,000	2,323
2,787	30,000										.897	.906	.915	.932	.949	.965	.983	1.000	1.018		30,000	2,787
3,252	35,000											.897	.904	.919	.934	.949	.963	.978	.993		35,000	3,252
3,716	40,000											.890	.897	.910	.923	.936	.949	.962	.975		40,000	3,716
4,645	50,000												.887	.897	.908	.918	.928	.938	.948		50,000	4,645
6,968	75,000												.873	.879	.885	.892	.900	.908	.915		75,000	6,968
9,290	100,000												.866	.871	.876	.881	.887	.892	.897		100,000	9,290

NOTE: For small buildings, enter the table by doubling the average floor area and doubling the perimeter. For larger buildings, take half the area and half the perimeter.

STORY HEIGHT MULTIPLIERS

Multiply base cost by following multipliers for any variation in average story height from the base of 12 feet (3.66 meters). For extremely high-pitched roofs (see Section 10), use the height of the eaves plus one-half the height from the eaves to the ridge as the effective height. In some

buildings or for a complete facility average, it is better to compute the total cubage and divide by the total square footage of floor area to get an effective height to use.

AVER WALL H		SQUARE FOOT OR SQUARE METER MULTIPLIER	CUBIC FOOT MULTIPLIER	AVEF WALL F	RAGE HEIGHT	SQUARE FOOT OR SQUARE METER MULTIPLIER	CUBIC FOOT MULTIPLIER	AVER WALL H		SQUARE FOOT OR SQUARE METER MULTIPLIER	CUBIC FOOT MULTIPLIER
(M.)	(FT.)			(M.)	(FT.)			(M.)	(FT.)		
2.44	8	.900	1.350	3.96	13	1.023	.944	6.10	20	1.184	.710
2.74	9	.928	1.237	4.27	14	1.046	.897	7.31	24	1.276	.638
3.05	10	.953	1.144	4.57	15	1.069	.855	8,53	28	1,367	.586
3.35	11	.977	1.066	4.88	16	1.092	.819	9.75	32	1.459	.547
3.66	12	1.000 (base)	1.000	5.49	18	1.138	.758	10.97	36	1.552	.517

CURRENT COST MULTIPLIERS

CURRENT COST MULTIPLIERS (Section 99, Page 3) are the multipliers for bringing costs published on the preceding pages up-to-date. This page is republished monthly and is based primarily on the Building Cost Indexes.

LOCAL MULTIPLIERS

LOCAL MULTIPLIERS (Section 99, Pages 5 thru 10) reflect local cost conditions and are designed to adjust the basic costs to each locality. They are based on weighted labor and material costs, including local sales taxes and the Canadian GST, but do not include any new construction rebate where applicable. Local multipliers apply to all costs in the manual but not to any cost indexes or replacement cost multipliers. The local multipliers, when applied to the total replacement cost, will adjust for variations in component costs as a whole for a particular geographical area, Multipliers may not adequately adjust when applied to specific components or Unit-in-Place costs, e.g., in the case of a specific piece of equipment which may be national in scope requiring no significant localization. For most Unit-in-Place costs, the predominant building or material Class factor can be used (e.g., wood, Class D; masonry, Class C) or an average of all Classes may be appropriate. In some cases, local building problems and practices must be considered. In the best residential neighborhoods, costs are often higher than those for identical construction in a lower-cost neighborhood. These pages are republished every January, April, July and October.

special Local conditions: Normally, smaller cities and suburbs near larger cities fall under the same cost influence as the larger city; however, local wage scales, inspection practices, licenses, codes and fees may vary, and the valuator should consider these possible deviations. Within a large city, costs will often vary by distance from sources of materials, such as ready-mix plants, and the local multipliers apply only to typical conditions prevailing. The state multipliers are merely weighted averages of the various cities and do not have any other significance. They may fit quite closely to many of the cities in the state which are not listed, but some localities may vary appreciably.

SEISMIC AND WIND: In high wind (over 90 mph) and earthquake (zones 2, 3 & 4) prone areas, you can have additional structural elements which will affect the overall building costs. Lifeline structures, such as Hospitals, Governmental and Data Centers must meet stringent building and life safety codes. See Section 85 for further information. Individual components can be priced using the Segregated Method.

NATURAL DISASTERS: Widespread major natural disasters can create isolated materials and/or labor shortages requiring some upward adjustment to the multipliers. Some specific materials, such as roofing, can temporarily increase 30% to 50% or more above normal repair estimates.

ABNORMAL CONTRACTOR'S PROFIT: In areas of high growth, contractors are able to take higher than normal profits due to an increased demand with limited contractors and/or workforce availability. ABNORMAL SHORTAGES: Temporary supply-demand imbalances caused by events other than major catastrophes, such as factory closures, strikes, inadequate inventories, environmental legislation, trade embargoes, commodities speculation, etc., may require upward adjustment to the multipliers

NOTE: Even though a particular material or trade may increase dramatically in a short span of time, it may only be a small part of an entire structure, and valuators should use caution.

COMPLEX SITES: Hillside construction will be much more expensive, due to added foundation and sitework. Downtown buildings are usually somewhat more expensive than outlying buildings. Sidewalks must be barricaded or roofed for the protection of pedestrians. Due to the lack of adequate space, material storage and handling is often more costly. Bordering property must often be protected. Such expenses are a part of construction costs.

GREEN BUILDINGS: High performance sustainable construction that is LEED certified can be more expensive, requiring some upward adjustments to the base costs.

WEATHER EXTREMES: Extreme cold, heat or wet weather may require temporary enclosures or covers, or special storage handling and wrapping of materials. Added costs may require some upward adjustment to the multipliers.

REMOTE LOCATIONS: Upward modification of the multipliers is appropriatelf a building or other structure is far removed from supplies of labor and materia, if its location is accessible with difficulty requiring higher freight charges on material, contains noncompetitive conditions for labor or materials, disproportionate crewing or labor per diem charges, or unusual climatic conditions occur. Examples are island, mountain, desert or resort locations and others not enjoying reasonable and adequate transportation facilities, for which no local modifier has been computed. When using the Mountain and Resort Cottage costs in Section 12, normal erection in remote areas is already included.

QUANTITY OR DEVELOPMENT CONSTRUCTION: There are usually cost savings in quantity or duplicate construction, which may or may not be passed on to the prospective buyer; usually, only part of the savings are passed on. Since costs in this manual will be based to some extent on such construction, the costs may require small, or

no percentage reductions to reflect actual sales conditions in the area. Large industrial projects, using multiple tilt-up or residential modular construction can have savings double the listed averages.

AMATEUR WORKMANSHIP: All costs in this manual are based on professional labor supervised by a contractor or job foreman. For amateur workmanship or work done by farm or ranch help, costs should be decreased to reflect the proper wage rate and lack of contractor and architectural supervision relative to the quality of the work.

REPAIR AND REMODEL: All costs in this manual are based on new construction. Typical repair work will run 10% to 20% higher because of restricted area, movement of materials, temporary supports, shoring, etc., and other contingencies not encountered in new construction, excluding demolition and removal. For detailed costs we would recommend using our repair and claims products.

MODIFYING ADJUSTMENTS

The following are rough overall percentage ranges to apply for certain unusual conditions, which can be cumulative:

ADD FOR THE FOLLOWI	NG:			ADDITIONS – CONTINUED			
Abnormal contractor's prof	it 5%	to	25%	Green Buildings, Commercial	0%	to	7%
Abnormal shortages	2%	to	10%	Residential	3%	to	20%
Complex/congested areas	2%	to	5%				
Hillside buildings	5%		20%	SUBTRACT FOR THE FOLLOW	VING:		
Remote areas			15%	Quantity or Development			
Resort locations	15%	to	30%	construction	1%	to	5%
Weather extremes	2%	to		Abnormal labor surplus	1%	to	5%
Seismic or high wind	2%	to	5%	Amateur workmanship	15%	to	30%
lifeline occ., high event				Architects' fee adjustments:			
(Zone 3/4)	5%	to	10%	see discussion below and on I	Page 2.		

SPECIAL LOCAL MULTIPLIERS

If no multiplier is published for your city or if you desire a check on the published multipliers, we suggest that you send us your local data, and we will compute one for you. Forms for the required data may be obtained by writing, fax or email. See inside front cover for details.

ARCHITECTS' FEES

The architects' fees listed on the next page are based on averages of fees actually charged or recommended. Actual fees, (based on the size of the project, technical difficulty, artistic requirements, and the reputation of the architect and his willingness to accept the assignment), vary greatly, and the estimate of the fee is a matter for the valuator's judgment. Architects' fees will normally include part or all of the following:

- 1. Plans and specifications including consultations, estimates and engineering studies.
- General administration and overall supervision of construction, not including superintending construction.
- 3. Approving payment vouchers to the contractor.
- Approval and acceptance of completed construction.

Regardless of the size and type of construction, all of these services must be performed by someone. On some projects, the owner or general contractor may supervise. On governmental projects, many services are performed by government employees; however, in replacing the building, the cost of these services, whether performed by the architect or others, must be included.

The architects' fee percentages given here are only a guide. On a simple pre-engineered structure or residence, stock plans and specifications may be purchased for under \$300, plus \$50 for each additional set. On a large housing development, the architect may get full fees for each individual design and payments as low as \$325 per unit for additional uses of the plans, perform work as a corporate employee. Also, many shed, farm and utility buildings are commonly built without plans or from standard plans which can be obtained free, or at a small price. To add a full architects' fee would be unsuitable.

In actual practice, architects' fees are normally based, by contract, either on a percentage of the entire cost, a multiplier of the technical payroll plus incidental expenses, or on a fixed sum plus listed expenses.

In the final analysis, the architect's function, when fully performed, is a proper cost of construction. A well-considered matching of structure to land may enhance the end value by more than the fees involved. However, when poorly performed, the cost of design and drafting work may be wasted and result in functional obsolescence in a brand-new structure. This determination is a matter of judgment.

The average fees listed for buildings do not include fees for design of furniture, built-in equipment or appliances, plant or off-site, utilities or subdivision layout, or other detailed special items designed for a specific trade or personal use.

These multipliers bring costs from preceding pages up to date. Also apply Local Multipliers, Section 99, Pages 5 through 10.

CALCULATOR COST SECTIONS SEGREGATED COST SECTIONS 11 12 13 14 15 16 17 18 41 42 43 44 45 46 47 48 (Effective Date (Effective Date of Cost Pages) (8/16)(5/16)(2/16)(8/17)(5/17)(2/17)(12/16)(9/16)(6/16)(3/16)(12/17)(9/17)(6/17)(3/17)(11/16)(11/17)of Cost Pages) 1.06 1.05 1.05 1.03 1.02 1.03 1.05 1.07 1.06 1.05 1.05 1.03 1.02 1.03 1.05 1.07 Α Α В В 1.07 1.07 1.05 1.06 1.01 1.02 1.05 1.07 1.07 1.07 1.05 1.06 1.01 1.02 1.05 1.07 **EASTERN** C **EASTERN** C 1.07 1.06 1.07 1.06 1.04 1.05 1.06 1.05 1.07 1.06 1.07 1.06 1.04 1.05 1.06 1.05 D 1.06 1.05 1.02 1.04 1.04 1.05 D 1.06 1.05 1.04 1.04 1.05 1.06 1.06 1.06 1.06 1.02 S S 1.10 1.09 1.07 1.06 1.04 1.04 1.04 1.08 1.10 1.09 1.07 1.06 1.04 1.04 1.04 1.08 This page supersedes the December 2017 Green Supplement. Α 1.01 1.00 0.99 1.00 0.97 0.99 1.00 1.00 Α 1.01 1.00 0.99 1.00 0.97 0.99 1.00 1.00 В В 1.01 1.02 1.01 1.01 0.99 0.99 0.99 1.00 1.01 1.02 1.01 1.01 0.99 0.99 0.99 1.00 **CENTRAL CENTRAL** C 0.99 1.02 1.03 1.03 1.03 1.02 0.98 1.00 1.01 C 1.03 1.03 1.03 0.99 0.98 1.00 1.01 D 1.02 1.03 1.03 1.02 1.01 1.02 1.00 1.02 D 1.02 1.03 1.03 1.02 1.01 1.02 1.00 1.02 S 1.00 1.02 1.00 1.02 0.98 0.98 1.01 1.01 S 1.00 1.02 1.00 1.02 0.98 0.98 1.01 1.01 1.03 1.02 1.04 1.02 Α 1.01 1.04 1.05 1.01 1.01 1.01 Α 1.01 1.03 1.05 1.01 1.01 1.01 В 1.02 В 1.05 1.03 1.01 1.01 1.05 1.04 1.01 1.03 1.03 1.01 1.01 1.02 1.04 1.01 1.03 **WESTERN WESTERN** C 1.05 1.04 1.02 C 1.04 1.06 1.02 1.05 1.03 1.06 1.01 1.03 1.05 1.03 1.05 1.01 1.03 D 1.05 1.05 D 1.05 1.05 1.04 1.05 1.05 1.06 1.00 1.01 1.04 1.05 1.05 1.06 1.00 1.01 S S 1.02 1.02 1.05 1.04 1.00 1.04 1.03 1.01 1.02 1.02 1.05 1.04 1.00 1.04 1.03 1.01

UNIT-IN-PLACE COST SECTIONS (51 – 70)

s s	ec. Page	Date		Eastern	Central	Western	Sec. Page	Date		Eastern	Central	Western
<i>s.</i> 5	1 - 2-3	(3/17)	Concrete Foundations	1.04	1.00	1.03	61 - 1-8	(12/16)	Tanks	1.04	1.03	1.05
<i>[</i> 2 5	1 - 4	(3/17)	Pilings	1.06	1.00	1.04	62 - 1	(6/16)	Industrial Pumps & Boilers	1.07	0.99	1.08
<i>lns</i> 5	1 - 7-8	(3/17)	Steel and Concrete Frame	1.05	0.99	1.04	62 - 2-3, 6	(6/16)	Piping	1.07	0.99	1.08
<u>9</u> 5	1 - 3,7	(3/17)	Wood Foundations, Frame	1.03	1.01	1.06	62 - 4	(6/16)	Electrical Motors	1.07	0.99	1.08
go 5	2 - 1-4, 6	(3/17)	Interior Construction	1.04	1.02	1.03	62 - 5	(6/16)	Steel Stacks, Chutes	1.07	0.99	1.08
$\frac{d}{s}$ 5	2 - 5	(3/17)	Bank Vaults and Equipment	1.06	1.01	1.02	62 - 5	(6/16)	Masonry & Concrete Chimneys	1.04	1.00	1.06
5	3 - 1-8	(6/17)	Heating, Cooling & Ventilating	1.04	1.00	1.03	62 - 6	(6/16)	Compactors, Incinerators	1.07	0.99	1.08
7 5	3 - 9-12	(6/17)	Plumbing, Fire Protection, etc	1.04	0.99	1.04	63 - 1-4	(9/16)	Trailer and Mfg. Housing Parks	1.03	1.02	1.06
5	4 - 1-6	(6/17)	Electrical, Security	1.02	1.03	1.01	63 - 5-10	(9/16)	Manufactured Housing	1.05	1.04	1.06
5	5 - 3-7	(8/17)	Wall Costs	1.02	0.99	1.03	64 - 1-6	(3/16)	Service Stations, Car Washes	1.07	1.03	1.03
5	6 - 1-2	(8/17)	Stained Glass	1.03	0.99	1.02	64 - 7-9	(3/16)	Prefabricated Metal Structures	1.06	1.01	1.06
5	6 - 3-6	(8/17)	Storefronts	1.03	0.99	1.02	64 - 7-8	(3/16)	Prefab. Wood & Air Structures	1.05	1.03	1.05
5	6 - 7	(8/17)	Stonework	1.01	1.01	1.04	65 - 1-12	(3/16)	Equipment Costs	1.04	1.03	1.03
5	6 - 8	(8/17)	Columns, Stone & Concrete	1.01	1.01	1.04	66 - 1	(12/17)	Subdivision Costs	1.01	0.98	1.02
5	6 - 8	(8/17)	Columns, Wood & Aluminum	1.02	1.01	1.04	66 - 2-9	(12/17)	Yard Improvements	1.01	0.97	1.03
5	7 - 1-6	(9/17)	Roofs	1.02	1.00	1.02	66 - 10-11	(12/17)	Demolition & Remediation	1.00	0.99	1.02
5	8 - 1	(9/17)	Cold Storage	1.02	0.99	1.03	67 - 1-2	(12/17)	Golf Courses	1.00	1.00	1.01
5	8 - 2-8	(9/17)	Elevators, Conveying Systems	1.02	0.98	1.01	67 - 3-7	(12/17)	Recreational Facilities	1.00	0.99	1.02
							70 - 1-20	(1/18)	Green Section	1.00	0.99	1.02

LOCAL MULTIPLIERS

Apply to costs brought up-to-date from preceding pages. Do not apply to Section 98 or any other indexes.

UNITED STATES

New Network 1.96 1.26 1.27 1.28 1.27 1.28 1.27 1.28 1.27 1.28 1.19 1.19 1.19 1.09	CLASS	Α	В	С	D	s	CLASS	Α	В	С	D	s	CLASS	Α	В	С	D	s
Allamic Cily 133 131 132 134 133 131 Section 1.06 1.05 1.05 1.05 1.05 1.05 1.05 1.05 1.05	NEW JERSEY		1.28		1.27													
Bayone	Asbury Park	1.19	1.17	1.16	1.17	1.19												
Company 1.24 1.27 1.30	•																	
Carloon 124 127 139 139 149 579 Synacuse 133 122 121 131 113 113 130 130 130 130 130 130 13	Bayonne																	
Celtron 1.31 1.30 1.29 1.29 1.29 1.70 1.70 1.71 1.72 1.14 1.15 1.13 Newark 1.00 1.02 1.00 1.00 1.00 1.00 1.00 1.00																		
East Orlingie 1-32 1-30 1-29 1-30							Trov						Newark	1.00	1.02	1.00	1.00	1.00
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Faltewn 132 131 129 130 131 NEW YORK CITY AREA 1.45 1.41 1.42 1.44 1.47 Youngstown 1.09 1.10 1.06 1.04 1.09 1.09 1.09 1.09 1.09 1.09 1.09 1.09	Edison						Watertown	1.03	1.02	1.02	1.04	1.02						
Findentiack 1.32 1.32 1.30 1.30 1.31 1.32 1.32 1.32 1.32 0.31 0.32 0.31 0.32																		
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Jersey City 1.33 1.32 1.30 1.31 1.31 Nassau County 1.47 1.43 1.45 1.48 Bartlesville 0.87 0.86 0.87	Irvington																	
Morristowick 1.32 1.37 1.37 1.39 1.39 1.39 1.39 1.39 1.39 1.39 1.39	, ,																	
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Plainfield													Tuisa	0.91	0.69	0.90	0.91	0.92
Plainfield 1.21 1.19 1.19 1.18 1.19 Viestinester County 1.34 1.35													OREGON	1 09	1.07	1.06	1.05	1.08
Somerville 1.30 1.28 1.28 1.26 1.29 Yorkers 1.47 1.44 1.49 1.40 1.40 1.40 1.40 1.03 1.03 1.07 1.07 1.04 1.03 1.05 1.06 1.05 1.06 1.05	Plainfield		1.19	1.19														
Trenton 1.29 1.27 1.25 1.26 1.26 1.26 NORTH CAROLINA 0.90 0.91 0.90 0	Somerville						Yonkers	1.47	1.44	1.44	1.46	1.48						
Vineland 1.20 1.79 1.79 1.70 1.7	Teaneck	1.32					NODTH CAROLINA	0.00	0.01	0.00	0.00	0.00	Astoria					
Vineland 1.20 1.19 1.19 1.20 1.21 Charlotte 0.90 0.92 0.91 0.91 0.92 Cours Bay 1.07 1.03 1.04 1.05																		
NEW MEXICO	Vineland	1.20	1.19	1.19	1.20	1.21												
NEW MEXICO 0.95 0.92 0.93 0.93 0.94 0.95 0	West Orange	1.31	1.29	1.28	1.29	1.28		0.95	0.95	0.93	0.93	0.95						
New MeXICO																		
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Gallup 0.93 0.89 0.90 0.90 0.90 0.90 0.90 0.90 0.90	Clovis	0.97	0.95	0.95	0.94	0.93		0.87										
Hobbs 0.90 0.88 0.90 0.90 0.88 Wilmington 0.90 0.91 0.90	Farmington	1,00	0.96	0.96	0.96	0.96												
Hobbs 1.90 1.98 1.99	Gallup	0.93	0.89	0.90	0.90	0.92	Rocky Mount											
Los Alamos 0.94 0.91 0.92 0.91 0.95 Williston 1.02 1.03 1.01 1.01 1.03 Altorna 1.13 1.12 1.10 1.11 1.11 New York 1.08 1.08 1.08 1.09 1.09 1.09 1.09 1.09 1.09 1.09 1.09	Hobbs	0.90	0.88															
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Taos 1.06 1.03 1.07 1.07 1.06	Roswell	0.99	0.93	0.95	0.94	0.96	Fargo	1.01	1.01	1.01		1.03						
NEW YORK 1.08	Santa Fe	0.97	0.94	0.97	0.96	0.96												
NEW YORK 1.08 1.08 1.09 1.10 1.09 Minot 1.04 1.02 1.03 1.01 1.05 Harrisburg 1.10 1.08 1.06 1.05 1.08 Jamestown 1.04 1.04 1.04 1.06 1.05 1.05 1.03 1.04 1.01 1.06 Johnstown 1.11 1.09 1.09 1.07 1.07 Kingston 1.19 1.19 1.21 1.21 OHIO 1.01 1.01 1.00 1.01 Norristown 1.27 1.25 1.27 1.25 1.25	Taos	1.06	1.03	1.07	1.07	1.06												
NEW YORK 1.08 1.08 1.09 1.10 1.09 Williston 1.05 1.03 1.04 1.06 Johnstown 1.11 1.09 1.09 1.07 1.07 Jamestown 1.04 1.04 1.04 1.06 1.05 1.05 1.01 1.01 1.06 Johnstown 1.11 1.09 1.07 1.07 Kingston 1.19 1.19 1.19 1.21 1.21 OHIO 1.01 1.01 1.01 1.00 1.01 Norristown 1.27 1.25																		
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Elmira 1.01 1.00 1.01 1.02 1.01 East Liverpool 1.08 1.07 1.09 1.06 1.07 Williamsport 1.10 1.06 1.05 1.05 1.10																		
								0.94	0.94	0.96	0.95	0.95						

DEFINITIONS

Depreciation is loss in value due to any cause. It is the difference between the market value of a structural improvement or piece of equipment and its reproduction or replacement cost as of the date of valuation. Depreciation is divided into three general categories, as discussed below.

- 1. Physical depreciation is loss in value due to physical deterioration.
- Functional or technical obsolescence is loss in value due to lack of utility or desirability of part or all of the property, inherent to the improvement or equipment. Thus a new structure or piece of equipment may suffer obsolescence when built.
- 3. External, locational or economic obsolescence is loss in value due to causes outside the property and independent of it, and is not directly included in the tables.

Effective age of a property is its age as compared with other properties performing like functions. It is the actual age less the age which has been taken off by face-lifting, structural reconstruction, removal of functional inadequacies, modernization of equipment, etc. It is an age which reflects a true remaining life for the property, taking into account the typical life expectancy of buildings or equipment of its class and its usage. It is a matter of judgment, taking all factors, current and those anticipated in the immediate future, into consideration. Effective age on older structures may best be calculated by establishing a remaining life which, subtracted from a typical life expectancy, will result in an appropriate effective age with which to work. Effective age can fluctuate year by year or remain somewhat stable in the absence of any major renewals or excessive deterioration.

Extended life expectancy is the increased life expectancy due to seasoning and proven ability to exist. Just as a person will have a total normal life expectancy at birth which increases as he grows older, so it is with structures and equipment.

Remaining life is the normal remaining life expectation. It is the length of time the structure may be expected to continue to perform its function economically at the date of the appraisal. This does not imply a straight-line expiration, particularly for mortgage purposes, since normal recurring maintenance and renewal of replaceable items will continue to contribute toward an extended life expectancy. This extended life process is accomplished by use of effective age as the sliding scale and not by continually lengthening the typical life expectancy as the structure ages chronologically.

Percent good equals 100% less the percentage of cost represented by depreciation. It is the present value of the structure or equipment at the time of appraisal, divided by its replacement cost.

APPROACHES TO DEPRECIATION

The simplest and, in past years, a widely used accounting-type concept of depreciation, particularly with individual short-lived components, is the straight-line (age/life) approach. A life expectancy is estimated and a constant annual percentage (equal wear or serviceability each year) is taken for depreciation so that at the end of that life the depreciation equals 100% of the initial cost. This linear approach is simple and easy to use but does not represent reality in most cases since time is not the only factor affecting depreciation and it fails to recognize any value-in-use. The passage of time may not in itself create additional depreciation if the property or component is well maintained and functionally sound.

While age is a critical factor, the best approach to the physical depreciation estimate is a combination of age and condition. The observed condition of each component subject to wear is estimated relative to new condition. A major replaceable component, such as a HVAC system under heavy loading in a hot, humid climate, can wear out quite rapidly, shortening the life expectancy before replacement, while many other portions of a structure, such as excavations, foundations, and concrete exterior walls, wear out slowly if at all. Such long-lived portions often represent a major portion of the total reproduction cost and if still functional will contribute toward an extended life expectancy. Physical depreciation cannot be considered a straight-line deduction from reproduction cost, since necessary and normal maintenance can offset, retard and, in some cases, even eliminate deterioration.

Another approach to depreciation was called the mid-life theory. This takes into account that most buildings depreciate little during the first few years. When it becomes evident that the buildings are no longer new, even though they are adequately maintained, the maintenance expenses rise, rentals tend to decrease and the building depreciates faster. After a number of years, they reach the period called mid-life, at which time, if the buildings are structurally sound and properly maintained, the depreciation remains constant. The mid-life theory suffers from the fact that maintenance expenses on the average building continue to go up in order to maintain the same appearance and utility, and at any age, certain building features may suffer from obsolescence.

These concepts lead to a third theory, the extended life concept, which starts with the hypothesis that buildings age in much the same manner as people and that the older they get, the greater is their total life expectancy. This concept recognizes that a building is in the prime of life before

mid-life and that the road is downhill after that, but that correction of deficiencies may lower the effective age and lengthen the remaining life. This recurring revitalization process periodically reverses a continuous progression down the effective age scale, reducing the indicated depreciation percentage as components are renewed throughout the life-span of the building. This nonlinear approach accounts for a greater present value or slower depreciation rate in the early years as compared to the later years when diminishing serviceability and higher maintenance can accelerate depreciation.

EXPLANATION OF DEPRECIATION TABLES

The general depreciation tables in this section were developed from actual case studies of sales and market value appraisals and formed the basis of the extended life theory which encompasses a remaining life and effective age approach. From confirmed sales prices the land value was deducted to obtain a building residual, and the replacement cost of the building was computed. The difference between the replacement cost new of the building and the residual sales price of the building was divided by the replacement cost new, to give the market depreciation in percentage. A similar procedure was followed with the market value appraisals, always excluding those observed cases having excessive obsolescence.

The data was then collated by type of construction and usage, plotted with similar typical total life expectancies, with curves computed for the groupings, for which sufficient data was available, for statistical reliability. From these curves, a matching family of empirical mathematical curves was found, from which the depreciation for any initial (when new) life expectancy could be computed under normal market conditions.

A check of equipment depreciation by similar procedures showed that portions of the family of curves, which was used for nonresidential properties, were suitable as an indicator of that depreciation.

Churches were found to fit in the depreciation category of residential structures, and those tables should therefore be used. Motels, hotels and larger apartments are included in the nonresidential tables, while small apartments or multiples are residential in nature. The division between residential and nonresidential depreciation appears to lie in the usage, whether operated solely for income or for amenities.

Thus, a hotel operated commercially would be expected to fit into the commercial family of curves, but if the same building were operated as a private club, its normal depreciation would be expected to follow the residential curve. The proper curve to use is therefore a matter of judgment on the part of the appraiser, considering the usage and the type of return normally expected, whether cash, equity or intangible amenities.

USE OF THE DEPRECIATION TABLES (See Example on page 22)

- Note from your inspection the overall and/or individual condition, severity of use, utility and remaining life of all building or equipment components.
- 2. Determine the true age of the structure or equipment.
- 3. Compare with like properties and study the effect of, or the lack or need of, typical maintenance or any modernization or major repair to determine the effective age.
- 4. Check the tables and discussion on Pages 10 through 21 for the recommended initial typical (normal) useful life of the occupancy, component or piece of equipment and for any further modification before establishing an appropriate life.
- 5. Check the properties listed in each depreciation table to see which to use. (Page 24, Non-residential; Page 25, Residential; Page 26, Fixtures and Equipment.)
- Enter the proper table choosing a typical life expectancy and effective age and read off the normal depreciation, or use the remaining life expectancy as an aid as described below.
- Note any excessive obsolescence that may require special consideration separate from the normal depreciation developed from the tables. (Review Pages 2 and 3.)

REMAINING LIFE TABLES

The remaining life tables are based on mortality tables derived from studies of building and equipment, discarding all cases of mortality due to excessive obsolescence. Their primary mission is to provide an easy way for the appraiser to determine the normal remaining life expectancy of buildings for use in the capitalization process, using the effective age and the typical life expectancy.

Many times, the remaining life expectancy of a building or piece of equipment can be established more readily than the effective age. The Remaining Life Table on the right side of each depreciation page may then be entered with the remaining life in the proper typical life column and the effective age read off at the left, or the appraiser may move straight across to the left side of the page and read the depreciation directly.

FUNCTIONAL INDICATORS (Continued)

Some of the external factors affecting the extent of functional obsolescence are:

- Code Requirements Most current building codes or zoning for conforming use, height, stories, area, setback, building separation, size/mansionization, energy equivalency tradeoffs, etc., OSHA, fire and life safety, etc. compliance (see below).
- 2. Fire Protection Requirements Proper rating, detection for life safety and security, signaling controls, communications, signage, standpipe, sprinklers, extinguishers, hydrants, vents, draft curtains, fans, pumps, door and smoke controls, standby power, emergency phones, appropriate exits, overhang, balcony and deck exposures, stairways, roofing classification, safety or double glazing, fire doors and shutters, etc.
- 3. Handicapped Requirements ADA compliance, barrier-free design, parking, ramps, automatic entry, door, hallway widths, markings, signage, alarms, service, cabinet and railing heights, drinking fountains, grab bars, exposed hot-water piping, handicap fixtures, turnaround space, elevator controls, cab size, lifts, etc.
- 4. Environmental EPA, wetlands and air quality compliance, water, soil, radon, asbestos, UREA formaldehyde foam insulation, PCBs, CFCs, high-voltage lines, halon, heavy metal or lead contamination, runoff, emissions or sediment containment, detection and testing, septic tanks, leach fields, demolition constraints, disposal or remediation. Evidence of leakage, absence of plants or animals, sick or stressed plants or animals, discolored soil or water, surface sheens and noxious odors, presence of discarded batteries, abandoned wells, sumps, tanks, barrels or other containers of fertilizer, pesticides and herbicides, paints and thinners, heating oil, petroleum or other hazardous chemical substances.
- 5. Weather Extremes Appropriate insulation levels, heat gain or loss, shading, passive or active alternatives, energy equivalency tradeoffs, window treatment, glass strength, proper trusses, size, spacing, pitch and drainage for rain and snow loading, proper flashings and penetrations, proper connections for hurricane wind forces, uplift exposure, operable shutters, impact glazing.
- Earthquakes Appropriate bracing, connections to structural shell or foundation, shear walls, storefront facade or parapet, overhang exposure, irregular shape, framing stress, torsion, distance from other structures for pounding, etc.

External Obsolescence is a change in the value of a property, usually negative but can be an enhancement, caused by forces outside the property itself, and is not included directly in the tables that follow. It can be divided into two types, locational and economic. Locational factors are generally incurable and may affect only a small area, while economic factors can cover a wide geographic area and may be only temporary and reversible. Different types of property, residential or commercial, will be affected differently by these external forces. For example, it is desirable or advantageous for a manufacturing plant to be situated close to a railroad spur; conversely, it is a disadvantage for a residential property to be located close to that same spur. Close proximity to a major highway is generally much more beneficial for an apartment complex than a single-family residence, etc. Any abnormal, isolated or temporary cases of external obsolescence, usually computed separately, can be measured by market abstraction and capitalization of the imputed loss or gain, which generally affects land values first, then the improvements, by changing the possible uses and altering remaining life.

EXTERNAL INDICATORS

When considering the extent of external obsolescence, pay particular attention to the following indicators in the immediate vicinity, marketing area or community as a whole:

- 1. Physical Factors Proximity of desirable or unattractive natural or artificial features or barriers, general neighborhood maturity, conformity, deterioration, rehabilitation or static character, known cleanup sites, fumes, noise, traffic or flight patterns, nuisances, graffiti, waste dump, swamp, toxic industry, electromagnetic fields, brush area, lack of view or landscaping, floodplain, dam inundation area, drainage, water table, sinkholes, fault or seismic zones, soil types, cut and fill, liquefaction, landslides, etc. local ecosystem, endangered species, habitat areas.
- 2. Economic Demand/supply imbalance, saturation or monopoly, competition or alternatives, market share, industry or major plant relocation, employment development and growth patterns, downsizing, utility and insurance rates, availability of funds or terms, labor and materials, interest rates, vacancy, building rates, general inflation or deflation rates, tenant ratings, length of time on market or lease up or absorption, income streams and returns, changing consumer habits, purchasing power, property association or government forces, zoning, land use, air rights, legal nonconformity, permit, taxing and assessment policies and bureaucracy or other limiting conditions or restrictions.

3. Infrastructure – Surrounding highest and best use; availability, quality and source of utilities; public services; fire stations, staffed or volunteer; distance from hydrants; street improvements; traffic patterns; emergency response, evacuation routes; public parking, transportation and shipping facilities; retail; recreation; education facilities, etc.

General condition ratings can be assigned to the improvement to assist in the development of an appropriate effective age based on observed condition, utility and age. The better the overall condition, the younger or lower the effective age, which lowers the percentage and amount of depreciation. Condition is an integral part in measuring the degree at which items subject to depreciation have been maintained. Applying any additional condition modifier once the effective age has been established based on condition would be redundant.

Effective age will change as conditions fluctuate, determined by the amount of observed deterioration and obsolescence at the date of the appraisal. Over the life of a structure, you could expect the condition rating and effective age to move up and back down the effective age scale many times over. During the mid-life cycles, the effective age will drift upward at a relatively slow pace, assuming normal maintenance, for longer periods of time than at any other period over the structure's entire life span. With each evaluation, the effective age choice must be reconsidered based on the actual conditions encountered at the current date, taking into account any changes that may have taken place since the last appraisal. Neglect or weather extremes could have accelerated condition and age, while major repairs will correct deficiencies to a like-new condition, lowering the effective age and starting the cycle all over again. Operating extremes, such as abrupt increases or decreases in plant or equipment activity from normal or designed usage or excessive rental turnover can certainly impact the rate of wear and tear and maintenance performed.

Certain industries such as fast food, hotels, markets, and other retail chains which are highly competitive and responsive to rapidly changing consumer tastes and/or investor holding periods, may require frequent major renovations and fixture change-outs in search of market share. Consequently, excessive functional and separate economic obsolescence rates that move much faster than normal physical deterioration, may require special consideration, depending on the value sought, before establishing an appropriate effective age and/or typical life expectancy with which to work. Due to the unique character of certain outdoor recreational facilities like golf courses, special attention should be paid to the possible shorter lives of individual land improvements which are subject not only to the constant exposure of the elements, but to the wear and tear from selective use or play. The functionality, composition and age or maturity of the various features that make up each improvement or golf hole can also have a great effect on a facility's maintenance, operational and reserve schedules and expenses, which in turn affect condition, usability or playability and ultimately, depreciation.

CONDITION RATING INDICATORS

Excellent Condition – All items that can normally be repaired or refinished have recently been corrected, such as new roofing, paint, furnace overhaul, state-of-the-art components, etc. With no functional inadequacies of any consequence and all major short-lived components in like-new condition, the overall effective age has been substantially reduced upon complete revitalization of the structure regardless of the actual chronological age.

Very Good Condition – All items well maintained, many having been overhauled and repaired as they've shown signs of wear, increasing the life expectancy and lowering the effective age, with little deterioration or obsolescence evident and a high degree of utility.

Good Condition – No obvious maintenance required, but neither is everything new. Appearance and utility are above the standard, and the overall effective age will be lower than the typical property.

Average Condition – Some evidence of deferred maintenance and normal obsolescence with age in that a few minor repairs are needed, along with some refinishing. But with all major components still functional and contributing toward an extended life expectancy, effective age and utility are standard for like properties of its class and usage.

Fair Condition (Badly Worn) – Much repair needed. Many items need refinishing or overhauling, deferred maintenance obvious, inadequate building utility and services all shortening the life expectancy and increasing the effective age.

Poor Condition (Worn Out) – Repair and overhaul needed on painted surfaces, roofing, plumbing, heating, numerous functional inadequacies, substandard utilities, etc. (found only in extraordinary circumstances). Excessive deferred maintenance and abuse, limited value-in-use, approaching abandonment or major reconstruction; reuse or change in occupancy is imminent. Effective age is near the end of the scale regardless of the actual chronological age.

LIFE EXPECTANCY GUIDELINES

TYPICAL BUILDING LIVES

OCCUPANCY	CLASS	Α	В	С	D	S	OCCUPANCY CLASS	Α	В	С	D	s
SECTIONS 14 & 44, GAR	AGES, INDUSTRIALS AND WA	REHOL	JSES				SECTIONS 14 & 44, GARAGES, INDUSTRIALS AND WA	REHOU	JSES (C	ontinu	ed)	
Armories, good and excell	ent			55	50		Industrials, manufacturing, heavy, good and excellent	60	60	55		50
				50	40	40	low cost and average	55	55	50	45	45
	s, good			45	40	40	light, good	50	50	45	40	40
				40	35	35	average	50	50	40	35	35
				35	30	30	low cost	45	45	40	35	35
	od and excellent	55	55	50	45	45	Laboratory buildings, good and excellent	55	55	50	45	45
		50	50	45	40	40	low cost and average	50	50	45	40	40
•				40			Lofts, excellent	60	60			
		45	45		35	35	average and good	55	55	50	40	40
	ellent			50		45	low cost	50	50	40	35	
		50	50	45	40	40	Mini-lube garages, good and excellent			40	35	35
	• • • • • • • • • • • • • • • • • • • •			40	35	35	low cost and average			35	30	30
Complete auto dealerships	s, good and excellent	50	50	45	40	40	Mini-warehouses, low and high rise, good	45	45	45	40	40
average		45	45	40	35	35	average	45	45	40	35	35
low cost				35	30	30	low cost	45	45	35	30	30
Computer centers, good a	nd excellent	50	50	45	40	40	Parking structures/parkades, good	45	45			25
low cost and average		45	45	40	35	35	low cost and average	40	40			35 30
				45	45	45	cheap	45	45	40	40	30
		45	45	35	30	30	Passenger terminals, very good and excellent	45 40	40	35	35	35
				25	20	20	average and good	35	35	30	30	30
	e, excellent			45		40	control towers, good	35	35			30
•				40	35	35	average	30	30			
•	ges, good and excellent			40	35	35	low cost	25	25			
	-	40	40	35	30	30	Post offices, main and branch, good and excellent	60	60	55	50	50
							low cost and average	55	55	50	45	45
	ood			35	30	30	mail processing facilities, good			50		45
=				30	25	25	average	50	50	45		40
-		45	45	40	35	35	Showrooms, good and excellent	50	50	45	40	40
Hangars, maintenance, ex	cellent			45		40	average	45	45	40	35	35
good				40		40	low cost			35	30	30
average	• • • • • • • • • • • • • • • • • • • •			40	35	35	Transit warehouses, average and good			45	40	40
low cost				35	30	30	Underground parking garages, average	45	45			
Storage, excellent				40		40	Warehouses, distribution, good and excellent	55	55	50	45	45
good				40		35	average	50	50	45	40	40
average				35	30	30	low cost			40	35	35
•				30	30	30	Storage and mega storage, excellent			50		45
					20	20	average and good	50	50	45	40	40
				30		30	cheap and low cost	45	45	40	35	35
					20	20	Miscellaneous buildings, excellent	60	60	55	45	45
				50		40	average and good	55	55	50	40	40
-	gs, average and good				40		low cost	50	50	40	35	35
				40	35	35	Misc. structures, shipping docks				40	40
	ood and excellent	55	55	50	45	45	loading docks, excellent				35	35
•		50	50	45	40	40	average and good				30	30
low cost		50	50	40	35	35	low cost				25	25

LIFE EXPECTANCY GUIDELINES

TYPICAL BUILDING LIVES

OCCUPANCY	CLASS	Α	В	С	D	S	OCCUPANCY	CLASS	Α	В	С	D	S
SECTIONS 15 & 45, BA	NKS, OFFICES AND PUBLIC BU	ILDING	s				SECTIONS 16 & 46, CH	URCHES, THEATERS AND AUG	ITORIU	MS			
Atriums, good and excell	lent	60	60	55	50	50	Arcade buildings, good a	nd excellent			45	40	
		55	55	50	45	45					40	35	35
	al, good and excellent	60	60	55	50	50					35	30	30
		55	55	50	45	45				55	50	45	
		50	50	45	40	40				50	45	40	40
		55	55	50	45	45					40	35	35
	nd excellent	50	50	45	40	40		id excellent			40	35	35
	ge					40					35	30	30
	good and excellent	50	50	45	40						50		
		45	45	40	35	35					45	40	
	care, good	50	50	40	35	35					40	35	35
		45	45	35	30	30					35	30	30
Fire stations, staffed, god	od, very good and excellent	50	50	45	40	40		arthexes, classrooms, excellent.		60	60	50	
low cost and averag	ge	45	45	40	35	35				60	50	45	45
volunteer, good				40	35	35				50	45	40	40
low cost and average	ge	40	40	35	30	30					40	35	35
	and excellent	50	50	45	40			nters, good and excellent		50	45	40	40
		45	45	40	35	35		·····		45	40	35	35
	good and excellent	60	60	55	50			and excellent		55	50	45	
	ge	55	55	50	40	40				50	45	40	40
				55	50		low cost			45	40	35	35
	uildings, excellent						Fellowship halls good an	id excellent	50	50	45	40	40
		55	55	50	40	40				45	40	35	35
		50	50	45	35	35						30	30
	es, good and excellent	55	55	45	40			d excellent		50	45	40	40
	ge	50	50	40	35	35				45	40	35	35
Police stations, good a	and excellent	55	55	50	45			lent		55	50	45	
average		50	50	45	40					50	45	40	
low cost		45	45	40						45	40	35	35
Kennels, very good and	excellent			45	40						35	30	30
average and good				40	35	35		s, good			45	40	40
				35	30	30					40	35	35
				25	20	20		, , , , , , , , , , , , , , , , , , ,			45	40	40
	d excellent		50	45	40	40					40	35	35
	ge	45	45	40	35	35					35	30	30
	nd excellent			45	40	40		ellent		60	55	50	
	ge			40	35	35				55	50	45	
	ent	60	60	55	50	50					40	35	35
			55	50	45	45					50	45	
	• • • • • • • • • • • • • • • • • • • •	55 50									45	40	
	Anna and and an all and	50	50	45	40	40					40	35	
	ters, good and excellent	50	50	45	40						35	30	30
		45	45	40	35	35					30	25	25
		60	60								25	20	20
good		55	55	50	50	50				50	45	40	40
average		50	50	45	45	45		excellent		45	40	35	35
low cost		30	30	25	25	25				45	35	30	30
cheap		25	25	20	20	20		entation, good and excellent		50	35 45	40	30
	ery good and excellent	60	60	55	50	50		entation, good and excellent		45	45 45	40	40
		55	55	50	45	45		• • • • • • • • • • • • • • • • • • • •		45	45 40	35	35
				45	40	40		very good and eveellent					
	ellent			45	40			very good and excellent		50	45	40	25
		45	45	40	35	35				45	40	35	35
		45	45	35	30		low cost and fair	eveellest			35	30	30
	nace good and evallent					30		excellent		55	50	45	40
iviisc buildings, tiring rai	nges, good and excellent			45	40	40				50	45	40	40
low cost and average				40	35	35	low cost				40	35	35

DEPRECIATION – COMMERCIAL PROPERTIES

			TYPI	CAL LIF	E EXPI	ECTAN	CY IN Y	EARS			т г				TYPIC	CAL LIF	E EXP	ECTAN	CY IN Y	'EARS		
EFFECTIVE	70	60	55	50	45	40	35	30	25	20		EFFECTIVE	70	60	55	50	45	40	35	30	25	20
AGE IN YEARS				DEPREC	IATION	- PERC	ENTAG	Ε			:	AGE IN YEARS			REMA	AINING	LIFE EX	PECTA	NCY - Y	EARS		
1	0	0	0	0	1	1	1	2	2	3		1	69	59	54	49	44	39	34	29	24	19
2	0	1	1	1	1	2	2	3	5	7		2	68	58	53	48	43	38	33	28	23	18
3	0	1	1	1	2	3	4	5	7	10		3	67	57	52	47	42	37	32	27	22	17
4	1	1	1	2	3	4	5	7	10	14		4	66	56	51	46	41	36	31	26	21	16
5	1	1	2	3	4	5	6	9	13	18	l l	5	65	55	50	45	40	35	30	25	20	15
6	1	2	2	3	4	6	8	11	16	22		6	64	54	49	44	39	34	29	24	19	14
7	1	2	3	4	5	7	10	14	19	26	l l	7	63	53	48	43	38	33	28	23	18	13
8	1	2	3	5	6	8	11	16	22	30	l l	8	62	52	47	42	37	32	27	22	17	12
9	2	3	4	5	7	10	13	18	25	35	l l	9	61	51	46	41	36	31	26	21	16	11
10	2	3	4	6	8	11	15	21	29	40	i i	10	60	50	45	40	35	30	25	20	15	10
11	2	4	5	7	9	13	17	24	32	45		11	59	49	44	39	34	29	24	19	14	9
12	2	4	6	8	10	14	19	26	36	50		12	58	48	43	38	33	28	23	18	13	8
13	2	5	6	9	12	16	22	29	40	55		13	57	47	42	37	32	27	22	17	12	7
14	3	5	7	10	13	18	24	32	44	60		14	56	46	41	36	31	26	21	16	11	6
15	3	6	8	11	14	20	26	35	48	65		15	55	45	40	35	30	25	20	15	10	5
16	3	7	9	12	16	22	28	39	52	69		16	54	44	39	34	29	24	19	14	9	4
17	4	7	10	13	18	24	31	42	56	73	l l	17	53	43	38	33	28	23	18	13	8	4
18	4	8	11	14	19	26	34	46	60	76	l l	18	52	42	37	32	27	22	17	12	7	3
19	4	9	12	16	21	28	36	49	64	78		19	51	41	36	31	26	21	16	11	6	2
20	5	9	13	17	23	30	39	53	68	79		20	50	40	35	30	25	20	15	10	5	2
21	5	10	14	18	25	32	42	57	71	80		21	49	39	34	29	24	19	14	9	5	2
22	6	11	15	20	27	35	45	60	73			22	48	38	33	28	23	18	13	8	4	
23	6	12	16	21	29	37	48	63	75		l l	23	47	37	32	27	22	17	12	7	3	
24	7	13	17	23	31	40	52	66	77		l l	24	46	36	31	26	21	16	11	6	3	
25	7	14	19	25	33	43	55	69	79		l l	25	45	35	30	25	20	15	10	6	2	
26	8	15	20	27	35	46	58	72	80			26	44	34	29	24	19	14	9	5	2	
27	9	16	21	28	37	49	61	75			i i	27	43	33	28	23	18	13	8	4		
28	9	17	23	30	40	52	64	77			i i	28	42	32	27	22	17	12	7	4		
29	10	18	24	32	42	54	68	78			l l	29	41	31	26	21	16	11	7	3		
30	11	20	26	34	45	57	72	79			l l	30	40	30	25	20	15	10	6	3		
32	13	22	30	38	50	62	75	80				32	38	28	23	18	13	8	5	2		
34	15	25	34	43	55	68	77					34	36	26	21	16	11	7	4			
36	17	28	38	48	61	73	79					36	34	24	19	14	10	6	3			
38	19	32	42	53	67	77	80					38	32	22	17	12	8	5	2			
40	21	35	46	59	72	79						40	30	20	15	10	7	4				
42	25	39	51	65	75	80		PRO	PERTIE	SINCLU	DED	42	28	18	13	9	6	3				
44	28	43	56	70	77					hotels, reso		44	26	16	12	8	5					
46	31	48	60	74	78				ls, lodges,	large multi	oles & resorts	46	24	14	10	7	4					
48	34	53	64	77	79		Section Section					48	22	13	9	6	3					
50	38	58	68	79	80			15 All ex	cept librar	ies		50	20	11	8	5	3					
55	48	67	75	80			Section	16 All ex	cept churc	ches and fra	aternal bldgs.	55	16	8	6	3						
60	57	74	78							and industr	ial uses	60	12	6	4							
65	65	78	80					18 None		and industr	ialueae	65	9	4	3							
70	71	80								and industr see Page		70	7	3								
75	75						-or live	s iess tridh	20 years,	see rage	10.	75	5									
80	78											80	4									

SEGREGATED COST METHOD

GARAGES, INDUSTRIALS, LOFTS AND WAREHOUSES

PLUMBING – Apply Table I to total floor area. Use Table TABLE I – Typical cost ranges.	ll or Se	ection 53	for more	e detail.	SPRINKLERS (Continued)	1	2	3	4
Armories	4.70	6.79	9.78	14.10	125,000 square feet	1.64	2.08	2.65	3.37
Automotive centers	2.73	4.06	6.03	8.95	150,000	1.59	2.02	2.57	3.26
Auto dealerships, complete	2.78	4.16	6.21	9,27	200,000	1.53	1.94	2.45	3.10
Broadcasting facilities	2.95	4.33	6.37	9.36	250,000	1.48	1.86	2.35	2.96
Cold storage facilities	1.10	1.96	3.23	5.15	300,000	1.44	1.81	2.27	2.84
Computer centers	4.55	6.01	7.93	10.45	400,000	1.39	1.74	2.17	2.70
Creameries	5.60	8.85	13.70	21.00	600,000	1.29	1.61	2.01	2.52
Garages, minilube	5.27	8.43	13.15	20.25	800,000	1.24	1.55	1.93	2.40
service, lower qualities	2.04	3 42	5.48	8,55	1,000,000	1.19	1.48	1.84	2.29
higher qualities (incl. municipal service centers)	3.43	5.60	8.83	13.65	HEATING, COOLING AND VENTILATING – Apply to total	floor ar	rea.		
service shed	0.30	0.44	0.66	0.99	Add or deduct 3% for each foot of variation in average story			hase	
storage	1.34	2.05	3.12	4.71	Costs are given for gas-fired heating surfaces. Add or deduce	_			2
underground parking	1.47	1.89	2.43	3.13	Oil-fired +7% Coal, stoker +7%	7. 43 TOIN		hand-fired	
Hangars, storage	0.59	1.20	2.13	3.51	For Passenger Terminals, Research Labs and Cold Storage	Duilding	,		
maintenance and offices	2.01	3.63	6.05	9.66	For Fassenger Terminals, Nesearch Labs and Cold Storage	Dullulliç	,35, use CC	JS15 III 36	CHOII 14.
Industrials, manufacturing, light	1.48	2.42	3.83	5.92	Heating Only				
heavy	5.34	6.42	7.72	9.29	Electric cable or baseboard	2.62	3.40	4.41	5.73
engineering and research	3.80	5.54	8.09	11.80	radiant panels	2.49	2.97	3.53	4.21
laboratories	14.65	21.15	30.50	44.25	Electric wall heaters (including FWA)	1.37	1.63	1.95	2.33
Lofts	1.97	3.59	6.02	9.63	Forced air	2.99	3.86	5.00	6.47
flex buildings	1.59	2.67	4.27	6.66	Hot water, baseboard or radiators	4.84	6.45	8.59	11.45
Miniwarehouses	0.33	0.89	1.72	2.98	radiant floor	4.69	6.47	8.90	12.25
high-rise facilities	0.53	1.14	2.05	3.41					
Parking structures, parkades	0.61	1.19	2.06	3.37	Radiant heat, gas, suspended	1.45	1.97	2.68	3.65
Passenger terminals	6.71	9.88	14.55	21.35	Space heaters, gas, with fan	1.21	1.68	2.35	3.26
Post offices, branch	3.65	4.92	6.62	8.92	steam coil, with boiler	2.05	2.67	3.46	4.49
main	4.12	5.77	8.09	11.35	steam coil, without boiler	1.45	1.95	2.62	3.52
processing facilities	4.53	6.27	8.68	12.00	Steam radiator, with boiler	4.62	5.98	7.72	9.99
Showrooms	4.02	5.66	7.96	11.20	without boiler	3.72	4.94	6.55	8.70
T-hangars	0.42	0.71	1.14	1.78	Wall or floor furnace	1.45	1.77	2.15	2.62
Warehouses, storage	0.87	1.57	2.62	4.18					
distribution	2.27	3.41	5.11	7.65	Heating and Cooling				
mega storage/distribution	0.30	0.64	1.14	1.89	Zoned A.C., hot and chilled water	12.55	16.60	21.90	29.00
transit	3.36	4.36	5.66	7.35	warm and cooled air	7.24	9.67	12.95	17.25
TABLE II – ALTERNATE METHOD – Apply to total num costs if Table I is used.	iber of i	rixtures.	DO HOT	use tnese	Package heating and cooling, short ducts	5.51	7.26	9.56	12.60
Cost per fixture	.650.00	3.750.00	5.350.00	7.600.00	Heat-pump system	5.93	8.22	11.40	15.80
Cost per tap or drain without fixture				1,090.00	add for ground–loop heat source	1.53	2.22	3.23	4.69
SPRINKLERS – Apply to sprinklered area. Costs inclu					Individual thru–wall heat pump	2.57	3.52	4.84	6.63
occupancies but do not include tanks. For extra-hazar	d occui	pancies.	such as	hangars.					
add 15% to the costs below. For supplemental in-rack sy	/stems,	add 30%	to 100%	per level.	Cooling Only				
For early-suppression, fast-response system, add \$. Chemical systems: see Section 53. For further discussion	on see	Sections	148 آ 14 and ئ	or pumps.	Evaporative coolers	2.57	3.07	3.68	4.40
2,500 square feet	2.96	3.94	5.26	7.00	Refrigerated air conditioning only, zoned system	4.97	6.41	8.24	10.65
5,000	2.66	3.52	4.65	6.16	package unit, short ducts	3.52	4.44	5.59	7.04
10,000	2.41 2.26	3.16 2.95	4.14 3.85	5.42 5.03	Ventilation only, with ducts & blowers	0.90	1.16	1.48	1.89
20,000	2.15	2.79	3.64	4.74	•				
30,000	2.03	2.63	3.41	4.40	MISCELLANEOUS – Apply to square feet of floor area of				-
40,000	1.94 1.89	2.51 2.42	3.23 3.12	4.17 4.00	These costs vary greatly and the following typical cost ra	•			
50,000	1.83	2.42	3.12	4.00 3.85	Clean rooms, class 100,000 to 10,000				390.00
80,000	1.75	2.23	2.85	3.65	class 1,000 to 100			715.00	855.00
100,000	1.70	2.17	2.76	3.52	class 100 to 10	820.00	1,430.00	2,320.00	3,675.00



County of		Cass	S		-	
Account #	002	2-02-3920-0	00020	0-000	_	
Owner Name	Tri	nity Contai	iners,	LLC	-	
Property Address	420 E	E Main Ave	, Wes	t Fargo	_	
2018 Appraised Va	lue	<u>.</u>	\$	11,405,000	\$	43.12
Indicated Values:				Totals	P	er SF
Cost Approach			\$	9,020,028	\$	34.10
MARKET VALUI	E ESTIMATE		\$	9,020,000	\$	34.10

CALCULATOR COST FORM

Square Foot Cost

1		n, LLC									ا	Date	of s	urvey: _	1/1/20	18		
	Account Number: 02-3920-00020-000 Owner: Trinity Containers																	
3	Located at:				4	20 E Main	Ave, V	Vest Fa	argo									
		_	D.: 11.11	•		N ' . '				l' D4			D'I	.l' A O			D 'I . I'	• •
	0		Building B		E	Building A1				ling B1				ding A2			Building A	
	Occupancy		Heavy Mfg		CI-:	Light Mfg				vy Mfg		21	_	ht Mfg		CI-:	Light Mf	,
	Buidling Class and Quality Exterior Wall		S Quai: Metal	Low	CIS:	S Qual: Metal	LOW	CIS:		Qual: etal	LOW	JIS.		Qual: //etal	LOW	Cls:	S Qua Metal	ii. Low
	No. of stories & height per			20	No.		30	No.		Ht.	20	No.		Ht.	22	No.		l t. 33
	Average floor area		23,134	20	NO.	6,000	30	NO.		,000	30	NO.		,000	33	NO.	10,800	ı . 33
	Average perimeter		630			310				,000 560				360			430	
	Age and condition			Low	Age:	26 Cond :	Low	Δαo.			Low	۸no.			Low	Δno.		d. Low
	Region: Western C		astern	LOW	Agc.	20 00114.	LOW	Age.	00	oona.	LOW	nge.	20	Cona.	LOW	Age.	21 001	u. Low
	Climate: Mild Mod		treme	-														
		<u> </u>		_														
					Se	ction 1	Se	ction	2	Sec	tion 3	3		Section	4	S	ection 5	
13	Base Square Foot Cost				\$	76.01	\$	31	.31	\$	76	.01	\$	3	1.31	\$	31.3	1
	SOUAPE EC	OT REFINEMENT	re															
14	Heating, cooling, ventilatio					0.000	_	0.000		0	000			0.000			0.000	_
	Elevator deduction					0.000		0.000			000			0.000			0.000	-
	Miscellaneous					2.150		2.660			260			2.410			2.410	-
17			ıl lines 13 thr			78.16		33.97			3.27			33.72			33.72	=
••				ougn io	<u>'</u>	0.10		00.07		, ,	J			00.72			00.72	!
		SIZE REFINEMEN																_
	Number of stories - multipl					1.000		1.000			000			1.000			1.000	
	Height per story - multiplie					1.133		1.382			382			1.450			1.450	_
	Floor area/perimeter multip	•	•			0.924	1.040			0.984			1.013			1.019		=
21	Combined heigh	nt and size multip	lier (Lines 18	3x19x20	1	1.047		1.437		1.	360			1.469			1.478	
	FINAL C	ALCULATIONS			Sa	ction 1	So	ction	2	Sac	tion 3	2		Section	<u> </u>	S	action 5	_
22		ALCULATIONS				ction 1		ction :			tion 3			Section 4			ection 5	2
	Refined square foot cost (L	ine 17x21)			\$	81.83	\$	48	2 3.82	\$	106	.44	\$	4	9.53	Si \$	49.8	2
23	Refined square foot cost (L Current cost multiplier (Sec	ine 17x21) ct. 99, p. 3)			\$		\$			\$ 1								2
23 24	Refined square foot cost (L	ine 17x21) ct. 99, p. 3) pp. 5 through 10).			\$	81.83 1.02	\$	48 1.02 1.03		\$ 1	106 .02 .03	.44		1.02 1.03			49.8 1.02	
23 24 25	Refined square foot cost (L Current cost multiplier (Sec Local multiplier (Sect. 99, p	ine 17x21) ct. 99, p. 3) pp. 5 through 10). Line 23 x Line 24)		\$	81.83 1.02 1.03	\$	48 1.02 1.03	3.82	\$ 1 1 \$	106 .02 .03	.44	\$	1.02 1.03	9.53	\$	49.8 1.02 1.03	
23 24 25 26	Refined square foot cost (L Current cost multiplier (Sec Local multiplier (Sect. 99, p Final sq. ft. cost (Line 22 x	Line 17x21) ct. 99, p. 3) pp. 5 through 10). Line 23 x Line 24)	······	\$ 2	81.83 1.02 1.03 85.97	\$	48 1.02 1.03 51	.29	\$ 1 1 \$	106 .02 .03 111	.82	\$	1.02 1.03 5	9.53	\$	49.8 1.02 1.03 52.3	
23 24 25 26 27	Refined square foot cost (L Current cost multiplier (Sec Local multiplier (Sect. 99, p Final sq. ft. cost (Line 22 x Area	Line 17x21) ct. 99, p. 3) pp. 5 through 10). Line 23 x Line 24)		\$ 2	81.83 1.02 1.03 85.97 3,134	\$ (48 1.02 1.03 51 6,000 07,769	.29	\$ 1 1 \$ 1,78	106 .02 .03 111 ,000 89,187	.82	\$	1.02 1.03 5 8,000	9.53	\$	49.8 1.02 1.03 52.3 10,800	
23 24 25 26 27 28	Refined square foot cost (L Current cost multiplier (Sec Local multiplier (Sect. 99, p Final sq. ft. cost (Line 22 x Area Line 25 x Line 26	Line 17x21) ct. 99, p. 3) pp. 5 through 10). Line 23 x Line 24)	······································	\$ \$ 2 1,9	81.83 1.02 1.03 85.97 3,134	\$ 30	48 1.02 1.03 51 6,000 07,769	.29 elow	\$ 1 1 \$ 16 1,78 for Adde	106 .02 .03 111 ,000 89,187	.82 ra Fe	\$ \$ eatur	1.02 1.03 5 8,000 416,287	9.53	\$	49.8 1.02 1.03 52.3 10,800	
23 24 25 26 27 28 29 30	Refined square foot cost (L Current cost multiplier (Sec Local multiplier (Sect. 99, p Final sq. ft. cost (Line 22 x Area	Line 17x21))		\$ 2 1,9	81.83 1.02 1.03 85.97 3,134 988,724 988,724 75%	\$ 30	48 1.02 1.03 51 6,000 07,769 See Be 07,769 58%	.29 elow	\$ 10 10 11 15 16 1,78 178 4	106 .02 .03 111 ,000 89,187 ed Ext 39,187	.82 ra Fe	\$ \$ eatur	4 1.02 1.03 5 8,000 416,287 es Value 416,287 55%	9.53	\$	49.8. 1.02 1.03 52.3 10,800 65,316 665,316 42%	
23 24 25 26 27 28 29 30 31	Refined square foot cost (L Current cost multiplier (Sec Local multiplier (Sect. 99, p Final sq. ft. cost (Line 22 x Area	Line 17x21) ct. 99, p. 3) cp. 5 through 10). Line 23 x Line 24 '+ Line 28) cbsolescence % (S))) ection 97)		\$ 2 1,9	81.83 1.02 1.03 85.97 3,134 988,724 75% 30%	\$ 30	48 1.02 1.03 51 6,000 07,769 See Be 07,769 58% 30%	.29 elow	\$ 11 \$ 16 1,78 for Adde 1,78 4	106 .02 .03 111 ,000 39,187 ed Ext 39,187 5%	.82 .ra Fe	\$ \$ eatur	4 1.02 1.03 5 8,000 416,287 es Value 416,287 55% 30%	9.53 2.04 7 ee	\$ 5	49.8. 1.02 1.03 52.3 10,800 665,316 665,316 42% 30%	
23 24 25 26 27 28 29 30 31 32	Refined square foot cost (L Current cost multiplier (Sec Local multiplier (Sect. 99, p Final sq. ft. cost (Line 22 x Area	ct. 99, p. 3) pp. 5 through 10). Line 23 x Line 24	ection 97)		\$ 2 1,9 1,9	81.83 1.02 1.03 85.97 3,134 988,724 75% 30% 939,006	\$ 30	48 1.02 1.03 51 6,000 07,769 See Be 07,769 58% 30% 32,058	.29) elow	\$ 11 1 \$ 16 1,78 for Added 1,78 4 3 1,04	106 .02 .03 111 ,000 89,187 ed Ext 89,187 5% 0%	.82 .82 .ra Fe	\$ \$ eatur	4 1.02 1.03 5 8,000 416,287 es Value 416,287 55% 30% 297,645	9.53 2.04 7	\$ 5	49.8 1.02 1.03 52.3 10,800 65,316 65,316 42% 30% 608,662	4
23 24 25 26 27 28 29 30 31 32	Refined square foot cost (L Current cost multiplier (Sec Local multiplier (Sect. 99, p Final sq. ft. cost (Line 22 x Area	ct. 99, p. 3) pp. 5 through 10). Line 23 x Line 24	ection 97)		\$ 2 1,9 1,9	81.83 1.02 1.03 85.97 3,134 988,724 75% 30%	\$ 30	48 1.02 1.03 51 6,000 07,769 See Be 07,769 58% 30% 32,058	.29 elow	\$ 11 1 \$ 16 1,78 for Added 1,78 4 3 1,04	106 .02 .03 111 ,000 39,187 ed Ext 39,187 5%	.82 .82 .ra Fe	\$ \$ eatur	4 1.02 1.03 5 8,000 416,287 es Value 416,287 55% 30% 297,645	9.53 2.04 7 ee	\$ 5	49.8. 1.02 1.03 52.3 10,800 665,316 665,316 42% 30%	4
23 24 25 26 27 28 29 30 31 32	Refined square foot cost (L Current cost multiplier (Sec Local multiplier (Sect. 99, p Final sq. ft. cost (Line 22 x Area	ct. 99, p. 3) pp. 5 through 10). Line 23 x Line 24	ection 97)		\$ 2 1,9 1,9 1,9 5 \$ 1,9 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5	81.83 1.02 1.03 85.97 3,134 88,724 988,724 75% 30% 939,006 49,718	\$ 30 30 \$	48 1.02 1.03 51 6,000 07,769 See Be 07,769 58% 30% 32,058	.29) elow	\$ 11 1 \$ 16 1,78 for Added 1,78 4 3 1,04	106 .02 .03 111 ,000 89,187 ed Ext 89,187 5% 0%	.82 .82 .ra Fe	\$ \$ eatur	4 1.02 1.03 5 8,000 416,287 es Value 416,287 55% 30% 297,645	9.53 2.04 7	\$ 5	49.8 1.02 1.03 52.3 10,800 65,316 65,316 42% 30% 608,662	4
23 24 25 26 27 28 29 30 31 32 33	Refined square foot cost (L Current cost multiplier (Sect. 99, p Local multiplier (Sect. 99, p Final sq. ft. cost (Line 22 x Area	ct. 99, p. 3)	ection 97)	 	\$ 2 1,9 1,9 1,9 5 AL OF A	81.83 1.02 1.03 85.97 3,134 188,724 188,724 75% 30% 139,006 49,718	\$ (30) 31 (31	48 1.02 1.03 51 6,000 07,769 See Be 07,769 58% 30% 32,058 75,7	.29 elow	\$ 11 1 \$ 16 1,78 for Added 1,78 4 3 1,04	106 .02 .03 111 ,000 89,187 ed Ext 89,187 5% 0%	.82 .82 .ra Fe	\$ \$ eatur	4 1.02 1.03 5 8,000 416,287 es Value 416,287 55% 30% 297,645	9.53 2.04 7	\$ 5	49.8 1.02 1.03 52.3 10,800 65,316 65,316 42% 30% 608,662	4
23 24 25 26 27 28 29 30 31 32 33	Refined square foot cost (L Current cost multiplier (Sec Local multiplier (Sect. 99, p Final sq. ft. cost (Line 22 x Area	ct. 99, p. 3) pp. 5 through 10). Line 23 x Line 24	ection 97)	 	\$ 2 1,9 1,9 1,9 5 AL OF A	81.83 1.02 1.03 85.97 3,134 88,724 988,724 75% 30% 939,006 49,718	\$ (30) 31 (31	48 1.02 1.03 51 6,000 07,769 See Be 07,769 58% 30% 32,058 75,7	.29 elow	\$ 11 1 \$ 16 1,78 for Added 1,78 4 3 1,04	106 .02 .03 111 ,000 89,187 ed Ext 89,187 5% 0%	.82 .82 .ra Fe	\$ \$ eatur	4 1.02 1.03 5 8,000 416,287 es Value 416,287 55% 30% 297,645	9.53 2.04 7	\$ 5	49.8 1.02 1.03 52.3 10,800 65,316 65,316 42% 30% 608,662	4
23 24 25 26 27 28 29 30 31 32 33	Refined square foot cost (L Current cost multiplier (Sect. 99, p Final sq. ft. cost (Line 22 x Area	ct. 99, p. 3)	ection 97)	 	\$ 2 1,9 1,9 1,9 5 AL OF A	81.83 1.02 1.03 85.97 3,134 188,724 188,724 75% 30% 139,006 49,718	\$ (30) 31 (31	48 1.02 1.03 51 6,000 07,769 See Be 07,769 58% 30% 32,058 75,7	.29 elow	\$ 11 1 \$ 16 1,78 for Added 1,78 4 3 1,04	106 .02 .03 111 ,000 89,187 ed Ext 89,187 5% 0%	.82 .82 .ra Fe	\$ \$ eatur	4 1.02 1.03 5 8,000 416,287 es Value 416,287 55% 30% 297,645	9.53 2.04 7	\$ 5	49.8 1.02 1.03 52.3 10,800 65,316 65,316 42% 30% 608,662	4
23 24 25 26 27 28 29 30 31 32 33	Refined square foot cost (L Current cost multiplier (Sect. 99, p Local multiplier (Sect. 99, p Final sq. ft. cost (Line 22 x Area	ct. 99, p. 3)	ection 97)	 	\$ 2 1,9 1,9 1,9 5 AL OF A	81.83 1.02 1.03 85.97 3,134 188,724 188,724 75% 30% 139,006 49,718	\$ (30) 31 (31	48 1.02 1.03 51 6,000 07,769 See Be 07,769 58% 30% 32,058 75,7	.29 elow	\$ 11 1 \$ 16 1,78 for Added 1,78 4 3 1,04	106 .02 .03 111 ,000 89,187 ed Ext 89,187 5% 0%	.82 .82 .ra Fe	\$ \$ eatur	4 1.02 1.03 5 8,000 416,287 es Value 416,287 55% 30% 297,645	9.53 2.04 7	\$ 5	49.8 1.02 1.03 52.3 10,800 65,316 65,316 42% 30% 608,662	4
23 24 25 26 27 28 29 30 31 32 33	Refined square foot cost (L Current cost multiplier (Sect. 99, p Final sq. ft. cost (Line 22 x Area Line 25 x Line 26 Lump sums) Replacement Cost (Line 27 Depreciation % (Section 97 Economic or Functional Ot Total Obsolescence amour Depreciated Cost (Line 29 - Depreciated Cost \$ Extra Features (FMV) \$	Line 17x21)	ection 97)	 	\$ 2 1,9 1,9 1,9 \$ AL OF A eplaces	81.83 1.02 1.03 85.97 3,134 88,724 75% 30% 339,006 49,718 ALL SECTIO	\$ (30) 31 (31	48 1.02 1.03 51 6,000 07,769 See Be 07,769 58% 30% 32,058 75,7	.29	\$ 11 1 \$ 16 1,78 for Added 1,78 4 3 1,04	106 .02 .03 111 ,000 99,187 5% 0% 16,675 742,5	.82	\$ seatur	4 1.02 1.03 5 8,000 416,287 es Value 416,287 55% 30% 297,645	9.53 22.04 7 7 8 9 9 7 7 7 7 7,642	\$ 55	49.8 1.02 1.03 52.3 10,800 665,316 42% 30% 108,662 256,65	4
23 24 25 26 27 28 29 30 31 32 33	Refined square foot cost (L Current cost multiplier (Sect. 99, p Final sq. ft. cost (Line 22 x Area	ct. 99, p. 3)	ection 97)	 	\$ 2 1,9 1,9 1,9 \$ AL OF A eplaces	81.83 1.02 1.03 85.97 3,134 188,724 188,724 75% 30% 139,006 49,718	\$ (30) 31 (31	48 1.02 1.03 51 6,000 07,769 See Be 07,769 58% 30% 32,058 75,7	.29	\$ 11 1 \$ 16 1,78 for Added 1,78 4 3 1,04	106 .02 .03 111 ,000 99,187 5% 0% 16,675 742,5	.82	\$ seatur	4 1.02 1.03 5 8,000 416,287 es Value 416,287 55% 30% 297,645	9.53 22.04 7 7 8 9 9 7 7 7 7 7,642	\$ 55	49.8 1.02 1.03 52.3 10,800 65,316 65,316 42% 30% 608,662	4
23 24 25 26 27 28 29 30 31 32 33	Refined square foot cost (L Current cost multiplier (Sect. 99, p Final sq. ft. cost (Line 22 x Area	ct. 99, p. 3)	ection 97)	 	\$ 2 1,9 1,9 1,9 \$ AL OF A	81.83 1.02 1.03 85.97 3,134 188,724 188,724 188,724 198,724 198,718 199,006 49,718 11 SECTION MENT Cost	\$ \$ (33	48 1.02 1.03 51 66,000 07,769 See Be 07,769 58% 30% 75,5	3.82 .29 .39 .30 .30 .711	\$ 11 1 \$ 16 1,78 for Added 1,78 4 3 1,04	106 .02 .03 111 ,000 99,187 5% 0% 16,675 742,5	.82	\$ seatur	4 1.02 1.03 5 8,000 416,287 es Value 416,287 55% 30% 297,645	9.53 22.04 7 7 8 9 9 7 7 7 7 7,642	\$ 55	49.8 1.02 1.03 52.3 10,800 665,316 42% 30% 108,662 256,65	4
23 24 25 26 27 28 29 30 31 32 33	Refined square foot cost (L Current cost multiplier (Sect. 99, p Final sq. ft. cost (Line 22 x Area Line 25 x Line 26 Lump sums) Replacement Cost (Line 27 Depreciation % (Section 97 Economic or Functional Ot Total Obsolescence amour Depreciated Cost (Line 29 - Depreciated Cost \$ Extra Features (FMV) \$	Line 17x21)	ection 97)	 	\$ 2 1,9 1,9 1,9 \$ AL OF A	81.83 1.02 1.03 85.97 3,134 88,724 75% 30% 339,006 49,718 ALL SECTIO	\$ \$ (33	48 1.02 1.03 51 66,000 07,769 See Be 07,769 58% 30% 75,5	.29	\$ 11 1 \$ 16 1,78 for Added 1,78 4 3 1,04	106 .02 .03 111 ,000 99,187 5% 0% 16,675 742,5	.82	\$ seatur	4 1.02 1.03 5 8,000 416,287 es Value 416,287 55% 30% 297,645	9.53 22.04 7 7 8 9 9 7 7 7 7 7,642	\$ 55	49.8 1.02 1.03 52.3 10,800 665,316 42% 30% 108,662 256,65	4
23 24 25 26 27 28 29 30 31 32 33	Refined square foot cost (L Current cost multiplier (Sect. 99, p Final sq. ft. cost (Line 22 x Area	ct. 99, p. 3)	ection 97)	 	\$ 2 1,9 1,9 1,9 \$ AL OF A	81.83 1.02 1.03 85.97 3,134 188,724 188,724 188,724 198,724 198,718 199,006 49,718 11 SECTION MENT Cost	\$ \$ (33	48 1.02 1.03 51 66,000 07,769 See Be 07,769 58% 30% 75,5	3.82 .29 .39 .30 .30 .711	\$ 11 1 \$ 16 1,78 for Added 1,78 4 3 1,04	106 .02 .03 111 ,000 99,187 5% 0% 16,675 742,5	.82	\$ seatur	4 1.02 1.03 5 8,000 416,287 es Value 416,287 55% 30% 297,645	9.53 22.04 7 7 8 9 9 7 7 7 7 7,642	\$ 55	49.8 1.02 1.03 52.3 10,800 665,316 42% 30% 108,662 256,65	4

CALCULATOR COST FORM

Square Foot Cost

	Creator of Survey: Account Number:	Ryan, LLC 02-3920-00020-0	200											0			urvey:		18		
	2 Account Number: 02-3920-00020-000 Owner: Trinity Containers 3 Located at: 420 E Main Ave, West Fargo																				
3	Localed at.							420 L	IVIAII I	٦٧٥,	vvestra	aigo									
	Building A5				Build	ing A6	3	E	Build	ling A7		Bui	lding	3 A1: O	ffice	Bui	ilding A4:	Office			
	Occupancy				ght Mfg				t Mfg			_	nt Mfg				Office			Office	
	Buidling Class and Qu	•				Low	Cls:			Low	Cls:			Low	Cls:			Low		C Qu	
	Exterior Wall				Metal				etal				etal				/letal			Brick/Ven	
	No. of stories & height				Ht.	38	No.	. 1		32	No.			26	No.		Ht.	12	No.		Ht. 12
	Average floor area				37,310			135,				,	176				,000			2,400	
	Average perimeter				1,062			,	572				96				220		•	200	
	Age and condition					Low	Age	: 10 (Jona:	LOW	Age:	18	Cona:	LOW	Age:	43	Cona:	LOW	Age:	21 Co ı	na: Lo
	Region: Western Climate: Mild			aster treme		-															
12	Cilillate: Milio	Moderate A	= x	treme	,	-															
								Section			ection 2			ction			Section			ection 5	
13	Base Square Foot Cos	t					\$	3	31.31	\$	31.	.31	\$	31	1.31	\$	6	55.50	\$	76.0	00
	SQUAR	E FOOT REFINE	MEN	ΓS																	
14	Heating, cooling, vent	ilation						0.000			0.000		0	.000			0.000			0.000	
	Elevator deduction							0.000			0.000			.000			0.000			0.000	
16	Miscellaneous			•••••				2.060			1.640			.150			3.900			4.160	
17			Tota	ıl line	s 13 thi	ough 15	5	33.37			32.95		3	3.46			69.40			80.16	
	HEIGHT	AND SIZE REFIN	EME	NTS																	
18	Number of stories - m	ultiplier						1.000			1.000		1	.000			1.000			1.000	
19	Height per story - mult	tiplier (see line 7)					1.575			1.425		1	.281			1.000			1.515	
20	Floor area/perimeter n	nultiplier (see lin	es 8 a	and 9)				0.945			0.867		0	.942			1.018			1.052	
21	Combined	height and size ı	nultip	lier (L	ines 1	8x19x20)	1.488			1.235		1	.207			1.018			1.594	
	FIN	AL CALCULATION	ONS					Section	1	S	ection 2	2	Sec	ction	3		Section	4	S	ection 5	
22	Refined square foot co						\$		19.67	\$.71	\$		0.38	\$		70.65	\$	127.7	76
23	Current cost multiplie	r (Sect. 99, p. 3).						1.02			1.02			1.02			0.98			0.99	
24	Local multiplier (Sect.	99, pp. 5 throug	h 10).					1.03			1.03			1.03			1.03			1.01	
25	Final sq. ft. cost (Line	22 x Line 23 x Li	ne 24)			\$	5	52.18	\$	42.	.77	\$	42	2.42	\$	7	71.31	\$	127.7	74
	Area							37,310			35,680			1,352			3,000			4,800	
	Line 25 x Line 26						1	1,946,8	44	5,	802,867			81,38			213,940		6	313,174	
	Lump sums)						<u></u>	040.0	44								es Valu			240 474	_
	Replacement Cost (Li	•						1,946,8 31%	44	5,	802,867 15%	/	, -	81,380 34%	U		213,940 80%	U		613,174 25%	
	Depreciation % (Section Economic or Function	•						30%			30%			30%			30%			30%	
	Total Obsolescence a							784,57	R.	1	131,559	a		1,570			222.498	R		199,282	
	Depreciated Cost (Line	•			•				2,266	\$	4,671,3			,049,				3,558)		413,89	93
•	Doprociated Goot (Em	zzo Emicocum	u O . ,.				. Ψ	1,102	-,200	Ψ	1,07 1,0	,00	Ψ	,010,	010	Ψ	,,,	,,000)	Ψ	110,00	,0
						TOTA	AL OF	ALL S	SECTION	ONS											
34	Depreciated Cost	\$ 7,288,719				R	eplac	ement	Cost	\$ 1	0,458,2	206									
			•																		
	Extra Features (FMV)	\$ -																			
	Land Value:	\$ -	- -					Lanc	l Sqft					Land	d Valu	ue po	er Sqft				
	Total Cost Value:	\$ 7,288,719	i				Pı	rice pe	r Sqft	\$	33.	.08									



County of Cass							
Account #	-						
Owner Name	Tr	-					
Property Address	420 F	-					
2018 Appraised Va	lue		\$		972,100	\$	28.10
Indicated Values:				Tota	als	P	er SF
Cost Approach			\$		617,947	\$	17.86
MARKET VALUI	E ESTIMATE		\$		618,000	\$	17.86

CALCULATOR COST FORM

Square Foot Cost

Creator of Survey: Ryan, LLC Date of survey: 1/1/2018 02-0080-00030-000 Owner: Trinity Containers **Account Number:** 406 E Main Ave, West Fargo 3 Located at: **Building MTL WHSE Building A1: Office Building B2 Building B3** 4 Occupancy..... Warehouse Office Light Mfg Warehouse Buidling Class and Quality..... Cls: S Qual: S Qual: Avg S Qual: Avg S Qual: Avg Cls: Cls: CIs: Iow 6 Exterior Wall..... Metal Metal Metal Metal No. of stories & height per story...... Ht. 14 No. Ht. Ht. 21 Ht. 20 No. 12 No. No. Average floor area..... 1,600 24,000 6,000 3,000 8 9 Average perimeter..... 880 160 320 260 Low Age: 14 Cond: Avg Age: 14 Cond: Avg Cond: Avg 11 Region: Western Central Eastern Moderate 12 Climate: Mild Extreme Section 1 Section 2 Section 3 Section 4 44.05 \$ 37.02 13 Base Square Foot Cost..... 25.94 \$ 97.00 \$ SQUARE FOOT REFINEMENTS 14 Heating, cooling, ventilation..... 0.000 0.000 0.000 0.000 15 Elevator deduction..... 0.000 0.000 0.000 0.000 2.280 16 Miscellaneous 0.000 0.000 0.000 28.22 97.00 44.05 37.02 Total lines 13 through 15 17 **HEIGHT AND SIZE REFINEMENTS** 18 Number of stories - multiplier..... 1.000 1 000 1.000 1 000 19 Height per story - multiplier (see line 7)..... 1.000 1.000 1.150 1.133 0.977 1.105 1.040 20 Floor area/perimeter multiplier (see lines 8 and 9)..... 1.182 21 Combined height and size multiplier (Lines 18x19x20) 0.977 1.105 1.196 1.339 **FINAL CALCULATIONS** Section 1 Section 2 Section 3 Section 4 22 Refined square foot cost (Line 17x21)..... 27.57 \$ 107.19 52.68 \$ 49.58 \$ 23 Current cost multiplier (Sect. 99, p. 3)..... 0.98 1.02 1.02 1.02 24 Local multiplier (Sect. 99, pp. 5 through 10)..... 1.03 1.03 1.03 1.03 25 Final sq. ft. cost (Line 22 x Line 23 x Line 24)..... 108.19 55.35 52.09 28.97 1,600 6,000 3,000 26 Area..... 24,000 27 Line 25 x Line 26 695,185 173,108 332,098 156,258 See Below for Added Extra Features Value 28 Lump sums)..... 29 Replacement Cost (Line 27 + Line 28)..... 695.185 173,108 332.098 156.258 30 Depreciation % (Section 97)..... 80% 13% 24% 8% 31 Economic or Functional Obsolescence % (Section 97)..... 30% 30% 30% 30% 722,992 29.255 103,614 16,251 32 Total Obsolescence amount (Line 29 x Line 30+31)..... (27,807) \$ 143,853 228,483 \$ 140,007 33 Depreciated Cost (Line 29 - Line 30 and 31)..... **TOTAL OF ALL SECTIONS** 34 Depreciated Cost 484,536 Replacement Cost \$ 1,356,648 Extra Features (FMV) Land Value: 133,411 Land Sqft 180,285 Land Value per Sqft \$0.74 Price per Sqft \$ **Total Cost Value:** 617,947 17.86



County of		Cas	S		_		
Account #	_						
Owner Name	Tri	_					
Property Address	lress 420 E Main Ave, West Fargo						
2018 Appraised Va	lue		\$	393,400	\$	0.99	
Indicated Values:				Totals	P	er SF	
Cost Approach			\$	293,336	\$	0.74	
MARKET VALUI	E ESTIMATE		\$	293,000	\$	1.00	



County of	County of Cass						
Account #	Account # 02-0080-00060-000						
Owner Name	Trinit	y Containers, LLC		_			
Property Address	420 E M	Iain Ave, West Farg	go	_			
2018 Appraised Va	2018 Appraised Value			\$	1.36		
Indicated Values:		To	otals	P	er SF		
Cost Approach (La	and)	\$	241,563	\$	0.74		
Cost Approach (Pa	avement)	\$	117,300	\$	0.36		
MARKET VALUI	E ESTIMATE	\$	358,863	\$	1.10		



County of		Cas	S		-	
Account # 02-0097-00010-000						
Owner Name	ner Name Trinity Containers, LLC					
Property Address	420 E	Main Ave	, West	Fargo	-	
2018 Appraised Va	lue		\$	1,632,700	\$	0.74
Indicated Values:				Totals	P	er SF
Cost Approach			\$	1,632,700	\$	0.74
MARKET VALUI	E ESTIMATE		\$	1,633,000	\$	0.74



County of		Cass		-		
Account #	Account # 02-3920-00010-000					
Owner Name	Trinity Containers, LLC					
Property Address	Property Address 420 E Main Ave, West Fargo					
2018 Appraised Va	\$	1,351,100	\$	1.41		
Indicated Values:		Т	otals	P	er SF	
Cost Approach		\$	709,736	\$	0.74	
MARKET VALUI	E ESTIMATE	\$	710,000	\$	0.74	