

2020

ASSESSMENT METHODOLOGY

COST APPROACH

A summary of the methods used by the City of Edmonton in determining the value of residential and non-residential properties valued using the cost approach in Edmonton for assessment purposes.

edmonton.ca/assessment

Edmonton



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Scope

This guide explains how cost approach properties are valued for assessment purposes. The guide is intended as a tool and complements the assessor's judgment in the valuation process.

Introduction

Property assessments in the City of Edmonton are prepared in accordance with the requirements of the Municipal Government Act, R.S.A. 2000, c. M-26, (hereinafter "MGA") and the *Matters Relating to Assessment and Taxation Regulation, 2018*, Alta Reg 203/17, (hereinafter "MRAT"). The MRAT regulation establishes the valuation standard to be used, defines the procedures to be applied, and purposes objectives for the quality to be achieved in the preparation of assessments. The legislation requires the municipality to prepare assessments that represent market value by application of the mass appraisal process. All assessments are expected to meet quality standards prescribed by the province in the regulation.

Property assessments represent:

- an estimate of the value;
- of the fee simple estate in the property;
- as the property existed on December 31, 2019;
- reflecting typical market conditions;
- as if the property had been sold on July 1, 2019;
- on the open market;
- from a willing seller to a willing buyer.

The assessment is an estimate of the value that would result when those specific, defined conditions are met.

The legislation requires the City of Edmonton to assess the fee simple estate.

"Fee simple interest [is] absolute ownership unencumbered by any other interest or estate... leased fee interest [is] the ownership interest held by the lessor, which includes the right to the contract rent specified in the lease plus the reversionary right when the lease expires... leasehold interest [is] the interest held by the lessee (the tenant or renter) through a lease conveying the rights of use and occupancy for a stated term under certain conditions."

*Appraisal Institute of Canada, **The Appraisal of Real Estate Third Canadian Edition**,
Vancouver, Canada, 2010, page 6.4*

Both *market value* and *property*, along with additional terms are defined in the *MGA* and *MRAT*.

s.284(1)(r) "**property**" means

- (i) a parcel of land
- (ii) an improvement, or
- (iii) a parcel of land and the improvements to it

MGA s.284(1)(r)

s.1(k) "**regulated property**" means

- (i) land in respect of which the valuation standard is agricultural use value,
- (ii) designated industrial property, or
- (iii) machinery and equipment

MRAT s.1(k)

s.9(1) the **valuation standard** for the land and improvements is market value unless subsection (2)... applies

MRAT s.9(1)

s.1(1)(n) "**market value**" means the amount that a property, as defined in section 284(1)(r), might be expected to realize if it is sold on the open market by a willing seller to a willing buyer

MGA s.1(1)(n)

s.5 An assessment of property based on **market value**

- (a) must be prepared using mass appraisal,
- (b) must be an estimate of the value of the fee simple estate in the property, and
- (c) must reflect typical market conditions for properties similar to that property

MRAT s.5

s.289(2) Each assessment must reflect

- (a) the characteristics and physical condition of the property on **December 31** of the year prior to the year in which a tax is imposed

MGA s.289(2)(a)

s.6 Any assessment prepared in accordance with the Act must be an estimate of the value of a property on **July 1** of the assessment year

MRAT s.6

s.1(g) "**mass appraisal**" means the process of preparing assessments for a group of properties using standard methods and common data and allowing for statistical testing

MRAT s.1(g)

Mass Appraisal

Mass appraisal is the legislated methodology used by the City of Edmonton for valuing individual properties, and involves the following process:

- properties are stratified into groups of comparable properties
- common property characteristics are identified for the properties in each group
- a uniform valuation model is created for each property group

31(c) **“valuation model”** means the representation of the relationship between property characteristics and their value in the real estate marketplace using a mass appraisal process

MRAT s.31(c)

The following two quotations indicate how the International Association of Assessing Officers distinguishes between mass appraisal and single-property appraisal:

“... single-property appraisal is the valuation of a particular property as of a given date: mass appraisal is the valuation of many properties as of a given date, using standard procedures and statistical testing.”

“Also, mass appraisal requires standardized procedures across many properties. Thus, valuation models developed for mass appraisal purposes must represent supply and demand patterns for groups of properties rather than a single property.”

Property Appraisal and Assessment Administration, pg. 88-89

For both mass appraisal and single-property appraisal, the process consists of the following stages:

	Mass Appraisal	Single Appraisal
Definition and Purpose	Mass appraisal is used to determine the assessment base for property taxation in accordance with legislative requirements	The client specifies the nature of the value to be estimated, including rights to be valued, effective date of valuation, and any limiting conditions
Data Collection	Mass appraisal requires a continuing program to maintain a current database of property characteristics and market information	The extent of data collection is specific to each assignment and depends on the nature of the client's requirements
Market Analysis	Mass appraisal is predicated on highest and best use	Market analysis includes the analysis of highest and best use
Valuation Model	Valuation procedures are predicated on groups of comparable properties	Subject property is the focus of the valuation. The analysis of comparable properties is generally six or less
Validation	The testing of acceptable analysis and objective criteria	The reliability of the value estimate is more subjective. Acceptability can be judged by the depth of research and analysis of comparable sales

Valuation Model

A valuation model creates an equation of variables, factors and coefficients that explains the relationship between estimated market value and property characteristics. An assessed value is then calculated by applying the appropriate valuation model to individual properties within a property type.

- s31 (a) **“coefficient”** means a number that represents the quantified relationship of each variable to the assessed value of a property when derived through a mass appraisal process
- (b) **“factor”** means a property characteristic that contributes to a value of a property;
- (d) **“variable”** means a quantitative or qualitative representation of a property characteristic used in a valuation model

MRAT, s.31 (a), (b) and (d)

s.33 Information prescribed... does not include coefficients

MRAT, s.33(3)

Valuation Model

- variables are created from property characteristics
- analysis of how variables affect market value
- factors and coefficients are determined
- the resulting valuation models are applied to property characteristics

Property Groups

The cost approach may be used to assess multi-residential, commercial, industrial properties, and special purpose. The general definitions for each of these property groups are below. For a more detailed definition of a specific group or sub-group, refer to the applicable 2020 Assessment Methodology Guide available at edmonton.ca. For example, if a property is an industrial warehouse, refer to the 2020 Industrial Warehouse Assessment Methodology Guide.

Multi-Residential

Multi-Residential properties consist of four or more dwelling units, each having one or more rooms accommodating sitting, sleeping, sanitary facilities, and, typically, a kitchen. Apartment buildings, fourplexes, and some townhouses are all common forms of multi-residential properties.

Commercial

Commercial properties are designed for general commercial occupancy. They include government and corporate offices, retail properties (for example, shopping centres, stores and restaurants), hotels and motels.

Industrial

Industrial properties are typically used for light manufacturing, storage and product distribution.

Special Purpose

A special purpose property typically has limited utility and marketability other than for its original use. Often these properties are purpose-built with limited alternative uses. Typically, a special purpose property needs significant investment to be converted to an alternative use, making most conversions financially infeasible. With special purpose properties, it is the property itself, not the use, that is typically unique. Special purpose properties may include churches, schools, hospitals, manufacturing plants, correctional facilities, museums, legislative buildings and recreational facilities.

Approaches to Value

The approaches to determine market value are the direct comparison, income, and cost approaches.

Direct Comparison Approach	Typical market value (or some other characteristic) is determined by referencing comparable sales and other market data. It is often used when sufficient sales or market data is available. It may also be referred to as the Sales Comparison Approach.
Income Approach	This approach considers the typical actions of renters, buyers and sellers when purchasing income-producing properties. This approach estimates the typical market value of a property by determining the present value of the projected income stream. Often used to value rental or leased property.
Cost Approach	Typical market value is calculated by adding the depreciated replacement cost of the improvements to the estimated value of land. It is often used for properties under construction or when there is limited market data available.

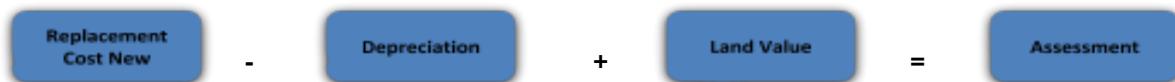
Cost Approach

The cost approach produces the most accurate assessment for properties that are not actively traded in the marketplace due to their characteristics, where there is insufficient or atypical income and expense data available to effectively apply an income approach, or where the property is under construction. The cost approach rationale is that an informed purchaser will pay no more for a property than the cost of building a similar one.

The cost approach determines the replacement cost new of improvements less depreciation plus land value. The replacement cost and depreciation is determined using a cost manual. The cost manual is a guide for developing replacement cost and depreciated values for buildings and other improvements. The cost manual contains indexes for the replacement building costs and depreciation tables that are

applied to the replacement cost. The City of Edmonton uses the Marshall & Swift Valuation Service (hereinafter the “M & S Manual”) which is the most comprehensive cost manual and database in the marketplace.

Typically, the land value of a property is determined using the sales comparison approach. For a more detailed explanation refer to the applicable 2020 Land Assessment Methodology Guide available at www.edmonton.ca.



Replacement Cost New: the cost, including material, labor, and overhead, that would be incurred in constructing an improvement having the same utility to its owner as a subject improvement, without necessarily reproducing exactly any particular characteristics.

Glossary for Property Appraisal and Assessment, pg. 120

Depreciation: loss in value of an object, relative to its replacement cost new

Glossary for Property Appraisal and Assessment, pg. 41

Sales information is received from Land Titles. Sales are then validated. Validation may include site inspections, interviews with parties involved, reviewing land title documents, corporate searches, third party documents, and sale validation questionnaires. ***Sale price reflects the condition of a property on the sale date and may not be equal to the assessed value.***

Land

Please see the relevant 2020 Land Assessment Methodology Guide for more information available at www.edmonton.ca.

- 2020 Multi Residential Land Assessment Methodology Guide
- 2020 Commercial Land Assessment Methodology Guide
- 2020 Industrial Land Assessment Methodology Guide
- 2020 Agricultural, Development and Other Land Methodology Guide

Improvements

Improvements are defined as buildings and site improvements such as paving, fencing, and storage tanks. The City uses the M & S Manual to determine the replacement cost of improvements for special purpose properties, as well as for multi-residential, commercial, and industrial properties under construction.

Zoning

Zoning regulates the use and development of a property and is set by the Edmonton Zoning Bylaw No. 12800.

s.6.123 **zone:** a specific group of listed Uses and Development Regulations which regulate the Use and Development of land within specific geographic areas of the City...
Zoning Bylaw No. 12800, 2017, s. 6.123

For further information see City of Edmonton Zoning Bylaw, No. 12800 available at www.edmonton.ca. The zoning of a property may affect the property's classification; however, not all properties conform to the zoning set out in the Zoning Bylaw. In these cases, an effective zoning is applied to reflect the current use and development of the property. The effective zoning may differ from the zoning when the current use differs from the Zoning Bylaw (e.g., a legal nonconforming use).

643(1) If a development permit has been issued on or before the day on which a land use bylaw or a land use amendment bylaw comes into force in a municipality and the bylaw would make the development in respect of which the permit was issued a nonconforming use or nonconforming building, the development permit continues in effect in spite of the coming into force of the bylaw.

MGA, s.643(1)

In cases where a legal non-conforming use is discontinued for six (6) or more months, any future use must conform to the Zoning Bylaw.

643(2) A non-conforming use of land or a building may be continued but if that use is discontinued for a period of 6 consecutive months or more, any future use of the land or building must conform with the land use bylaw then in effect.

MGA, s.643(2)

Sample Assessment Detail Report

Property Assessment Detail Report Assessment and Taxation



Account **9999999**

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Report Date	January 2, 2020
2020 Assessed Value	\$7,194,000
Date of Issue	January, 2020
Property Address	11111 SAMPLE ROAD NW
Legal Description	Plan: 99999 Block: 99 Lot: 99
Neighbourhood	Sample
Assessment Class	NON-RESIDENTIAL
Land Use	100% Auto dealership
Zoning	DC2 - Comprehensively Planned Development District
Effective Zoning	CHY - Highway Corridor District
Taxable Status	January 1 - December 31, 2020; FULLY TAXABLE
Number of Buildings	3
Unit of Measurement	IMPERIAL (feet, square feet)

Factors Used to Calculate Your 2020 Assessed Value

			MARKET VALUE APPROACH	DIRECT SALES
LAND				
Variable	Factor	Type		
Lot size	156068	Site		
Group	2	Site		
Study area	1151	Site		
Traffic influence	MAJOR	Site		
Access to paved public roads	PRESENT	Site		
Sanitary sewer service	PRESENT	Site		
Storm sewer service	PRESENT	Site		
Water supply service	PRESENT	Site		
Street lighting	PRESENT	Site		
Sidewalks, curbs or gutters	PRESENT	Site		
			Land Value	4,061,291

Legal: This information is collected for property assessment purposes only. While the City of Edmonton provides this information in good faith, it does not warrant, covenant, or guarantee the completeness and accuracy of this information. The City does not assume responsibility nor accept any liability arising from any use other than assessment interpretation. The information is maintained on a regular basis and reflects the contents of the assessment per the date on this document. This information is proprietary and may not be reproduced without consent from the City of Edmonton.

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Please see the relevant 2020 Land Assessment Methodology Guide for “Factors Used to Calculate Your 2020 Assessed Value” table definitions.

Property Assessment Detail Report Assessment and Taxation

Edmonton

Account 9999999

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				MARKET VALUE APPROACH		COST
BUILDING 1: AUTO DEALERSHIP, COMPLETE						
Condition	Year Built/ Effective Year Built	Percent Complete	Gross Area	Replacement Cost New (\$)	Depreciation (\$)	Depreciated Replacement Cost New (\$)
Structure 1: RGNOUNIT - AUTODLRC - C - AVERAGE						
Average	1984/1990	100	40,135.750	5,555,544	2,999,994	2,555,550
Structure 2: MEZANINE - INDLMFG - C - FINISHED			Variables			
Average	1984/1990	100	14,000.000	861,095	464,991	396,104
					Building 1 Total	2,951,654
			Factors			
				MARKET VALUE APPROACH		COST
BUILDING 2: OFFICE BUILDING						
Condition	Year Built/ Effective Year Built	Percent Complete	Gross Area	Replacement Cost New (\$)	Depreciation (\$)	Depreciated Replacement Cost New (\$)
Structure 1: RGNOUNIT - OFFBLDG - D - LOW COST						
Average	1984/1984	100	1,062.500	101,214	71,356	29,858
					Building 2 Total	29,858
				MARKET VALUE APPROACH		COST
BUILDING 3: NET ITEMS						
Condition	Year Built/ Effective Year Built	Percent Complete	Gross Area	Replacement Cost New (\$)	Depreciation (\$)	Depreciated Replacement Cost New (\$)
Structure 1: SITEIMPS - YARDIMPS - - AVERAGE						
Average	2004/2004	100	0.000	433,042	281,477	151,565
					Building 3 Total	151,565

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Property Assessment Detail Report Assessment and Taxation

Account **9999999**



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2020 Assessed Value Summary

Land Value		\$4,061,291
Building Total		\$3,133,077
Building 1 Total	\$2,951,654	
Building 2 Total	\$29,858	
Building 3 Total	\$151,565	
Total Property Assessment		\$7,194,000

"Type" specifies whether the variable applies to the account, unit, site or a specific building:

- Account - An adjustment that is applied to a property account. A property account includes the parcel of land and any improvements.
- Unit - An adjustment that is applied to a condominium unit.
- Site - An adjustment that is applied to the parcel of land only.
- Building - An adjustment that is applied to the building only.

Sample Marshall & Swift Commercial Detail Report

Part 1

City of Edmonton - Tax Assessment and Collection System - TAXE12P1					
M&S Commercial Detail Report					
					Page: 1
Account: 9999999	Nbhd: 6110 - CPR IRVINE	Asmt Period: 1980 /	Type: REGULAR	As of: Dec. 04, 2016	
Filing #:	Zoning: IM	EVZ: IM	LUC1: 250 / 100%	LUC2:	For: 2017
Mkt Area:	Master: N	Bldg Only: N	Reinspect:	Approach: COST	
Study Area: 99INDAREA13	Lease: N	Mobile Home: N	Lot Size: 6,000.000	UOM: IMP	
Address: 101 SAMPLE AVENUE NW EDMONTON AB T1A 1A2	Legal: Plan: 123456HW	Block: 10 Lot: 1	Parcel:		

Part 2

Bldg	M.B.C.	Qual	Str	Yr Built	Eff Yr	Life	Name	Condition	Base Value	Str Allowance	Total		
1	WHSEMINI	04	1	2011	2011	35	SELF STORAGE	AVERAGE	2,689,064	0	2,689,064		
Section	Occupancy	M. Class	M. Type	----- Floors -----			Height	Perimeter	Units	Total Area	Base Rate	Curr Rate	Total
RGNOUNIT	WHSEMINI	S	AVERAGE	1	1	1	14.00	868,000		46,800,000	31.18	31.80	1,488,414

Part 3

Base Cost Ref	Manual Class	Manual Type	Range	In Type	Override	Quantity	Area	Base Rate	Curr Rate	Adjustment
HVAC	AIR	WARMCOOL		N	N		44,460.000	17.80	18.16	807,226
HVAC	VENTILATION	DUCTS		N	N		2,340.000	1.95	1.99	4,654
SPRINKLERS 14	DRYAV	5TO10000	TYPICAL	N	N		2,340.000	4.15	4.23	9,906
SPRINKLERS 14	WETAV	40KTO50K	TYPICAL	N	N		44,460.000	2.35	2.39	106,359
								Base Value	51.64	2,416,500

Part 4

Base Rate Multipliers				Section	Story	Height	Perimeter	Unit	Total	Adj Base Rate	Adj Base Cost
Replace Cost	Tax	Local	User	Total							
2,177,380	1.00000	1.30000	1.00000	1.30000			2,830,594	100	2,830,594	5.00	141,530
										----- Depreciation -----	DRCN
											2,689,064

Report Abbreviations (in chronological order)			
Nbhd →	Neighbourhood	Yr Built →	Year Built
Asmt Period →	Assessment Period	Eff Yr →	Effective Year Built
EVZ →	Effective Zoning	Str Allowance →	Structural Allowance
LUC →	Land Use Code	M. Class →	Manual Class
Mkt Area →	Market Area	M. Type →	Manual Type
Bldg Only →	Building Only	Curr Rate →	Current Rate
UOM →	Unit of Measure	Base Cost Ref →	Base Cost Refinements
Legal →	Legal Description	Adj Base Rate →	Adjusted Base Rate
Bldg →	Building	Adj Base Cost →	Adjusted Base Cost
M.B.C. →	Market Building Class	RCN →	Replacement Cost New
Qual →	Quality	%Compl →	Percentage Complete
Str →	Structure	DRCN →	Depreciated Replacement Cost New

Building 1 Total	2,689,064
All Building Total	2,689,064
Building Assessment	2,689,064
Land Assessment	1,475,614
Final Assessment	4,164,500

Sample Marshall & Swift Commercial Detail Report

Definitions

The following definitions are in order of the Marshall & Swift (M&S) Commercial Detail Report. All the following definitions apply to the M&S Commercial Detail Report and some apply to the Assessment Detail Report. Asterisks (*) have been placed when a definition applies to both reports.

Part 1

Zoning: is set by the Edmonton Zoning Bylaw No. 12800 and regulates the use and development of a parcel. Edmonton Zoning Bylaw No.12800 is available online at edmonton.ca.

***Effective Zoning:** Effective zoning is applied to reflect the current use and development of a parcel. The effective zoning may differ from the actual zoning when current use differs from that which is permitted by the actual zoning as subsequently amended by Edmonton Zoning Bylaw 12800 (i.e. legal nonconforming use).

***Land Use Code (LUC)/ Land Use:** The land use categorizes the current use of a property. The amount of a property subject to any specific land use will be expressed as a percentage of total assessed value. A property can have one or multiple Land Uses. The Land Use does not affect the improvement value of properties assessed using the M & S Manual.

***Approach:** The M&S Commercial Detail Report indicates the cost approach was used to value the improvement(s) on the property.

***Unit of Measure (UOM):** UOM is identified as either imperial (IMP) or metric.

Part 2

***Building:** Identifies the building and/or improvement number. There can be multiple buildings and improvements on a property.

Market Building Class (MBC): MBC indicates the occupancy of the building. Buildings are classified in the M & S Manual by occupancy type. For further information on MBC, building or structure information contact the Assessment and Taxation Branch.

***Quality:** Refers to the methods and material used in the construction and design of a property (workmanship, complexity of the structure, use of high end or low end materials). Consideration must be given to the fit and finish of the building in relation to its functional requirements. M&S Manual has four primary qualities of construction; low cost(02), average(04), good(05) and excellent(08).

Low Cost: Generally constructed to minimum code requirements often little regard for architectural appearance or other amenities. Little ornamentation is used and interior partitioning and finish is minimal and/or of low quality.

Average: Generally designed for maximum economic potential without some of the pride of ownership or prestige amenities of higher-quality construction. These buildings are of good

standard code construction with simple ornamentation and finishes.

Good: Buildings designed for good appearance, comfort and convenience, as well as an element of prestige. Ornamental treatment is usually of higher quality and interiors are designed for upper-class rentals. The amenities of better lighting and mechanical work are primary items in their cost.

Excellent: Buildings are normally prestige buildings; on an economic basis, part of the cost must be written off to pride of ownership. Buildings are built for the established professional or those with higher incomes and will have some expensive finishes and fixtures.

***Structure:** Identifies the structure number. A building can be made up of various structures. For example, a warehouse building can have multiple structures, such as a warehouse structure and an office structure.

***Year Built:** Year Built is the actual year of construction.

***Effective Year Built/ Effective Age:** is the chronological age of a property adjusted to reflect an addition or significant renovation that extends the improvement's remaining economic life. The components that, when replaced or extensively renovated, affect the remaining economic life of a property include the roof, the building envelope (windows and doors, exterior siding, walls including insulation and vapor barrier, and other structural components), the foundation, and mechanical components (electrical, plumbing and HVAC). The effective age of a property can also be altered due to additions.

Life: Life, or remaining economic life, is the number of years an improvement is expected to last.

***Condition:** Condition of a property is rated using the following categories, generally described as:

Poor:

- borderline derelict;
- far below average maintenance;
- many components need immediate repair.

Fair:

- below average maintenance;
- deferred maintenance requiring rehabilitation, replacement, or major repairs;
- reduced utility with signs of structural decay.

Average:

- average maintenance;
- minor repairs or rehabilitation of some components required;
- within established norm for the era.

Good:

- well maintained with higher than average desirability;
- may have evidence of minor deterioration in components;
- no obvious maintenance required due to regular upkeep

Very Good:

- very well maintained with high desirability;
- little to no evidence of deterioration in components;

- often components are new or as good as new.

Excellent :

- all components that can normally be repaired or refinished have recently been corrected;
- state-of-the-art components;
- all major components in like-new condition.

Base Value: Base Value equals building area multiplied by the base rate from the M&S Manual.

***Structural Allowance:** Structural Allowance displays a dollar amount attributable to assigned deductions such as additional depreciation (i.e. functional obsolescence).

Total: Total is equal to base value less structural allowance.

Section: Section is a code developed to satisfy system requirements and has no effect on value.

Occupancy: Indicates the type of the structure.

Manual Class: Manual class refers to the type of construction. The M&S Manual has five basic construction groups (A, B, C, D and S):

Class A: Fire proofed; protected structural steel frame; floors and roofs are normally reinforced concrete on steel decking or formed slab resting on the frame or poured so as to become integral with it.

Class B: Reinforced concrete frame in which the columns and beams can be either formed or precast concrete; floors and roofs are formed or precast concrete slabs.

Class C: Masonry (concrete block/brick) or tilt-up concrete panel exterior walls; wood or steel roof and floor structures.

Class D: Generally wood framed; floor and roof structure considered combustible construction.

Class S: Framing, roof, and walls made of incombustible metal; includes pre-engineered metal buildings.

M. Type : Refers to quality of construction. See definition of Quality under Part 2 of the definitions. The M&S Manual has four primary qualities of construction: low cost, average, good and excellent.

Floors: The number of floors in the building.

Height: The average wall height per floor.

Perimeter: Exterior linear measurement of the structure's perimeter. Each structure within a building has its own perimeter.

***Total Area/ Gross Area:** Total area, or gross floor area, is the total floor area per floor contained within the building measured to the external face of the external walls.

Base Rate: Base rate is the M&S Manual rate per square foot or square meter for the occupancy type.

Current Rate: The M&S Manual base rate adjusted to the valuation date for that year. In the case of base cost refinements, it is the cost of the item adjusted to the valuation date.

Part 3

Base Cost Refinements: Base cost refinements are items that can be included or excluded in the base rate. The costs associated with these adjustments are either added or subtracted from the base rate.

Manual Class: Description of the base cost refinement.

Manual Type: Further description of the base cost refinement.

Range: Some base cost refinements are measured in ranges in the M&S Manual. There exists three possible options: Less Than Typical (LTTYPICAL), Typical (TYPICAL) and Greater Than Typical (GTTYPICAL).

In Type: A "Y" (yes) indicates the refinement cost is included in the manual base rate. An "N" (no) indicates that the refinement cost is not included in the manual base rate.

Override: A "Y" (yes) indicates a change or removal of a refinement.

Quantity: For some base cost refinements the adjustment is based on the quantity of the refinement. For example, for the refinement "BALCONY" the number of balconies on a building would be inputted here.

Area: For some base cost refinements the adjustment is based on the total area of the refinement.

Part 4

Base Rate Multipliers: Factors applied to the base rate to adjust for variances in number of stories, wall height, and perimeter.

Section: Section is a code developed to satisfy system requirements and has no effect on value.

Story: An adjustment factor applied when the number of stories exceeds three stories above ground.

Height: An adjustment factor applied when the wall height exceeds typical wall height for that particular occupancy.

Perimeter: An adjustment factor based on a building's perimeter.

Unit: An adjustment factor based on the number of units.

Total: Multiplicative rate of story, height and perimeter base rate multipliers. For example, if story, height and perimeter had a base rate multiplier of 1.0000, 0.9996 and 0.9012, respectively, the total base rate multiplier would be 0.9010 ($1.0000 \times 0.9998 \times 0.9012 = 0.9010$).

Adjusted Base Rate: The adjusted base rate is equal to the base rate multiplied by the total.

Adjusted Base Cost: The adjusted base cost is equal to the total area multiplied by the adjusted base rate.

Replacement Cost: Replacement cost is equal to the adjusted base cost.

Tax: An adjustment factor to account for goods and services tax.

Local: An adjustment factor that adjusts the M & S Manual rate to local market costs.

User: An adjustment factor used to account for other influences not included in the M&S Manual rate.

***RCN/ Replacement Cost New (\$):** Replacement Cost New (RCN) is the cost, including material, labour, and overhead, that would be incurred in constructing an improvement having the same utility to its owner as a subject improvement, without necessarily reproducing any particular characteristic. RCN is equal to replacement cost, adjusted for tax and local market costs, before depreciation.

***Percent Complete:** Percent complete indicates the progression of building construction.

***Depreciation:** This is the depreciation allowance as calculated by M&S Manual depreciation tables.

***DRCN/ Depreciated Replacement Cost New (\$):** Depreciated Replacement Cost New (DRCN) refers to the RCN of a building less the depreciation allowance.

Adjustments

Adjustments may be applied to properties with atypical influences on a property specific basis to recognize their effect on value. Adjustments include but are not limited to:

Contamination: Contamination refers to property that has been affected by environmental contamination which includes adverse conditions resulting from the release of hazardous substances into the surface water, groundwater, or soil.

Functional Obsolescence: An adjustment is only applied if there is a flaw in the structure, materials, or design that diminishes the function, utility, and value of the improvement.

References

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Appendix

Measure Conversion Chart

Imperial to Metric – Length	Imperial to Metric – Area
1 inch (in) = 2.54 centimetres (cm)	1 square foot (sqft) = 0.09290 square metre (m ²)
1 foot (ft) = 0.3048 metres (m)	1 acre (ac) = 4,046.86 square metre (m ²)
	1 acre (ac) = 0.40469 hectares (ha)
Imperial Conversions	Metric Conversions
1 acre (ac) = 43,560 square feet (sqft)	1 square kilometer (sq km) = 100 hectares (ha)
1 square mile = 640 acres (ac)	1 hectare (ha) = 10,000 square metres (m ²)
1 section = 640 acres (ac)	