

# 2021

## 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](https://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 proposes 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 MRAT regulation.

Property assessments represent:

- an estimate of the value;
- of the fee simple estate in the property;
- as the property existed on December 31, 2020;
- reflecting typical market conditions;
- as if the property had been sold on July 1, 2020;
- 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
<b>Definition and Purpose</b>	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
<b>Data Collection</b>	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
<b>Market Analysis</b>	Mass appraisal is predicated on highest and best use	Market analysis includes the analysis of highest and best use
<b>Valuation Model</b>	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
<b>Validation</b>	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 properties. 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 2021 Assessment Methodology available at [edmonton.ca](http://edmonton.ca). For example, if a property is an industrial warehouse, refer to the 2021 Assessment Methodology Industrial Warehouses.

### 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

Special purpose properties typically have 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.

<b>Direct Comparison Approach</b>	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.
<b>Income Approach</b>	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.
<b>Cost Approach</b>	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 2021 Land Assessment Methodology(s) available at [www.edmonton.ca](http://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 2021 Land Assessment Methodology(s) for more information available at [www.edmonton.ca](http://www.edmonton.ca).

- 2021 Assessment Methodology Multi Residential Land
- 2021 Assessment Methodology Commercial Land
- 2021 Assessment Methodology Industrial Land
- 2021 Assessment Methodology Agricultural, Development and Other Land

## 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](http://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

Please see the relevant 2021 Land Assessment Methodology for “Factors Used to Calculate Your 2021 Assessed Value” table definitions.

## 2021 Property Assessment Detail Report Assessment and Taxation



Account **9999999**

<b>Report Date</b>	February 12, 2021
<b>2021 Assessed Value</b>	<b>\$6,437,500</b>
<b>Date of Issue</b>	February 12, 2021
<b>Property Address</b>	11111 SAMPLE ROAD NW
<b>Legal Description</b>	Plan: 99999 Block: 99 Lot: 99
<b>Zoning</b>	DC2 - Comprehensively Planned Development District
<b>Effective Zoning</b>	CHY - Highway Corridor District
<b>Neighbourhood</b>	Sample
<b>Assessment Class</b>	NON-RESIDENTIAL
<b>Property Use Taxable</b>	100 % Auto dealership
<b>Status</b>	January 1 - December 31, 2021; FULLY TAXABLE
<b>Number of Buildings</b>	3
<b>Unit of Measurement</b>	IMPERIAL (feet, square feet)

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## Factors Used to Calculate Your 2021 Assessed Value

		MARKET VALUE APPROACH	DIRECT COMPARISON
LAND			
Variable	Factor	Type	
Lot size	156,068	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	
Access to sidewalks, curbs or gutters	PRESENT	Site	
		<b>Land Value</b>	<b>3,946,139</b>

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**2021 Property Assessment Detail Report**  
Assessment and Taxation



Account **9999999**

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				MARKET VALUE APPROACH		COST
<b>BUILDING 1: AUTOMOBILE SHOWROOM</b>						
Condition	Year Built/ Effective Year Built	Percent Complete	Gross Area	Replacement Cost New (\$)	Depreciation (\$)	Depreciated Replacement Cost New (\$)
<b>Structure 1: RGNOUNIT - AUTOSHOW - C - AVERAGE</b>						
Average	1984/1990	100	18,690.000	3,139,420	1,789,470	1,349,951
<b>Structure 2: RGNOUNIT - SVRPGAR - C - AVERAGE</b>				<b>Variables</b>		
Average	1984/1990	100	18,410.000	1,847,090	1,329,905	517,185
<b>Structure 3: RGNOUNIT - AUTOCENT - C - AVERAGE</b>						
Average	1984/1990	100	3,102.000	430,381	245,317	185,064
<b>Structure 4: MEZANINE - INDLMFG - C - FINISHED</b>						
Average	1984/1990	100	14,000.000	675,938	385,284	290,653
					<b>Building 1 Total</b>	<b>2,342,853</b>

**Factors**

				MARKET VALUE APPROACH		COST
<b>BUILDING 2: OFFICE BUILDING</b>						
Condition	Year Built/ Effective Year Built	Percent Complete	Gross Area	Replacement Cost New (\$)	Depreciation (\$)	Depreciated Replacement Cost New (\$)
<b>Structure 1: RGNOUNIT - OFFBLDG - D - LOW COST</b>						
Average	1984/1984	100	1,062.500	126,162	92,098	34,064
					<b>Building 2 Total</b>	<b>34,064</b>

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**2021 Property Assessment Detail Report**  
Assessment and Taxation



Account **9999999**

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				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 (\$)
<b>Structure 1: SITEIMPS - YARDIMPS - - AVERAGE</b>						
Average	2004/2004	100	0.000	370,665	255,759	114,906
<b>Building 3 Total</b>						<b>114,906</b>

**2021 Assessed Value Summary**

Land Value	<b>\$3,946,139</b>
<b>Building Total</b>	<b>\$2,491,823</b>
Building 1 Total	\$2,342,853
Building 2 Total	\$34,064
Building 3 Total	\$114,906
<b>Total Property Assessment</b>	<b>\$6,437,500</b>

“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**

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<b>Account:</b> 9999999	<b>Nbhd:</b> 6110 - CPR IRVINE	<b>Asmt Period:</b> 1980 /	<b>Type:</b> REGULAR	<b>As of:</b> Dec. 04, 2016
<b>Filing #:</b>	<b>Zoning:</b> IM	<b>EVZ:</b> IM	<b>LUC1:</b> 250 / 100%	<b>LUC2:</b>
<b>Mkt Area:</b>	<b>Master:</b> N	<b>Bldg Only:</b> N	<b>Reinspect:</b>	<b>Approach:</b> COST
<b>Study Area:</b> 00INDAREA13	<b>Lease:</b> N	<b>Mobile Home:</b> N	<b>Lot Size:</b> 6,000.000	<b>UOM:</b> IMP
<b>Address:</b> 101 SAMPLE AVENUE NW EDMONTON AB T1A 1A2		<b>Legal:</b> Plan: 123456HW Block: 10 Lot: 1	<b>Parcel:</b>	

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	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	VENTLATION	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	103,359
<b>Base Value</b>									<b>51.64</b>	<b>2,416,500</b>

Part 4

Section	Story	Height	Perimeter	Unit	Total	Adj Base Rate	Adj Base Cost	
<b>Base Rate Multipliers</b>								
1.0000	1.0000	0.9908	0.9012	1.0000	0.9010	46.53	2,177,380	
Replace Cost	Tax	Local	User	Total	RCN	% Compl	RCN	
2,177,380	1.00000	1.30000	1.00000	1.30000	2,830,504	100	2,830,504	
							<b>Depreciation</b>	<b>DRCN</b>
							5.00	141,530
							<b>Building 1 Total</b>	<b>2,689,064</b>
							<b>All Building Total</b>	<b>2,689,064</b>
							<b>Building Assessment</b>	<b>2,689,064</b>
							<b>Land Assessment</b>	<b>1,475,614</b>
							<b>Final Assessment</b>	<b>4,164,500</b>

**Report Abbreviations (in chronological order)**

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

## 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](http://edmonton.ca).

**\*Effective Zoning:** Effective zoning is an internal coding applied to reflect the current use and/or development potential of a property. Effective zoning will generally reflect the actual zoning of a property but may differ on properties with a legal non-conforming use, Direct Control zoning or in other limited circumstances.

**\*Land Use (LUC):** Land use is an internal coding used to categorize the current use of a property. The amount of a property subject to any specific LUC will be expressed as a percentage of total assessed value. A parcel may have one or more LUC based upon a property's use. The LUC may affect the assessed value of a property, since it helps the assessor to identify a property's class or subclass, and indicate which corresponding tax (mill) rate should be applied. 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:** The chronological age of a building adjusted to reflect an addition or significant renovation that extends the improvement's remaining economic life. The exterior components that when replaced or extensively renovated affect the remaining economic life of a building, including the roof, the building envelope (windows and doors, exterior siding, walls including insulation and vapour barrier, and other structural components), the foundation, and mechanical components (electrical, plumbing and HVAC). The effective age of a building can also be altered due to additions. The effective year built of a multi-building property is calculated using the weighted average effective year built based on the building size of the individual buildings on the property.

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

**\*Condition:** The condition of a building 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 high desirability;
- may have slight evidence of deterioration in minor components;
- often components are new or as good as new;
- high utility, and superior 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.

**Derelict property:** An improvement may constitute a derelict property where the improvement is unfit for occupancy and demonstrates severe deterioration to its physical condition. Derelict properties will generally have exterior doors and windows boarded up, and will often be uninhabitable on the basis of an order from Alberta Health Services, a Safety Codes Officer, or the City of Edmonton Sustainable Development Department, Community Standards Branch, or Fire Rescue Service. They often require extensive rehabilitation to the improvements or site to return them to a useful state, or simply need to be redeveloped.

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## Appendix

### Measure Conversion Chart

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