

### Summary

This chapter contains the valuation procedures for determining the replacement cost new, physical deterioration, functional obsolescence, market adjustment factor, and assessed value for residential or commercial buildings or structures valued using the cost approach.

SAMA's 2011 Cost Guide provides direction for the valuation of property by the cost approach; it does not have the force of law.



**Summary**

This section contains the calculation procedures used to calculate the assessed value for residential and commercial buildings and structures after the Replacement Cost New (RCN) has been determined.

**Residential and Commercial Buildings and Structures**

The following calculation procedure is used for all residential and commercial buildings and structures except grain elevators and annexes.

<b>Description</b>	<b>No.</b>	<b>Page No.</b>
a) Replacement Cost New (RCN)	3.3	1-5
b) Cost Factor	3.4	1-2
c) $RCN \times Cost\ Factor = a \times b$		
d) $RCN\ Less\ Physical\ Deterioration = c \times (1 - (d_1 \times d_2))$		
d <sub>1</sub> . Physical Deterioration	3.9	1-10
d <sub>2</sub> . Condition Rating	3.9	11-13
e) $RCN\ Less\ Physical\ Deterioration\ and\ Functional\ Obsolescence = d \times e_1$		
e <sub>1</sub> . Functional Obsolescence Factor	3.10	1
f) Market Adjustment Factor	3.11	1-4
g) Assessed value = e x f		

**Grain Elevators and Annexes**

The following calculation procedure is used for grain elevators and annexes.

<b>Description</b>	<b>No.</b>	<b>Page No.</b>
a) Replacement Cost New (RCN)	3.3	1-5
b) Cost Factor	3.4	1-2
c) $RCN \times Cost\ Factor = a \times b$		
d) $RCN\ Less\ Physical\ Deterioration = c \times (1 - (d_1 \times d_2))$		
d <sub>1</sub> . Physical Deterioration	3.9	1-10
d <sub>2</sub> . Condition Rating	3.9	11-13
e) $RCN\ Less\ Physical\ Deterioration\ and\ Functional\ Obsolescence = d \times e_1$		
e <sub>1</sub> . Functional Obsolescence Factor	3.10	1
f) Throughput Adjustment Factor; or	3.12	1-2
g) Market Adjustment Factor	3.11	1-4
h) Assessed value = d x f or e x g		



### Summary

This section contains the valuation procedures for determining the replacement cost new for residential and commercial buildings and structures.

### Use of Rate Schedules

Where a rate schedule does not state the units of comparison, the units of comparison are dollars per square foot (\$/sq.ft.).

Where a rate schedule does not contain a rate, factor or multiplier for a specific dimension or size, mathematical interpolation of the next highest and next lowest rate, factor or multiplier is used to calculate the required rate, factor or multiplier.

Where a rate schedule contains an extension rate, the extension rate is applied to all units of comparison greater than the next lowest size or dimension.

### Costs Included

Both direct costs and indirect costs are included in the rates.

Direct costs include all labour and materials; site preparation, grading and excavation for the foundation; and connection of utilities that are directly related to the building or structure.

Indirect costs include legal and selling fees, permits and plans, survey fees, net sales taxes, service charges and interest on building funds during construction, overhead costs, contractor's profit, worker's compensation and unemployment insurance costs, fire and liability insurance, unemployment insurance, temporary equipment and facilities, and security.

### Measurement of Buildings and Structures

All building and structure measurements are imperial or metric standards. Linear measurements are determined to the nearest half foot.

The floor area of a building or structure, or a section of a building or structure, includes the interior partitions, elevators, stairways and exterior walls.

The floor area of a building or structure or a section of a building or structure is measured to the outside finished surface of the exterior walls, unless otherwise specified.

The floor area of the following occupancies are measured to the inside finished surface of the exterior walls:

- residential lofts (No. 6.13, page 1)
- basement rooms (No. 5.11, page 1)
- finished rooms in garages (No. 6.2, page 2)

## Improvements

### Replacement Cost New

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#### Unit of Comparison

The units of comparison are in imperial or their metric equivalent.

The following are the units of comparison and their application for determining the replacement cost new of buildings and structures.

Type	Units of Comparison	Abbreviation
Section Area	Square feet	sq.ft
Unit Area	Square feet	sq.ft
Floor Area	Square feet	sq.ft
Surface Area	Square feet	sq.ft
Base Area	Square feet	sq.ft
Building Volume	Cubic feet	cu.ft.
	Bushels	bushels
Tank Volume	Gallons	gallons
	U.S. gallons	U.S. gallons
	Barrels	barrels
Bin Volume	Bushels	bushels
Elevator Volume	Bushels	bushels
Structure Volume	Pounds per hour	lb./hr.
Structure Height	Feet	ft.
Structure Length	Feet	ft.
Perimeter	Feet	ft
Structural Unit	Unit	unit
Reservoir	Acre foot	AF
	Gallons	gallons
	U.S. Gallons	U.S. gallons

#### Conversion Chart for Volume And Mass

1	US Gallon	=	0.8327	Imperial Gallons
1	Imperial Gallon	=	1.2009	U.S. Gallon
1	US Gallon	=	3.7854	Litres
1	Litre	=	0.26417	U.S. Gallon
1	Imperial Gallon	=	4.5461	Litres
1	Litre	=	0.21996	Imperial Gallons
1	Acre Foot	=	325,900	U.S. Gallons
1	US Gallon	=	0.1337	Cubic Feet
1	US Gallon	=	0.1074	Bushels
1	Barrel (oil)	=	42	U. S.Gallons
1	Bushel	=	1.2444	Cubic Feet
1	Cubic Foot	=	0.8036	Bushels

### Methods

This section contains the valuation procedures for determining the replacement cost new for residential and commercial buildings and structures by calculating the cost of construction using the comparative unit value method, unit-in-place method, segregated cost method, or trended original cost method.

### Comparative Unit Value Method

The comparative unit value method for determining replacement cost new is used where a building or structure can be classified in accordance with the classification guidelines in:

- Chapter 4 – Residential Adjustments
- Chapter 5 – Residential Dwellings
- Chapter 6 – Residential Outbuildings;
- Chapter 7 – Commercial Tanks and Reservoirs
- Chapter 8 – Commercial Grain Elevators, Annexes and Bins
- Chapter 9 – Commercial Miscellaneous
- Marshall Valuation Service, Calculator Method

The replacement cost new using the comparative unit value method is determined by application of the following calculation procedure:

1. Determine the classification code for the building or structure.
2. Determine the building attributes required to calculate the replacement cost new from the classification and calculation procedures for the specific classification code.
3. Calculate the replacement cost new in accordance with the calculation procedures for the specific classification code.

### Unit-in-Place Cost Method

The unit-in-place cost method for determining replacement cost new is used where a specific commercial building or structure attribute can not be classified in accordance with the classification guidelines for the Marshall Valuation Service, Calculator Method, and can be classified in accordance with the unit-in-place classification guidelines, rate schedules and calculation procedures in Marshall Valuation Service, Unit-In-Place Costs, Sections 51 to 67.

Where a building or structure cannot be classified in accordance with the classification guidelines for the calculator method, the replacement cost new is determined by application of the following calculation procedure:

1. Determine the structural components that comprise the building or structure.
2. Determine the unit-in-place cost for each structural component.
3. Calculate the replacement cost new for each structural component by multiplying the unit-in-place cost by the number of units.
4. Calculate the replacement cost new of the building or structure by summing the replacement cost new of the structural components.

### **Segregated Cost Method**

The segregated cost method for determining replacement cost new is used where a specific building or structure attribute cannot be classified in accordance with the classification guidelines for the calculator method or the unit-in-place cost method, and can be classified in accordance with Marshall Valuation Service, Segregated Method.

### **Trended Original Cost Method**

The trended original cost method for determining replacement cost new of commercial buildings and structures is used where a specific building or structural attribute can not be classified in accordance with the classification guidelines for the comparative unit value method, the unit-in-place cost method or the segregated cost method.

Both direct costs and indirect costs are included where the replacement cost new of a commercial building or structure is determined by the trended original cost method.

Direct costs should include all labour and materials; site preparation, grading and excavation for the foundation; and connection of utilities that are directly related to the building or structure.

Indirect costs related to the building or structure should include architectural and engineering fees, permits and plans, survey fees, net sales taxes, service charges and interest on building funds during construction, building supervision and overhead costs, contractor's profit, worker's compensation and unemployment insurance costs, fire and liability insurance, temporary equipment and facilities, and security charges related to the construction of the building or structure.

Costs excluded from the determination of replacement cost new by the trended original cost method are as follows:

- land improvement costs, subdivision and development costs, studies for the project, appraisal or other consulting fees, including
  - costs related to the purchase or assembly of land and related legal fees, and
  - property taxes, demolition, storm drain charges or rough site grading;
- financing discounts or bonuses, start-up costs, developmental overhead and fixture and equipment purchases;
- site improvement costs such as signs, landscaping, paving, walls, lighting, swimming pools or other recreational facilities;
- off site costs including roads, streets and other infrastructure, acreage and subdivision development fees, connection charges, environmental impact or other assessments;
- furnishings, fixtures or equipment not included in the general building contract;
- marketing or real estate expenses to create occupancy; and
- costs considered specialized tenant improvements.



The replacement cost new for commercial buildings and structures using the trended original cost method is determined by application of the following calculation procedure:

1. Determine the original construction cost of the building or structure.
2. Determine the direct and indirect costs requiring an adjustment.
3. Determine the comparative cost factor from Marshall Valuation Service required to adjust construction costs to January 1, 2011.
4. Calculate the replacement cost new of the building or structure by adjusting the original construction cost for any direct or indirect costs requiring adjustment and multiplying the adjusted original construction cost by the comparative cost index.



### Summary

This section contains the valuation procedures for determining the Cost Factor for residential and commercial buildings and structures.

### Application

The Current Cost Multiplier, Local Multiplier and Saskatchewan Cost Factor for the following commercial buildings and structures is 1.0.

- Concrete Annex (S830)
- Crib Elevator (S831)
- Concrete Elevator (S832)
- Crib Annex (S834)
- Frame Annex (S835)
- Steel Annex (S844)
- Steel Hoppered Annex (S845)
- Steel Bin Elevator (S846)
- Tower (S860)
- Guyed Tower (S861)

### Cost Factor Formula

The cost factor is calculated by the following formula:

$$\text{Cost Factor} = \text{Current Cost Multiplier} \times \text{Local Multiplier} \times \text{Saskatchewan Cost Factor}$$

### Marshall Valuation Service Commercial Current Cost Multipliers

#### Calculator Method

When using the calculator method use the Marshall Valuation Service current cost multipliers in Section 99 (Current and Local Cost Multipliers), page 3, Current Cost Multipliers, Calculator Cost Sections, Central, dated 10/2010.

#### Segregated Method

When using the segregated method use the Marshall Valuation Service current cost multipliers in Section 99 (Current and Local Cost Multipliers), page 3, Current Cost Multipliers, Segregated Cost Sections, Central, dated 10/2010.

#### Unit-in-place Method

When using the unit-in-place method use the Marshall Valuation Service current cost multipliers in Section 99 (Current and Local Cost Multipliers), page 3, Current Cost Multipliers, Unit-In-Place Cost Sections 51-67, Central, dated 10/2010.

### Marshall Valuation Service Commercial Local Multipliers

Apply the Marshall Valuation Service local multipliers from Section 99 (Current and Local Cost Multipliers), page 5, Local Multipliers, Canada, Saskatchewan, dated 10/2010.

## Improvements

### Cost Factor

3.4

#### Residential Current Cost Multiplier

Apply the following current cost multiplier to residential buildings and structures.

Description	Current Cost Multiplier
All Residential buildings and structures including Mobile Homes and Travel Trailers	1.02

#### Residential Local Multiplier

Apply the following local multiplier to residential buildings and structures.

Description	Local Multiplier
All Residential buildings and structures including Mobile Homes and Travel Trailers	1.25

#### Saskatchewan Cost Factor

Apply the following Saskatchewan cost factors to residential and commercial buildings and structures.

##### Residential

The residential Saskatchewan Cost Factor is 1.30.

##### Commercial

The commercial Saskatchewan Cost Factor is 1.05.

#### Comparative Cost Factor

The comparative cost factors may be used to determine the replacement cost new of AA+ quality and AAO+ quality residential buildings that are valued by the trended original cost method.

The comparative cost factor is applied to the original cost of construction using the following schedule. Interpolate when year of construction is not available.

This information is not available for viewing due to licensing with Marshall and Swift. This information is available for purchase by contacting:

Technical Standards and Policy Division  
Saskatchewan Assessment Management Agency  
200 – 2201 – 11<sup>th</sup> Avenue  
Regina, Saskatchewan S4P 0J8

Phone: (306) 924-8000  
Toll Free: 1-800-667-SAMA (7262)  
Fax: (306) 924-8070

Email: [info.request@sama.sk.ca](mailto:info.request@sama.sk.ca)  
Web Site: <http://www.sama.sk.ca>

**Improvements**

**Comparative Cost Factor**

**3.5**

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### Summary

This section contains the valuation procedures for determining building height adjustments for various types of commercial buildings.

### Application

Building height adjustments that may be applied to commercial buildings are:

- storey height
- section height
- building height (total number of storeys)

### Storey Height

Storey height is the vertical height of the exterior wall, which is measured as follows:

- in a flat roof one storey building the vertical distance from the top of the floor to the top of the roof;
- in a slant roof building the average vertical distance from the floor to the top of the roof;
- in a one storey standard gable roof building the vertical distance from the top of the floor to the top of the exterior wall;
- in a multi-storey building the vertical distance from the top of the floor to the top of the next floor above; and
- for non-standard or high pitched roofs, by dividing the cubic volume of the building section by the area of the building.

Where the storey height varies from the standard storey height for the building, a storey height factor is applied.

The standard storey height and the storey height factor are specified in structural components and adjustments sections for the specific occupancy codes to which they apply.

### Section Height

Section height is the number of storeys in a section of a building, where each storey is constructed to the same construction standard.

### Building Height (Total Number of Storeys)

Building height is the total number of storeys for all portions of a building that are attached vertically, excluding below ground portions such as basements and underground parkades. Apply the building height factor to all storeys including below ground portions.

The unit of measure for building height is the number of storeys.

## Improvements

### Building Height

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This information is not available for viewing due to licensing with Marshall and Swift. This information is available for purchase by contacting:

Technical Standards and Policy Division  
Saskatchewan Assessment Management Agency  
200 – 2201 – 11<sup>th</sup> Avenue  
Regina, Saskatchewan S4P 0J8

Phone: (306) 924-8000  
Toll Free: 1-800-667-SAMA (7262)  
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Email: [info.request@sama.sk.ca](mailto:info.request@sama.sk.ca)  
Web Site: <http://www.sama.sk.ca>



#### Summary

This section contains the valuation procedures for determining incomplete construction adjustments for various types of commercial buildings and structures.

#### Application

The incomplete construction adjustment is used to adjust the replacement cost new of buildings or structures that are under construction.

Where the base rate is adjusted for a missing building component, an incomplete construction adjustment for the missing component is not included in the calculation of replacement cost new.

Where a building is under construction and the base rate is not adjusted for a missing component, the incomplete construction factor is determined using the formula:

$$\text{Incomplete Construction Factor} = \frac{(\text{Total Construction Cost} - \text{Costs Incurred to Date})}{\text{Total Construction Cost}}$$

## Improvements

### **Incomplete Construction - Commercial Buildings**

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**3.7**

### Summary

This section describes the incomplete construction adjustment for residential buildings and structures.

### Application

The incomplete construction adjustment may be applied to the following buildings and structures:

- residential dwellings
- seasonal dwellings
- mobile homes
- mobile home extensions and porches
- basement rooms
- porches and closed verandahs
- swimming pool enclosures
- garages
- solariums
- decks and patios
- breezeways
- lofts
- carports
- sheds
- open verandahs

Where a building component is missing and the missing component is not included in the base rate, an incomplete construction adjustment for the missing component should not be included in the calculation of replacement cost new.

Where a building component is partially constructed, the incomplete construction adjustment for that component may be adjusted in proportion to the amount of construction for the building component that is remaining to be completed.

### Calculation Procedure

The incomplete construction adjustment is determined by application of the following calculation procedure:

1. Determine the components of the building or structure that have not been constructed or that are partially constructed.
2. Determine the incomplete construction adjustment for each of the incomplete components.
3. Determine the amount of construction remaining to be completed for building components that are partially constructed.
  - i. Determine the incomplete construction adjustment for the building component.
  - ii. Determine the proportion of the building component remaining to be completed.
  - iii. Calculate an adjusted incomplete construction adjustment for the building component by multiplying the incomplete construction adjustment by the proportion of the building component remaining to be completed.
4. Calculate the incomplete construction adjustment for the building or structure by summing the incomplete construction adjustments for each of the incomplete components and the adjusted incomplete construction adjustment for each of the partially constructed components.

## Improvements

### Incomplete Construction - Residential Buildings 3.8

#### Residences

Where the construction of a residential building is incomplete, the incomplete construction adjustment is determined from the following table.

Description	Percentage (%) of Structure Rate
Framing & closing in	
exterior walls	14
roof	7
exterior studs	6
floor structure	8
Exterior doors & windows	8
Roof cover	4
Insulation	4
Drywall	10
Siding	8
Eavestrough, soffits & fascia	3
Interior doors, trim & cabinets	9
Painting	
exterior	2
interior	5
Floor cover	7
Electrical	5
<b>TOTAL</b>	<b>100%</b>

#### Summer Cottages

Where the construction of a summer cottage is incomplete, the incomplete construction adjustment is determined from the following table.

Description	Percentage of Structure Rate
Framing & closing in	
exterior walls	22%
Roof	10
interior partitions, doors	8
floor structure	11
Exterior doors & windows	10
Roof cover	6
Insulation	Use Quality/Interior Finish Factor; No. 5.5, Page 1
Drywall	Use Quality/Interior Finish Factor; No. 5.5, Page 1
Siding	10
Eavestrough, soffits & fascia	4
Painting exterior	5
Floor cover	8
Electrical	6
<b>TOTAL</b>	<b>100%</b>

### Summary

This section contains the valuation procedures for determining the amount of physical deterioration for residential and commercial buildings and structures valued by the cost approach.

### Application

Physical deterioration is the loss in value from replacement cost new due to wear and tear, decay and structural defects caused by the forces of nature.

Some causes of physical deterioration are normal use, breakage, neglect, infestation of insects, dry rot, moisture, and climatic elements. The occurrence of physical deterioration is dependent on the quality of the workmanship and materials used to construct the building or structure, and the use, abuse and general maintenance of the building or structure since its construction.

The physical deterioration and condition rating schedules account for all curable and incurable physical deterioration and normal functional obsolescence not accounted for in the replacement cost new of the building or structure.

No additional allowance should be made for physical deterioration except as may be accounted for in the calculation of the market adjustment factor for buildings and structures and the throughput adjustment factor for licenced grain elevators.

Where the total percentage amount of physical deterioration is equal to or greater than the replacement cost new of the building or structure the amount of physical deterioration is 99 percent.

Physical deterioration may be determined by the age-life method or lifetime method.

### Age-Life Method

The age-life method is used where the actual or effective age of the building or structure is known or can be estimated, and the condition of the building or structure can be determined or estimated.

‘Actual age’ is the number of years elapsed since an original structure was built.

‘Effective age’ is the typical age of structures equivalent to the one in question with respect to condition and utility and reflects the remaining economic life of the building or structure. Effective age can be either shorter or longer than actual age.

‘Economic life’ means, with respect to a building or structure, the period during which a given building or structure is expected to contribute (positively) to the value of the total property. This period is typically shorter than the period during which the improvement could be left on the property, that is, its physical life. Renovation, remodelling, or rehabilitation can extend a building’s physical life and can have an effect on its remaining economic life.

#### Residential Buildings and Structures

The amount of physical deterioration for residential buildings and structures is determined by application of the following calculation procedure:

1. Determine the effective age and the amount of physical deterioration for the quality and type of building or structure using the physical deterioration schedules.
2. Determine the condition and condition factor using the condition rating schedule.
3. Calculate the total percentage amount of physical deterioration by multiplying the amount of physical deterioration from the physical deterioration schedule by the condition factor from the condition rating schedule.

#### Commercial Buildings and Structures

The amount of physical deterioration for commercial buildings and structures is determined by application of the following calculation procedure:

1. Determine the normal life expectancy for the class and type of building or structure.
2. Determine the effective age and the percentage amount of deterioration for the class and type of building or structure using the physical deterioration schedules.
3. Determine the condition and condition factor using the condition rating schedule.
4. Calculate the total percentage amount of physical deterioration by multiplying the amount of physical deterioration from the physical deterioration schedule by the condition factor from the condition rating schedule.

### Lifetime Method

The lifetime method is used for the following specified commercial buildings and structures:

#### Marshall Valuation Service:

- Secure Storage Shed: Section 17, page 25
- Farm Storage: Section 17, pages 54 to 55
- Tanks: Section 61
- Miscellaneous Industrial Costs: Section 62
- Water Slides: Section 67, page 1
- Drive-in Theatres: Section 67, page 5

#### SAMA's 2011 Cost Guide

- All occupancy codes in Chapter 7: Commercial Tanks and Reservoirs
- Commercial Cylindrical Bin (S840)
- Commercial Hopper Bin (S841)
- Utility Bin (S842)
- Utility Hopper Bin (S843)
- Stacks (S852)
- Incinerators (S853)
- Mill Incinerator (S854)
- Brick Incinerator (S855)
- Towers (S860)
- Guyed Towers (S861)
- Mobile Home Park Development – Cost Schedule (2.10, page 4)
- Airport Land Development – Cost Schedule (2.12, page 2)
- Golf Course Development – Cost Schedule (2.13, page 2)

The amount of physical deterioration by the lifetime method for specified commercial buildings and structures is 40 percent. The condition rating is 1.0.

### Residential Building and Structure Physical Deterioration Schedule

The amount of physical deterioration for all residential buildings and structures, except mobile homes, mobile home porches and extensions, travel trailers, swimming pools, and swimming pool enclosures is determined by application of the following physical deterioration schedule:

- Split building qualities are depreciated using the higher quality classification.
- Both modern and old style building qualities are rated from the physical deterioration schedules.
- Buildings are depreciated using the masonry rates when over 50 percent of the exterior wall material is masonry.

Properties built in 2011 or newer are assigned an effective age of '0'.

For residential buildings use the following schedule:

Category	Masonry or Frame	Quality
1	Masonry	B, A, AA, AA+
2	Masonry	C, D
2	Frame	B, A, AA, AA+
3	Masonry	E, F
3	Frame	C, D
4	Frame	E, F



## Improvements

### Physical Deterioration

**3.9**

#### Residential Physical Deterioration (%)

Effective Age	Category			
	1	2	3	4
74	80	80	80	80
73	79	79	80	80
72	79	79	80	80
71	78	79	80	80
70	77	78	80	80
69	76	78	80	80
68	75	77	79	80
67	74	76	79	80
66	73	76	79	80
65	72	75	79	80
64	70	74	78	80
63	69	73	78	80
62	68	72	77	80
61	67	71	76	80
60	65	70	76	80
59	64	69	75	80
58	62	68	74	79
57	61	67	73	79
56	60	66	72	78
55	58	65	71	77
54	57	63	70	76
53	55	62	69	76
52	54	61	67	75
51	52	59	66	73
50	51	58	65	72
49	49	56	63	71
48	48	55	62	70
47	46	53	60	68
46	45	52	59	67
45	43	50	57	65
44	42	49	55	63
43	40	47	54	62

# Improvements

## Physical Deterioration

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Effective Age	Category			
	1	2	3	4
42	39	46	52	60
41	37	44	50	58
40	36	43	49	56
39	35	41	47	55
38	33	40	45	53
37	32	38	44	51
36	31	37	42	49
35	29	35	40	47
34	28	34	39	45
33	27	32	37	43
32	26	31	35	42
31	24	29	34	40
30	23	28	32	38
29	22	27	31	36
28	21	25	29	35
27	20	24	28	33
26	19	23	26	31
25	18	22	25	30
24	17	21	24	28
23	16	19	22	26
22	15	18	21	25
21	14	17	20	23
20	13	16	19	22
19	13	15	18	21
18	12	14	16	19
17	11	14	15	18
16	10	13	14	17
15	9	12	13	16
14	9	11	13	14
13	8	10	12	13
12	7	9	11	12
11	7	9	10	11
10	6	8	9	10
9	6	7	8	9
8	5	6	7	8
7	4	6	7	7
6	4	5	6	6
5	3	4	5	5
4	2	3	4	4
3	2	3	3	3
2	1	2	2	2
1	1	1	1	2
0	0	0	0	1

## Improvements

### Physical Deterioration

3.9

#### Mobile Homes and Travel Trailers Physical Deterioration Schedule

The amount of physical deterioration for mobile homes, mobile home porches, mobile home extensions, and travel trailers is determined by application of the following physical deterioration schedule:

Effective Age	Physical Deterioration (%)
31	80
30	80
29	79
28	78
27	77
26	75
25	73
24	71
23	68
22	65
21	62
20	59
19	56
18	53
17	50
16	46
15	43
14	40
13	37
12	34
11	31
10	28
9	25
8	22
7	19
6	17
5	14
4	12
3	9
2	7
1	4
0	2

## Improvements

### Physical Deterioration

**3.9**

#### Residential Swimming Pool Physical Deterioration Schedule

The amount of physical deterioration for residential swimming pools is determined by application of the following physical deterioration schedule:

- swimming pools are either enclosed (within a building or structure) or exposed.

Category	Quality
1 (Enclosed)	A
2 (Exposed)	A
2 (Enclosed)	B
3 (Exposed)	B
4 (Exposed)	C
5 (Enclosed)	C

Effective Age	Category				
	1	2	3	4	5
20 and older	80	80	80	80	80
19	76	76	80	80	80
18	72	72	80	80	80
17	68	68	80	80	80
16	64	64	80	80	80
15	60	60	75	80	80
14	56	56	70	80	80
13	52	52	65	80	80
12	48	48	60	80	80
11	44	44	55	80	80
10	40	40	50	80	80
9	36	36	45	80	80
8	32	32	40	80	80
7	28	28	35	80	70
6	24	24	30	80	60
5	20	20	25	80	50
4	16	16	20	64	40
3	12	12	15	48	30
2	8	8	10	32	20
1	4	4	5	16	10
0	0	0	0	0	0

## Improvements

### Physical Deterioration

3.9

#### Swimming Pool Enclosure Physical Deterioration Schedule

The amount of physical deterioration for swimming pools enclosures is determined by application of the following physical deterioration schedule:

Category	Quality
1	AA, A, B
2	C
3	D

Effective Age	Category		
	1	2	3
20 and older	80	80	80
19	76	80	80
18	72	80	80
17	68	80	80
16	64	80	80
15	60	75	80
14	56	70	80
13	52	65	80
12	48	60	80
11	44	55	80
10	40	50	80
9	36	45	80
8	32	40	80
7	28	35	70
6	24	30	60
5	20	25	50
4	16	20	40
3	12	15	30
2	8	10	20
1	4	5	10
0	0	0	0

**Commercial Building and Structure Physical Deterioration Schedule**

Use the physical deterioration schedule in the Marshall and Swift Valuation Service Section 97, Depreciation – Commercial Properties dated March 2009.

Properties built in 2011 or newer are assigned an effective age of '0'.

#### **Condition Rating Schedule**

The condition of buildings and structures is determined taking into consideration the remaining economic life of both short-lived and long-lived items.

Short-lived items have a shorter life than the basic structure, for example, roofing, interior finish, floor coverings, heating system and plumbing fixtures.

Long-lived items are in the basic structure of the building and are not usually replaced during the economic life of the building. Long-lived items include such things as the foundation, frame, floor and roof structure, piping, heat ducts, insulation and electrical wiring.

The condition factor for residential and commercial buildings and structures is determined by application of the following condition rating schedule.

## Improvements

### Physical Deterioration

3.9

Condition Rating	Description	Condition Factor
Excellent	<p>Remodelling: Extensive remodelling has occurred in recent years. No functional inadequacies of any consequence.</p> <p>Long-lived items: Long-lived items have had good maintenance, remodelling, or renovation where necessary.</p> <p>Maintenance: Above normal regular general maintenance has occurred. All items that can normally be repaired or refinished have recently been corrected.</p> <p>Short-lived items: All major short-lived items are in like-new condition.</p>	0.5
Superior	<p>Remodelling: Some remodelling has occurred in recent years. Little evidence of functional obsolescence and a high degree of utility.</p> <p>Long-lived items: Long-lived items have had good maintenance, remodelling or renovation where necessary.</p> <p>Maintenance: Above normal regular general maintenance has occurred.</p> <p>Short-lived items: Most major short-lived items are in like-new condition.</p>	0.6
Very Good	<p>Remodelling: Some remodelling has occurred since construction of the original building. Little evidence of functional obsolescence and a high degree of utility.</p> <p>Long-lived items: Long-lived items have been repaired where necessary. No visible evidence of deterioration.</p> <p>Maintenance: Normal regular general maintenance has occurred. Many items have been overhauled and repaired as they've shown signs of wear.</p> <p>Short-lived items: Many of the major short-lived items are in like-new condition, while others are well maintained and some may require minor repair.</p>	0.7
Good	<p>Remodelling: Utility is above the standard.</p> <p>Long-lived items: Long-lived items have been repaired where necessary.</p> <p>Maintenance: Normal regular general maintenance has occurred. No obvious maintenance required.</p> <p>Short-lived items: A few major short-lived items are in like-new condition, while others are well maintained and some may require minor repair.</p>	0.8



## Improvements

### Physical Deterioration

3.9

Condition Rating	Description	Condition Factor
Above Average	<p>Remodelling: Building is substantially in its original state.</p> <p>Long-lived items: Most long-lived items have been repaired where necessary.</p> <p>Maintenance: Normal regular general maintenance has occurred.</p> <p>Short-lived items: A few major short-lived items are in like-new condition, while others are well maintained and some may require minor repair.</p>	0.9
Average	<p>Irrespective of the following description, new or recently built buildings are considered to be in average condition.</p> <p>Remodelling: Building is substantially in its original state. Utility is standard for properties with a similar class and usage.</p> <p>Long-lived items: Most long-lived items have been repaired where necessary.</p> <p>Maintenance: Normal regular general maintenance has occurred. May have some evidence of deferred maintenance as a few minor repairs and refinishing are needed.</p> <p>Short-lived items: A few major short-lived items may require repair or replacement, while others will not require replacement in the short term.</p>	1.0
Below Average (Badly Worn)	<p>Remodelling: Building is substantially in its original state. Inadequate building utility and services.</p> <p>Long-lived items: Lack of maintenance of long-lived items has resulted in structural decay and defects.</p> <p>Maintenance: Deferred general maintenance is apparent. Much repair is needed.</p> <p>Short-lived items: Some major short-lived items require repair or replacement, while others show noticeable wear.</p>	1.15
Poor (Worn Out)	<p>Remodelling: Building is substantially in its original state. Usually contains numerous functional inadequacies.</p> <p>Long-lived items: Lack of maintenance of long-lived items has resulted in structural decay and defects that cannot be economically repaired.</p> <p>Maintenance: General maintenance has been neglected.</p> <p>Short-lived items: Most short-lived items need major repairs or replacement.</p>	1.3



#### Summary

This section contains the valuation procedures for determining the amount of functional obsolescence for residential and commercial buildings and structures valued by the cost approach.

Functional obsolescence is the loss in value from replacement cost new less physical deterioration due to the inability of the building or structure to adequately perform the function for which it is used.

Functional obsolescence is caused by changes in demand, design and technology that result in a loss in the utility of the building or structure.

Functional obsolescence is any functional obsolescence not accounted for in the replacement cost new less physical deterioration or market adjustment factor. Where there is no functional obsolescence attributed to a building or structure the functional obsolescence factor is 1.0.

Functional obsolescence not accounted for in the replacement cost new less physical deterioration or market adjustment factor can be accounted for in accordance with the replacement cost method.

The amount of obsolescence is determined from the replacement cost of a substitute building or structure.

#### Replacement Cost Method

The amount of functional obsolescence is determined by application of the following calculation procedure:

1. Determine the replacement cost new less physical deterioration of the building or structure with the functional obsolescence.
2. Determine the replacement cost new less physical deterioration of a substitute building without the obsolescence.
3. Calculate the functional obsolescence factor by dividing the replacement cost new less physical deterioration of the substitute building or structure by the replacement cost new less physical deterioration of the building or structure with the functional obsolescence.



### Summary

This section contains the valuation procedures for determining the market adjustment factor (MAF) for residential and commercial buildings and structures valued by the cost approach.

The market adjustment factor accounts for all economic obsolescence and any loss or gain in value of the building or structure due to any difference in replacement costs and any difference in the amount of physical deterioration or functional obsolescence, that have not already been taken into account.

The market adjustment factor can be determined by the sales comparison method, condominium unit method, comparable neighbourhood method, replacement cost method, or mixed buildings and structures method.

### Sales Comparison Method

The sales comparison method is used where there are sufficient improved property sales to establish a market adjustment factor.

The market adjustment factor is determined by application of the following calculation procedure:

1. Identify improved properties with comparable buildings or structures that are sales.
2. Determine the market ratio for each improved property sale:
  - i. Determine the improved property sale price.
  - ii. Determine the assessed value of the land
  - iii. Determine the replacement cost new less physical deterioration and functional obsolescence of the buildings or structures.
  - iv. Calculate the residual building value by subtracting the assessed value of the land from the improved property sale price.
  - v. Calculate the market ratio by dividing the residual building value by the replacement cost new less physical deterioration and functional obsolescence.
3. Determine the market adjustment factor for the comparable buildings and structures.

### Comparable Neighbourhood Method

The comparable neighbourhood method is used where improved sales are limited and there are sufficient improved property sales in a comparable neighbourhood to establish a reliable market adjustment factor.

The market adjustment factor is determined by application of the direct comparison formula or ratio comparison formula.

#### Direct Comparison

The market adjustment factor by direct comparison is determined by application of the following formula:

$$MAF_{SUB} = MAF_{COMP}$$

where:  $MAF_{SUB}$  = market adjustment factor in the subject neighbourhood  
 $MAF_{COMP}$  = market adjustment in the comparable neighbourhood

#### Ratio Comparison

The market adjustment factor by ratio comparison is determined by application of the following formula:

$$MAF_{SUB} = \frac{MAF_2 \times MAF_{COMP1}}{MAF_{COMP2}}$$

where:  $MAF_{SUB}$  = market adjustment factor for the subject buildings and structures  
 $MAF_2$  = market adjustment factor for other buildings and structures in the subject neighbourhood  
 $MAF_{COMP1}$  = market adjustment factor for buildings and structures comparable to the subject and located in the comparable neighbourhood  
 $MAF_{COMP2}$  = market adjustment factor for buildings and structures comparable to the other buildings and structures in the subject neighbourhood and located in the comparable neighbourhood

### Condominium Unit Method

The condominium unit method is used where there are sufficient improved condominium unit sales to establish a market adjustment factor.

For condominium units, including bare land condominium units, the market adjustment factor is determined by application of the following calculation procedure:

1. Identify comparable improved condominium unit sales.
2. When needed, determine the method of apportioning. Apportioning methods may be condominium unit factors, square feet, RCN or other units of comparison.
3. Determine the market ratio for each improved condominium unit sale:
  - i. Determine the assessed value of the land associated with each improved condominium unit sale by apportioning the assessed value of the parcel of land.
  - ii. Determine the building residual sale price for each improved condominium unit sale:
    - determine the improved condominium unit sale price; and
    - calculate the building residual value by subtracting the assessed value of the land associated with the condominium unit from the improved condominium unit sale price.
  - iii. Calculate the replacement cost new less physical deterioration and functional obsolescence (RCNLD) of each condominium unit:  
**Note:** for condominium units where RCNLD procedures do not separate the RCNLD for all or a portion of the individual condominium units apportion the RCNLD using the appropriate method.
  - iv. Calculate the market ratio by dividing the building residual sale price of the condominium unit by the replacement cost new less physical deterioration and functional obsolescence of the condominium unit.
4. Determine the market adjustment factor for the condominium unit.

### Mixed Buildings and Structures Method

The Mixed Buildings and Structures Method does not apply to residential condominiums, as each residential condominium is a separate property.

Method 1 or method 2 of the mixed buildings and structures method may be used where there are insufficient improved property sales to establish a single market adjustment factor for the entire property using the sales comparison method, condominium unit method, or comparable neighbourhood method.

#### Method 1

This method may be used where:

- two or more buildings or structures with different present uses are located on the same parcel of land; and
- there are sufficient improved property sales in the subject neighbourhood or a comparable neighbourhood, to establish a market adjustment factor for each of the present uses separately.

The market adjustment factor is determined by application of the following calculation procedure:

1. Identify improved properties that have sold with buildings or structures comparable to each of the present uses.
2. Determine the market adjustment factor for each present use.
3. Apply the market adjustment factor calculated for each present use to the buildings and structures located on the mixed use parcel of land with the same present use.

#### Method 2

This method may be used where:

- two or more parts of a building or structure, located on the same parcel of land, have been classified as separate building groups;
- one building group does not predominate the property; and
- there are sufficient improved property sales in the subject neighbourhood or a comparable neighbourhood, to establish a reliable market adjustment factor for buildings and structures comparable to each of the separate building groups.

The market adjustment factor is determined by application of the following calculation procedure:

1. Identify improved properties that have sold with buildings or structures comparable to each of the separate building groups.
2. Determine the market adjustment factor for each of the comparable buildings and structures.
3. Apply the market adjustment factor calculated for each of the comparable buildings or structures to the comparable building group of the subject building or structure.



**Summary**

This section contains the valuation procedures for determining the Throughput Adjustment Factor (TAF) for elevators and annexes valued by the cost approach.

The depreciation for licenced elevators and annexes is determined by calculating the amount of physical deterioration by the age life method and adjusting for any functional or economic obsolescence by using either a Throughput Adjustment Factor (TAF) or, when sales are available, methods similar to other commercial property valued using functional obsolescence and the market adjustment factor (MAF). The TAF accounts for all economic and functional obsolescence.

The TAF is not applicable to unlicenced elevators and annexes.

The functional obsolescence factor for an unlicenced elevator or annex that is not fit for any use other than as salvage is 0.01.

The TAF for a licenced elevator or annex and the associated office and drive shed is determined in accordance with the throughput adjustment rate schedule.

The throughput and average throughput are calculated on a crop year basis for all licenced elevators and annexes owned by the same company and located at the same station using the crop years 2007-08, 2008-09 and 2009-10.

The throughput is the amount of grain handled for the crop year divided by the licenced capacity of the elevators and annexes for the crop year.

The average throughput is the sum of the throughputs for each crop year divided by three.

## Improvements

### Throughput Adjustment Factor

3.12

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Average Throughput	Factor	Average Throughput	Factor
≥ 5.0	1.00	2.9	0.69
4.9	0.99	2.8	0.67
4.8	0.97	2.7	0.66
4.7	0.96	2.6	0.64
4.6	0.94	2.5	0.62
4.5	0.93	2.4	0.60
4.4	0.92	2.3	0.58
4.3	0.90	2.2	0.57
4.2	0.89	2.1	0.55
4.1	0.87	2.0	0.53
4.0	0.86	1.9	0.51
3.9	0.84	1.8	0.48
3.8	0.83	1.7	0.46
3.7	0.81	1.6	0.44
3.6	0.80	1.5	0.41
3.5	0.78	1.4	0.39
3.4	0.77	1.3	0.37
3.3	0.75	1.2	0.35
3.2	0.74	1.1	0.32
3.1	0.72	≤ 1.0	0.30
3.0	0.71		