

Navigating the Complexities of the Marshall & Swift Residential Cost Handbook

**Presented by
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Disclaimers:

- Not representing DORA
- Not endorsing Marshall & Swift
- Seminar presented with permission of M&S to use screen shots and information from their Residential Cost Handbook

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Perspective of tonight's seminar:

This is not Cost Approach 101

- Will not address development of the cost approach or site value
- Will not address functional and external obsolescence, other than by way of a few simple examples

Main focus is:

1. How to use the Marshall & Swift Residential Cost Handbook
2. Consideration of USPAP Standards related to the development and reporting of the cost approach
 - Using recognized techniques and methods
 - Producing credible results

Notable Issues:

- Cost approach not developed correctly
- Fabrication of cost data
- Unfamiliarity with the M&S Cost Handbook
- No support for:
 - Costs
 - Opinion of total economic life
 - Opinion of effective age
 - Opinion of remaining economic life

Why Consider the Cost Approach?

Comments often heard:

- Cost approach is irrelevant
- Costs are not accurate
- Not applicable as an indicator of value

Why Consider the Cost Approach?

Comments often heard:

- Cost approach is irrelevant
- Costs are not accurate
- Not applicable as an indicator of value

Comments heard:

- Not only from appraisers whose work is being investigated
- But also from other fee appraisers

Why Consider the Cost Approach?

1. The cost approach is a recognized approach to value, especially suitable for:
 - New, near-new, and proposed construction
 - Special-purpose properties
 - Situations where there is little or no market activity
- Marshall & Swift is recognized as an authority, with over 80 years of valuation experience
- Cost data is based on thousands of appraisals, and statistical analysis of cost data of new residences

Why Consider the Cost Approach?

2. Quote from Marshall & Swift:

- *The cost approach has always served **a crucial quality control function**.*
- *It has been used to verify market-based estimates and to help identify a potential runaway or rapidly declining market.*
 - *If the cost approach comes in well below market prices, it may be a signal that the market is rising beyond sustainable levels.*
 - *If the cost approach comes in significantly above the market, it may signal that prices have dropped below reasonable levels.*
- *In other words, the cost approach **provides a much needed reality check** in both strong and weak markets, establishing a trustworthy benchmark of value.”*

Why Consider the Cost Approach?

- Allows the appraiser to analyze current market conditions in relation to the cost of new construction
- Serves to support the appraisers conclusions related to market value trends, and whether they are stable, declining or increasing

Why Consider the Cost Approach?

Principle of Substitution:

- A prudent and knowledgeable buyer will pay no more for a home *“than it would cost to buy similar land and erect a similar structure on it without undue delay.”**
- Therefore, the cost approach is an integral component of the principle of substitution, and as such, serves as a “check” against the sales comparison approach. It may raise a red flag in cases of under-valuation in short-sale fraud, or overvaluation in mortgage fraud.

*(*Source: Appraising Residential Properties, 3rd edition, page 35, published by The Appraisal Institute, 1999.)*

Why Consider the Cost Approach?

If the value indicated by the cost approach varies significantly from that indicated by the sales comparison approach, the appraiser should:

- Take another look at the data to ensure that the analysis was thorough and resulted in credible conclusions
- If the analysis was deemed to be adequate, the appraiser then needs to reconcile the variance by explaining the reason why there is such a significant value difference between the two approaches

Why Consider the Cost Approach?

3. If an assignment includes the condition that the cost approach to value be developed, and you accept that assignment, then you are obligated by USPAP to develop it according to recognized methods and techniques, and report it in a manner that is not misleading.
 - For FHA appraisals: If the subject property is new construction (less than one year old), or the Cost Approach is recognized in the market as a basis for pricing, the appraiser **may** complete the Cost Approach; however, it is not required for an FHA appraisal. If, however, the subject is a unique property, has specialized improvements, is manufactured housing, or the client requests the Cost Approach be completed, which happens in probably 50% of assignments, then the Cost Approach is required and **must** be completed. In this case, additional assignment conditions for FHA would be:
 - Use the square foot method
 - Include name of cost service and page numbers of cost tables used
 - Include marketing costs, typically 6%
 - See HUD Handbook 4150.2, pages D-35, D-36

Why Consider the Cost Approach?

- The HUD Handbook 4150.2 states that: *“the appraiser provides services for HUD programs, and therefore, has an obligation to perform these services commensurate with the standards and requirements of HUD.”*
- When doing an FHA appraisal, be sure to comply with FHA-specific assignment conditions, including their requirements for the cost approach
- Although including marketing costs is an FHA-specific requirement, we suggest that it be done in all residential cost approaches as a “best practice”

Why Consider the Cost Approach?

Marketing cost should be calculated as follows:

- Final estimated value, which includes the site, divided by 0.94 (94%)
 - For example, final value $\$100,000 / 0.94 = \$106,383$, which includes commission and marketing of 6%

Why Consider the Cost Approach?

USPAP Standards Rule 1-4(b) states:

“When a cost approach is necessary for credible assignment results, an appraiser must:

- i. develop an opinion of site value by an appropriate appraisal method or technique;*
- ii. analyze such comparable cost data as are available to estimate the cost new of the improvements (if any); and*
- iii. analyze such comparable data as are available to estimate the difference between the cost new and the present worth of the improvements (accrued depreciation).”*

Tonight, we will be addressing Step 2, analyzing the cost data, and a portion of Step 3, determining accrued physical depreciation

Development of the Cost Approach

In order to estimate the cost of the improvements, the appraiser must determine the appropriate cost basis, either reproduction or replacement cost. The Marshall & Swift Residential Cost Handbook is based on replacement cost.

- **Replacement** is the cost to replace a structure with a substitute of like kind or equal utility using current standards of materials and design. For example, older homes having plaster interior finish would probably be replaced with drywall due to current construction practices.

RESIDENTIAL COST HANDBOOK

GENERAL INTRODUCTION

The Residential Cost Handbook is compiled and published by Marshall & Swift/Boeckh, LLC. The cost data presented is based on years of valuation experience, thousands of appraisals and continual analysis of the costs of new residences. This publication has been recognized as an authority in the appraisal field for almost fifty years.

The Residential Cost Handbook is used for estimating replacement costs for both single- and multifamily residences. The cost sections in the Handbook encompass both site-built and manufactured housing, with supplemental yard improvement, unit-in-place and subdivision costs. Other sections of the Handbook include depreciation tables and useful appraisal information.

Development of the Cost Approach

Therefore, the appraiser will want to check the correct box indicating **replacement cost** when completing the cost approach in the URAR using the Marshall & Swift method.

COST APPROACH TO VALUE (not required by Fannie Mae)				
Provide adequate information for the lender/client to replicate the below cost figures and calculations.				
Support for the opinion of site value (summary of comparable land sales or other methods for estimating site value)				
C O S T A P P R O A C H	ESTIMATED <input type="checkbox"/> REPRODUCTION OF <input checked="" type="checkbox"/> REPLACEMENT COST NEW		OPINION OF SITE VALUE = \$	
	Source of cost data		Dwelling	Sq. Ft. @ \$ = \$
	Quality rating from cost service Effective date of cost data			Sq. Ft. @ \$ = \$
	Comments on Cost Approach (gross living area calculations, depreciation, etc.)			
			Garage/Carport	Sq. Ft. @ \$ = \$
			Total Estimate of Cost-New = \$	
			Less Physical Functional External	
			Depreciation = \$()
			Depreciated Cost of Improvements = \$	
			"As-is" Value of Site Improvements = \$	
Estimated Remaining Economic Life (HUD and VA only) Years		Indicated Value By Cost Approach = \$		

Reproduction is the cost to construct an exact replica of the property using the same materials and construction standards as when originally built, but at current prices.

Development of the Cost Approach

- Although Marshall & Swift addresses the segregated cost method, it will not be considered in this seminar because it is used mostly for unique building types.
- We will consider the Square Foot Method
 - Based on the square footage of the residence, and with a minimal number of adjustments from a basic residence cost table, an accurate replacement cost can be estimated.

Development of the Cost Approach

The Marshall & Swift Square Foot Method includes the following costs:

1. Plans, specifications, surveys and nominal building permits.
2. Interest on the building funds during the period of construction.
3. All material and labor costs, and taxes.
4. Normal site preparation including finish, grading and excavation for foundation and backfill for the structures.
5. Utilities from structure to lot line figured for typical setback (not included with mobile/manufactured homes).
6. Contractors' overhead and profit, including job supervision, insurances, equipment, temporary facilities, security, etc.

Development of the Cost Approach

Not included in the Marshall & Swift Square Foot Method costs:

1. Costs of buying or assembling land.
2. Pilings or hillside foundations, which are priced separately and are considered improvements to the land.
3. Costs of land planning or preliminary concept and layout for large developments, **entrepreneurial incentives or developers' overhead and profit**, interest or taxes on the land, feasibility studies, environmental impact reports, hazardous material testing, appraisal or consulting fees, etc..
4. Discounts or bonuses paid for financing, funds for operating start up, project bond issues, permanent financing, developmental overhead, or fixture and equipment purchases, etc.
5. **Yard improvements including septic systems, walls and fencing, landscaping and yard lighting, pools or other recreational facilities**, etc., which can be priced separately.
6. Off-site costs including sidewalks, curbs and gutters, utilities, park fees, jurisdictional hookup, tap-in, impact or entitlement fees or assessments, etc.
7. **Marketing costs, advertising expenses, leasing or brokers' commissions**, temporary operation of property owners' associations, fill-up or membership sales costs and fees.
8. General contingency reserve for labor strikes, anticipated labor and material increases, etc.

The appraiser must consider all relevant costs which may not be included in Marshall & Swift costs, and be sure that they are included.

Development of the Cost Approach

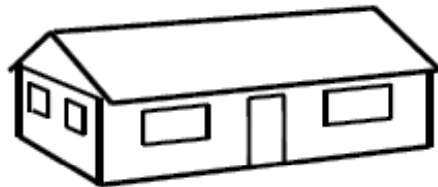
When developing the replacement cost using the Marshall & Swift method, the appraiser needs to address several items:

- The type of residence (single or multi-family)
- The quality of the building
- The construction characteristics: Style; Wood frame or masonry; and the type of siding, such as brick veneer, stucco, hardboard, etc.
- Variations from the standard (or, “base”) characteristics that require refinement or modification to the base cost
- Interpolation for when the building falls between costs
- Because local construction practices influence costs, the Marshall & Swift Residential Cost Handbook includes cost multipliers to account for the differences in cost for various regions.

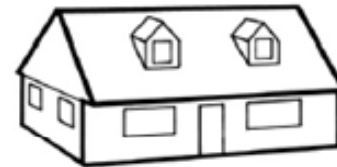
Development of the Cost Approach

Various types of residences are illustrated in the Introduction section on pages 4 and 5.

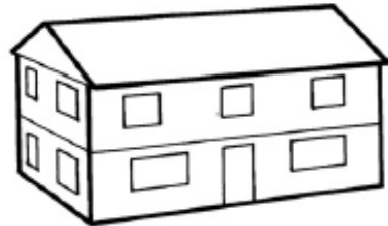
ONE STORY:



***ONE AND ONE HALF STORY:**



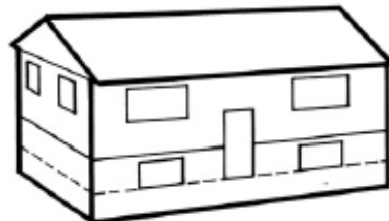
TWO STORY:



***TWO AND ONE HALF STORY:**



TWO STORY BI-LEVEL:



SPLIT LEVEL:



Locating Information in the M&S Handbook

Section A contains the costs for Low through Excellent Quality homes, and has sections for:

- Single Family Detached Homes
- Manufactured Housing
- Multi-Family Residences
 - Apartments
 - Townhomes
 - Duplexes
 - Urban Row Houses
- Unique Residences
 - Cottages
 - Log and Dome Homes

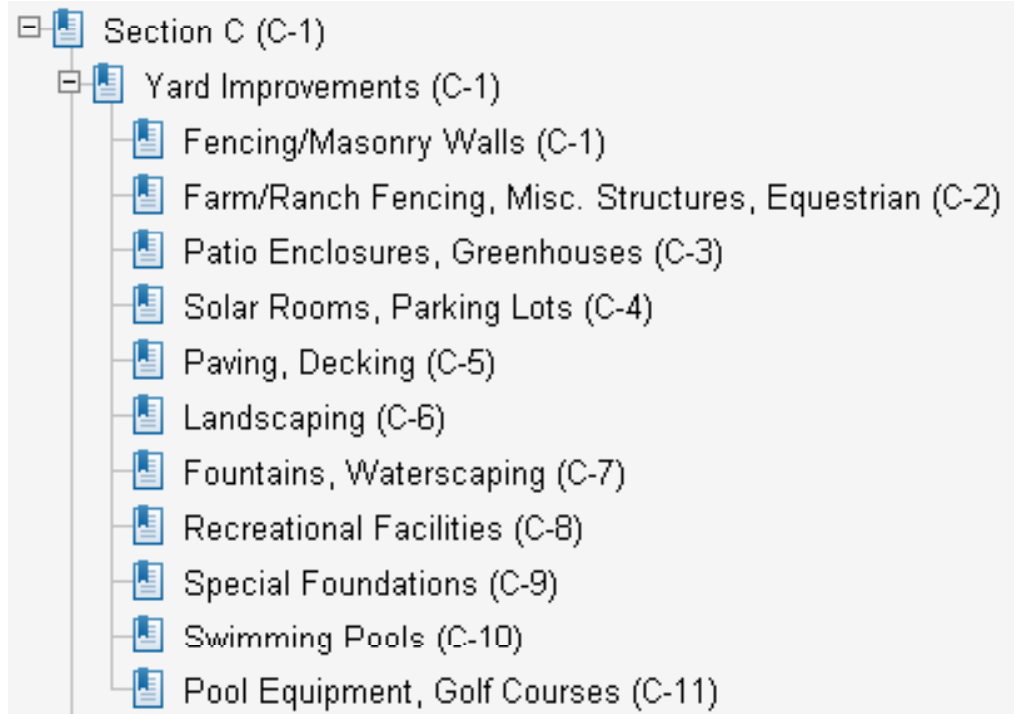


[-]	[Document Icon]	Section A (Low-1)
[+]	[Document Icon]	Low Quality Residences (Low-1)
[+]	[Document Icon]	Fair Quality Residences (Fair-1)
[+]	[Document Icon]	Average Quality Residences (Avg-1)
[+]	[Document Icon]	Good Quality Residences (Good-1)
[+]	[Document Icon]	Very Good Quality Residences (VG-1)
[+]	[Document Icon]	Excellent Quality Residences (Exc-1)
[+]	[Document Icon]	Manufactured Housing (Mfg-1)
[+]	[Document Icon]	Multiples, Town and Row Houses (Mul-1)
[+]	[Document Icon]	Special Studies/Old Residences (Spec-1)

Locating Information in the M&S Handbook

Section C contains detailed costs, especially valuable for Yard Improvements:

- Driveways and Paving
- Large Patios and Decks
- Fences and Corrals
- Retaining Walls
- Outbuildings
- Landscaping, including:
 - Sod and Seed
 - Trees, Shrubs and Bushes
 - Ground Cover
- Pools and Ponds
- Tennis Courts



Locating Information in the M&S Handbook

Section C also contains unit-in-place costs, valuable for determining the cost of specialized components:

- Floor coverings
- Doors
- Windows
- Roofing
- Cabinets
- Kitchen and bath fixtures
- HVAC Systems
- Solar Systems



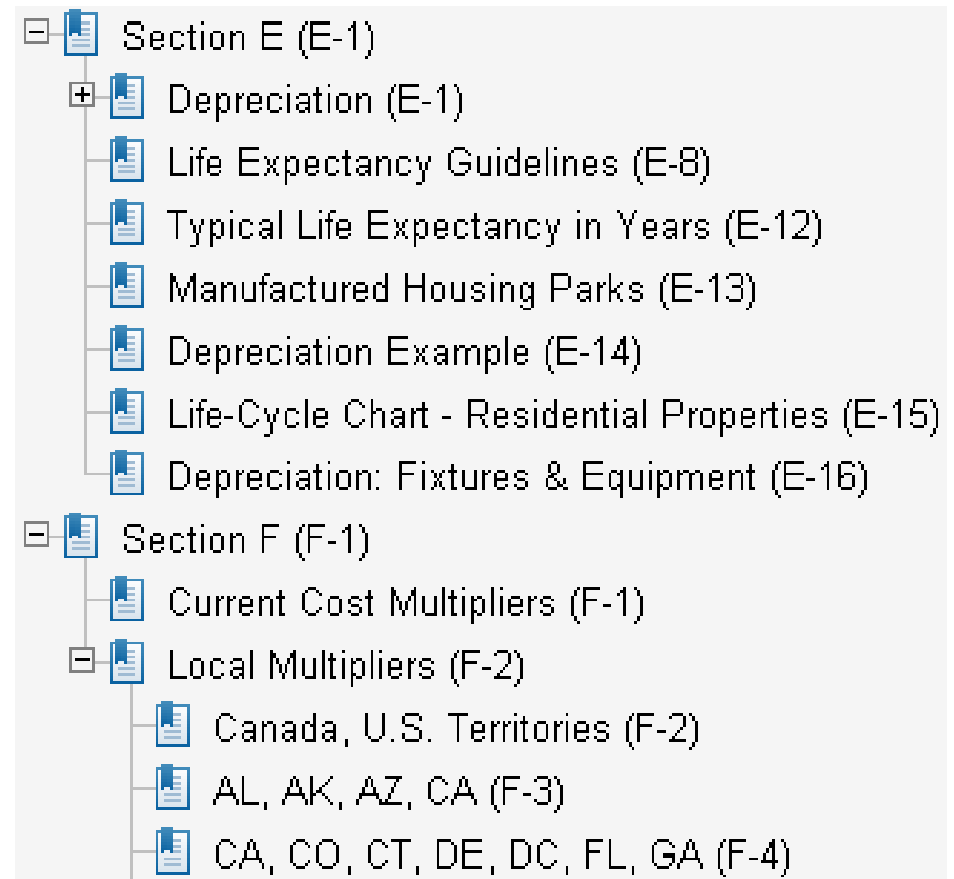
Locating Information in the M&S Handbook

Section E contains life expectancy and depreciation tables.

- Pg E-7: Life Expectancy Table
- Pg E-12: Depreciation Table
- Pg E-15: Life-Cycle Chart

Section F contains regional and local multipliers.

- Pg F-1: Regional Multipliers
- Pg F-4: Local Colorado Multipliers



Locating Information in the M&S Handbook

Quality Ratings

- See the Introduction section, Page 6 of the RCH, for a discussion of quality ratings:
 - The appraiser must examine the materials and workmanship
 - Level floors
 - Plumb walls
 - Proper fit of doors, windows, and mitered joints
 - Grade of wood, floor coverings, fixtures, roofing material
 - Note the design, whether simple or detailed
 - Note the number and size of appointments
- Section A, “Basic Description” within each quality sub-section
 - The type of production (mass produced, custom, etc.)
 - Quality of construction and finishes
 - Level of detail
 - Architectural design

The M&S Square Foot Appraisal Form 1007

We will now go through the Form 1007, and show where specific information required to complete the form is located in the Marshall & Swift Residential Cost Handbook



SQUARE FOOT APPRAISAL FORM

For subscribers using the *Residential Cost Handbook/Residential Estimator 7*

Property Owner _____	Date <u>3/1/2010</u>
Address _____	Survey by _____
City <u>Burlington</u>	Cost as of <u>March 2010</u>
State/Province <u>IA</u> Zip/Postal Code <u>52647</u>	Appraisal for _____

- Document the Subject Property's address and your client
- Indicate the date that you developed the cost approach
- Fill in your name
- Indicate the cost update you used. Marshall & Swift issues their updates quarterly, thus if using the Marshall & Swift Residential Cost Handbook, your costs will generally be as of March, June, September or December of each year

The M&S Square Foot Appraisal Form 1007

- Provide general information about the subject property
 - Type and Style: See the Introduction, pages 4 and 5, and the “Illustrations” sub-section within each Quality section
 - Don’t misrepresent the style

Type <u>Single-family Residence</u>	Quality <u>4.00, Good</u>	Total Floor Area <u>2,406</u>
Style <u>Two-Story, 100%</u>		Number of Units _____
Exterior Walls <u>Veneer, masonry, 54%; siding, wood, 46%</u>		Interior Wall Height <u>8</u>
		Basement Depth <u>8</u>
Age <u>10</u> Condition <u>5.00, Very Good</u>	Region: <input type="checkbox"/> Western <input checked="" type="checkbox"/> Central <input type="checkbox"/> Eastern	

- Estimate the percentage of each type of exterior wall covering
 - For concrete-fiber siding (Hardy Plank) use “Stucco” costs

STUD FRAMED						
Total Area	Plywood or Hardboard	Metal or Vinyl Siding	Stucco	Wood Siding	Wood Shingles	Synth. Plaster (EIFS)

STUD FRAMED			MASONRY			
Total Area	Rustic Log	Masonry Veneer	Concrete Block	Stucco on Block	Common Brick	Poured Concrete (SIP Forming)

The M&S Square Foot Appraisal Form 1007

- Provide general information about the subject property
 - Enter the total floor area, not including basement area
 - Enter the number of units, if valuing a multi-unit building
 - Enter the interior wall height, measured from floor to ceiling
 - See the Introduction, page 7, and the “Interior Finish” sub-section within each Quality section

Type <u>Single-family Residence</u>	Quality <u>4.00, Good</u>	Total Floor Area <u>2,406</u>
Style <u>Two-Story, 100%</u>		Number of Units _____
Exterior Walls <u>Veneer, masonry, 54%; siding, wood, 46%</u>		Interior Wall Height <u>8</u>
		Basement Depth <u>8</u>
Age <u>10</u> Condition <u>5.00, Very Good</u>	Region: <input type="checkbox"/> Western <input checked="" type="checkbox"/> Central <input type="checkbox"/> Eastern	

- Enter the basement depth
 - See the Introduction, page 10 for basement wall height
- Enter the chronological age
- Enter the condition rating, see page E-6
- Check the Region box, Colorado is in the Western region

The M&S Square Foot Appraisal Form 1007

- Provide building cost information
 - Enter the wall height factor, see the “Interior Finish” section within each Quality rating
 - Enter your square foot measurement, not including basement area
 - Enter the cost per sf
 - See the Introduction, page 7, and the “Interior Finish” sub-section within each Quality section
 - Costs can be interpolated to the exact square foot, or rounded to the nearest increment, depending on the level of accuracy required

				Factor	Quantity	Cost	Extended Cost
1. COMPUTE RESIDENCE BASIC COST				Wall Height Factor x Floor Area x Selected Sq. Ft. Cost	1.00	2,406	\$87.19 \$ 209,778

STUD FRAMED						
Total Area	Plywood or Hardboard	Metal or Vinyl Siding	Stucco	Wood Siding	Wood Shingles	Synth. Plaster (EIFS)
2200	81.60	82.88	83.00	84.32	83.28	85.62
2300	80.89	82.14	82.27	83.56	82.54	84.83
2400	80.22	81.45	81.57	82.84	81.84	84.09
2600	78.97	80.16	80.27	81.49	80.53	82.70

STUD FRAMED		
Total Area	Rustic Log	Masonry Veneer
2200	98.43	92.69
2300	97.43	91.77
2400	96.49	90.89
2600	94.73	89.26

The M&S Square Foot Appraisal Form 1007

- Provide building cost information
 - Example of *Interpolation*, see Introduction section, pgs 13 - 16

STUD FRAMED						
Total Area	Plywood or Hardboard	Metal or Vinyl Siding	Stucco	Wood Siding	Wood Shingles	Synth. Plaster (EIFS)
2200	81.60	82.88	83.00	84.32	83.28	85.62
2300	80.89	82.14	82.27	83.56	82.54	84.83
2400	80.22	81.45	81.57	82.84	81.84	84.09
2600	78.97	80.16	80.27	81.49	80.53	82.70

STUD FRAMED		
Total Area	Rustic Log	Masonry Veneer
2200	98.43	92.69
2300	97.43	91.77
2400	96.49	90.89
2600	94.73	89.26

Exterior Wall Cover	Total SF Of Home	Percentage For Each	SF For Each	Cost @ 2,400 SF	Extended Costs	
Masonry Veneer	2400	X 54%	= 1300	X \$90.89	\$118,157	Basic Cost for Masonry Veneer
Wood Siding	2400	X 46%	= 1106	X \$82.84	+ \$91,621	Basic Cost for Wood Siding
					= \$209,778	Total Basic Cost
					÷ 2406	Divide by Total SF
					= \$87.19	Basic Cost Per SF

				Factor	Quantity	Cost	Extended Cost	
1. COMPUTE RESIDENCE BASIC COST		Wall Height Factor	x Floor Area	x Selected Sq. Ft. Cost	1.00	2,406	\$87.19	\$ 209,778

The M&S Square Foot Appraisal Form 1007

- Provide building cost information
 - Example of *Interpolation*, see Introduction section, pages 13 - 16

ONE STORY		
RESIDENCE		
STUD FRAMED		
Total Area	Plywood or Hardboard	Metal or Vinyl Siding
600	\$85.53	\$87.16
800	81.04	82.54
1000	77.72	79.13
1200	75.11	76.45
1300	73.99	75.30
1400	72.97	74.25

	Sq. Ft. Bracket	Cost Bracket
Low	1000	\$77.72
High	1200	- \$75.11
Bracket Difference	200	\$2.61
Subject GLA	1087	
Low SF Bracket	- 1000	
SF Difference	87	
SF Difference	87	
SF Bracket Difference	÷ 200	
Percentage SF Difference	43.5%	
Cost Bracket Difference	\$2.61	
Percentage SF Difference	x 43.5%	
Cost Deduction for SF Above Low Bracket	\$1.14	
Low Cost Bracket	\$77.72	
Cost Deduction for SF Above Low Bracket	- \$1.14	
Interpolated Cost	\$76.58	

The M&S Square Foot Appraisal Form 1007

- Enter the remaining above-grade dwelling costs
 - Roofing, Energy, Foundation and Seismic: See the basic residence cost pages for each style
 - All others: See Refinements pages for each quality rating

Square Foot and Lump Sum Adjustments				+	-	
2. Roofing	<i>Composition shingle roof</i>		2,406	.68	-	(1,636)
3. Energy:	<input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Extreme <input type="checkbox"/> Superinsulated		2,406	1.76	+	4,235
4. Foundation:	<input type="checkbox"/> Mild <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Extreme Hillside: <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Steep					
5. Seismic:	<input checked="" type="checkbox"/> None <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 Wind: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes					
6. Subfloor						
7. Floor Insulation:	<input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Extreme					
8. Floor Cover	<i>See back of form.</i>		2,406	4.24	+	10,208
9. Plaster Interior						
10. Heating/Cooling	<i>Warm and cool air</i>		2,406	2.08	+	5,004
11. Plumbing Fixtures:	Total	10	Base	11		
			-1	1,850	-	(1,850)
12. Plumbing Rough-Ins:	Total	4	Base	1		
			3	590	+	1,770
13. Dormers						
14. Fireplaces	<i>See back of form.</i>				+	14,326
15. Built-in Appliances	<i>See back of form.</i>					4,675
16. SUBTOTAL: ADJUSTED RESIDENCE COST: Total of Lines 1 to 15.			2,406	102.46	\$	246,510

The M&S Square Foot Appraisal Form 1007

- The above-grade dwelling costs for Roofing, Energy, Foundation and Seismic are found at the bottom of the basic residence cost pages for each style

SQUARE FOOT ADJUSTMENTS

ROOFING:

Composition shingle or Built-up, small rock	(base)	
Clay tile	+ \$6.55	
Concrete tile	+ 4.08	
Metal, preformed	+ 1.31	
Wood shake	+ 1.92	
Wood shingle	+ 1.65	
Composition roll	- 1.04	

ENERGY ADJ:

Mod. Climate	(base)	
Mild climate	- \$1.15	
Extreme climate	+ 1.86	
Superinsulated	+ 3.86	

FOUNDATION ADJ:

Mod. Climate	(base)	
Mild climate	- \$2.44	
Extreme climate	+ 4.48	
Hillside, moderate slope	+ 2.24	
Hillside, steep slope	+ 6.71	

Add for SEISMIC ZONES (Z)/HURRICANE

Frame (Z2) +\$1.63, (Z3-4/wind) +\$2.57

(Wind) ADJ.: See Intro-9; maps, D-12.

Masonry (Z2) +\$1.51, (Z3-4/wind) +\$2.22

The M&S Square Foot Appraisal Form 1007

- The remaining above-grade dwelling costs are found on the Refinements page for each quality rating

SQUARE FOOT ADJUSTMENTS

SUBFLOOR:

Wood subfloor	(base)	
Concrete slab	-	\$2.50
Asphalt (for garage or carport)	-	2.19

PLASTER INTERIOR: ..	+	\$3.37
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FLOOR COVER:

Allowance (if not itemized)	+	\$ 3.33
Carpet and pad	+	2.86
Ceramic Tile	+	11.63
Wood flooring	+	7.96
Hardwood	+	9.68
Parquet blocs	+	10.91
Terrazzo	+	11.57
Vinyl comp. sheet or tile ..	+	2.33
Vinyl sheet	+	4.01

FLOOR INSULATION:

Mild climate	+	\$.90
Moderate climate	+	1.12
Extreme climate	+	1.49

HEATING/COOLING:

Forced air		(base)
Oil-fired	+	\$.60
Floor or wall furnace ...	-	1.70
Electric, radiant	-	.46
Baseboard or panel ..	-	.36
Hot water, baseboard ...	+	1.71
Warm and cooled air ...	+	1.86
Heat pump	+	2.39
Ground-loop heat system	+	4.02
Evap. cooling w/ducts ..	+	2.30
Air-to-air exchange system	+	1.43

The M&S Square Foot Appraisal Form 1007

- The remaining above-grade dwelling costs are found on the Refinements page for each quality rating

LUMP SUM ADJUSTMENTS

PLUMBING: 8 fixtures + rough-in (base)		BUILT-IN APPLIANCES:	
Per fixture	+ or - \$1,160	Allowance (if not itemized) +	\$2,700
Per rough-in	+ or - 465	Dishwasher	+ 675
DORMERS: per linear foot		Exhaust fan or bath heater +	160
Unfinished: hip or gable roof	\$ 86.00	Garbage disposer	+ 240
Shed roof	74.00	Hood and fan	+ 250
Finished: hip or gable roof	170.00	Oven	+ 850
Shed roof	147.50	Oven, microwave combo +	1,875
FIREPLACES:		Range and oven	+ 885
Single one-story . . .	\$2,825 – \$3,475	Range top	+ 505
Single two-story . . .	3,525 – 4,325	Radio intercom	+ 925
Single three-story . .	4,225 – 5,150	Refrigerator or freezer . . .	+ 875
Double one-story . . .	3,750 – 5,075	Res. security sys., wireless +	1,325
Double two-story . . .	4,650 – 5,700	Trash compactor	+ 615
Double three-story . .	7,375 – 9,025	Vacuum cleaner system . .	+ 1,875
Direct-vented, gas . .	1,350 – 1,550		

The M&S Square Foot Appraisal Form 1007

- Square foot adjustments for refinements are based on the applicable number of square feet:

8. Floor Cover	<i>See back of form.</i>		2,406	4.24	+		10,208
9. Plaster Interior							
10. Heating/Cooling	<i>Warm and cool air</i>		2,406	2.08	+		5,004

- Lump sum adjustments for refinements are based on the quantity of each item:

11. Plumbing Fixtures:	Total	10	Base	11		-1	1,850	-	(1,850)
12. Plumbing Rough-Ins:	Total	4	Base	1		3	590	+	1,770

- Take note of “base” costs that are included in the residence basic cost, and that may need adjustment:
 - Roofing material
 - Energy
 - Foundation
 - Base number of plumbing fixtures
 - Heating system

The M&S Square Foot Appraisal Form 1007

- Both “Floor Cover” and “Built-In Appliances” have allowances, which are average costs for the quality rating:

FLOOR COVER:	
Allowance (if not itemized) . . .	+ \$ 6.22
Carpet and pad	+ 4.88
Ceramic tile	+ 15.17
Wood flooring	+ 11.81
Hardwood	+ 13.54
Parquet blocks	+ 15.54
Terrazzo	+ 14.73
Vinyl comp. sheet or tile	+ 3.01
Vinyl sheet	+ 5.64

BUILT-IN APPLIANCES:	
Allowance (if not itemized) . .	+ \$5,275
Dishwasher	+ 875
Exhaust fan or bath heater . . .	+ 225
Garbage disposer	+ 320
Hood and fan	+ 430
Oven	+ 1,325
Oven, microwave combo	+ 2,400
Range and oven	+ 1,205
Range top	+ 790
Radio intercom	+ 1,320
Refrigerator or freezer	+ 1,525
Res. security sys., wireless . .	+ 2,300
Trash compactor	+ 725
Vacuum cleaner system	+ 2,125

- If components of the Subject Property vary from the “average” for its quality rating, costs can be itemized, or used from another quality rating. For instance, a gourmet kitchen in an “average” quality home, extensive hardwood flooring, or the presence of appliances not typically found in the quality rating, such as a vacuum cleaner system and trash compactor in an “average” quality home.

The M&S Square Foot Appraisal Form 1007

- Use Section C to obtain costs for items which are not included in the Refinements costs:

	LOW	AVERAGE	GOOD	HIGH
Bathtub	680	1,100	1,800	2,850
handicapped, walk-in door	4,725	5,550	6,500	7,625
fiberglass tub-shower	1,275	1,700	2,225	3,025
handicapped unit	1,675	2,775	4,625	7,700
deluxe or whirlpool (Jacuzzi)	3,025	4,400	6,475	9,550
environmental enclosure, deluxe	27,000	31,000	34,750	39,750
Bidet	815	1,150	1,600	2,225
deluxe	2,425	2,975	3,725	4,675
Drinking fountain	645	780	935	1,150
Refrigerated water cooler	1,200	1,400	1,675	1,950
Water coolers, hot and cold water	-----	1,450	1,800	2,200
Shower, stall*	680	895	1,150	1,475
prefabricated unit	945	1,275	1,700	2,225
deluxe (add steam below)	2,250	3,275	4,675	6,775
environmental enclosure, deluxe	17,750	24,250	33,500	45,500
handicapped unit	1,600	2,575	4,175	6,775
shower base only	305	425	565	820
deluxe	925	1,125	1,375	1,700
Steam generators, residential baths	1,575	1,825	2,075	2,400
Urinal	900	1,275	1,800	2,550
Wet bar	570	675	790	930
deluxe	1,150	1,675	2,400	3,375

The M&S Square Foot Appraisal Form 1007

- If necessary, use page 2 of the 1007 form for calculations, and move the totals to the appropriate line on page 1 of the form:

Component	Quantity	Unit Cost	Extended Cost
<i>Carpet (Average quality)</i>	1,927	\$ 2.86	\$5,511
<i>Wood flooring (Good quality)</i>	145	11.81	1,712
<i>Vinyl sheet (Good quality)</i>	241	5.64	1,359
<i>Ceramic tile (Very good quality)</i>	93	17.48	1,626
<i>Move to Line 8: Floor Cover</i>	2,406	\$4.24	\$10,208
<i>Oven (Good quality)</i>	1	\$1,325	\$1,325
<i>Range top (Good quality)</i>	1	790	790
<i>Hood and fan (Good quality)</i>	1	430	430
<i>Dishwasher (Average quality)</i>	1	675	675
<i>Garbage disposer (Average quality)</i>	1	240	240
<i>Trash compactor (Average quality)</i>	1	615	615
<i>Bath heater (Very good quality)</i>	2	300	600
<i>Move to Line 15: Built-in Appliances</i>			\$4,675

The M&S Square Foot Appraisal Form 1007

- Note the items included in the “Adjusted Residence Cost”, which transfers to the “Dwelling” cost line in the URAR:

12. Primary materials	Total	Unit	Rate	Cost	13. Domes	14. Fireplaces	15. Built-in Appliances	16. SUBTOTAL: ADJUSTED RESIDENCE COST: Total of Lines 1 to 15.
						See back of form.	See back of form.	
								2,408
								102.48
								\$ 246,510

- Fireplaces, floor covering, and appliances are **included** in the basic residence cost, and therefore should not be listed separately when using the Marshall & Swift method

3. I am not responsible for the use of this cost / approach by third parties.

OPINION OF SITE VALUE	= \$	65,000
DWELLING	1,031 Sq.Ft. @ \$ 120.00	= \$ 123,720
	817 Sq.Ft. @ \$ 30.00	= \$ 24,510
Upgrades, updates, fireplaces, porches		= \$ 20,000
Garage/Carport	398 Sq.Ft. @ \$ 40.00	= \$ 15,920

OPINION OF SITE VALUE	= \$	65,500
Dwelling	1,877 Sq. Ft. @ \$ 103.63	= \$ 194,514
Bsmt.	1,080 Sq. Ft. @ \$ 23.50	= \$ 25,380
Finished Flooring, Kit. Appl., etc.		36,920
Garage/Carport	440 Sq. Ft. @ \$ 11.95	= \$ 5,258

The M&S Square Foot Appraisal Form 1007

- Enter the basement unfinished and finished costs:

17. Basement 8" concrete block walls	1.00	1,217	19.27	+	23,452
Minimal finish	1.00	1,217	8.43	+	10,259

BASEMENTS

Unfin. Basements	200	400	800	1200
Concrete walls 6"	\$37.28	\$27.99	\$22.31	\$19.69
8"	39.71	29.71	23.55	20.69
12"	44.30	32.95	25.88	22.56
Conc. Block walls, 6"	34.26	25.86	20.77	18.45
8"	36.26	27.27	21.79	19.27
12"	40.49	30.26	23.94	20.99
Add for finish, minimal	10.40	9.34	8.71	8.43
partitioned	42.03	37.61	35.11	34.10

BASEMENTS

Unfin. Basements	200	400	800	1200
Concrete walls 6"	\$37.28	\$27.99	\$22.31	\$19.69
8"	39.71	29.71	23.55	20.69
12"	44.30	32.95	25.88	22.56
Conc. Block walls, 6"	34.26	25.86	20.77	18.45
8"	36.26	27.27	21.79	19.27
12"	40.49	30.26	23.94	20.99
Add for finish, minimal	10.40	9.34	8.71	8.43
partitioned	42.03	37.61	35.11	34.10

- Interpolation can be used to calculate costs for square footage which lies between the lower and upper brackets
- Minimal finish** includes floor covering, wall and ceiling finish, electrical lighting and minimal heating, generally for one large room
- Partitioned finish** is similar in quality to that of the basic residence

The M&S Square Foot Appraisal Form 1007

- Enter the costs for garages and carports:

22. Garages/Carports See back of form.		405	39.81	+	16,123
---	--	-----	-------	---	--------

Component	Quantity	Unit Cost	Extended Cost
Attached garage, veneer, masnory	405	\$34.93	\$14,147
Composition shingle roof	405	-1.19	(482)
Add for finish	405	6.07	2,458
Move to Line 22: Garages/Carports	405	\$39.81	\$16,123

SQUARE FOOT ADJUSTMENTS	
ROOFING:	
Wood shingle	(base)
Clay tile	+ \$7.20
Concrete tile	+ 3.35
Metal, preformed	+ 1.34
Wood shake	+ .29
Composition shingle or Built-up, small rock	- 1.19
Composition roll	- 2.57

STUD FRAMED				
Type	Total Area	Rustic Log	Masonry Veneer	Add for Finish
Detached	200	\$65.91	\$61.54	\$7.94
	400	50.74	47.61	6.68
	600	43.99	41.41	6.15
	800	39.52	37.32	5.80
	1000	37.27	35.26	5.61
Attached	200	\$48.84	\$46.75	\$7.36
	400	36.07	34.93	6.07
	600	31.71	30.84	5.52
	800	30.44	29.57	5.17
	1000	28.51	27.79	4.85

The M&S Square Foot Appraisal Form 1007

- Enter the costs for yard improvements:

31. Yard Improvements <i>See back of form.</i>			5,440
Component	Quantity	Unit Cost	Extended Cost
<i>Wood picket fence</i>	221	\$17.95	\$3,967
<i>4" unreinforced concrete</i>	232	4.65	1,079
<i>Wire mesh</i>	232	.60	139
<i>4" Gravel base</i>	232	1.10	255
<i>Move to Line 31: Yard Improvements</i>			\$5,440

- For fencing, see page C-1
- Concrete, pavers, etc. for sidewalks, driveways, see pg. C-5
- Other potential yard improvement costs:
 - Retaining walls
 - Pools and water features, landscaping
 - Ramps, outbuildings
 - Kennels, gazebos
 - Tennis courts
 - Solar systems
 - Wells, septic, leach fields

The M&S Square Foot Appraisal Form 1007

- ***Information necessary to develop the cost approach.***

When at the Subject Property's site:

- Take notes/pictures to determine percentages of different types of exterior wall finishes and roof coverings
- If the floor coverings, kitchen components, or other items vary from the "base" or quality rating of the residence, note the areas and/or quantities of the different types so they can be itemized
- Note the number of bath fixtures for each bath on your sketch
- Note different types of fencing, and take measurements so you can determine the linear feet for each type
- Measure all slabs, including the driveway, patios and decks
- Count the trees, bushes and shrubs, note the approximate size of landscaping, note if there is a sprinkler system
- Note the age, size, quality, condition, finishes, amenities and fixtures of outbuildings; if on well/septic, note the well depth and septic capacity

The M&S Square Foot Appraisal Form 1007

- Enter the regional and local multipliers:

24. Multipliers: CCM	.99	x Local	1.01	x Other	=	x 1.00
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DISTRICT MAP

	WESTERN	CENTRAL	EASTERN
COLORADO95	.95	
Aspen	1.22	1.25	
Boulder97	.96	
Colorado Springs .....	.98	.96	
Costilla County .....	.88	.87	
Denver .....	.98	.97	
Durango .....	.91	.92	
Eagle Co. (x/resort areas)	1.01	1.03	
Fort Collins .....	.99	1.00	
Grand Junction .....	.96	.95	
Greeley .....	.99	.99	

PAGES	PUB. DATE	EASTERN		CENTRAL		WESTERN	
		FRAME	MASONRY	FRAME	MASONRY	FRAME	MASONRY
SECTION A							
Low, Fair, Avg. (Single-fam., Detached Houses)	12/09	.99	1.01	1.00	.99	1.02	1.01
Good, VG, Exc. (Single-fam., Detached Houses)	12/09	.99	1.01	1.00	.99	1.02	1.01
Mfg-1 to Mfg-26 (Mobile/Mfg. Housing)	6/09	1.01	----	1.01	----	1.02	----
Mul-3 to Mul-19 (Multiple Residences)	3/10	1.02	1.03	1.00	1.01	1.00	1.04
Mul-21 to Mul-37 (Town Houses & Duplexes)	3/10	1.01	1.02	1.00	1.00	1.01	1.04
Mul-38 to Mul-49 (Urban Row Houses)	3/10	1.00	1.02	.99	1.00	1.00	1.03
Spec-1 to Spec-11 (Special Studies)	6/10	1.00	1.03	1.00	1.01	.99	1.02
Spec-12 to Spec-39 (Special Studies)	6/10	.99	1.02	.98	.99	.97	1.01
SECTION B							
B-1 to B-28 (Segregated Costs)	9/09	1.01	1.00	1.02	1.02	1.01	1.01
SECTION C							
C-1 to C-17 (Yard Improvement Costs)	3/09	.95	.98	.94	.97	1.00	1.02
C-18 to C-36 (Unit-in-Place Costs)	3/09	.95	.98	.94	.97	1.00	1.02

- Regional multipliers, see page F-1
- Local multipliers, see page F-4

Brief Primer on Depreciation

- Depreciation is an opinion of a structure's ***loss in value due to any cause*** in relation to its replacement or reproduction cost, and can fall into categories of physical depreciation, functional obsolescence, and external obsolescence (see pages E-1 – E-6).
 - Physical depreciation – The loss in value due to wear and tear
 - Functional obsolescence – The lack of something that other properties in the market have (inadequacy), or the presence of something that does not add value equal to its cost (superadequacy). The resulting depreciation is the loss in value due to the lack of utility or desirability of part or all of the property, inherent to the improvement. Thus, even a new structure may suffer obsolescence when built.
 - External obsolescence – A loss in value due to causes outside the property and independent of it due to location or economic forces.
- The depreciation tables in the Marshall & Swift RCH consider the progression of normal depreciation and functional obsolescence based on age and condition, but do not indicate separate percentages (see page E-2), comment from appraiser is needed.

Example of Functional Obsolescence

- Curable functional obsolescence is measured as the difference between the cost of adding a component now, when the structure is complete, and the cost if the component were included in the structure as if built new on the date of the value opinion.
- The cost to install an item in an existing building is almost always greater than the cost to install in new construction. Depreciation resulting from functional obsolescence is the cost that will not be realized as value.
- 2-story residence with no powder room on first floor.
 - Installation Cost (cost to cure): \$1,800
 - Less cost if installed as part of new construction: - \$1,200
 - Equals depreciation for functional obsolescence: = \$600

(Source: Appraising Residential Properties, 3rd edition, page 297, published by The Appraisal Institute, 1999.)

Example of External Obsolescence

- External obsolescence is loss in value due to influences outside the property, usually incurable.
- External obsolescence can be **allocated between land and improvements** if the external obsolescence is already reflected in the land value estimate.
- A building-to-property ratio derived through market analysis or the assessor's estimate is used to allocate the value loss attributable to the land and to the building.
 - Note that in some cases, external obsolescence is attributable entirely to the **land** when the cost to construct a home is identical on two lots, but one adjoins an highway and sells for less than one located away from the highway; or
 - In some cases, external obsolescence is attributable entirely to the **improvement** when a home is in a transitional neighborhood where land use is changing from residential to commercial.
- Single family residence on a noisy street.
 - Paired sales indicates value loss: $\underline{\$3,000}$
 - Land is 20% of total, thus $\$3,000 * .20 =$ $\$600$
 - Improvements are 80%, thus $\$3,000 * .80 =$ $\$2,400$

(Source: *Appraising Residential Properties*, 3rd edition, page 298-299, published by The Appraisal Institute, 1999.)

Calculating Physical Depreciation

- The simplest and in past years a widely used accounting-type concept of depreciation was the straight-line **Age/Life** approach. A life expectancy is estimated and a constant annual percentage (equal wear or serviceability each year) is taken for depreciation so that at the end of that life the depreciation equals 100% of the initial cost. This linear approach is simple and easy to use but does not represent reality in most cases since time is not the only factor affecting depreciation.
- Marshall & Swift uses a variation of the Age/Life method, called the ***Extended Age/Life Method***.
- Recognizes that that correction of deficiencies (repairs, maintenance, updates and upgrades) may lower the effective age and lengthen the remaining life.
- Non-linear approach, which accounts for slower depreciation rate in the early years, as compared to the later years when diminishing serviceability and higher maintenance can accelerate depreciation.
- See page E-3 for physical indicators of physical deterioration, and external influences affecting physical deterioration.
- See page E-6 for discussion of condition ratings and their relation to effective age

Calculating Physical Depreciation

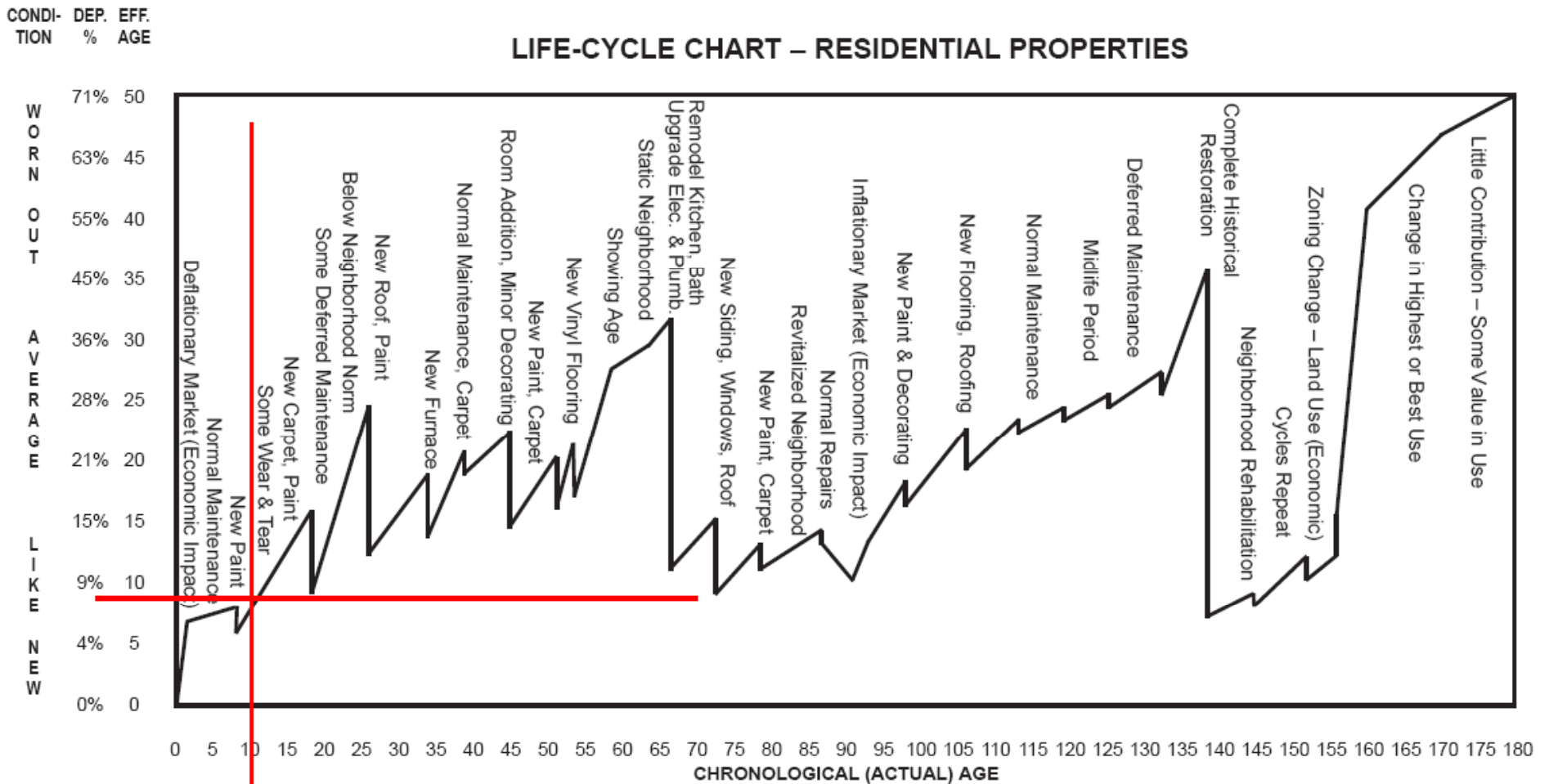
- Determine *Estimated Total Economic Life*, see page E-7.

QUALITY	SINGLE-FAMILY (Detached)	
	Site-built or modular: Frame / Masonry	Mfd. Housing: (mobile homes) Single Wide / Multi-Wide
Low	45 / 50	20 / 25
Fair	50 / 55	20 / 25
Average	55 / 60	25 / 30
Good	55 / 60	30 / 35
Very Good	55 / 60	35 / 40
Excellent	60 / 65	40 / 45

Quote from Marshall & Swift: *“Typical life expectancies of single and multifamily residences are based on case studies of both actual mortality and ages at which major reconstruction had taken place.”*

Calculating Physical Depreciation

- Determine **Effective Age**. See page E-15, Life Cycle Chart



Calculating Physical Depreciation

- Use the table on page E-12 to determine **depreciation percentage** based on effective age.

Effective Age In Years	Typical Life Expectancy in Years										
	70	65	60	55	50	45	40	35	30	25	20
	DEPRECIATION – PERCENTAGE										
1	0%	0%	0%	1%	1%	1%	1%	2%	2%	3%	3%
2	1	1	1	2	2	2	3	4	4	6	7
3	1	2	2	2	3	3	4	5	6	9	11
4	2	2	3	3	4	4	5	7	9	12	15
5	2	3	4	4	5	6	7	9	12	15	20
6	3	4	4	5	6	7	9	11	14	18	24
7	4	5	5	6	7	8	10	13	17	22	28
8	4	5	6	7	8	10	12	15	19	25	33
9	5	6	7	8	10	11	14	17	22	29	38
10	5	7	8	9	11	13	16	20	25	32	43
11	6	8	9	10	12	14	18	22	28	36	48
12	7	9	10	11	13	15	20	24	31	40	53
13	8	10	11	12	15	17	22	26	34	44	57
14	8	10	12	13	16	19	24	29	37	48	61
15	9	11	12	15	17	21	26	32	40	52	66

Note that the percentage of depreciation using the **Extended Age/Life** method is 9%, whereas the percentage using the straight-line Age/Life method is 18% ($10/55 = 18\%$).

Calculating Physical Depreciation

Note in these examples, that the percentage of depreciation using the Marshall & Swift **Extended Age/Life** method is 9% resulting in an adjustment for depreciation of \$16,914, whereas the percentage using the straight-line Age/Life method is 18% ($10/55 = 18\%$) resulting in an adjustment for depreciation of \$34,166.

If your software automatically calculates depreciation based on your input of effective age and total economic life, then you will need to override the settings and manually type in the percentage figure for correct calculation, or type in the actual depreciation amount.

OPINION OF SITE VALUE	= \$	70,000
DWELLING 1,785 Sq.Ft. @ \$ 91.50	= \$	163,328
Basement 396 Sq.Ft. @ \$ 29.01	= \$	11,488
Depreciation	= \$	2,696
Extended (Non-linear) Age Life		10,418
		187,930
Less Physical Functional External		
Depreciation 16,914		= \$(16,914)
Depreciated Cost of Improvements	= \$	171,016
As-is Value of Site Improvements	= \$	11,449
Marketing Expense @ 6%	= \$	16,115
INDICATED VALUE BY COST APPROACH	= \$	268,580

OPINION OF SITE VALUE	= \$	70,000
DWELLING 1,785 Sq.Ft. @ \$ 91.50	= \$	163,328
Basement 396 Sq.Ft. @ \$ 29.01	= \$	11,488
Depreciation	= \$	2,696
Straight-Line (Linear) Age Life		10,418
		187,930
Less Physical Functional External		
Depreciation 34,166		= \$(34,166)
Depreciated Cost of Improvements	= \$	153,764
As-is Value of Site Improvements	= \$	11,449
Marketing Expense @ 6%	= \$	15,014
INDICATED VALUE BY COST APPROACH	= \$	250,227

The M&S Square Foot Appraisal Form 1007

- Enter depreciation percentages and amounts:

27. Depreciation: Physical and Functional	9%	(27,219)
28. External and/or Excessive Functional Obsolescence		
29. Additional Depreciation		

Effective Age In Years	Typical Life Expectancy in Years											
	70	65	60	55	50	45	40	35	30	25	20	
	DEPRECIATION - PERCENTAGE											
1	0%	0%	0%	1%	1%	1%	1%	2%	2%	3%	3%	
2	1	1	1	2	2	2	3	4	4	6	7	
3	1	2	2	2	3	3	4	5	6	9	11	
4	2	2	3	3	4	4	5	7	9	12	15	
5	2	3	4	4	5	6	7	9	12	15	20	
6	3	4	4	5	6	7	9	11	14	18	24	
7	4	5	5	6	7	8	10	13	17	22	28	
8	4	5	6	7	8	10	12	15	19	25	33	
9	5	6	7	8	10	11	14	17	22	29	38	
10	5	7	8	9	11	13	16	20	25	32	43	
11	6	8	9	10	12	14	18	22	28	36	48	
12	7	9	10	11	13	15	20	24	31	40	53	
13	8	10	11	12	15	17	22	26	34	44	57	
14	8	10	12	13	16	19	24	29	37	48	61	
15	9	11	12	15	17	21	26	32	40	52	66	

The M&S Square Foot Appraisal Form 1007

- Enter land/site value, calculate Subtotals and Total Indicated Value:

16. SUBTOTAL: ADJUSTED RESIDENCE COST: Total of Lines 1 to 15.	2,406	102.46	\$ 246,510
21. SUBTOTAL: RESIDENCE COST: Total of Lines 16 to 20.	2,406	119.00	\$ 286,306
23. SUBTOTAL OF ALL BUILDING IMPROVEMENTS: Totals of Lines 21 and 22.	2,406	125.70	\$ 302,429
26. TOTAL BUILDING COST NEW: Line 23 x Line 24 + Line 25.	2,406	125.70	\$ 302,429
30. TOTAL DEPRECIATED COST: Lines 27 to 29.	2,406	114.38	\$ 275,210
33. Land/Site Value			23,500
34. TOTAL INDICATED VALUE: Total of Lines 30 to 33.	2,406	126.41	\$ 304,150*

Transferring Subtotals to the URAR

- Transfer subtotals to the URAR
 - Marshall & Swift 1007 calculates multipliers once, on line 24
 - No provision for multipliers in URAR cost approach worksheet
 - Different format requires a change in calculation
- When transferring to URAR, modify the subtotals with the multipliers:

Form 1007			URAR Cost Approach Grid		
Line #	Item	Subtotal	Item	Multiplier	Subtotal
Line 33	Land/Site Value	\$23,500	Opinion of Site Value	N/A	\$23,500
Line 16	Adjusted Residence Cost	\$246,510	Dwelling	1.00	\$246,510
Line 17a & b	Basement and Finish	\$33,711	Basement	1.00	\$33,711
Lines 18, 19, 20	Porches, Decks, ...	\$6,085	Porch, deck and deck roof	1.00	\$6,085
Line 22	Garages/Carports	\$16,123	Garage/Carport	1.00	\$16,123
Line 24	Multipliers, Total of 1.00				
Line 26	(Should equal figure calculated on the URAR)	\$302,429	Total Estimate of Cost New	N/A	\$302,429
Lines 27, 28, 29	Depreciation	\$27,219	Depreciation	N/A	\$27,219
Line 30	(Should equal figure calculated on the URAR)	\$275,210	Depreciated Cost of Improvements	N/A	\$275,210
Line 31	Yard Improvements	\$5,440	"As Is" Value of Site Improvements	N/A	\$5,440
Line 32	Miscellaneous	\$0	Blank Line (Marketing Expense 6%)		\$0
Line 34	(Should equal figure calculated on the URAR)	\$304,150	Indicated Value By Cost Approach	N/A	\$304,150

Transferring Subtotals to the URAR

Form 1007			URAR Cost Approach Grid		
Line #	Item	Subtotal	Item	Multiplier	Subtotal
Line 33	Land/Site Value	\$23,500	Opinion of Site Value	N/A	\$23,500
Line 16	Adjusted Residence Cost	\$246,510	Dwelling	1.00	\$246,510
Line 17a & b	Basement and Finish	\$33,711	Basement	1.00	\$33,711
Lines 18, 19, 20	Porches, Decks, ...	\$6,085	Porch, deck and deck roof	1.00	\$6,085
Line 22	Garages/Carports	\$16,123	Garage/Carport	1.00	\$16,123
Line 24	Multipliers, Total of 1.00				
Line 26	(Should equal figure calculated on the URAR)	\$302,429	Total Estimate of Cost New	N/A	\$302,429
Lines 27, 28, 29	Depreciation	\$27,219	Depreciation	N/A	\$27,219
Line 30	(Should equal figure calculated on the URAR)	\$275,210	Depreciated Cost of Improvements	N/A	\$275,210
Line 31	Yard Improvements	\$5,440	"As Is" Value of Site Improvements	N/A	\$5,440
Line 32	Miscellaneous	\$0	(Blank Line)		\$0
Line 34	(Should equal figure calculated on the URAR)	\$304,150	Indicated Value By Cost Approach	N/A	\$304,150

- Divide subtotals by the appropriate sq. ft. for Dwelling, Basement and Garage/Carport to arrive at the cost per sq. ft.
- Differences in rounding may result in minor differences in dollar amounts

OPINION OF SITE VALUE				=\$	23,500
DWELLING	2,406	Sq.Ft. @ \$	102.46	=\$	246,510
Basement	1,217	Sq.Ft. @ \$	27.70	=\$	33,711
Porch, deck and deck roof				=\$	6,085
Garage/Carport	405	Sq.Ft. @ \$	39.81	=\$	16,123
Total Estimate of Cost-New				=\$	302,429
Less	Physical	Functional	External		
Depreciation	27,219			= \$(	27,219)
Depreciated Cost of Improvements				=\$	275,210
"As-is" Value of Site Improvements				=\$	5,440
INDICATED VALUE BY COST APPROACH				=\$	304,150

Development / Reporting of the Cost Approach

- A lot goes into arriving at the figures reported in the cost approach section of the URAR.
- It is just as important to provide support for the figures in the cost approach as it is for the sales comparison and income approaches.
- If you have never completed a 1007 form before, the first few times will take you awhile. But, once you become familiar with the process, a credible and supportable cost approach for a standard tract home can be done in 15 minutes.
- Make use of technology! Recreate the 1007 in a spreadsheet and let it do the math for you.

USPAP and Enforcement Issues

- The cost approach is reviewed along with all other aspects of the appraisal for investigations and upgrade reviews.
- Document **all** your sources of cost data and calculations, **reconcile** your value indications from various sources, and keep your data and analysis in the workfile.
- The example below cited 3 sources of cost data, however the workfile contained no cost data, or reconciliation of same.

COST APPROACH	Source of cost data	MARSHALL & SWIFT COST HANDBOOK		
	Quality rating from cost service	V. GOOD	Effective date of cost data	09/2008
	Comments on Cost Approach (gross living area calculations, depreciation, etc.)			
	THE COST APPROACH WAS PREPARED USING RS MEANS			
	RESIDENTIAL COST MANUAL, MARSHALL & SWIFT LIFE CYCLE			
	DEPRECIATION SCALE, AND SURVEY OF LOCAL BUILDER COST			
	FIGURES. PHYSICAL DEPRECIATION IS ESTIMATED USING THE EXTENDED AGE/LIFE METHOD.			

USPAP and Enforcement Issues

- Document *all* your sources of cost data and calculations, keep in your workfile. The following shows lump sum costs for “extras, upgrades, updates, built-ins, site improvements,” for which there was no support.

OPINION OF SITE VALUE.....				= \$	35,000
Dwelling	1,784	Sq. Ft. @ \$	70	= \$	124,880
BSMT	None	Sq. Ft. @ \$	N/A	= \$	
Appliances/Extras/Upgrades					10,000
Garage/Carport	544	Sq. Ft. @ \$	20	= \$	10,880
Total Estimate of Cost-New				= \$	145,760
Less	Physical	Functional	External		
Depreciation	10,932			= \$(	10,932)
Depreciated Cost of Improvements.....				= \$	134,828
'As-is' Value of Site Improvements.....				= \$	10,000
				= \$	
Indicated Value By Cost Approach.....				= \$	179,828

APPROACH	BUILT-INS	\$	12,000	
	LOADING SHED/GREENHOUSE	\$	5,000	
	BASEMENT 1368 SF X \$10/ SQFT	\$	13,680	
	Sub-total:		\$	79,680
	Cost Multiplier (if applicable):		x 1.00	
	Modified Sub-total:			79,680
	Physical Depreciation or Condition Modifier:			20,765
	Functional Obsolescence (not used for N.A.D.A.):			0
	External Depreciation or State Location Modifier:			0
	Delivery, Installation, and Setup (not used for N.A.D.A.):		\$	
Other Depreciated Site Improvements:		\$	99,000	
Market Value of Subject Property (supported above):		\$	179,828	

OPINION OF SITE VALUE.....				= \$	120,000
DWELLING	1,100	Sq.Ft. @ \$	145.00	= \$	159,500
	1,100	Sq.Ft. @ \$	35.00	= \$	38,500
Upgrades, updates, porches, fireplace				= \$	25,000
Garage/Carport	362	Sq.Ft. @ \$	65.00	= \$	23,530
Total Estimate of Cost-New				= \$	246,530
Less	Physical	Functional	External		
Depreciation	98,612		4,931	= \$(	103,543)
Depreciated Cost of Improvements				= \$	142,987
"As-is" Value of Site Improvements				= \$	8,000
				= \$	
INDICATED VALUE BY COST APPROACH				= \$	270,987

USPAP and Enforcement Issues

- ***Don't invent numbers!*** This is a serious USPAP violation. The Conduct section of the Ethics Rule states that “*An appraiser:*”
 - *Must not communicate assignment results with the intent to mislead or to defraud;*
 - *Must not use or communicate a report that is known by the appraiser to be misleading or fraudulent;*
 - *Must not knowingly permit an employee or other person to communicate a misleading or fraudulent report.”*
 - Note for appraisers seeking a license upgrade: If you are a trainee, and you know that you are being trained improperly with regard to the cost approach, consider whether or not you want to allow your signature or name to appear in the report, and take steps to help your supervisor to learn to develop the cost approach properly.

USPAP and Enforcement Issues

- Retain all older editions of Marshall & Swift so that you can produce the references to their cost data when required, either because you are doing a review, or having to support an older appraisal.
- **Reviewers** have the obligation to be competent in the development and reporting of the cost approach, so that they can produce a credible review.
 - *USPAP Standards Rule 3-3(a) states: “When necessary for credible assignment results in the review of analyses, opinions, and conclusions, the reviewer must: (i) develop an opinion as to whether the analyses are appropriate within the context of the requirements applicable to that work; (ii) develop an opinion as to whether the opinions and conclusions are credible within the context of the requirements applicable to that work.”*

Conclusion

- The cost approach requires specialized knowledge to competently develop and report. If you see the need, then ***Get Educated*** and ***Seek Mentoring***.

Residential Cost Training online course



Perfect for both new appraisers entering the field and seasoned professionals seeking a refresher course on the subject, the Marshall & Swift Residential Cost Training online course reviews everything you need to know about determining replacement costs and depreciated values of residential structures and improvements in the United States and throughout Canada.

Available from any computer with Internet access at any time during the 30-day subscription period, this online curriculum features comprehensive lessons that detail the steps of the cost approach.

Enjoy a unique learning environment that is perfect for your busy schedule. Complete the training and answer all lesson objective questions correctly within the 30-day subscription period and you'll receive a Marshall & Swift Trained Appraiser logo for your website and business cards.

Existing active subscribers to the Residential Cost Handbook or Residential Cost Explorer CD can register for only \$199, a savings of \$100. [Click here](#) if you are an active subscriber and would like to purchase or call 800/544-2678 from 6:30 a.m. to 4:30 p.m. PACIFIC to register at the discounted rate. Package rates are also available.

Already registered? Go to the [Student Center](#).

Price: \$299.00



Marshall & Swift Residential Cost Training | Program Details

Seminar - Classroom ▶

Online ▶

Perfect for both new appraisers entering the field and seasoned professionals seeking a refresher course on the subject, the Cost Approach to Residential Appraising online course reviews the process for determining replacement costs and depreciated values of residential structures and improvements in the USA and throughout Canada. **Note: This seminar does not address site or land valuation.** Available from any computer with Internet access at any time during the 30-day subscription period, this online curriculum features 8 comprehensive lessons that detail the various steps of the cost approach.

NOTE: Marshall & Swift software is not required for use in this class. **Syllabus**

- Module 1: Cost Approach Overview
- Module 2: Types of Residences
- Module 3: Quality
- Module 4: Building Components
- Module 5: Obtaining The Base Cost
- Module 6: Lump-Sum Adjustments
- Module 7: Interpolation
- Module 8: Exercises and Applications
- Module 9: Depreciation

Objectives By the end of this seminar, the participant will be able to:

- Recognize the eight basic steps used in the cost approach
- Identify various types of residences
- Classify the types of data used in the cost approach
- Determine the overall quality of residences
- Identify the characteristics of each quality category
- Identify various types of interior finishes
- Determine the cost of various exterior elements
- Calculate simple and complex interpolation
- Complete the Square Foot Appraisal Form to obtain the replacement cost
- Identify the three types of depreciation methods, and calculate depreciation using each

AI CE Credit for Designated Members

This program is approved for **1 hour** of Appraisal Institute CE credit for every hour taken.

Appraisal Institute Credit Hours

Attendance Hours: 10.0

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Tuition

Member: \$ 152.00

Regular: \$ 183.00

Category

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