The Cost Approach to Value

Cost Factors Supplement

General and Special Instructions
Quality Classes 3, 5, and 7
A portion of Interior Components, and
Exterior Components Assembled Costs

Revised by Property Tax Division
Oregon Department of Revenue
June 2007

Cost estimating process

Section 100

General Instructions

The cost approach

The cost approach is one of several methods used to estimate value. This method assumes an informed purchaser would pay no more for a building than the cost of replacing it.

One advantage of the cost approach is that it can be applied to most residential properties. Also, cost data can be adjusted to reflect current market trends. This makes the cost approach a useful tool for mass appraising. This manual will help in applying the cost approach quickly and accurately.

Cost estimating methods

Base cost method

The base cost method estimates replacement cost—the cost to build a similar structure using currently accepted materials and construction methods. The replacement structure must have similar construction quality, usable space, and other significant features. This method is fast and simple. Instructions for the base cost method begin on page 5.

Composition of costs

Cost factors in this manual are developed from actual market data. Besides direct costs such as labor, materials, and contractor's profit and overhead, cost factors include indirect costs necessary for a finished product such as:

- Plans and specifications
- Building permits
- Advertising
- Sales commissions
- Temporary facilities
- Insurance coverage
- Construction financing
- Developer's fees

Include the indirect costs typical for your market area when comparing cost factors in this manual to local building costs.

Base location

Cost factors in this manual are based on market data from the Portland metropolitan area. So, the base location is listed as: PORTLAND, OREGON.

Issue date

The issue date for different parts of this manual may vary due to revisions made after the publication date. Check the bottom inside corner of each page to ensure you have the latest revisions.

General Instructions (cont.)

Local cost modifiers

Because costs are constantly changing, local cost modifiers (LCM) are used to adjust cost factors for localities and appraisal dates. A market area LCM is a vital part of any cost estimate.

To develop a LCM, follow these steps:

1. Select a representative sample of recent new home sales from the local market area. These should be time adjusted, typical of the current market, and not include any abnormal discounts, unusual financing, or other non-typical influences.
2. Determine the sales price of the improvements. The total sales price, less the estimated land value and on-site development (OSD) costs, equals the sales price of the improvements.
3. Develop a cost estimate for the improvements of each sale using the cost factors in this manual.
4. Divide the total improvements sale prices by the total cost estimates in this manual. The result is the LCM.

Example

Sale #	Time adjusted sales price	Estimated land value	Adjusted sales price of improvements	Cost factor estimate
1	$ 147,500	$ 65,000	$ 82,500	$ 78,370
2	142,950	62,500	80,450	83,660
3	163,900	69,450	94,450	88,780
4	251,850	105,000	146,850	149,670
5	278,500	115,250	163,250	156,720
6	269,950	110,500	159,450	155,200
TOTALS	$1,254,650	$527,700	$726,950	$712,400

$$\frac{\$726{,}950 \text{ (sales price of improvements)}}{\$712{,}400 \text{ (cost factor estimates)}} = 1.02 \text{ Local Cost Modifier (LCM)}$$

Develop a LCM for each residential building type and class in this manual. For example, a LCM for conventional single family houses may not apply to multifamily dwellings.

Compare the local construction material and labor costs to the cost data in this manual. For more information on using this approach, contact the nearest DOR Regional Field Office.

For more information on developing LCMs, refer to *Appraisal Methods for Real Property* (150-303-415 Rev.7-03). To order copies write: Oregon Department of Revenue, Special Services, 955 Center St. NE, Salem, OR 97301, or call (503) 945-8636.

General Instructions (cont.)

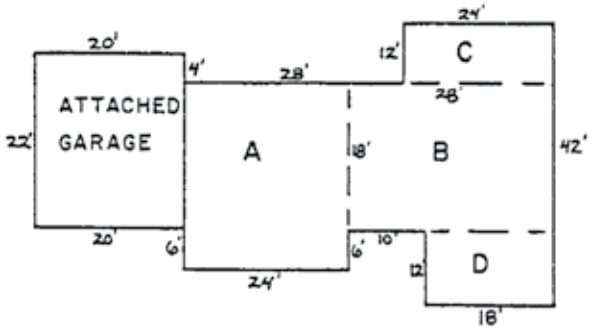
Building inspection

Inspection of the appraisal subject must be objective and comprehensive. Observe and note elements of quality in the building's materials and workmanship. List the building components and construction features on the appropriate appraisal form. During the inspection, note:

1. Building components such as foundation, exterior wall, roof, floors, and partitions.
2. Equipment and fixtures such as built-in appliances, lighting, plumbing, and heating.
3. Other improvements such as garages, driveways, and fences.

Cost factors in this manual are based on total floor area. Measure the exterior of the building, including stairways and entryways, to determine the square foot floor area. Include basement or second floor measurements plus stairways to determine the square foot floor area. Round measurements to the nearest whole foot. Draw a diagram of the buildings' exterior walls with measurements on the appraisal form.

Example



A	24' x 24'	=	576 #
B	18' x 28'	=	504 #
C	12' x 24'	=	288 #
D	12' x 18'	=	216 #
	TOTAL		1584 #

Before leaving the property, check the building measurements to make sure they balance. The total front measurements should equal the total back measurements; side measurements should also be equal.

Uniformity and equity

Uniformity and equity are important in mass appraising. Appraisers should be consistent in selecting appropriate building class and adjustment factors. Inconsistency produces an unacceptable range of values for buildings that should be valued similarly.

Establish reference buildings, or "benchmarks," for uniform appraisal. Benchmarks give appraisal staff standards and guidelines for estimating cost on similar structures. Procedures for setting up benchmarks is in *Appraisal Methods for Real Property,* published by the Department of Revenue. Benchmarks ensure uniform cost estimates for residential buildings.

Base costs

Section 200

Instructions

Base cost method

This section explains how to estimate replacement costs of typical residential buildings, and get reliable cost estimates with minimum building notations and calculations.

Analyze construction components and features before segregating the subject residence into three basic categories—"group," "type," and "class."

"Group"

"Group" is an overall category for buildings based on general use characteristics. Group categories in this section are single family and multifamily residential structures.

"Type"

This is a subdivision of the "group" category and is based on design characteristics. For example, the type categories used in the single family residential group are conventional and manufactured structures, which are now in a separate guide (150-303-419-1 Rev.5-04). To order copies of *Manufactured Structures 2004* write: Oregon Department of Revenue, Special Services, 955 Center St. NE, Salem, OR 97301, or call (503) 945-8636.

"Class"

"Class" categories describe quality variations within each type. Each class is related directly to the quality of construction described in the class features, class illustrations, and base specifications.

Class features are brief narratives to be used as a general guide for class selection.

Class illustrations show examples of quality features in each class. The photographs illustrate the range of structural designs and architectural styles. However, the buildings are alike in overall quality and functional utility, so replacement costs are similar. Emphasis is on construction features and livability according to market standards.

Base specifications describe the building components of a replacement structure typical to each class. This helps place the subject building into the proper class. The main consideration in selecting a class most like the building should be the difference between the base specification and locally developed classification benchmark books.

Base factors

Base factors are the square foot costs for each building class. Base factors contain only the costs of base specification components. If an item or component isn't in the base specifications, it isn't in the base factors either.

Instructions (cont.)

Adjustment factors

A table of adjustment factors is included to modify the base factor according to the features of the appraisal subject. Keep in mind that the adjustment factor may represent either the full cost of the item or just the difference between the base specification component and a replacement for that component.

Plus or minus signs (+ or -) indicate an increase or decrease in the adjustment factors. Some adjustment factors may be applied to the base factor if they're listed in the same unit of measure and apply to the same area. Other adjustments are applied to the overall building cost in a lump sum.

If the required adjustment factor isn't listed, refer to the Component Costs, Section 400, for the appropriate cost information, or develop local area factors instead.

Accessory improvements

For cost factors on garden sheds and other yard and site improvements, refer to the Accessory Improvements section 300, on page 111.

Single Family Residential

Conventional

Special Instructions

This section contains classification and cost data for estimating the replacement cost of a conventional single-family home. The conventional house is sometimes referred to as "site-built" because of the on-site construction methods used.

Classification

There are eight quality classes (1–8) for the conventional house. Each class is represented by a set of base specifications, class features, class illustrations, square foot base factors, and adjustment factors for common structural variations.

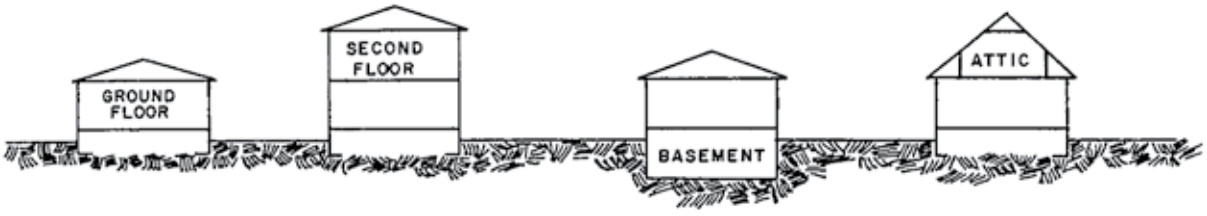
To determine the class for the subject house, compare construction features to the base specification schedules in this section. This will help determine which base specification schedule best describes the overall construction features of the house being appraised.

It's vital to compare the base specifications to the construction features of the house being appraised. Improper classification may impact the replacement cost estimate more than any subsequent cost adjustment. An example of this classification process is shown in *Appraisal Methods for Real Property.* Use the class features and class illustrations only as a general guide in classifying a residence. It's helpful to develop a class benchmark manual illustrating class 1 through class 8 residences in your county. This manual should be put together by knowledgeable appraiser(s), and reviewed by both a supervisor and a DOR regional representative. This is a great classification resource to help appraisers maintain uniform classification from year to year.

Base factors

The base factors tables list square foot costs for one story, second floor, basement, and attic floor levels, as illustrated below.

Diagram



Special Instructions (cont.)

Use these steps to select the base factor for the residence being appraised:

1. Select the applicable group, type and class.
2. Compute the total area of each floor level.
3. Using factor tables for the residence's group, type, and class, select the cost factor listed for the area of each floor level.

Example: The appraisal subject is a class 5, conventional, single family residence. The ground floor has 1,270 square feet. The second floor has 1,310 square feet. The square foot cost factors are in the table to the right. The one story cost is $83.37 per square foot, and the second floor cost is $62.34 per square foot.

Each cost factor is applied to the total square footage of its respective floor level. Compute the costs for each floor level separately, and add the costs together in a lump sum.

Because the one story and second floor factors are given in 10 square foot increments, no interpolation is necessary. Simply select the factor for the square footage nearest the subject's floor area.

Conventional

Class—5

Cost Factor Tables

One Story Base Factors
(Floor Area — Cost Per Sq. Ft.)

	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700
0	96.68	92.68	89.49	86.87	84.69	82.84	81.26	79.89	78.69	77.63
10	96.24	92.33	89.20	86.63	84.49	82.67	81.12	79.76	78.58	77.53
20	95.80	91.99	88.92	86.40	84.30	82.51	80.97	79.64	78.47	77.44
30	95.38	91.65	88.65	86.17	84.10	82.34	80.83	79.51	78.36	77.34
40	94.97	91.32	88.38	85.95	83.91	82.18	80.69	79.39	78.25	77.24
50	94.57	91.00	88.12	85.73	83.73	82.02	80.55	79.27	78.15	77.15
60	94.17	90.69	87.86	85.52	83.55	81.87	80.42	79.15	78.04	77.06
70	93.79	90.38	87.60	85.30	83.37	81.71	80.28	79.04	77.94	76.96
80	93.41	90.07	87.35	85.09	83.19	81.56	80.15	78.92	77.83	76.87
90	93.04	89.78	87.11	84.89	83.01	81.41	80.02	78.80	77.73	76.78

Second Floor Factors
(Floor Area — Cost Per Sq. Ft.)

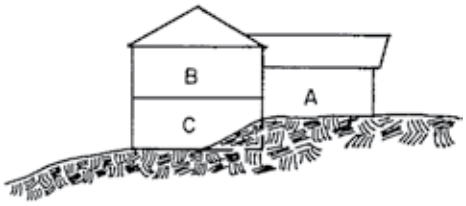
	400	500	600	700	800	900	1,000	1,100	1,200	1,300
0	88.74	81.14	76.07	72.45	69.74	67.62	65.93	64.55	63.40	62.43
10	87.81	80.54	75.65	72.14	69.50	67.44	65.78	64.43	63.30	62.34
20	86.93	79.97	75.25	71.85	69.27	67.26	65.64	64.31	63.19	62.25
30	86.09	79.42	74.86	71.56	69.05	67.08	65.49	64.18	63.09	62.16
40	85.28	78.89	74.49	71.28	68.83	66.90	65.35	64.07	62.99	62.08
50	84.52	78.37	74.12	71.00	68.62	66.73	65.21	63.95	62.89	61.99
60	83.78	77.88	73.77	70.74	68.41	66.57	65.07	63.84	62.80	61.91
70	83.08	77.40	73.42	70.48	68.21	66.40	64.94	63.72	62.70	61.83
80	82.41	76.94	73.09	70.22	68.01	66.24	64.81	63.61	62.61	61.75
90	81.76	76.50	72.76	69.98	67.81	66.09	64.68	63.51	62.52	61.67

Determining floor levels

Examine the use and construction characteristics of each floor level to determine:

1. The total square footage, and
2. The proper cost factor to apply.

Special Instructions (cont.)



A floor level that is characteristic of a ground floor should be considered as such. This also applies to the second floor, basement, and attic floor levels. For example, the split level house shown below has three insert schematic floor levels. Level A is clearly a ground floor level. However, levels B and C require some judgment to determine which is the ground floor level. If level C has characteristics of a basement, then level B should be considered the ground floor level. But if level C is more like a ground floor than a basement, level B should be considered a second floor level. Level C cannot be considered as basement if level B is considered second floor. Either level B or level C must be considered the ground floor level and added to level A for the total ground floor area.

Partially finished basements or attics

For a partially finished basement or attic, compute the floor level costs from the column of the total floor area. For example, a class 5 basement of 1,200 square feet, of which 800 square feet is finished per class specifications, is figured as follows:

1,200 s/f @ $ 44.55	=	$ 53,460		400 s/f @ $ 44.55	=	$ 17,820
800 s/f @ $ 30.27	=	$ 24,220	**or**	800 s/f @ $ 74.82	=	59,860
($74.82 – $44.55)		$77,680				$ 77,680

Adjustment factors

Adjustment factors for each class are included in this manual. The quality of items and components in the adjustment factors are typical for their class. If the quality of an item is better or poorer than what is typically found in the overall class of the appraisal subject, use an adjustment factor from a better or poorer class for that item. For example, the fireplace in a class 5 house is of a quality typically found in class 6 homes. An adjustment factor from the class 6 schedule can be used to estimate the cost of the fireplace.

Apply the heating-cooling adjustment factors to the total floor area that is heated and/or cooled. The square foot area of all floor levels must be included when using the heating-cooling factor. Sometimes the second floor, basement, and attic floor levels will share the main duct with the first floor. In that case, use one-half of the area of the floor levels to select the heating-cooling factor. For example, the total area heated in a class 5 house with a one-story area of 1,500 square feet and a basement area of 1,200 square feet is determined as follows:

One-story area	1,500 square feet
Basement (1,200 s/f ÷ 2)	600 square feet
Total area heated	2,100 square feet

Plumbing costs for rough in are handled separately from fixture costs. Costs for rough-in plumbing installation are included in the base cost factors for each building class.

Special Instructions (cont.)

Plumbing fixture costs are included in the adjustment factors for each building class. Fixtures must be inventoried by number and quality, and their costs determined using the appropriate adjustment factor. The quality of a fixture can be determined to be either better or poorer than what is typically found in the class of the appraisal subject. In this case, use an adjustment factor from the appropriate better or poorer class for each fixture. If a fixture is unusual and not included in the adjustment factor schedules, compare prices to similar items in your local market area.

Garages and carports

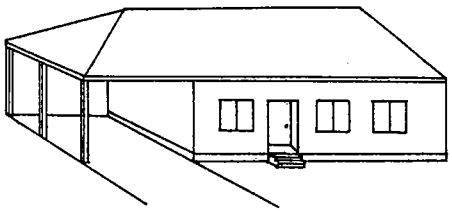
Garage and carport specifications, base factors, and adjustment factors are included in cost data for conventional class 2, 3, 4, 5, and 6 dwellings. Overall construction quality for residences also applies to garages and carports in the same class. Compare the construction of the garage or carport to the residence to ensure it is of the same construction quality. If the quality is different, adjust the class for the garage or carport accordingly.

Attached carports are separated into two categories, "flat or shed" and "same as house":

"Flat or shed" carports have a light roof frame with a built-up, corrugated metal or fiberglass cover. The roof usually has a flat or low pitch shed design.

"Same as house" carports have a roof structure that is the same as the house roof.

Flat or Shed



Same as House

Example cost estimate

Here is an example using the steps to compute a cost estimate. The subject is a class 5 house with a one-story area of 2,400 square feet. It has a medium weight architectural composition roof, drop-in range, hood fan, dishwasher, microwave, and garbage disposal. The plumbing includes two and one-half baths. The house has forced-air heating and a single fireplace with a ceiling high brick face, raised hearth, and an outside bricked chimney. Under the house is an 800 square foot basement of which 400 square feet is finished as per the class specifications. An unfinished garage with 500 square feet is attached to the house. Yard improvements include a 4-inch thick concrete driveway of 820 square feet and a concrete slab patio of 150 square feet.

Example

			Sq.Ft.	Lump Sum
Class 5 one-story factor @ 2,400 s/f			$83.18	
Adjustment factor: roof, medium weight architectural composition			.15	
			$83.33	
One story: 2400 s/f @ $83.33=				$199,992
Additional adjustment factors				
Appliances:				
Drop-in range	$ 900			
Hood-fan	410			
Dishwasher	720			
Microwave, built-in	520			
Garbage disposer	190	+		$ 2,740
Plumbing:				
Lavatories, 4 @ $ 500 ea.	$ 2,000			
Toilets, 3 @ $ 450	1,350			
Jet tub	3,900			
Fiberglass stall shower with door	1,600			
Fiberglass tub with shower over	1,400			
Kitchen sink, enameled steel, double	600			
Laundry tub, fiberglass, single	550			
Water heater	450	+		11,850
Heating: forced air				
Area heated: one-story	2,400 s/f			
finished bsmt.	400			
	2,800 s/f @ $1.70 =	+		4,760
Masonry fireplace $ 4,140+ $ 840 for outside brick chimney =		+		4,980
Basement: 800 square feet total				
400 s/f finished @ $ 81.93 =	$ 32,772			
400 s/f unfinished @ $ 51.01 =	20,404	+		53,176
Total house replacement costs				**$ 277,498**
Garage: attached 500 s/f unfinished factor			$ 63.53	
Adjustment factor; roof, medium weight architectural composition		+	.15	
			$ 63.68	
Total garage replacement cost 500 s/f @ $ 63.68 =				**31,840**
Yard improvements:				
Driveway (concrete) 820 s/f @ $ 3.25 =	$ 2,665			
Patio (concrete) 150 s/f @ $ 3.25 =	487			
Total Yard Improvements				**3,152**
LCM: 100%				
Total replacement cost (house, garage, and yard improvements)				**$ 312,490**

Conventional

Class 3

Class features

Houses in this class are generally built to meet government financing program specifications. Emphasis is on functional utility rather than styling. These homes just meet the current minimum building code.

A simple rectangular shape is most common. Exterior dimensions are usually in multiples of four feet to minimize building material waste. There is little or no exterior ornamentation. Front entries typically open directly into the living area. Interior features are plain and economical. Bathrooms feature economy-grade fixtures. Appliances may or may not be built in and are the most affordable on the market. The overall concept is to provide housing for the economy market.

Class Illustrations












Class 3

Interior Features











Conventional

Class 3 (cont.)

Item	Base Specifications
Foundation	Crawl space excavation; spread footing; continuous concrete or masonry perimeter wall; interior piers; vent openings; access opening; backfill and grading.
Exterior Wall	Stud frame construction; insulation; economy-grade painted single siding; economy-grade exterior doors and minimal windows; may have some trim, plain features.
Roof	Gable, hip, or comparable design, typically with open soffits; wood frame construction; ceiling joists; economy-grade solid sheathing; light weight 3-tab composition shingle cover; ceiling insulation; gutters and downspouts.
Floor	Wood frame construction with underpinning and underlayment, or concrete slab; economy-grade carpet and padding, and resilient cover in appropriate areas.
Partitions	Wood frame construction; economy-grade plaster or drywall with painted surfaces; similar material for ceiling cover and interior cover of exterior wall; economy-grade hollow core doors, hardware, and trim.
Interior Components	Quantity of cabinetry proportionate to overall house size; cabinets of economy paint grade material or simulated veneer finish; economy-grade plastic or linoleum countertop and backsplash; minimal shelving in wardrobe and linen closets; economy-grade hardware; narrow width stairway of straight design with softwood rail, and economy-grade carpet or softwood tread cover.
Electrical	Entry service; multi-circuit panel; non-metallic sheathed cable wiring; minimum number of convenience outlets; economy-grade light fixtures; range and dryer outlets.
Plumbing	Rough-in plumbing costs only.
Heating-Cooling	None in base specifications.
Exterior Components	Economy open front entry porch; with concrete or wood steps and floor; minimal extension of dwelling roof or separate roof cover, slightly wider than entry door.

Conventional

Class 3
Cost Factor Tables

One Story Base Factors
(Floor Area — Cost Per Sq. Ft.)

	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900
0	71.29	67.38	64.33	61.90	59.91	58.25	56.84	55.64	54.59	53.68	52.87	52.16	51.52
10	70.85	67.04	64.07	61.68	59.73	58.09	56.71	55.52	54.50	53.59	52.80	52.09	51.46
20	70.42	66.71	63.80	61.47	59.55	57.95	56.58	55.42	54.40	53.51	52.72	52.02	51.40
30	70.00	66.39	63.55	61.26	59.38	57.80	56.46	55.31	54.31	53.43	52.65	51.96	51.34
40	69.60	66.07	63.30	61.06	59.21	57.66	56.34	55.20	54.21	53.34	52.58	51.89	51.28
50	69.20	65.77	63.05	60.85	59.04	57.51	56.22	55.10	54.12	53.26	52.50	51.83	51.22
60	68.82	65.47	62.81	60.66	58.87	57.38	56.10	54.99	54.03	53.18	52.43	51.76	51.16
70	68.44	65.17	62.58	60.46	58.71	57.24	55.98	54.89	53.94	53.10	52.36	51.70	51.11
80	68.08	64.89	62.35	60.27	58.55	57.10	55.86	54.79	53.85	53.03	52.29	51.64	51.05
90	67.72	64.61	62.12	60.09	58.40	56.97	55.75	54.69	53.76	52.95	52.22	51.58	50.99

Second Floor Factors
(Floor Area — Cost Per Sq. Ft.)

	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600
0	54.95	50.80	48.04	46.06	44.58	43.43	42.51	41.75	41.12	40.59	40.14	39.74	39.39
10	54.44	50.47	47.81	45.89	44.45	43.33	42.42	41.68	41.07	40.54	40.09	39.70	39.36
20	53.96	50.16	47.59	45.73	44.33	43.23	42.34	41.62	41.01	40.49	40.05	39.67	39.33
30	53.50	49.86	47.38	45.57	44.20	43.13	42.26	41.55	40.95	40.45	40.01	39.63	39.30
40	53.06	49.57	47.17	45.42	44.09	43.03	42.19	41.49	40.90	40.40	39.97	39.60	39.27
50	52.64	49.29	46.97	45.27	43.97	42.94	42.11	41.42	40.85	40.35	39.93	39.56	39.24
60	52.24	49.02	46.78	45.12	43.86	42.85	42.04	41.36	40.79	40.31	39.89	39.53	39.21
70	51.86	48.76	46.59	44.98	43.74	42.76	41.96	41.30	40.74	40.26	39.85	39.49	39.18
80	51.49	48.51	46.41	44.84	43.64	42.67	41.89	41.24	40.69	40.22	39.81	39.46	39.15
90	51.14	48.27	46.23	44.71	43.53	42.59	41.82	41.18	40.64	40.18	39.78	39.43	39.12

Basement Factors
(Floor Area — Cost Per Sq. Ft.)

	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
Unfinished	49.17	44.40	41.23	38.96	37.26	35.94	34.88	34.01	33.29	32.68	32.16
Low Cost	60.99	55.76	52.27	49.78	47.91	46.46	45.30	44.35	43.56	42.88	42.31
Finished	72.09	66.49	62.75	60.08	58.08	56.52	55.27	54.25	53.40	52.69	52.07

	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
Unfinished	31.70	31.30	30.95	30.64	30.36	30.11	29.89	29.68	29.49	29.32	29.16
Low Cost	41.81	41.38	40.99	40.65	40.34	40.07	39.82	39.59	39.39	39.20	39.02
Finished	51.54	51.07	50.66	50.29	49.96	49.67	49.40	49.16	48.94	48.73	48.55

Attic Factors
(Floor Area — Cost Per Sq. Ft.)

	200	300	400	500	600	700	800	900	1,000	1,100	1,200
Unfinished	43.46	33.60	28.67	25.72	23.75	22.34	21.28	20.46	19.80	19.27	18.82
Low Cost	54.83	44.36	39.13	35.99	33.90	32.41	31.29	30.41	29.72	29.15	28.67
Finished	65.58	54.65	49.19	45.91	43.72	42.16	40.99	40.08	39.35	38.75	38.26

Conventional

Class 3 (cont.)
Adjustment Factors

Foundation

Apply cost to ground floor area	**SQ. FT.**
Wood frame on masonry piers	– $ 1.65

Roof

Apply costs to ground floor area	**SQ. FT.**		**SQ. FT.**
Comp. shingle, light weight arch.	+ $ .20	Cedar shake, medium weight	+ $ .85
Baked enamel, metal	+ 2.20	Cedar shingle	+ 1.30

Interior Components

	EACH		**EACH**
APPLIANCES		**STOVES AND FIREPLACES (cont.)**	
		Fireplaces	
Basic set: drop-in range, hood-fan, dishwasher, garbage disposer	+ $ 1,200	Direct vent, gas fired fascia surround, non-brick	+ $ 2,040
Range, drop-in	+ 550	Interior masonry,	
Hood-fan	+ 180	mantel high face brick single	+ 2,690
Dishwasher	+ 340	raised hearth	+ 580
Garbage disposer	+ 130	Prefab. metal box and flue, gas log, mantel high face brick	+ 2,520
STOVES AND FIREPLACES		Additional features:	
Stoves		Outside brick chimney;	
Wood stove w/flue	+ 2,600	one story	+ 630
Pellet stove w/flue	+ 3,950		
Gas stove w/flue	+ 2,270		
	SQ. FT.		
Floor and wall heat shield	+ $ 9.00		

Conventional

Class 3 (cont.)
Adjustment Factors

Plumbing

	EACH		EACH
FIXTURES			
Full bath: tub w/shower over or shower stall, lavatory, toilet	+ $1,250	Stall shower, w/door, fiberglass	+ $1,200
Half bath: lavatory, toilet	+ 500	Lavatory, enameled steel	+ 250
Bathtub, enameled steel or fiberglass	+ 500	Toilet, standard	+ 250
add for:		Kitchen sink:	
shower w/plastic surround	+ 250	Stainless steel, double	+ 400
sliding plastic door	+ 90	Laundry tub, single fiberglass	+ 300
		Water heater	+ 350

Heating — Cooling

Area Heated/Cooled SQ. FT.:	800	1000	1,200	1,400	1,600	1,800	2,000	2,200	2,400
Electric baseboard, wall unit, or ceiling cable	2.20	2.05	1.90	1.75	1.65	1.60	1.55	1.50	1.45
Forced air heating	3.70	2.95	2.45	2.25	2.05	1.90	1.75	1.70	1.60

Conventional

Class 3

Garage

FLOOR AREA — COST PER SQ. FT.

ATTACHED

Garage unfinished with interior fire-wall only. Construction feature comparable to house, slab floor, minimum lighting and outlets.

	200	300	400	500	600	700	800
0	54.05	44.78	40.15	37.37	35.52	34.20	33.21
25	50.96	43.36	39.34	36.84	35.15	33.92	33.00
50	48.49	42.14	38.61	36.36	34.81	33.67	32.80
75	46.47	41.08	37.96	35.92	34.49	33.43	32.61

		SQ. FT.	LIN. FT.	EACH
Finished				
Low-cost wallboard or equivalent	+	$ 1.90		
Plaster or textured drywall	+	2.65		

FLOOR AREA — COST PER SQ. FT.

DETACHED

Garage unfinished with construction features comparable to house, slab floor, minimum lighting and outlets.

	200	300	400	500	600	700	800
0	55.56	46.78	42.39	39.76	38.01	36.75	35.81
25	52.63	45.43	41.62	39.26	37.65	36.49	35.61
50	50.29	44.27	40.93	38.80	37.33	36.25	35.42
75	48.38	43.27	40.31	38.39	37.03	36.02	35.25

		SQ. FT.	LIN. FT.	EACH
Finished				
Low-cost wallboard or equivalent	+	$ 1.90		
Plaster or textured drywall	+	2.65		

ADJUSTMENT FACTORS

		SQ. FT.	LIN. FT.	EACH
ATTIC; apply cost to attic area				
Storage; pull down stairs, sub floor	+	$ 5.10		
ROOF				
Comp. shingle, light weight arch	+	.20		
Baked enamel, metal	+	2.20		
Cedar shake, medium weight	+	.85		
Cedar shingle	+	1.30		
AUTOMATIC DOOR OPENER	+			$ 350.00

Conventional

Class 3

Carport

Construction features comparable to house, slab floor, open side and end(s)

FLOOR AREA

ATTACHED
- Flat or shed
- Same as house

	200	300	400	500	600	700	800
Flat	22.66	21.70	21.22	20.94	20.75	20.61	20.51
Same as house	24.67	23.84	23.43	23.18	23.02	22.90	22.81

DETACHED
- Flat or shed
- Gable or hip

	200	300	400	500	600	700	800
Flat	22.86	21.90	21.43	21.14	20.95	20.81	20.71
Same as house	24.88	24.04	23.63	23.38	23.21	23.09	23.00

ADJUSTMENT FACTORS

		SQ. FT.	LIN. FT.	EACH
ROOF				
Comp. shingle, light weight arch.	+	$ .20		
Baked enamel, metal	+	2.20		
Cedar shake, medium weight	+	.85		
Cedar shingle	+	1.30		
FLOOR				
Gravel	–	$2.00		

Conventional

Class 5

Class Features

Class 5 represents average quality homes built for speculation or on order by a volume builder. They reflect popular combinations of style, design, and functional utility with a convenient floor plan and are acceptable to a broad portion of the market.

These homes may have exterior ornamentation such as brick veneer, railings, or cornice trim. They have a larger, often multi-storied entry area with some type of outside window area to give a more expansive feeling. Typically, windows are large and numerous, and accent windows are common. Bathroom fixtures are average quality with entry-level designer faucets. Built-in appliances are average-quality and often include separate ovens and cook tops. Interior features may include some average quality hardwood paneling, or painted or stained wainscoting.

Class Illustrations





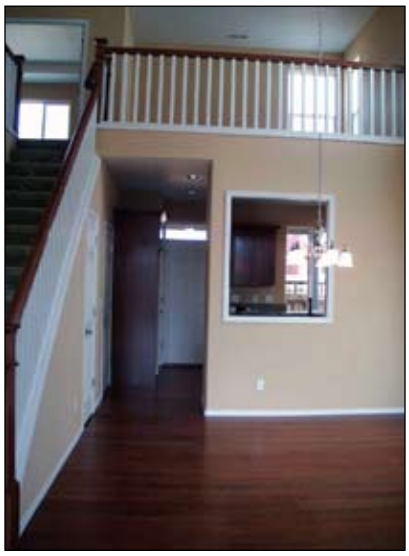







Class 5

Interior Features






Conventional

Class 5 (cont.)

Item	Base Specifications
Foundation	Crawl space excavation; spread footing; continuous concrete or masonry perimeter wall; interior piers; vent openings; access opening; backfill and grading.
Exterior Wall	Stud frame construction; insulation; sheathing and average quality painted siding or equivalent construction; average quality exterior doors and windows; may have optional items such as masonry trim, windows boxes, shutters, etc.
Roof	Moderate to complex design; wood frame construction; ceiling joists; average quality solid or spread sheathing; light weight architectural composition shingle cover; ceiling insulation; gutters and downspouts; moderate attention to roof trim.
Floor	Wood frame construction with underpinning, subflooring and underlayment; average quality hardwood flooring and finish or carpet and padding; average quality resilient cover or tile in appropriate areas.
Partitions	Wood frame construction; average quality textured plaster or drywall with painted surfaces, wallpaper, veneer paneling or wainscoting; similar material for ceiling cover and interior cover of exterior wall; average quality doors, hardware and trim; painted or stained average quality softwood millwork.
Interior Components	Cabinet quantity is proportionate to overall house size; cabinets of average quality plywood with hardwood veneer, stained or painted, or hardboard with painted finish; average quality laminate or tile countertops and backsplash; wardrobe, linen, and utility closets with shelving; average quality hardware; moderate width stairway of single or double angles with landings, hardwood rail with painted softwood spindles, and average quality carpet or hardwood tread cover.
Electrical	Entry service; multi-circuit panel; non metallic sheathed cable wiring; adequate number of convenience outlets; average quality light fixtures; range and dryer outlets; may have special appliance and equipment outlets.
Plumbing	Rough-in plumbing costs only.
Heating-Cooling	None in base specifications.
Exterior Components	Average quality open front entry porch integrated with house design, adequate to cover entry area; concrete or wood steps and floor.

Conventional

Class 5 — Cost Factor Tables

One Story Base Factors
(Floor Area — Cost Per Sq. Ft.)

	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000
0	128.13	120.64	114.65	109.74	105.65	102.20	99.23	96.66	94.42	92.43	90.67	89.09	87.67
10	127.30	119.98	114.11	109.30	105.28	101.88	98.96	96.43	94.21	92.25	90.50	88.94	87.54
20	126.49	119.34	113.59	108.87	104.92	101.57	98.69	96.19	94.00	92.06	90.34	88.80	87.41
30	125.69	118.71	113.07	108.44	104.56	101.26	98.42	95.96	93.80	91.88	90.18	88.65	87.27
40	124.92	118.09	112.57	108.02	104.20	100.96	98.16	95.73	93.59	91.70	90.02	88.51	87.14
50	124.16	117.48	112.08	107.61	103.86	100.66	97.90	95.50	93.39	91.53	89.86	88.36	87.01
60	123.43	116.89	111.59	107.20	103.51	100.37	97.65	95.28	93.20	91.35	89.70	88.22	86.89
70	122.71	116.31	111.12	106.81	103.18	100.08	97.40	95.06	93.00	91.18	89.55	88.08	86.76
80	122.00	115.75	110.65	106.42	102.84	99.79	97.15	94.84	92.81	91.01	89.39	87.94	86.64
90	121.31	115.19	110.19	106.03	102.52	99.51	96.90	94.63	92.62	90.84	89.24	87.81	86.51

	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000
0	86.39	85.22	84.15	83.18	82.28	81.45	80.68	79.97	79.30	78.68
10	86.27	85.11	84.05	83.08	82.19	81.37	80.61	79.90	79.24	78.62
20	86.15	85.00	83.95	82.99	82.11	81.29	80.53	79.83	79.17	78.56
30	86.03	84.89	83.85	82.90	82.02	81.21	80.46	79.76	79.11	78.50
40	85.91	84.78	83.75	82.81	81.94	81.13	80.39	79.69	79.05	78.45
50	85.79	84.68	83.66	82.72	81.85	81.06	80.32	79.63	78.99	78.39
60	85.67	84.57	83.56	82.63	81.77	80.98	80.25	79.56	78.92	78.33
70	85.56	84.46	83.46	82.54	81.69	80.90	80.17	79.50	78.86	78.27
80	85.45	84.36	83.37	82.45	81.61	80.83	80.10	79.43	78.80	78.21
90	85.33	84.26	83.27	82.36	81.53	80.75	80.04	79.37	78.74	78.16

Second Floor Factors
(Floor Area — Cost Per Sq. Ft.)

	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600
0	88.74	81.14	76.07	72.45	69.74	67.62	65.93	64.55	63.40	62.43	61.59	60.87	60.23
10	87.81	80.54	75.65	72.14	69.50	67.44	65.78	64.43	63.30	62.34	61.51	60.80	60.17
20	86.93	79.97	75.25	71.85	69.27	67.26	65.64	64.31	63.19	62.25	61.44	60.73	60.12
30	86.09	79.42	74.86	71.56	69.05	67.08	65.49	64.18	63.09	62.16	61.36	60.67	60.06
40	85.28	78.89	74.49	71.28	68.83	66.90	65.35	64.07	62.99	62.08	61.29	60.60	60.00
50	84.52	78.37	74.12	71.00	68.62	66.73	65.21	63.95	62.89	61.99	61.22	60.54	59.94
60	83.78	77.88	73.77	70.74	68.41	66.57	65.07	63.84	62.80	61.91	61.14	60.48	59.89
70	83.08	77.40	73.42	70.48	68.21	66.40	64.94	63.72	62.70	61.83	61.07	60.41	59.83
80	82.41	76.94	73.09	70.22	68.01	66.24	64.81	63.61	62.61	61.75	61.00	60.35	59.78
90	81.76	76.50	72.76	69.98	67.81	66.09	64.68	63.51	62.52	61.67	60.93	60.29	59.73

	1,700	1,800	1,900	2,000
0	59.67	59.18	58.73	58.33
10	59.62	59.13	58.69	58.29
20	59.57	59.08	58.65	58.26
30	59.52	59.04	58.61	58.22
40	59.47	58.99	58.57	58.18

	1,700	1,800	1,900	2,000
50	59.42	58.95	58.53	58.15
60	59.37	58.90	58.49	58.11
70	59.32	58.86	58.45	58.07
80	59.27	58.82	58.41	58.04
90	59.22	58.77	58.37	58.00

Conventional

Class 5
Cost Factor Tables (cont.)

Basement Factors
(Floor Area — Cost Per Sq. Ft.)

	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
Unfinished	70.39	62.64	57.47	53.78	51.01	48.86	47.13	45.72	44.55	43.56	42.70
Low Cost	86.62	78.31	72.78	68.82	65.86	63.55	61.70	60.19	58.93	57.87	56.96
Finished	103.25	94.72	89.03	84.97	81.93	79.56	77.66	76.11	74.82	73.73	72.79

	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
Unfinished	41.97	41.32	40.75	40.24	39.79	39.38	39.01	38.68	38.37	38.09	37.83
Low Cost	56.16	55.47	54.86	54.32	53.83	53.40	53.00	52.64	52.31	52.01	51.73
Finished	71.98	71.27	70.64	70.08	69.59	69.14	68.73	68.36	68.02	67.72	67.43

Attic Factors
(Floor Area — Cost Per Sq. Ft.)

	200	300	400	500	600	700	800	900	1,000	1,100	1,200
Unfinished	72.47	54.79	45.95	40.64	37.10	34.58	32.68	31.21	30.03	29.07	28.26
Low Cost	87.47	69.34	60.27	54.83	51.20	48.61	46.67	45.16	43.95	42.96	42.14
Finished	102.18	84.14	75.12	69.71	66.10	63.52	61.59	60.09	58.88	57.90	57.08

Conventional

Class 5 (cont.)
Adjustment Factors

Exterior Wall

		LIN. FT.
BRICK VENEER, full 8-foot wall	+	$104.35

Roof

		SQ. FT.			SQ. FT.
Apply costs to ground floor area					
Comp. shingle, medium weight, 3 tab	–	$ .10	Baked enamel, metal	+	$ 2.00
Comp. shingle, medium weight architectural.	+	.15	Cedar shake, medium weight	+	.65
Comp. shingle, heavy weight arch.	+	.30	Cedar shingle	+	1.10
Fiber-cement composite	+	1.55	Concrete tile	+	2.50

Interior Components

		EACH			EACH
APPLIANCES			**STOVES AND FIREPLACES (cont.)**		
			Fireplaces		
Basic set: drop-in range, hood-fan, dishwasher, garbage disposer	+	$ 2,220	Direct vent, gas fired;		
Range, drop-in, self clean	+	900	fascia surround, non-brick	+	$ 2,600
Oven, single, self clean	+	870	Interior masonry,		
Oven, double, self clean	+	1,800	ceiling high face brick,		
Cooktop	+	550	raised hearth		
w/built-in exhaust and grill	+	790	single	+	4,140
Microwave oven, built-in	+	520	see-through	+	5,600
Hood-fan	+	410	backed	+	7,280
Dishwasher	+	720	stacked	+	7,900
Garbage disposer	+	190	Prefab. metal box and flue, gas log, ceiling high face brick face	+	3,580
STOVES AND FIREPLACES			Additional features:		
Stoves			Outside brick chimney;		
Wood stove w/flue	+	3,160	one story	+	840
Pellet stove w/flue	+	4,510	two story	+	1,120
Gas stove w/flue	+	2,830			

		SQ. FT.
Floor and wall heat shield	+	$ 11.80

Conventional

Class 5 (cont.)
Adjustment Factors

Plumbing

		EACH
FIXTURES		
Full bath: tub w/shower over or shower stall, lavatory, toilet	+	$ 2,350
Half bath: lavatory, toilet	+	950
Bathtub, enameled steel or fiberglass	+	900
add for:		
shower w/fiberglass surround	+	500
shower w/tile surround	+	900
sliding glass door	+	250
Stall shower, w/door, fiberglass	+	1,600
Stall shower, w/door, tile	+	2,600
Garden tub	+	$ 2,500
Jet tub	+	3,900
Lavatory, china	+	500
Toilet, standard	+	450
Kitchen sink:		
Enameled steel, double	+	600
Bar sink, stainless steel	+	450
Hot water dispenser	+	250
Laundry tub, single fiberglass	+	550
Water heater	+	450

Heating — Cooling

Area Heated/Cooled SQ. FT.:	1,000	1,200	1,400	1,600	1,800	2,000	2,200	2,400	2,600
Electric baseboard, wall units, or ceiling cable	2.15	2.00	1.90	1.80	1.75	1.70	1.65	1.60	1.55
Forced air heating	3.65	3.05	2.75	2.50	2.30	2.10	1.95	1.90	1.80
Forced air heating and cooling	4.55	3.85	3.40	3.10	2.90	2.60	2.50	2.35	2.20
Heat pump	5.05	4.25	3.80	3.45	3.20	2.90	2.75	2.60	2.45

Area Heated/Cooled SQ. FT.:	2,800	3,000	3,200
Electric baseboard, wall units, or ceiling cable	1.50	1.45	1.40
Forced air heating	1.70	1.60	1.50
Forced air heating and cooling	2.05	2.00	1.90
Heat pump	2.30	2.20	2.10

Conventional

Class 5

Garage

ATTACHED

Garage unfinished with interior fire-wall only. Construction feature comparable to house, slab floor, minimum lighting and outlets.

FLOOR AREA — COST PER SQ. FT.

	200	300	400	500	600	700	800
0	99.20	79.38	69.48	63.53	59.57	56.74	54.61
25	92.59	76.33	67.73	62.40	58.77	56.15	54.16
50	87.31	73.72	66.17	61.37	58.04	55.60	53.74
75	82.99	71.46	64.78	60.43	57.36	55.09	53.34

		SQ. FT.	LIN. FT.	EACH
Finished				
Low-cost wallboard or equivalent	+	$ 2.50		
Plaster or textured drywall	+	3.80		

DETACHED

Garage unfinished with construction features comparable to house, slab floor, minimum lighting and outlets.

FLOOR AREA — COST PER SQ. FT.

	200	300	400	500	600	700	800
0	102.37	83.81	74.53	68.97	65.26	62.60	60.62
25	96.18	80.96	72.90	67.91	64.51	62.06	60.19
50	91.23	78.51	71.44	66.94	63.83	61.54	59.80
75	87.18	76.39	70.14	66.06	63.19	61.07	59.42

		SQ. FT.	LIN. FT.	EACH
Finished				
Low-cost wallboard or equivalent	+	$ 2.50		
Plaster or textured drywall	+	3.80		

ADJUSTMENT FACTORS

		SQ. FT.	LIN. FT.	EACH
EXTERIOR WALL				
Brick veneer; full 8-foot wall			$ 65.85	
ATTIC; apply cost to attic area				
Storage; pull down stairs, subfloor	+	$ 5.10		
ROOF				
Comp. shingle, medium weight 3 tab	–	.10		
Comp. shingle, medium weight architectural	+	.15		
Comp. shingle, heavy weight architectural	+	.30		
Fiber-cement composite	+	1.55		
Baked enamel, metal	+	2.00		
Cedar shake, medium weight	+	.65		
Cedar shingle	+	1.10		
Concrete tile	+	2.50		
AUTOMATIC DOOR OPENER	+			$ 450.00

Conventional

Class 5

Carport

Construction features comparable to house, slab floor, open side and end(s)

FLOOR AREA

ATTACHED
- Flat or shed
- Same as house

	200	300	400	500	600	700	800
Flat	34.49	33.45	32.93	32.62	32.41	32.26	32.15
Same as house	38.01	37.06	36.59	36.31	36.12	35.99	35.89

DETACHED
- Flat or shed
- Gable or hip

	200	300	400	500	600	700	800
Flat	34.71	33.69	33.18	32.87	32.66	32.52	32.41
Same as house	38.24	37.31	36.85	36.57	36.38	36.25	36.15

ADJUSTMENT FACTORS

		SQ. FT.	LIN. FT.	EACH
ROOF				
Comp. shingle, medium weight, 3 tab	–	$ .10		
Comp. shingle, medium weight, arch.	+	.15		
Comp. shingle, heavy weight, arch.	+	.30		
Fiber-cement composite	+	1.55		
Baked enamel, metal	+	2.00		
Cedar shingle	+	1.10		
Cedar shake, medium weight	+	.65		
Concrete tile	+	2.50		
FLOOR				
Gravel	–	$ 2.50		
EXTERIOR WALL (Per lineal foot of wall)				
Curtain wall, screen wall, or storage room wall materials similar to house.	+		$ 83.25	

Conventional

Class 7

Class Features

Class 7 homes are custom built, usually designed by professional home planners, and built by specialty contractors, possibly under architectural supervision. Special effort is made to include good style and design features in the exterior wall, roof, and interior construction detail. Care is taken to ensure convenient floor plans, window placement, built-ins and adaptation of the house to the site.

All materials and labor are high quality. The front of the house usually has a large amount of high quality brick veneer or other comparable materials with similar styling features and ornamentation. Windows are usually wood constructed to integrate with the design of the house. The entry area is large with a raised ceiling and hardwood, tile, or marble floors. Three formal rooms off the entry are common and special interior detail may include ample built-ins, solid core raised panel doors, and high quality designer plumbing fixtures in the kitchen and baths.

Class Illustrations



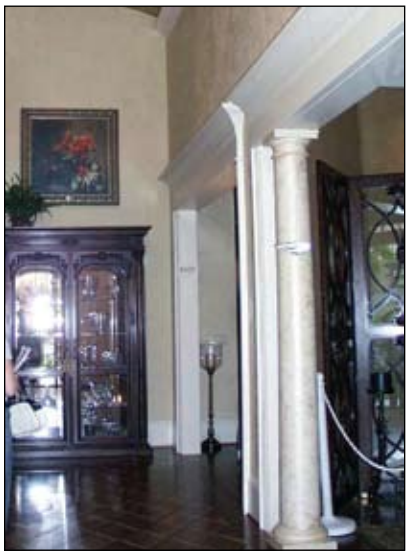






Class 7

Interior Features








Conventional

Class 7 (cont.)

Item	Base Specifications
Foundation	Crawl space excavation; special footings and walls of reinforced concrete for site adaptation; vent openings; interior piers; access openings; backfill and grading.
Exterior Wall	Stud frame construction; insulation; sheathing and high quality painted siding or equivalent construction; high quality exterior doors and windows; optional items such as decorative brick or stone trim, window boxes, shutters, etc.
Roof	Design in keeping with style of building; wood frame construction; ceiling joists; high quality spread sheathing; concrete tile cover; ceiling insulation; gutters and downspouts; special attention to roof trim.
Floor	Wood frame construction with underpinning, subflooring, and underlayment; high quality hardwood flooring and finish or carpet and padding; marble or tile accented entry; high quality hardwood flooring or tile in kitchen; high quality resilient cover or tile in baths and utility; will have some special design features such as sunken or elevated rooms, etc.
Partitions	Wood frame construction; high quality textured plaster or drywall with painted surfaces, decorative wallpaper, hardwood paneling or wainscoting; similar material for ceiling cover and interior cover of exterior wall; high quality doors with ornate hardware and trim; special hardwood millwork; may have custom crown molding.
Interior Components	Cabinet quantity proportionate to house size; cabinets of high quality painted or stained solid hardwood stock, or hardboard with painted finish, both with decorative trim; high quality tile, granite, or polymerized acrylic countertops and backsplash; built-in cabinetry in den or family room; make-up vanity and wall cabinets in master suite; wardrobe, linen, and utility closets with ample shelving; ornate hardware; may have other special built-in features; wide stairway of customized, complex, or curving design with heavy hardwood railing and spindles; high quality carpet or hardwood tread cover.
Electrical	Entry service; multi-circuit panel, heavy load capacity system; non-metallic sheathed cable wiring; numerous convenience outlets; high quality light fixtures of decorative design; special switches; numerous special appliance and equipment outlets.
Plumbing	Rough-in plumbing costs only.
Heating-Cooling	None in base specifications.
Exterior Components	High quality porches conforming to style and design of house, and adequate to cover entry area; concrete, wood, native stone, or equivalent construction.

Conventional

Class 7
Cost Factor Tables

One Story Base Factors
(Floor Area — Cost Per Sq. Ft.)

	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
0	334.55	320.51	308.34	297.69	288.29	279.94	272.46	265.74	259.65	254.12	249.07	244.44	240.18
10	333.05	319.21	307.21	296.70	287.41	279.15	271.76	265.10	259.08	253.59	248.59	244.00	239.77
20	331.57	317.94	306.10	295.72	286.54	278.38	271.06	264.47	258.50	253.07	248.11	243.56	239.37
30	330.12	316.68	305.00	294.75	285.68	277.61	270.37	263.85	257.94	252.56	247.64	243.12	238.97
40	328.68	315.44	303.91	293.79	284.83	276.85	269.69	263.23	257.38	252.05	247.17	242.69	238.57
50	327.27	314.21	302.84	292.85	283.99	276.10	269.01	262.62	256.82	251.54	246.70	242.26	238.17
60	325.88	313.01	301.78	291.91	283.17	275.36	268.35	262.02	256.27	251.04	246.24	241.84	237.78
70	324.51	311.81	300.74	290.99	282.34	274.62	267.68	261.42	255.73	250.54	245.79	241.42	237.39
80	323.15	310.64	299.71	290.08	281.53	273.90	267.03	260.82	255.19	250.04	245.33	241.00	237.01
90	321.82	309.48	298.69	289.18	280.73	273.18	266.38	260.23	254.65	249.55	244.88	240.59	236.63

	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800
0	236.25	232.61	229.22	226.08	223.14	220.39	217.81	215.39	213.12	210.97	208.94	207.02	205.20
10	235.87	232.26	228.90	225.77	222.86	220.13	217.56	215.16	212.89	210.76	208.74	206.83	205.03
20	235.50	231.91	228.58	225.47	222.57	219.86	217.32	214.93	212.68	210.55	208.55	206.65	204.85
30	235.12	231.56	228.26	225.17	222.30	219.60	217.07	214.70	212.46	210.35	208.35	206.46	204.68
40	234.76	231.22	227.94	224.88	222.02	219.34	216.83	214.47	212.24	210.14	208.16	206.28	204.50
50	234.39	230.88	227.62	224.58	221.74	219.08	216.58	214.24	212.03	209.94	207.97	206.10	204.33
60	234.03	230.55	227.31	224.29	221.47	218.82	216.34	214.01	211.81	209.74	207.77	205.92	204.16
70	233.67	230.21	227.00	224.00	221.20	218.57	216.10	213.78	211.60	209.54	207.58	205.74	203.99
80	233.31	229.88	226.69	223.71	220.93	218.32	215.87	213.56	211.39	209.34	207.40	205.56	203.82
90	232.96	229.55	226.38	223.42	220.66	218.06	215.63	213.34	211.18	209.14	207.21	205.38	203.65

Second Floor Factors
(Floor Area — Cost Per Sq. Ft.)

	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200
0	157.10	151.80	147.37	143.63	140.42	137.64	135.21	133.06	131.16	129.45	127.91	126.52	125.26
10	156.53	151.32	146.97	143.29	140.13	137.38	134.98	132.86	130.98	129.29	127.77	126.39	125.14
20	155.96	150.85	146.58	142.95	139.84	137.13	134.76	132.66	130.80	129.13	127.62	126.26	125.02
30	155.40	150.39	146.19	142.62	139.55	136.88	134.54	132.47	130.62	128.97	127.48	126.13	124.90
40	154.86	149.93	145.80	142.29	139.26	136.63	134.32	132.27	130.45	128.81	127.34	126.00	124.78
50	154.32	149.49	145.43	141.97	138.98	136.39	134.10	132.08	130.28	128.66	127.20	125.88	124.67
60	153.80	149.05	145.06	141.65	138.71	136.15	133.89	131.89	130.11	128.51	127.06	125.75	124.55
70	153.28	148.62	144.69	141.34	138.44	135.91	133.68	131.71	129.94	128.36	126.92	125.63	124.44
80	152.78	148.20	144.33	141.03	138.17	135.67	133.47	131.52	129.78	128.21	126.79	125.50	124.33
90	152.28	147.78	143.98	140.72	137.90	135.44	133.27	131.34	129.61	128.06	126.65	125.38	124.22

	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
0	124.10	123.05	122.07	121.18	120.34	119.57	118.85	118.18	117.55	116.97	116.41	115.89	115.40
10	123.99	122.95	121.98	121.09	120.26	119.50	118.78	118.12	117.49	116.91	116.36	115.84	115.35
20	123.89	122.85	121.89	121.00	120.18	119.42	118.71	118.05	117.43	116.85	116.31	115.79	115.31
30	123.78	122.75	121.80	120.92	120.11	119.35	118.65	117.99	117.37	116.80	116.25	115.74	115.26
40	123.67	122.65	121.71	120.84	120.03	119.28	118.58	117.93	117.31	116.74	116.20	115.69	115.21
50	123.56	122.55	121.62	120.75	119.95	119.21	118.51	117.86	117.25	116.68	116.15	115.64	115.17
60	123.46	122.45	121.53	120.67	119.87	119.13	118.44	117.80	117.20	116.63	116.10	115.59	115.12
70	123.35	122.36	121.44	120.59	119.80	119.06	118.38	117.74	117.14	116.57	116.04	115.55	115.07
80	123.25	122.26	121.35	120.51	119.72	118.99	118.31	117.68	117.08	116.52	115.99	115.50	115.03
90	123.15	122.17	121.26	120.42	119.65	118.92	118.25	117.61	117.02	116.47	115.94	115.45	114.98

Conventional

Class 7
Cost Factor Tables (cont.)

Basement Factors
(Floor Area — Cost Per Sq. Ft.)

	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600
Unfinished	124.08	112.31	103.49	96.62	91.13	86.64	82.89	79.72	77.01	74.65	72.59
Low Cost	151.76	139.69	130.63	123.59	117.95	113.34	109.50	106.25	103.46	101.04	98.93
Finished	185.20	173.58	164.86	158.08	152.65	148.21	144.52	141.39	138.70	136.38	134.34

	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700
Unfinished	70.78	69.16	67.72	66.41	65.24	64.17	63.19	62.30	61.47	60.71	60.01
Low Cost	97.07	95.41	93.92	92.59	91.38	90.28	89.28	88.36	87.52	86.74	86.02
Finished	132.55	130.95	129.53	128.24	127.08	126.02	125.06	124.17	123.36	122.61	121.91

	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800
Unfinished	59.35	58.74	58.18	57.64	57.15	56.68	56.24	55.82	55.43	55.06	54.71
Low Cost	85.34	84.72	84.14	83.59	83.08	82.60	82.15	81.72	81.32	80.94	80.58
Finished	121.27	120.67	120.10	119.58	119.09	118.62	118.19	117.78	117.39	117.03	116.68

Attic Factors
(Floor Area — Cost Per Sq. Ft.)

	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
Unfinished	141.33	118.83	103.83	93.12	85.08	78.83	73.83	69.74	66.34	63.45	60.98
Low Cost	168.88	145.91	130.60	119.66	111.46	105.08	99.98	95.80	92.32	89.37	86.85
Finished	199.06	176.73	161.85	151.22	143.24	137.04	132.08	128.02	124.64	121.78	119.32

Conventional

Class 7 (cont.)
Adjustment Factors

Exterior Wall

		LIN. FT.
BRICK VENEER, full 8 foot wall	+	$ 57.15

Roof

		SQ. FT.			SQ. FT.
Apply costs to ground floor area					
Comp. shingle, heavy weight arch.	–	$ 2.20	Cedar shingle	–	$ 1.40
Fiber-cement composite	–	.95	Clay tile	+	5.75
Cedar shake, heavy weight	–	1.40	Copper shingle	+	5.75
			Slate shingle	+	9.75

Interior Components

		EACH
APPLIANCES		
Basic set: drop-in range, hood-fan, dishwasher, garbage disposer	+	$ 6,170
Range, drop-in, self clean	+	2,750
Commercial range, drop-in	+	6,950
Oven, single, self clean	+	1,760
Oven, double, self clean	+	2,600
Warming drawer	+	1,300
Cooktop	+	1,180
w/built-in exhaust and grill	+	1,420
Microwave oven, built-in	+	1,760
Hood-fan	+	2,050
Dishwasher	+	1,120
Garbage disposer	+	250
Trash compactor	+	770
Built-in refrigerator	+	6,310
Wine cooler, under counter	+	2,100
STOVES AND FIREPLACES		
Stoves		
Wood stove w/flue	+	3,840
Pellet stove w/flue	+	5,180
Gas stove w/flue	+	3,500
		SQ. FT.
Floor and wall heat shield	+	$ 15.10

		EACH
STOVES AND FIREPLACES (cont.)		
Fireplaces		
Direct vent, gas fired;		
fascia surround, non-brick	+	$ 3,280
Interior masonry,		
ceiling high face brick face,		
raised hearth		
single	+	5,600
see-through	+	7,560
backed	+	9,800
stacked	+	10,640
Additional features:		
Outside brick chimney;		
one story	+	1,230
two story	+	1,570

Conventional

Class 7 (cont.)
Adjustment Factors

Plumbing

		EACH
FIXTURES		
Full bath: tub w/shower over or shower stall, lavatory, toilet	+	$ 8,300
Half bath: lavatory, toilet	+	3,800
Bathtub, enameled steel or fiberglass	+	2,300
add for:		
shower w/fiberglass surround	+	1,300
shower w/tile surround	+	2,200
sliding glass door	+	600
Stall shower, w/door, fiberglass	+	3,300
Stall shower, w/door, tile	+	5,300
Garden tub, designer	+	3,800
Jet tub	+	6,300
Lavatory, designer	+	2,400
Toilet, designer	+	1,400
Bidet	+	1,150
Kitchen sink:		
Enameled steel, double	+	1,800
Bronze/copper farm sink	+	6,000
Hot water dispenser	+	500
Bar sink, china or SS	+	1,200
Bar sink, bronze/copper	+	2,000
Laundry tub, single fiberglass	+	1,800
Water heater	+	550

Heating — Cooling

Area Heated/Cooled SQ. FT.:	3,000	3,400	3,800	4,200	4,600	5,000	5,400	5,800
Hot water baseboard	2.90	2.75	2.75	2.70	2.70	2.70	2.60	2.60
Electric ceiling cable	1.55	1.50	1.50	1.45	1.45	1.45	1.40	1.40
Forced air heating	1.75	1.70	1.70	1.65	1.65	1.65	1.60	1.60
Forced air heating and cooling	2.20	2.10	2.10	2.05	2.05	2.05	2.00	2.00
Heat pump	2.45	2.35	2.35	2.30	2.30	2.30	2.20	2.20

Area Heated/Cooled SQ. FT.:	6,200	6,600	7,000	7,400	7,800	8,200	8,600	9,000
Hot water baseboard	2.60	2.60	2.55	2.55	2.55	2.55	2.55	2.55
Electric ceiling cable	1.40	1.40	1.40	1.35	1.35	1.35	1.35	1.35
Forced air heating	1.60	1.60	1.55	1.55	1.55	1.55	1.55	1.55
Forced air heating and cooling	2.00	2.00	1.95	1.95	1.95	1.95	1.95	1.95
Heat pump	2.20	2.2	2.15	2.15	2.15	2.15	2.15	2.15

Area Heated/Cooled SQ. FT.:	9,400	9,800	10,200	10,600	11,000	11,400	11,800	12,200
Hot water baseboard	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.40
Electric ceiling cable	1.35	1.35	1.30	1.30	1.30	1.30	1.30	1.30
Forced air heating	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.45
Forced air heating and cooling	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.85
Heat pump	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.05

Interior Components

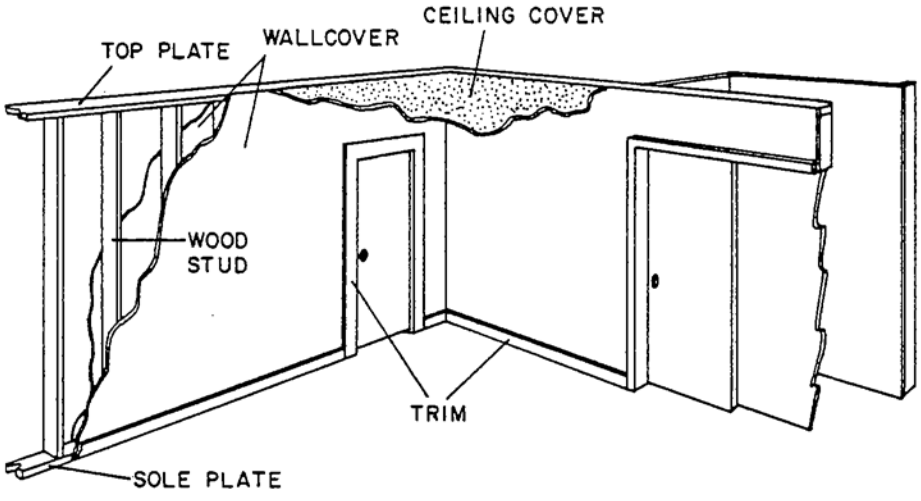
	Sq. Ft.	Lin. Ft.	Each
Residential elevators and lifts;			
Banister chair lift, straight run			$ 3,500
Banister chair lift, curved run			14,500
Conventional 3′ × 5′ cab; two-stop, includes framing			26,000
Add for each extra stop or floor			2,000
High-end deluxe elevator, three-stop			46,000
Dumbwaiter			8,000 to 14,000
Security alarm system			
8 zone hard wired system			$ 300
16 zone			390
24 zone			900
Video door phone system (includes phone, camera, monitor, power supply); add			660
Vacuum system: Includes rough-in, power unit, and accessory package			
Up to 1,700 square feet			$ 1,600
1,700 to 3,800 square feet			2,630
Over 3,800 square feet			4,150

Wine cellar: Includes cedar racking, cooling unit, and installation only. Does not include exterior grade door, framing, insulation and vapor barrier in walls, wall covering and paint, hard surface flooring (slate, tile, etc.), and electrical work. Experienced sub-contractors usually install these items.

Approximately 10′ x 10′ room, 1,600-bottle capacity, cedar racking, cooling unit, and installation $ 8,500

Partitions

Illustration — Complete Partitions Assembly



Exterior Components
Assembled Costs

Complete Assembly Includes all items and costs necessary for complete installation

	Sq. Ft.	Lin. Ft.	Each
Porches including steps; 2′ sidewalls			
Wood: joist frame and flooring			
open platform; pier and post foundation;			
no roof	$ 11.90		
roofed, light weight architectural composition shingle cover;			
concrete foundation			
simple shed roof	45.20		
gable or hip roof and ceiling	48.50		
Concrete: footing and slab on shallow fill			
open pad; no roof overhead	3.25		
roofed; slab floor			
simple, open ceiling	36.60		
gable or hip roof and ceiling	39.90		
Railings includes fittings and brackets			
Wood—plain design		$23.80	
ornamental; turned posts		26.80	
Metal—simple styling		40.20	
ornamental; decorative scroll		49.00	
Patio materials placed on-grade			
Concrete slab			
plain surface	3.25		
aggregate surface	3.25		
Average quality brick or flagstone			
poured concrete base	15.50		
sand bed	6.50		
Stamped concrete	12.00		
Paving stone, simple design	8.00		
Paving stone, complex design	10.00		
Paving stone, circular design	39.00		
Wood Deck includes pier and post foundation, stringers,			
decking, railing, and stairs			
Fir material	11.90		
Tight knot cedar	14.00		
Redwood	16.25		
Mahogany	15.70		
Composite	18.00		
Additional items			
stairs and landings	18.00		
wood railing			
plain design		13.60	
decorative		15.60	
Roof Cover woodframe; includes light support posts,			
beams, rafters, and cover material			
Aluminum or fiberglass	18.60		
Metal Awning: metal frame with aluminum cover			
12′ length, 44″ projection (width)	24.00		
Retractable, with remote control (cloth) 12′ length, 14′ projection			1,500