

**M e m o r a n d u m**

To: Mr. Ramon J. Hirsig  
Executive Director

Date: October 24, 2007

From:   
Mickie Stuckey, Acting Deputy Director  
Property and Special Taxes Department

Subject: ***Assessors' Handbook Section 531, Residential Building Costs  
(November 15, 2007 Administrative Consent Agenda)***

I am requesting that Assessors' Handbook Section 531, *Residential Building Costs*, be approved for publication. Revenue and Taxation Code section 401.5 requires that the Board issue to county assessors data relating to costs of property to promote uniformity in appraisal practices and in assessed values throughout the state. Pursuant to that mandate, staff developed the January 2008 version of AH 531 which contains current cost data for residential properties.

It is likely that 2008 will be a very difficult year for the single-family residential market in California. The market has been in great turmoil with large inventories of resale homes, as well as many new unsold homes and foreclosures at high levels. Median home prices in many areas are declining in the latter part of 2007, and that trend may continue during 2008. As a result, a number of the major builders of new homes have withdrawn from areas within the state, while other builders have dramatically scaled back their new home construction projects. Many of the costs in this 2008 version of AH 531 have declined from last year, partly due to the significant reduction in developer's entrepreneurial profit. Other parts of the cost structure have remained the same or have actually increased. Therefore, appraisal judgment will be especially important for 2008 to adjust for any market change in a county that would affect costs after the publication date of AH 531.

Please place this item on the Board's November 15, 2007 Administrative Consent Agenda for approval.

DJG:sk  
Attachment  
cc: Mr. Gary Evans

Approved:   
Ramon J. Hirsig, Executive Director

BOARD APPROVED  
at the \_\_\_\_\_ Board Meeting

\_\_\_\_\_  
Gary Evans, Acting Chief  
Board Proceedings

ASSESSORS' HANDBOOK  
SECTION 531

RESIDENTIAL BUILDING COSTS

JANUARY 2008

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## FOREWORD

This edition of Assessors' Handbook Section 531 (AH 531), *Residential Building Costs*, provides current basic building costs to be used as of January 1, 2008. The pages are printed in loose-leaf form to allow for insertion of revisions by chapter and page when updates are necessary.

Statutory considerations, general instructions, and pertinent information concerning the use of this handbook are contained in the *Costing Information* chapter. Specific instructions and comments appropriate to each building type are found in the introductory pages of the respective chapter of the handbook devoted to a particular structure type.

Diligent efforts have been made to supply accurate and reliable information. AH 531 should serve as a guide, but it is important for the appraiser to research and analyze permit costs and fees of jurisdictions in the region and to make appropriate adjustments where necessary, due primarily to the wide variance in these costs, both within and among the counties. It may be necessary to supplement the data provided in AH 531 with local cost data. Extraordinary costs may include, for example, building permit fees, water and sewer connections, environmental studies, handicap access requirements, expanded engineering and architectural costs, etc.

**NOTE:** 2008 is likely to be a very difficult year for the single-family residential market in California. The market has been in great turmoil with large inventories of resale homes, as well as many new unsold homes and foreclosures at high levels. Median home prices in many areas were declining in the latter part of 2007, and that trend may continue during 2008. As a result, a number of the major builders of new homes have withdrawn from areas within the state, while other builders have dramatically scaled back their new home construction projects. Many of the costs in this 2008 version of AH 531 have declined from last year, partly due to the significant reduction in developer's entrepreneurial profit. Other parts of the cost structure have remained the same or have actually increased. Therefore, appraisal judgment will be especially important for 2008 to adjust for any market change in a county that would affect costs after the publication date of AH 531.

This revision was prepared by County-Assessed Properties Division staff under the direction of the Property and Special Taxes Department.

David J. Gau  
Deputy Director  
Property and Special Taxes Department  
California State Board of Equalization  
January 2008

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# AH 531.10: COSTING INFORMATION

## STATUTORY BASIS

Assessors' Handbook Section 531 (AH 531) was designed and developed for use by the 58 California counties as an aid to assessors in fulfilling their statutory requirement in the assessment of all taxable property in the county.<sup>1</sup> AH 531 relies on the Standard Classification System in categorizing design and construction type, quality, shape, and area class to implement the cost approach portion of the three appraisal approaches. Unlike other published cost services that are not specifically used for tax assessment purposes (nor governed by California statutory law), AH 531 includes entrepreneurial profit.

The work in AH 531 is guided by Property Tax Rule 6<sup>2</sup> and Revenue and Taxation Code section 401.5. Rule 6 provides in part:

(a) The reproduction or replacement cost approach to value is used in conjunction with other value approaches and is preferred when neither reliable sales data (including sales of fractional interests) nor reliable income data are available and when the income from the property is not so regulated as to make such cost irrelevant. It is particularly appropriate for construction work in progress and for other property that has experienced relatively little physical deterioration, is not misplaced, is neither over- nor underimproved, and is not affected by other forms of depreciation or obsolescence.

(b) The reproduction cost of a reproducible property may be estimated either by (1) adjusting the property's original cost for price level changes and for abnormalities, if any, or (2) applying current prices to the property's labor and material components, *with appropriate additions for entrepreneurial services*, interest on borrowed or owner-supplied funds, and other costs typically incurred in bringing the property to a finished state (or to a lesser state if unfinished on the lien date). Estimates made under (2) above may be made by using square-foot, cubic foot, or other unit costs; a summation of the in-place costs of all components; a quantity survey of all material, labor, and other cost elements; or a combination of these methods. [Emphasis added.]

Section 401.5 reads as follows:

The board shall issue to assessors data relating to costs of property, or, with respect to commercial and industrial property, shall, after a public hearing, review and approve commercially available data, and shall issue to assessors other information as in the judgment of the board will promote uniformity in appraisal

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<sup>1</sup> Revenue and Taxation Code section 405.

<sup>2</sup> Title 18, Public Revenues, California Code of Regulations, section 6.

practices and in assessed values throughout the state. *An assessor shall adapt data received pursuant to this section to local conditions and may consider that data together with other factors as required by law in the assessment of property for tax purposes.* [Emphasis added.]

## BASIS OF COST

Costs in this handbook are based on the cost to build on a level site in the four-county Sacramento area<sup>3</sup> as of the date in the lower right-hand corner of each page. They include, except for unusually high fees and permits required by governmental agencies, all necessary costs that must be incurred in placing the building or component in the hands of the ultimate consumer, including the following:

1. Excavation for foundations, piers, and other structural foundation components, considering a level site
2. Materials
3. Labor
4. Architectural fees
5. Engineering fees
6. Supervision
7. Normal permits, etc.
8. Normal utility hook-ups
9. Overhead and profit
10. Contingencies
11. Carrying charges during construction
  - Taxes
  - Interest
  - Insurance
12. Legal expenses
13. Typical sales commissions or costs and transfer fees
14. Entrepreneurial profit

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<sup>3</sup> Sacramento, Yolo, and the western portions of El Dorado and Placer counties.

Costs are in the form of square foot cost tables for basic buildings and *additive or in-place costs for optional or extra components that might differ from building to building*. Building components included in basic square foot costs are:

1. Foundations as required for normal soil conditions
2. Floor, wall, and roof structures
3. Interior floor, wall, and ceiling finishes
4. Exterior wall finish and roof cover
5. Interior partitions
6. Cabinet work, doors, windows, trim, etc.
7. Electrical wiring and fixtures
8. Rough and finish plumbing as described in applicable building specifications
9. Built-in appliances as described in applicable specifications

The cost of the following items may need to be added to the basic building cost, depending on variations in the class specifications and location, to arrive at total improvement costs:

1. Heating and cooling systems
2. Fireplaces
3. Plumbing fixtures and built-in appliances not included in basic building costs
4. Basements
5. Porches and patios
6. Garages or carports
7. Yard improvements, i.e., fences, curbs, paving, etc.
8. Site-specific extraordinary permit fees
9. Extra utility hook-ups (e.g., wells, septic, etc. Note that an adjustment of an appropriate amount may be necessary to account for the situation where the normal utility hook-ups, which are included in the basic building costs, are not present in the property being appraised)
10. Driveways, walkways
11. Landscaping

## STANDARD CLASSIFICATION SYSTEM

The Standard Classification System is a method of estimating basic building costs by referring to square foot cost tables. Basic building costs are then augmented by in-place or square foot costs of optional or extra components. Components included in the basic square foot costs vary with different building types.

In applying the square foot method of cost estimating, a square foot cost is assigned to the building being appraised on the basis of comparison with new buildings with known costs. The premise is that the subject building would have the same square foot cost as a similar new building.

A difficulty in applying this method arises in finding new buildings, with known costs for comparison, that are similar to the building to be appraised. Few buildings are exactly alike, and therefore few have the same square foot cost. A further complication is the matter of deciding which known costs are representative of typical replacement costs.

The Standard Classification System is a means of estimating square foot costs by systematically comparing the subject structure with structures whose costs are known. Buildings are classified according to variations in physical characteristics that cause square foot cost differences. The classification of a building then serves as a reference in finding a proper square foot cost from tables catalogued according to this system.

### **COST VARIABLES**

The physical characteristics used as variables in the standard classification system are:

- Design type
- Construction type
- Quality class
- Shape class
- Area class

Descriptive words, letters, and numbers are used to designate a particular type or class for each of the five cost characteristics. They are assigned on the basis of standards or specifications set up in the Standard Classification System. This means that any one building is assigned an overall classification and is identified by designations for each of these cost variables. Here is an example.

A building is classified as a single-family residence, D6A, with 1,450 square feet. "Single-family residence" refers to its design type; "D" to its construction type; "6" to its relative level of quality or quality class; "A" to its shape; and "1,450" is its square foot size or area class. All buildings that have this classification in the base area will have approximately the same cost.

## SQUARE FOOT COST ADJUSTMENTS

In some cases, basic square foot costs for all or a portion of a building may require adjustment. Situations where this is necessary are:

- Half-story areas
- Third and upper floors
- Superior or inferior areas

### HALF-STORY AREAS

Half-story areas are upper floors of buildings that have less than eight feet of ceiling height at the exterior wall line. The sloping roof makes up all or a portion of the exterior wall. Square foot costs for half-story areas are based upon fractions of the main floor square foot costs as suggested in the *Building Additives* chapter. Half-story areas are *never* included in the area used for area modification.

### THIRD- AND UPPER-STORY ADJUSTMENTS

Basic square foot costs in this cost manual are applicable to first-floor level or second-floor level. Building costs tend to rise for floor levels above the second because of the increased cost of lifting materials. Square foot costs for floor levels above the second level are estimated by using the appropriate second-floor cost and increasing it by 2 percent for each floor above the second. For example:

Third Story = Second story square foot cost + 2 percent

Fourth Story = Second story square foot cost + 4 percent

Fifth Story = Second story square foot cost + 6 percent

### SUPERIOR AND INFERIOR AREA ADJUSTMENTS

There are several methods of estimating proper square foot costs for buildings with areas of different quality. The best method to use depends on the particular situation.

#### Composite Quality Class

If the difference in quality is slight or there is no distinct dividing line between areas of varying quality, use a square foot cost based on the building's average quality. For example, if a residence has D5 cost characteristics in certain areas and is more similar to a D6 in other areas, a D5.5 classification may be applicable. The total of all areas is used as the area for selecting a square foot cost from a cost table.

#### Separate Quality Classes

If two or more distinct areas are of a significantly different quality level, separate quality classes may be assigned to each area. In other words, the first-floor area may be classified as D6 quality,

and the second floor may be classified as D5.5 quality. As in the case above, the total of all areas is used for selecting a square foot cost from a cost table.

## Fractions

If a small but distinct area of the building, such as an addition or a residential porch, is of significantly different quality than the main area, its cost may be estimated by applying a square foot cost that is based on a fraction of the square foot cost of the main area.

## LOCATION ADJUSTMENTS

The building costs shown in this handbook, with the exception of the *Mountain Residences* chapter (see AH 531.22), have been developed using the four-county area of Sacramento, Yolo, and the western portions of El Dorado and Placer counties as a base area (with a factor of 1.00). The building costs in the *Mountain Residences* chapter have been developed using the Lake Tahoe Basin area of California as the base area.

The maps shown at the end of this chapter provide suggested factors that are intended to provide an appropriate adjustment for the variance in costs due to differences in location compared to the base. *These factors, however, are not intended to adjust for the significant variation in permit costs and other fees charged by different jurisdictions within a region. Due to the wide variance in these costs, both within and among the counties, it is necessary for the appraiser to research and analyze permit costs and fees of jurisdictions in the region and to make appropriate adjustments where necessary. In other words, AH 531 should serve as a guide, but an appraiser must also research the market to determine which costs are most applicable for the appraisal assignment. It may be necessary to supplement the data provided in AH 531 with local cost data.*

Note that an additional adjustment for time should also be considered if costs in the county have changed since the January publication date of the current AH 531.

*Except for the Manufactured Housing chapter*, an appropriate location adjustment should be applied to all improvement costs in this handbook, including all square foot building costs and the costs found in the *Building Additives*, *Yard Improvements*, *In-Place Costs*, and *Compact Costs* chapters. In addition, all costs in this handbook, *except for manufactured housing*, should be adjusted to account for any extraordinary permit or other cost differences that exist in the county.

Various counties have two or more location zones. The zone boundaries are as follows. The shaded areas [■] represent those zones that are also shown in the *Mountain Residences* chapter (see AH 531.22).

## Alpine County

Western Zone	All areas west of the summit of the Sierra Nevada Mountains.
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Eastern Zone	All areas east of the summit of the Sierra Nevada Mountains.
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### **Amador County**

Western Zone	All areas west of the western border of the El Dorado National Forest.
Middle Zone	From the western boundary of the El Dorado National Forest to the 5,000-foot elevation line.
Eastern Zone	All areas east of the 5,000-foot elevation line.

### **Butte County**

Western Zone	All areas west of the western boundary of the Plumas National Forest.
Eastern Zone	All areas east of the western boundary of the Plumas National Forest.

### **Calaveras County**

Western Zone	All areas west of the western boundary of the Stanislaus National Forest.
Middle Zone	From the western boundary of the Stanislaus National Forest to the 5,000-foot elevation line.
Eastern Zone	All areas east of the 5,000-foot elevation line.

### **El Dorado County**

Western Zone	All areas west of the western boundary of the El Dorado National Forest.
Western Middle Zone	From the western boundary of the El Dorado National Forest east to the 5,000-foot elevation line.
Eastern Middle Zone	From the 5,000-foot elevation line to the summit of the Sierra Nevada Mountains.
Eastern Zone	From the summit of the Sierra Nevada Mountains to the Nevada border.

### **Fresno County**

Western Zone	All areas west of the western border of the Sierra National Forest.
Middle Zone	From the western boundary of the Sierra National Forest to the 5,000-foot elevation line.
Eastern Zone	From the 5,000-foot elevation line to the eastern boundary of the county.

**Inyo County**

National Forest Zone	All areas within the Inyo National Forest.
Bishop/Independence Zone	All areas outside the Inyo National Forest.

**Kern County**

Western Zone	All areas west of a line following the western boundary of the Sequoia National Park in the northern portion of the county to the intersection of the Kern River, then continuing in a southerly direction east of the towns of Edison, Di Giorgio, and Arvin to a point on the Ventura County border west of the town of Lebec.
Sequoia National Forest Zone	All areas within and surrounded by the Sequoia National Forest, including the towns of Lake Isabella, Bodfish, Woodford Heights, Kernville, Onyx, Weldon, and Havilah.
Middle Zone	All areas between the eastern boundary of the western zone and the Los Angeles Aqueduct, excluding the Sequoia zone.
Eastern Zone	All areas east of the Los Angeles Aqueduct.

**Los Angeles County**

Western Zone	All areas west of the San Bernardino National Forest boundary line.
Mountain Desert Zone	All areas east of the San Bernardino National Forest boundary line.

**Madera County**

Western Zone	All areas west of the western boundary of the Sierra National Forest.
Middle Zone	From the western boundary of the Sierra National Forest to the 5,000-foot elevation line.
Eastern Zone	From the 5,000-foot elevation line to the eastern boundary of the county.

## Mariposa County

Western Zone	All areas west of the western border of the Stanislaus National Forest.
Middle Zone	From the western boundary of the Stanislaus National Forest to the 5,000-foot elevation line.
Eastern Zone	From the 5,000-foot elevation line to the eastern boundary of the county.

## Mono County

National Forest Zone	All areas within the Toiyabe and Inyo National Forests.
Bridgeport Zone	All areas outside the national forest areas.
Mammoth Lakes Zone	To include Mammoth Lakes, June Lake Loop, and Lake Crowley areas.

## Nevada County

Western Zone	All areas west of the western boundary of the Tahoe National Forest.
Western Middle Zone	From the western boundary of the Tahoe National Forest to the 5,000-foot elevation level.
Eastern Middle Zone	From the 5,000-foot elevation level to the summit of the Sierra Mountains.
Eastern Zone	From the summit of the Sierra Nevada Mountains to the Nevada border.

## Placer County

Western Zone	All areas west of Highway 49 and excluding all towns on Highway 49.
Western Middle Zone	From Highway 49 east to the Tahoe National Forest boundary and including the town of Auburn.
Eastern Middle Zone	From the western boundary of the Tahoe National Forest to the summit of the Sierra Nevada Mountains.
Eastern Zone	From the summit of the Sierra Nevada Mountains to the Nevada border.

## Plumas County

Mountain Zone	All areas of Plumas County.
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## Riverside County

- Western Zone All areas west of San Gorgonio Pass and the western border of the San Bernardino National Forest, excluding the towns of Calimesa, Beaumont, and Banning.
- Eastern Zone All areas east of San Gorgonio Pass and the western boundary of the San Bernardino National Forest, including the towns of Calimesa, Beaumont, Banning, Anza, and Aguanga.

## San Bernardino County

- San Bernardino Zone All areas west of the San Bernardino National Forest boundary line.
- Mountain Desert Zone All areas east of the San Bernardino National Forest boundary line.
- Big Bear/Lake Arrowhead Zone All areas around Lake Arrowhead and Big Bear Valley.

## San Diego County

- Western Zone All areas west of the western boundary of the Cleveland National Forest.
- Eastern Zone All areas east of the western boundary of the Cleveland National Forest.

## Santa Barbara County

- Northern Zone All areas north of the Santa Ynez River.
- Southern Zone All areas south of the Santa Ynez River.

## Sierra County

- Western Zone All areas west of the 5,000-foot elevation line.
- Middle Zone From the 5,000-foot elevation line to the summit of the Sierra Nevada Mountains.
- Eastern Zone From the summit of the Sierra Nevada Mountains to the Nevada border.

### **Tulare County**

Western Zone	All areas west of western boundary of the Sequoia National Forest.
Middle Zone	From the western boundary of the Sequoia National Forest to the 5,000-foot elevation line.
Eastern Zone	From the 5,000-foot elevation line to the eastern boundary of the county.

### **Tuolumne County**

Western Zone	All areas west of the western boundary of the Stanislaus National Forest.
Middle Zone	From the western boundary of the Stanislaus National Forest to the 5,000-foot elevation line.
Eastern Zone	From the 5,000-foot elevation line to the eastern boundary of the county.

### **Yuba County**

Western Zone	All areas west of the western boundary of the Plumas National Forest.
Eastern Zone	All areas east of the eastern boundary of the Plumas National Forest.

# SINGLE FAMILY RESIDENTIAL

(Blue Area Shown on this Map)

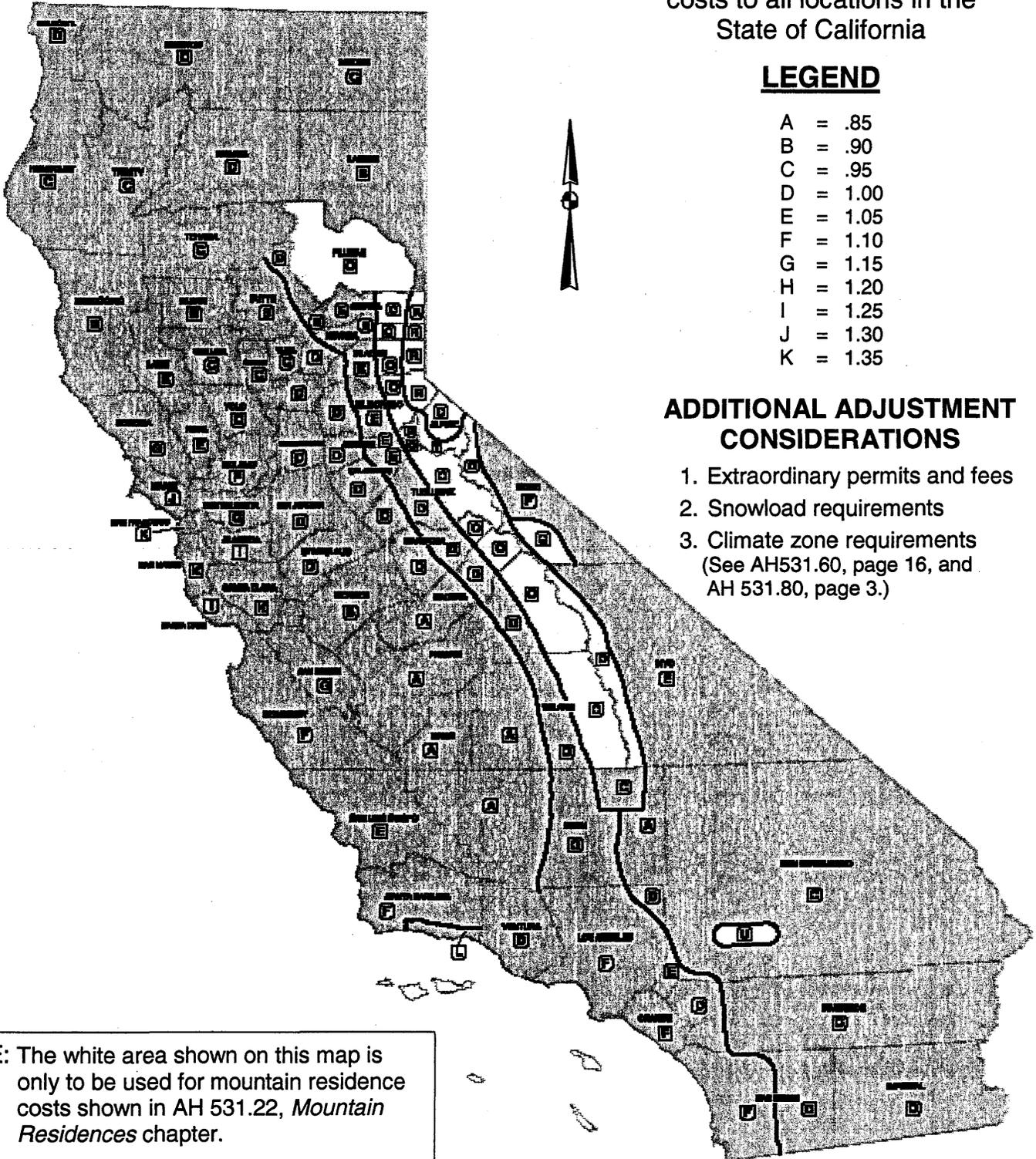
Factors to adjust 1-1-2008 residential costs to all locations in the State of California

## LEGEND

A	=	.85
B	=	.90
C	=	.95
D	=	1.00
E	=	1.05
F	=	1.10
G	=	1.15
H	=	1.20
I	=	1.25
J	=	1.30
K	=	1.35

## **ADDITIONAL ADJUSTMENT CONSIDERATIONS**

1. Extraordinary permits and fees
2. Snowload requirements
3. Climate zone requirements  
(See AH531.60, page 16, and AH 531.80, page 3.)



**NOTE:** The white area shown on this map is only to be used for mountain residence costs shown in AH 531.22, *Mountain Residences* chapter.

# MOUNTAIN RESIDENCES

(Blue Area Shown on this Map)

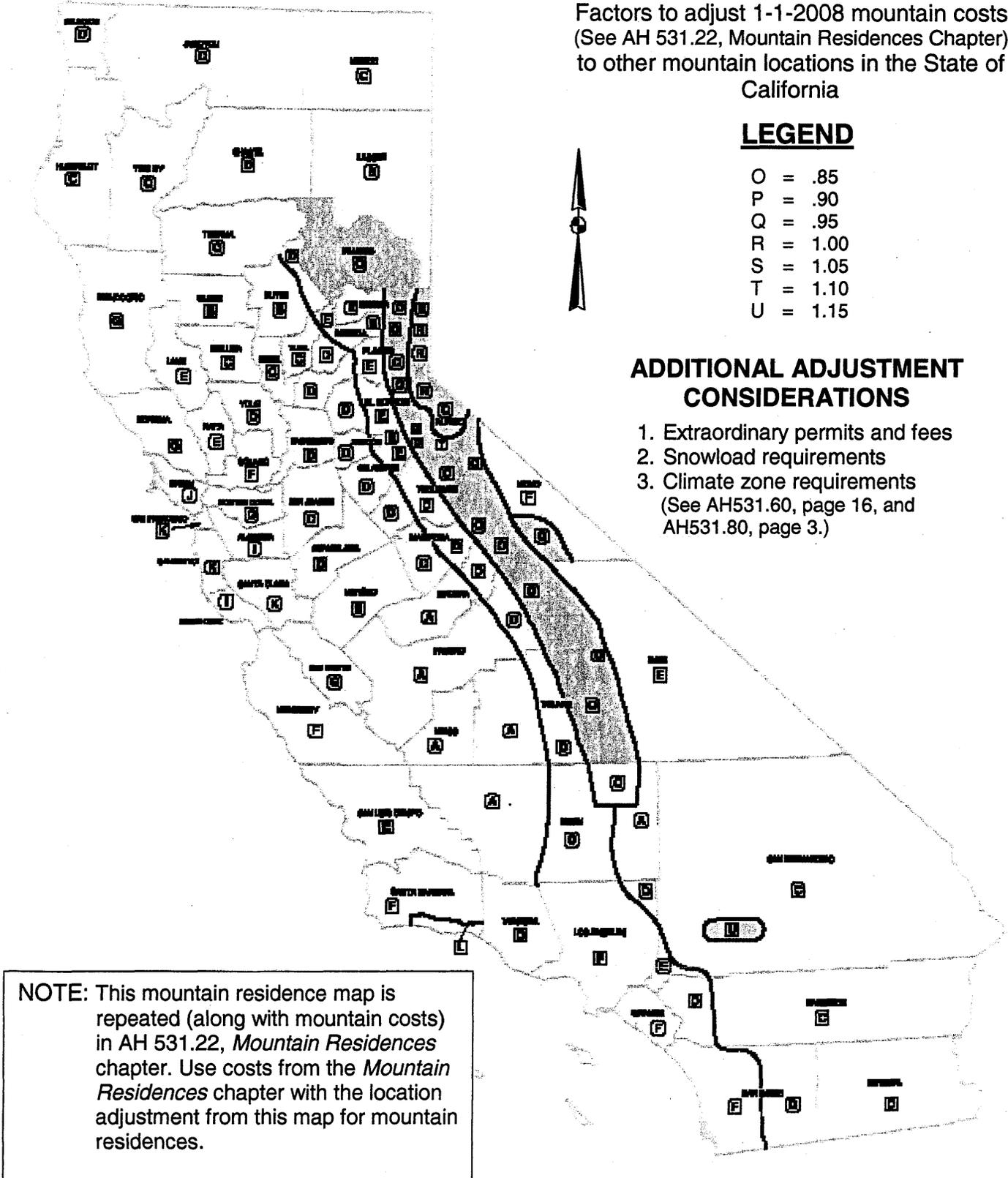
Factors to adjust 1-1-2008 mountain costs  
(See AH 531.22, Mountain Residences Chapter)  
to other mountain locations in the State of  
California

## LEGEND

O	=	.85
P	=	.90
Q	=	.95
R	=	1.00
S	=	1.05
T	=	1.10
U	=	1.15

## **ADDITIONAL ADJUSTMENT CONSIDERATIONS**

1. Extraordinary permits and fees
2. Snowload requirements
3. Climate zone requirements  
(See AH531.60, page 16, and AH531.80, page 3.)



**NOTE:** This mountain residence map is repeated (along with mountain costs) in AH 531.22, *Mountain Residences* chapter. Use costs from the *Mountain Residences* chapter with the location adjustment from this map for mountain residences.

**SINGLE-FAMILY RESIDENTIAL  
CONVENTIONAL TYPE  
SQUARE FOOT AREA COST TABLES**

**"C" CONSTRUCTION - SHAPE A**

Class	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
C-4	78.46	75.05	72.35	70.01	67.86	66.25	64.70	63.35	62.22	61.23	60.21
C-4.5	85.47	81.77	78.82	76.30	74.00	72.17	70.51	69.08	67.83	66.70	65.61
C-5	93.14	89.23	85.96	83.11	80.65	78.63	76.82	75.30	73.98	72.72	71.60
C-5.5	101.61	97.18	93.63	90.62	87.85	85.73	83.69	82.09	80.61	79.23	78.07
C-6	116.02	111.07	106.94	103.45	100.38	97.98	95.58	93.68	92.01	90.64	89.10
C-6.5	127.63	122.18	117.67	113.85	110.45	107.72	105.21	103.15	101.24	99.64	97.99
C-7	140.39	134.32	129.45	125.30	121.48	118.57	115.78	113.52	111.45	109.60	107.90
C-7.5	161.46	154.49	148.90	144.02	139.79	136.35	133.24	130.49	128.12	125.97	124.00
C-8	185.33	177.33	170.85	165.30	160.33	156.48	152.90	149.83	147.10	144.66	142.34

**"C" CONSTRUCTION - SHAPE A**

Class	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000
C-4	59.52	57.98	56.84	55.82	54.96	54.21	53.61	53.01	52.45	51.96	51.26
C-4.5	64.83	63.29	62.01	60.85	59.82	59.12	58.44	57.81	57.25	56.65	55.88
C-5	70.64	68.92	67.53	66.28	65.24	64.41	63.67	62.97	62.34	61.68	60.85
C-5.5	76.97	75.17	73.58	72.30	71.14	70.23	69.47	68.60	67.92	67.26	66.34
C-6	87.95	85.86	83.99	82.42	81.23	80.18	79.32	78.38	77.61	76.83	75.77
C-6.5	96.78	94.39	92.44	90.83	89.43	88.18	87.14	86.21	85.41	84.54	83.33
C-7	106.46	103.87	101.71	99.90	98.33	97.14	95.90	94.80	93.92	93.00	91.75
C-7.5	122.43	119.40	117.01	114.87	113.04	111.62	110.34	109.06	108.01	106.97	105.46
C-8	140.47	137.12	134.32	131.86	129.79	128.13	126.57	125.13	124.00	122.81	120.98

**"C" CONSTRUCTION - SHAPE B**

Class	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
C-4	80.70	77.41	74.57	72.17	70.23	68.51	66.96	65.61	64.51	63.35	62.58
C-4.5	87.88	84.31	81.26	78.63	76.58	74.65	73.02	71.60	70.29	69.08	68.20
C-5	95.85	92.00	88.51	85.73	83.49	81.35	79.51	78.07	76.64	75.30	74.29
C-5.5	104.57	100.14	96.51	93.53	91.00	88.78	86.69	85.05	83.56	82.09	81.02
C-6	119.30	114.45	110.14	106.70	103.87	101.24	99.04	97.04	95.43	93.68	92.49
C-6.5	131.31	125.91	121.34	117.47	114.31	111.45	108.90	106.78	104.93	103.15	101.76
C-7	144.50	138.49	133.42	129.19	125.78	122.57	119.83	117.51	115.43	113.52	111.91
C-7.5	166.09	159.24	153.52	148.59	144.61	140.97	137.87	135.15	132.84	130.49	128.81
C-8	190.65	182.82	176.16	170.52	166.01	161.79	158.21	155.14	152.44	149.83	147.88

**"C" CONSTRUCTION - SHAPE B**

Class	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000
C-4	61.67	60.25	59.12	57.95	57.25	56.42	55.73	55.17	54.70	54.26	53.41
C-4.5	67.24	65.65	64.41	63.25	62.34	61.51	60.73	60.15	59.61	59.15	58.21
C-5	73.28	71.61	70.18	68.88	67.89	67.03	66.26	65.53	64.95	64.51	63.40
C-5.5	79.86	78.08	76.53	75.13	74.07	73.05	72.24	71.43	70.83	70.29	69.12
C-6	91.22	89.15	87.37	85.75	84.63	83.48	82.50	81.57	80.83	80.30	78.93
C-6.5	100.32	98.16	96.23	94.33	93.07	91.87	90.72	89.75	89.06	88.36	86.92
C-7	110.45	107.95	105.71	103.78	102.39	100.94	99.83	98.76	97.87	97.17	95.58
C-7.5	127.02	124.16	121.64	119.35	117.68	116.11	114.78	113.52	112.57	111.69	109.97
C-8	145.77	142.44	139.59	136.98	135.14	133.24	131.72	130.40	129.25	128.20	126.19

**SINGLE-FAMILY RESIDENTIAL  
CONVENTIONAL TYPE  
SQUARE FOOT AREA COST TABLES**

**"C" CONSTRUCTION - SHAPE C**

Class	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
C-4	83.11	79.73	76.96	74.65	72.49	70.74	69.31	68.09	66.82	65.69	64.86
C-4.5	90.62	86.88	83.85	81.35	79.06	77.14	75.59	74.12	72.95	71.64	70.70
C-5	98.74	94.76	91.43	88.66	86.11	84.16	82.34	80.80	79.43	78.15	77.11
C-5.5	107.63	103.23	99.68	96.63	93.92	91.68	89.74	88.09	86.56	85.12	84.03
C-6	122.90	117.95	113.72	110.34	107.17	104.72	102.53	100.59	98.87	97.29	95.93
C-6.5	135.23	129.65	125.22	121.42	118.00	115.15	112.82	110.68	108.82	106.99	105.56
C-7	148.71	142.71	137.76	133.61	129.78	126.73	124.07	121.76	119.67	117.67	116.08
C-7.5	171.02	164.16	158.42	153.65	149.36	145.77	142.70	140.07	137.60	135.36	133.54
C-8	196.40	188.41	181.85	176.38	171.32	167.34	163.87	160.70	158.00	155.33	153.32

**"C" CONSTRUCTION - SHAPE C**

Class	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000
C-4	63.96	62.61	61.36	60.45	59.57	58.81	58.14	57.57	56.98	56.65	55.45
C-4.5	69.82	68.23	66.95	65.88	64.91	64.08	63.34	62.75	62.13	61.68	60.48
C-5	76.03	74.32	73.02	71.69	70.73	69.85	69.04	68.37	67.73	67.26	65.89
C-5.5	82.88	81.03	79.49	78.20	77.13	76.22	75.26	74.57	73.86	73.35	71.72
C-6	94.66	92.61	90.80	89.23	88.05	86.98	85.96	85.14	84.34	83.84	81.92
C-6.5	104.15	101.90	99.91	98.26	96.90	95.74	94.55	93.62	92.81	92.07	90.16
C-7	114.60	112.09	109.93	108.12	106.64	105.32	104.00	103.05	102.04	101.34	99.23
C-7.5	131.81	128.87	126.41	124.33	122.59	121.02	119.64	118.46	117.35	116.50	114.14
C-8	151.31	147.94	145.03	142.67	140.67	138.94	137.37	136.07	134.82	133.85	130.98

**"C" CONSTRUCTION - SHAPE D**

Class	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
C-4	85.51	82.11	79.38	76.88	74.88	73.17	71.69	70.29	69.17	68.15	67.17
C-4.5	93.22	89.60	86.53	83.84	81.72	79.73	78.20	76.64	75.38	74.21	73.23
C-5	101.67	97.56	94.32	91.38	88.96	86.88	85.15	83.56	82.22	80.94	79.82
C-5.5	110.81	106.41	102.77	99.62	97.09	94.76	92.88	91.08	89.62	88.22	86.98
C-6	126.46	121.48	117.35	113.70	110.80	108.18	106.08	103.88	102.27	100.73	99.36
C-6.5	139.20	133.61	129.10	125.11	121.90	119.03	116.68	114.32	112.53	110.84	109.25
C-7	153.15	147.00	142.06	137.64	134.11	130.92	128.37	125.84	123.81	121.91	120.26
C-7.5	176.16	169.11	163.36	158.36	154.24	150.61	147.60	144.79	142.39	140.18	138.29
C-8	202.17	194.11	187.50	181.78	176.98	172.83	169.50	166.09	163.49	160.96	158.64

**"C" CONSTRUCTION - SHAPE D**

Class	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000
C-4	66.28	64.91	63.70	62.70	61.78	61.07	60.30	59.80	59.36	58.83	58.13
C-4.5	72.30	70.73	69.49	68.34	67.41	66.63	65.69	65.23	64.70	64.13	63.30
C-5	78.78	77.13	75.73	74.52	73.36	72.57	71.64	71.07	70.51	69.87	68.99
C-5.5	85.93	84.04	82.46	81.23	80.03	79.10	78.17	77.46	76.88	76.26	75.22
C-6	98.06	96.02	94.27	92.73	91.28	90.30	89.20	88.52	87.81	87.08	85.89
C-6.5	107.94	105.61	103.68	102.03	100.45	99.36	98.20	97.31	96.56	95.77	94.51
C-7	118.71	116.22	114.02	112.19	110.61	109.31	108.05	107.13	106.28	105.35	103.97
C-7.5	136.52	133.65	131.17	129.06	127.12	125.78	124.21	123.17	122.21	121.18	119.54
C-8	156.71	153.48	150.61	148.13	146.00	144.27	142.54	141.37	140.31	139.19	137.21

**SINGLE-FAMILY RESIDENTIAL  
CONVENTIONAL TYPE  
SQUARE FOOT AREA COST TABLES**

**"D" CONSTRUCTION - SHAPE A**

Class	400	500	600	700	800	900	1000	1100	1200	1300	1400
D-1	52.67	48.95	46.11	43.99	42.15	40.71	39.52	38.48	37.58	36.92	36.20
D-1.5	57.86	53.71	50.56	48.24	46.31	44.74	43.41	42.26	41.24	40.59	39.78
D-2	63.50	58.99	55.62	53.01	50.92	49.11	47.64	46.36	45.38	44.50	43.69
D-3	69.69	64.76	61.02	58.21	55.87	53.97	52.28	50.93	49.82	48.89	48.01
D-3.5	76.53	71.07	67.04	63.93	61.35	59.22	57.43	55.95	54.70	53.66	52.67
D-4	84.03	78.08	73.56	70.13	67.31	64.95	63.02	61.41	60.07	58.99	57.86
D-4.5	92.24	85.66	80.78	77.07	73.98	71.32	69.24	67.46	65.96	64.70	63.50

**"D" CONSTRUCTION - SHAPE A**

Class	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
D-5	84.55	81.22	78.31	75.98	74.06	72.37	71.02	69.69	68.59	67.61	66.71
D-5.5	92.86	89.20	86.05	83.49	81.32	79.45	77.88	76.53	75.26	74.18	73.23
D-6	106.73	102.64	98.93	96.04	93.53	91.42	89.58	88.03	86.65	85.28	84.17
D-6.5	118.35	113.59	109.66	106.45	103.65	101.31	99.31	97.54	95.96	94.59	93.45
D-7	131.18	126.03	121.57	117.98	114.86	112.28	110.13	108.12	106.37	104.80	103.56
D-7.5	152.01	145.94	140.78	136.62	133.03	130.05	127.57	125.18	123.32	121.43	119.89

**"D" CONSTRUCTION - SHAPE A**

Class	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000
D-5	65.97	64.61	63.50	62.57	61.68	61.02	60.30	59.80	59.41	58.99	58.21
D-5.5	72.44	70.97	69.69	68.78	67.79	66.96	66.25	65.65	65.24	64.76	63.93
D-6	83.30	81.57	80.18	78.99	77.90	77.01	76.19	75.55	75.05	74.46	73.54
D-6.5	92.43	90.41	88.84	87.55	86.45	85.41	84.45	83.77	83.17	82.52	81.51
D-7	102.39	100.22	98.43	97.09	95.72	94.66	93.62	92.83	92.21	91.42	90.30
D-7.5	118.58	116.12	114.14	112.53	110.91	109.62	108.40	107.52	106.78	105.95	104.63

**"D" CONSTRUCTION - SHAPE A**

Class	1300	1400	1500	1600	1700	1800	2000	2200	2400	2600	2800
D-8	154.53	151.75	149.23	146.96	145.22	143.64	140.57	138.18	136.68	134.41	132.73
D-8.5	185.10	181.73	178.67	176.00	173.92	171.86	168.32	165.49	163.59	160.85	158.96
D-9	263.39	258.58	254.34	250.55	247.53	244.70	239.53	235.34	232.91	229.00	226.27
D-9.5	391.02	383.95	377.64	371.91	367.46	363.33	355.69	349.66	345.77	340.00	335.83
D-10	465.89	457.41	449.87	443.25	437.93	432.97	423.89	416.82	411.97	405.14	400.26

**"D" CONSTRUCTION - SHAPE A**

Class	3000	3200	3400	3600	3800	4000	4200	4400	4600	4800	5000
D-8	131.35	130.25	129.31	128.29	127.42	126.91	126.32	125.77	125.49	124.86	124.67
D-8.5	157.31	156.00	154.82	153.71	152.49	151.77	151.26	150.53	150.16	149.49	149.35
D-9	223.96	222.05	220.44	218.72	217.00	215.95	215.33	214.20	213.81	212.81	212.44
D-9.5	332.50	329.67	327.27	324.70	322.27	320.69	319.64	318.07	317.41	315.97	315.53
D-10	396.19	392.85	389.97	387.04	384.04	382.19	380.84	379.15	376.95	376.53	376.05

**SINGLE-FAMILY RESIDENTIAL  
CONVENTIONAL TYPE  
SQUARE FOOT AREA COST TABLES**

**"D" CONSTRUCTION - SHAPE B**

Class	400	500	600	700	800	900	1000	1100	1200	1300	1400
D-1	53.78	49.97	47.12	44.80	43.00	41.55	40.27	39.42	38.46	37.71	36.97
D-1.5	59.11	54.89	51.72	49.16	47.20	45.70	44.36	43.18	42.15	41.47	40.62
D-2	64.86	60.21	56.80	54.05	51.85	50.14	48.63	47.54	46.35	45.47	44.56
D-3	71.24	66.20	62.42	59.24	56.97	55.07	53.39	52.17	50.92	49.96	49.00
D-3.5	78.18	72.62	68.49	65.09	62.57	60.49	58.62	57.26	55.92	54.86	53.78
D-4	85.93	79.74	75.20	71.52	68.66	66.41	64.41	62.82	61.35	60.19	59.11
D-4.5	94.29	87.50	82.55	78.54	75.38	72.94	70.70	68.99	67.35	66.02	64.86

**"D" CONSTRUCTION - SHAPE B**

Class	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
D-5	86.10	82.72	80.01	77.55	75.73	73.98	72.48	71.19	70.18	69.09	68.19
D-5.5	94.52	90.80	87.78	85.12	83.12	81.22	79.69	78.18	77.11	75.81	74.85
D-6	108.81	104.48	100.96	97.98	95.54	93.45	91.56	90.00	88.61	87.23	86.17
D-6.5	120.55	115.84	111.89	108.55	106.01	103.48	101.45	99.69	98.27	96.67	95.46
D-7	133.61	128.37	124.07	120.37	117.43	114.72	112.53	110.47	108.90	107.16	105.71
D-7.5	154.81	148.71	143.69	139.43	136.05	132.86	130.35	128.00	125.87	124.00	122.53

**"D" CONSTRUCTION - SHAPE B**

Class	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000
D-5	67.46	66.02	64.91	63.96	63.30	62.57	61.86	61.35	60.89	60.49	59.74
D-5.5	74.07	72.57	71.24	70.31	69.53	68.78	67.92	67.35	66.82	66.41	65.60
D-6	85.23	83.49	81.92	80.89	79.93	78.99	78.18	77.52	76.97	76.49	75.53
D-6.5	94.42	92.48	90.92	89.58	88.61	87.55	86.65	85.92	85.23	84.66	83.65
D-7	104.65	102.56	100.70	99.31	98.20	97.09	96.09	95.17	94.42	93.83	92.76
D-7.5	121.31	118.76	116.68	115.10	113.80	112.53	111.27	110.33	109.38	108.72	107.43

**"D" CONSTRUCTION - SHAPE B**

Class	1300	1400	1500	1600	1700	1800	2000	2200	2400	2600	2800
D-8	157.91	154.98	152.40	150.11	148.31	146.82	143.85	141.25	139.42	137.76	136.14
D-8.5	188.98	185.59	182.43	179.83	177.61	175.71	172.28	169.13	166.85	164.92	162.92
D-9	269.11	264.09	259.74	255.95	252.79	250.14	245.18	240.79	237.47	234.76	231.84
D-9.5	399.54	392.23	385.77	379.92	375.46	371.30	364.11	357.55	352.64	348.52	344.27
D-10	476.11	467.29	459.59	452.84	447.33	442.49	433.80	426.10	420.29	415.36	410.35

**"D" CONSTRUCTION - SHAPE B**

Class	3000	3200	3400	3600	3800	4000	4200	4400	4600	4800	5000
D-8	134.77	133.54	132.52	131.71	130.62	130.07	129.60	129.06	128.71	128.23	127.93
D-8.5	161.26	159.80	158.56	157.63	156.50	155.73	155.14	154.53	154.16	153.56	153.12
D-9	229.57	227.53	225.77	224.32	222.64	221.67	220.83	219.96	219.34	218.54	218.07
D-9.5	340.89	337.74	335.32	333.22	330.56	329.05	327.91	326.53	325.78	324.47	323.83
D-10	406.16	403.03	399.41	396.98	394.07	392.20	390.92	389.12	388.20	386.76	385.94

**SINGLE-FAMILY RESIDENTIAL  
CONVENTIONAL TYPE  
SQUARE FOOT COST TABLES**

**"D" CONSTRUCTION - SHAPE C**

Class	400	500	600	700	800	900	1000	1100	1200	1300	1400
D-1	55.04	51.06	48.16	45.48	43.78	42.40	41.14	40.17	39.21	38.48	37.88
D-1.5	60.48	56.10	52.83	49.97	48.16	46.57	45.21	44.05	43.08	42.26	41.54
D-2	66.28	61.64	57.98	54.89	52.83	51.05	49.58	48.31	47.32	46.36	45.66
D-3	72.77	67.63	63.70	60.25	57.98	56.02	54.51	53.13	52.02	50.93	50.08
D-3.5	80.01	74.28	70.01	66.20	63.68	61.58	59.74	58.32	57.06	55.95	55.04
D-4	87.80	81.51	76.80	72.62	69.87	67.61	65.60	63.96	62.71	61.41	60.45
D-4.5	96.35	89.60	84.31	79.74	76.78	74.18	72.10	70.29	68.85	67.46	66.28

**"D" CONSTRUCTION - SHAPE C**

Class	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
D-5	87.65	84.31	81.45	79.13	77.14	75.62	74.12	72.77	71.64	70.73	69.85
D-5.5	96.29	92.57	89.43	86.87	84.66	83.02	81.39	80.01	78.64	77.70	76.74
D-6	110.66	106.53	102.87	99.94	97.47	95.51	93.62	91.97	90.44	89.28	88.24
D-6.5	122.69	118.05	114.03	110.80	108.07	105.77	103.78	101.95	100.30	99.02	97.80
D-7	136.01	130.78	126.41	122.76	119.68	117.27	115.00	113.01	111.17	109.73	108.44
D-7.5	157.48	151.49	149.95	142.24	138.71	135.93	133.29	130.93	130.60	127.12	125.57

**"D" CONSTRUCTION - SHAPE C**

Class	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000
D-5	69.04	67.73	66.63	65.58	64.82	64.13	63.54	62.97	62.51	62.10	61.32
D-5.5	75.80	74.32	73.08	72.06	71.18	70.47	69.79	69.09	68.60	68.19	67.31
D-6	87.21	85.60	84.12	82.89	81.90	80.99	80.23	79.49	78.93	78.43	77.41
D-6.5	96.63	94.80	93.20	91.88	90.80	89.84	89.02	88.04	87.49	86.92	85.83
D-7	107.15	105.12	103.35	101.77	100.59	99.53	98.62	97.64	96.96	96.39	95.12
D-7.5	124.11	121.72	119.68	117.97	116.49	115.22	114.17	113.04	112.38	111.62	110.20

**"D" CONSTRUCTION - SHAPE C**

Class	1300	1400	1500	1600	1700	1800	2000	2200	2400	2600	2800
D-8	161.41	158.51	156.30	153.87	151.81	150.16	147.45	144.94	142.89	141.07	139.61
D-8.5	193.32	189.81	187.05	184.15	181.82	179.86	176.51	173.60	171.10	168.94	167.20
D-9	275.13	270.13	266.23	262.10	258.89	256.01	251.27	247.04	243.56	240.41	238.01
D-9.5	408.59	401.21	395.48	389.15	384.34	380.18	373.12	366.91	361.53	357.19	353.36
D-10	486.77	477.99	471.17	463.76	457.98	453.02	444.55	437.06	431.06	425.66	421.08

**"D" CONSTRUCTION - SHAPE C**

Class	3000	3200	3400	3600	3800	4000	4200	4400	4600	4800	5000
D-8	138.34	137.02	136.14	135.26	134.17	133.58	133.03	132.52	132.14	131.67	131.35
D-8.5	165.60	164.06	162.92	161.91	160.66	159.99	159.35	158.56	158.22	157.58	157.31
D-9	235.75	233.64	231.84	230.43	228.59	227.70	226.70	225.77	225.13	224.24	223.96
D-9.5	351.12	346.78	344.27	342.09	339.50	337.93	336.59	335.32	334.40	333.03	332.50
D-10	417.24	413.10	410.35	407.71	404.51	402.85	401.18	399.41	398.36	396.82	396.19

**SINGLE-FAMILY RESIDENTIAL  
CONVENTIONAL TYPE  
SQUARE FOOT AREA COST TABLES**

**"D" CONSTRUCTION - SHAPE D**

Class	400	500	600	700	800	900	1000	1100	1200	1300	1400
D-1	56.31	52.28	49.07	46.57	44.80	43.34	42.10	41.13	40.21	39.49	38.78
D-1.5	61.80	57.43	53.81	51.05	49.16	47.60	46.25	45.14	44.08	43.39	42.57
D-2	67.83	62.99	59.14	56.10	54.05	52.18	50.75	49.54	48.52	47.60	46.69
D-3	74.55	69.24	64.91	61.58	59.24	57.33	55.73	54.42	53.18	52.23	51.33
D-3.5	81.85	75.95	71.30	67.63	65.09	62.97	61.23	59.71	58.44	57.38	56.39
D-4	89.79	83.41	78.23	74.20	71.52	69.12	67.17	65.57	64.25	62.98	61.81
D-4.5	98.70	91.65	85.80	81.45	78.54	75.89	73.86	72.01	70.50	69.16	67.89

**"D" CONSTRUCTION - SHAPE D**

Class	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
D-5	89.38	86.10	83.26	80.97	79.06	77.32	75.89	74.61	73.52	72.57	71.61
D-5.5	98.16	94.52	91.43	88.89	86.82	84.99	83.30	81.94	80.78	79.70	78.63
D-6	112.92	108.81	105.19	102.27	99.86	97.65	95.86	94.10	92.88	91.58	90.43
D-6.5	125.11	120.55	116.54	113.37	110.66	108.22	106.19	104.44	102.88	101.63	100.29
D-7	138.65	133.61	129.19	125.57	122.59	119.90	117.68	115.66	114.10	112.55	111.14
D-7.5	160.66	154.81	149.63	145.52	142.03	138.96	136.39	134.08	132.20	130.40	128.72

**"D" CONSTRUCTION - SHAPE D**

Class	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000
D-5	70.83	69.53	68.34	67.46	66.66	65.96	65.29	64.79	64.33	63.89	63.02
D-5.5	77.76	76.32	75.05	74.07	73.17	72.43	71.64	71.14	70.61	70.10	69.26
D-6	89.52	87.80	86.30	85.23	84.14	83.28	82.41	81.86	81.22	80.65	79.59
D-6.5	99.23	97.29	95.69	94.42	93.27	92.29	91.42	90.67	90.02	89.44	88.32
D-7	109.92	107.79	106.08	104.65	103.36	102.25	101.24	100.55	99.73	99.12	97.80
D-7.5	128.09	124.99	122.85	121.31	119.81	118.46	117.35	116.38	115.55	114.67	113.37

**"D" CONSTRUCTION - SHAPE D**

Class	1300	1400	1500	1600	1700	1800	2000	2200	2400	2600	2800
D-8	165.01	162.19	159.58	157.52	155.62	154.32	151.31	148.79	146.83	145.10	143.64
D-8.5	197.55	194.10	191.08	188.63	186.24	184.72	181.19	178.18	175.82	173.65	171.86
D-9	281.15	276.42	271.96	268.42	265.20	262.92	257.90	253.48	250.23	247.26	244.70
D-9.5	417.56	410.41	403.85	398.55	393.73	390.30	383.06	376.52	371.75	367.04	363.33
D-10	497.50	489.13	481.15	475.14	469.27	465.17	456.26	448.66	442.82	437.42	432.97

**"D" CONSTRUCTION - SHAPE D**

Class	3000	3200	3400	3600	3800	4000	4200	4400	4600	4800	5000
D-8	142.19	141.06	139.93	138.97	137.96	137.39	136.85	136.25	135.86	135.34	135.15
D-8.5	170.20	168.85	167.61	166.45	165.24	164.50	163.82	163.16	162.73	162.06	161.77
D-9	242.40	240.38	238.56	236.98	235.17	234.07	233.16	232.20	231.61	230.68	230.23
D-9.5	359.82	356.94	354.22	351.78	349.08	347.52	346.33	344.89	344.09	342.50	342.01
D-10	428.84	425.49	422.03	419.23	416.04	414.10	412.77	410.92	409.93	408.29	407.60

**SINGLE-FAMILY RESIDENTIAL  
BUILDING SPECIFICATIONS  
"D" CONSTRUCTION**

**POST 1990**

**D-6 QUALITY**

**MODERN**

<p><b>Foundation</b> Reinforced concrete</p>
<p><b>Floor Structure</b> Standard wood frame or slab on grade reinforced concrete, vapor barrier, base 4" thick</p>
<p><b>Walls and Exterior</b> Framing: Standard wood or steel frame Sheathing: Line wire and paper, plywood, or particle board Cover: Wood shingles or low-cost wood siding or masonry trim on front wall; average stucco sides and rear Windows: Average quality aluminum or wood; slide or double hung, double glaze Front Door: Average quality metal or wood</p>
<p><b>Roof</b> Framing: Standard wood or steel frame Cover: Wood shingle, light wood shake, good composition shingle, or concrete shake or tile Overhang: 0" to 18", unceiled Gutters: Average quality at all eaves</p>
<p><b>Floor Finishes</b> Average quality hardwood, carpet, vinyl, or ceramic tile throughout</p>
<p><b>Interior Finish</b> Gypsum board taped, textured, painted; some wallpaper; average quality paneling Decorative plant shelves Ceilings: Standard 8' or vaulted; low-cost fans</p>
<p><b>Interior Detail</b> Interior Doors: Average quality wood Trim: Wood or plastic Closets: Average amount; low-cost doors</p>
<p><b>Bath Detail</b> Number: Two Floors: Average quality vinyl Walls: Gypsum board and enamel Shower &amp; Tub: Fiberglass or average quality ceramic tile, with glass doors; twin basin vanities</p>
<p><b>Kitchen</b> Base Cabinet: Average cost wood veneer Wall Cases: Average cost wood veneer Drain Board: Average cost plastic laminate or vinyl tile Some island cabinets without fixtures</p>
<p><b>Plumbing</b> Galvanized, plastic, or copper pipe; 7 average-cost fixtures; washer outlet; water heater</p>
<p><b>Special Features</b> Average quality sliding glass or French doors; average quality built-in oven, range, microwave, dishwasher, garbage disposer, range hood and fan; utility room/closet</p>
<p><b>Electrical</b> Cable wiring; average quality fixtures; some bedroom ceiling fixtures</p>

**SINGLE-FAMILY RESIDENTIAL  
BUILDING SPECIFICATIONS  
"D" CONSTRUCTION**

<b>PRE 1990</b>	<b>D-7 QUALITY</b>	<b>MODERN</b>
<b>Foundation</b> Reinforced concrete		
<b>Floor Structure</b> Standard wood frame		
<b>Walls and Exterior</b> Framing: Standard wood frame Sheathing: Gypsum board Cover: Good hardboard or average wood siding with masonry veneer on front wall; good stucco on sides and rear Windows: Average aluminum Front Doors: 1-3/4" fir		
<b>Roof</b> Framing: Standard wood frame Cover: Medium shake or composition and large rock Overhang: 24", unceiled Gutters: 6" good quality at all eaves		
<b>Floor Finishes</b> Average ceramic or terrazzo in entry; average quality tongue and groove hardwood; average quality carpet in living, dining, hall, and bedrooms; average quality sheet vinyl in kitchen, family room, breakfast room, and utility room		
<b>Interior Finish</b> Gypsum board taped, textured, and painted; some wallpaper; average quality hardwood veneer in family room		
<b>Interior Detail</b> Interior Doors: Average quality hollow core slab Trim: Douglas Fir; painted; some hardwood Closets: Average amount, with average quality wood doors		
<b>Bath Detail</b> Number: Two Floors: Sheet vinyl Walls: Gypsum board and enamel; average ceramic tile over tub Shower: Average ceramic tile, with glass door		
<b>Kitchen</b> Base Cabinet: 16' average quality hardwood veneer Wall Cases: Average quality hardwood veneer Drain Board: 16' average ceramic tile or good plastic laminate		
<b>Plumbing</b> Galvanized pipe; 7 good fixtures; single laundry tray; water heater		
<b>Special Features</b> 8' sliding glass door; average quality built-in oven, range, dishwasher, garbage disposer, and range hood and fan; 4' to 6' ceramic tile vanity in each bath		
<b>Electrical</b> Romex wiring; average quality fixtures		

**SINGLE-FAMILY RESIDENTIAL  
MODERN TYPE  
SQUARE FOOT AREA COST TABLES**

**"D" CONSTRUCTION - SHAPE A**

Class	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
D-5	88.85	85.10	82.04	79.40	77.32	75.45	73.86	72.37	71.24	70.13	69.24
D-5.5	97.73	93.62	90.26	87.37	85.05	83.02	81.22	79.56	78.39	77.14	76.22
D-6	112.55	107.90	103.98	100.66	98.05	95.68	93.60	91.68	90.30	88.91	87.69
D-6.5	125.06	119.80	115.52	111.78	108.84	106.19	103.87	101.90	100.30	98.76	97.43
D-7	138.84	132.91	128.20	124.07	120.84	117.98	115.38	113.07	111.32	109.65	108.13
D-7.5	161.15	154.32	148.77	144.04	140.19	136.88	133.94	131.23	129.28	127.21	125.53
D-8	188.42	180.59	174.02	168.44	163.99	160.10	156.64	153.56	151.20	148.90	146.83
D-8.5	215.93	206.94	199.42	193.00	188.00	183.49	179.51	175.95	173.24	170.59	168.19
D-9	294.16	281.85	271.68	262.90	256.06	249.95	244.57	239.71	236.05	232.37	229.20
D-9.5	420.96	403.34	388.76	376.24	366.38	357.57	349.92	342.91	337.74	332.64	327.91
D-10	484.10	463.86	446.96	432.63	421.33	411.27	402.38	394.38	388.38	382.51	377.17

**"D" CONSTRUCTION - SHAPE A**

Class	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000
D-5	68.34	66.77	65.60	64.54	63.68	62.94	62.34	61.77	61.23	60.79	59.97
D-5.5	75.20	73.49	72.24	71.05	70.04	69.16	68.59	67.92	67.31	66.82	65.97
D-6	86.65	84.67	83.23	81.86	80.74	79.65	78.99	78.29	77.60	77.07	76.01
D-6.5	96.26	94.00	92.44	90.92	89.53	88.52	87.67	86.98	86.11	85.60	84.44
D-7	106.73	104.42	102.64	100.87	99.53	98.27	97.43	96.55	95.69	94.97	93.68
D-7.5	123.98	121.24	119.11	117.10	115.51	114.10	113.02	112.01	111.08	110.33	108.79
D-8	145.03	141.73	139.31	136.93	135.03	133.43	132.20	131.08	129.88	128.99	127.19
D-8.5	166.25	162.42	159.63	156.97	154.79	152.88	151.45	150.15	148.84	147.85	145.77
D-9	226.48	221.25	217.56	213.81	210.89	208.23	206.33	204.59	202.73	201.40	198.57
D-9.5	323.94	316.63	311.20	305.92	301.69	297.95	295.27	292.81	290.13	288.15	284.12
D-10	372.60	364.13	357.79	351.80	346.95	342.63	339.57	336.72	333.64	331.39	326.74

**"D" CONSTRUCTION - SHAPE A**

Class	4200	4400	4600	5000
D-6	74.90	74.75	74.21	73.49
D-6.5	83.67	83.01	82.42	81.61
D-7	92.83	92.08	91.46	90.54
D-7.5	107.81	106.94	106.20	105.12
D-8	127.21	126.18	125.30	124.04
D-8.5	144.45	143.28	142.29	140.86
D-9	196.78	195.20	193.83	191.89
D-9.5	281.55	279.30	277.34	274.58
D-10	323.79	321.20	318.94	315.75

**SINGLE-FAMILY RESIDENTIAL  
MODERN TYPE  
SQUARE FOOT AREA COST TABLES**

**"D" CONSTRUCTION - SHAPE B**

Class	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
D-5	90.60	86.82	83.56	81.02	78.81	76.96	75.45	74.00	72.77	71.69	70.74
D-5.5	99.63	95.42	91.94	89.17	86.65	84.59	83.02	81.39	80.09	78.91	77.86
D-6	114.79	110.04	105.86	102.72	99.90	97.50	95.68	93.87	92.39	90.96	89.70
D-6.5	127.52	122.18	117.51	114.03	110.90	108.28	106.19	104.10	102.53	100.94	99.64
D-7	141.52	135.59	130.53	126.59	123.15	120.26	117.98	115.62	113.71	112.09	110.66
D-7.5	164.21	157.40	151.48	146.97	143.00	139.54	136.94	134.18	132.14	130.05	128.37
D-8	192.07	184.03	177.26	171.86	167.18	163.26	160.10	156.97	154.48	152.16	150.11
D-8.5	220.11	210.92	203.11	196.99	191.52	187.08	183.49	179.86	176.96	174.38	172.04
D-9	299.89	287.35	276.71	268.37	260.96	254.91	249.95	245.01	241.09	237.53	234.37
D-9.5	429.17	411.09	396.00	383.95	373.41	364.70	357.57	350.60	345.02	339.92	335.35
D-10	493.51	472.77	455.38	441.56	429.43	419.48	411.27	403.16	396.77	390.92	385.58

**"D" CONSTRUCTION - SHAPE B**

Class	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000
D-5	69.85	68.37	67.26	66.24	65.33	64.54	63.93	63.30	62.78	62.34	61.65
D-5.5	76.82	75.25	74.00	72.77	71.80	71.05	70.29	69.67	69.09	68.59	67.79
D-6	88.60	86.66	85.26	83.95	82.87	81.86	80.99	80.23	79.58	78.99	78.16
D-6.5	98.35	96.30	94.71	93.20	91.94	90.92	89.91	89.10	88.37	87.67	86.79
D-7	109.20	106.81	105.14	103.46	102.05	100.87	99.87	98.87	98.15	97.43	96.37
D-7.5	126.70	124.00	122.02	120.16	118.46	117.10	115.92	114.77	113.84	113.02	111.78
D-8	148.28	145.10	142.73	140.54	138.55	136.93	135.64	134.30	133.19	132.20	130.79
D-8.5	169.82	166.27	163.59	161.06	158.83	156.97	155.40	153.88	152.63	151.45	149.88
D-9	231.39	226.55	222.94	219.40	216.35	213.81	211.68	209.64	207.94	206.33	204.20
D-9.5	331.15	324.07	318.84	314.01	309.66	305.92	302.97	299.96	297.56	295.27	292.24
D-10	380.81	372.70	366.69	361.07	356.03	351.80	348.36	345.00	342.18	339.57	336.01

**"D" CONSTRUCTION - SHAPE B**

Class	4200	4400	4600	5000
D-6	77.46	76.83	76.31	75.54
D-6.5	86.01	85.32	84.73	83.88
D-7	95.51	94.76	94.09	93.14
D-7.5	110.76	109.88	109.11	108.03
D-8	129.63	128.59	127.70	126.41
D-8.5	148.76	146.90	145.78	144.76
D-9	202.38	200.75	199.35	197.35
D-9.5	289.59	288.59	286.57	283.70
D-10	333.01	330.32	329.29	326.00

**SINGLE-FAMILY RESIDENTIAL  
MODERN TYPE  
SQUARE FOOT AREA COST TABLES**

**"D" CONSTRUCTION - SHAPE C**

Class	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
D-5	92.03	88.31	85.12	82.55	80.33	78.59	76.96	75.59	74.20	73.23	72.29
D-5.5	101.26	97.11	93.63	90.78	88.41	86.51	84.59	83.12	81.66	80.57	79.49
D-6	116.67	111.91	107.94	104.65	101.85	99.64	97.50	95.77	94.01	92.85	91.58
D-6.5	129.57	124.28	119.81	116.22	113.07	110.58	108.28	106.37	104.47	103.10	101.72
D-7	143.80	137.92	133.02	129.01	125.53	122.81	120.26	118.07	115.98	114.51	112.93
D-7.5	166.89	160.08	154.38	149.63	145.78	142.58	139.54	137.00	134.58	132.84	131.09
D-8	195.25	187.28	180.65	175.11	170.55	166.74	163.26	160.18	157.48	155.39	153.34
D-8.5	223.74	214.61	206.98	200.61	195.45	191.04	187.08	183.60	180.47	178.06	175.68
D-9	304.78	292.37	282.00	273.34	266.25	260.26	254.87	250.12	245.82	242.54	239.42
D-9.5	436.11	418.31	403.52	391.16	380.96	372.42	364.70	357.95	351.76	347.03	342.52
D-10	501.48	481.06	464.06	449.84	438.16	428.29	419.48	411.56	404.51	399.09	393.91

**"D" CONSTRUCTION - SHAPE C**

Class	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000
D-5	69.73	68.43	67.27	65.89	65.41	64.81	64.22	63.66	63.08	62.68	62.00
D-5.5	78.59	76.96	75.71	74.00	73.49	72.72	72.10	71.46	70.73	70.31	69.53
D-6	90.63	88.65	87.17	85.26	84.67	83.85	83.01	82.34	81.54	81.09	80.07
D-6.5	100.55	98.42	96.84	94.71	94.00	93.06	92.28	91.47	90.44	90.02	88.91
D-7	111.65	109.31	107.48	105.14	104.42	103.35	102.39	101.62	100.55	99.88	98.71
D-7.5	129.60	126.89	124.62	122.02	121.24	119.89	118.83	117.84	116.68	115.98	114.58
D-8	151.62	148.44	145.89	142.73	141.73	140.27	138.97	137.81	136.43	135.66	135.13
D-8.5	173.71	170.10	167.20	163.59	162.42	160.75	159.25	157.94	156.33	155.46	153.56
D-9	236.59	231.71	227.76	222.94	221.25	218.98	217.03	215.14	212.92	211.72	209.17
D-9.5	338.58	331.58	325.96	318.84	316.63	313.35	310.44	307.85	304.73	303.06	299.31
D-10	389.36	381.26	374.84	374.04	364.13	360.36	357.00	354.00	350.45	348.46	344.12

**"D" CONSTRUCTION - SHAPE C**

Class	4200	4400	4600	5000
D-6	79.36	78.71	78.16	77.39
D-6.5	87.62	86.89	86.28	85.42
D-7	97.80	97.04	96.35	95.39
D-7.5	113.54	112.64	111.86	110.73
D-8	133.94	132.89	131.96	130.65
D-8.5	152.18	150.97	149.92	148.41
D-9	207.31	205.64	204.20	202.14
D-9.5	296.60	294.23	292.17	289.26
D-10	341.03	338.28	335.93	332.56

**SINGLE-FAMILY RESIDENTIAL  
MODERN TYPE  
SQUARE FOOT AREA COST TABLES**

**"D" CONSTRUCTION - SHAPE D**

Class	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
D-5	93.54	89.74	86.84	84.16	82.09	80.18	78.61	77.30	75.95	74.87	74.00
D-5.5	102.82	98.74	95.44	92.54	90.30	88.22	86.53	85.01	83.58	82.40	81.39
D-6	118.57	113.72	110.06	106.65	104.06	101.71	99.69	97.98	96.37	94.94	93.87
D-6.5	131.62	126.36	122.20	118.42	115.56	112.90	110.66	108.81	106.99	105.51	104.10
D-7	146.14	140.30	135.68	131.45	128.22	125.32	122.82	120.81	118.73	117.10	115.62
D-7.5	169.60	162.73	157.41	152.56	148.90	145.40	142.60	140.13	137.78	135.87	134.18
D-8	198.33	190.46	184.07	178.44	174.11	170.13	166.77	163.94	161.23	158.93	156.97
D-8.5	227.30	218.30	210.94	204.52	199.54	194.93	191.09	187.82	184.73	182.06	179.86
D-9	309.62	297.33	287.36	278.55	271.86	265.57	260.36	255.95	251.67	248.13	245.01
D-9.5	443.06	425.59	411.23	398.58	388.99	380.01	372.52	366.26	360.09	354.95	350.62
D-10	509.52	489.39	472.87	458.42	447.33	436.96	428.41	421.15	414.10	408.28	403.16

**"D" CONSTRUCTION - SHAPE D**

Class	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	4000
D-5	73.08	71.61	70.47	69.34	68.49	67.64	67.05	66.52	65.97	65.57	64.70
D-5.5	80.35	78.81	77.46	76.32	75.30	74.38	73.69	73.17	72.58	72.11	71.18
D-6	92.70	90.78	89.20	87.94	86.82	85.75	84.95	84.34	83.62	83.16	81.96
D-6.5	102.88	100.80	99.22	97.64	96.39	95.22	94.39	93.60	92.85	92.29	91.03
D-7	114.22	111.89	110.06	108.44	107.12	105.68	104.78	103.88	103.10	102.53	101.12
D-7.5	132.64	129.88	127.70	125.84	124.21	122.72	121.64	120.59	119.68	118.85	117.27
D-8	155.14	151.84	149.40	147.21	145.28	143.49	142.24	141.06	139.93	139.03	137.27
D-8.5	177.71	174.03	171.19	168.61	166.44	164.47	163.01	161.70	160.35	159.30	157.30
D-9	242.11	237.07	233.22	229.76	226.74	224.07	222.11	220.24	218.48	217.08	214.27
D-9.5	346.52	339.25	333.78	328.73	324.51	320.55	317.85	315.16	312.63	310.54	306.65
D-10	398.46	390.12	383.82	382.14	373.14	368.66	365.43	362.42	359.48	357.13	352.54

**"D" CONSTRUCTION - SHAPE D**

Class	4200	4400	4600	5000
D-6	81.22	80.57	80.00	79.21
D-6.5	90.21	89.49	88.88	87.97
D-7	100.22	99.05	98.04	97.06
D-7.5	116.24	115.29	114.50	113.35
D-8	136.05	134.95	134.02	132.68
D-8.5	151.14	149.95	148.88	147.39
D-9	212.35	210.63	209.17	207.07
D-9.5	303.01	300.62	298.54	295.59
D-10	349.37	346.57	344.15	340.66

**MOUNTAIN RESIDENCES  
BUILDING SPECIFICATIONS  
"D" CONSTRUCTION**

**D-4 QUALITY**

**CONVENTIONAL**

<b>Foundation</b>	Wood piers, light concrete, light concrete block, or light native stone
<b>Floor Structure</b>	2" x 6", 24" o.c.; 1" sub-floor
<b>Walls and Exterior</b>	Framing: 2" x 4", 16" o.c. Siding: Low-cost wood siding or wood shingles Windows: Low-cost wood
<b>Roof</b>	Framing: 2" x 4", 16" o.c.; or 2" x 6", 24" o.c.; with 1" sheathing Cover: Composition shingles or corrugated metal Pitch: Medium
<b>Interior Finish</b>	Home-built with knotty pine or plywood
<b>Bath Detail</b>	One three-fixture bath
<b>Kitchen</b>	Base Cabinet: 6' home-built plywood Wall Cabinet: Home-built plywood
<b>Plumbing</b>	Four low-cost fixtures; water heater
<b>Electrical</b>	Knob and tube or Romex; low-cost fixtures
<b>Special Features</b>	None

**MOUNTAIN RESIDENCES  
BUILDING SPECIFICATIONS  
"D" CONSTRUCTION**

**D-5 QUALITY**

**CONVENTIONAL**

<b>Foundation</b>	Concrete block or standard concrete
<b>Floor Structure</b>	4" x 6" girders, 48" o.c.; with 5/4" plywood sub-floor; or 2" tongue and groove sub-floor Alternate: 2" x 6" joists, 16" o.c.; with 1" sub-floor
<b>Walls and Exterior</b>	Framing: 2" x 6", 16" o.c. Siding: Low-cost plywood, lap, or board and batten Alternate: Low-cost wood shingle Fully Insulated: Medium standards Windows: Low-cost wood or metal
<b>Roof</b>	Framing: 2" x 6", 24" o.c.; or 2" x 8", 24" o.c.; with 1" sheathing Alternate: 4" x 8", 48" o.c.; 5/4" plywood; or 2" tongue and groove sheathing Cover: Composition shingles or steel Pitch: Medium to steep
<b>Floor Finish</b>	Vinyl tile
<b>Interior Finish</b>	Low-cost wood paneling or drywall and texture
<b>Bath Detail</b>	One three-fixture bath
<b>Kitchen</b>	Base Cabinet: 6' to 8' low-cost plywood veneer, or paint-grade cabinets Wall Cabinet: Low-cost plywood veneer, or paint-grade cabinets
<b>Plumbing</b>	Four low-cost fixtures; water heater
<b>Electrical</b>	Romex wiring; low-cost fixtures
<b>Special Features</b>	None

**MOUNTAIN RESIDENCES  
BUILDING SPECIFICATIONS  
"D" CONSTRUCTION**

**D-6 QUALITY**

**CONVENTIONAL**

<b>Foundation</b>	Reinforced concrete or concrete block
<b>Floor Structure</b>	4" x 6" girders, 48" o.c.; with 5/4" plywood; or 2" tongue and groove sub-floor; or 2" x 6", 16" o.c.; with 1" sub-floor; insulation to R-11 standards
<b>Walls and Exterior</b>	Framing: 2" x 6", 16" o.c. Siding: Average quality plywood; average quality lap or board and batten siding; or average quality wood shingles Fully Insulated: R-11 standards Windows: Average quality metal or wood; double paned glass
<b>Roof</b>	Framing: 2" x 6", 16" o.c.; 2" x 8", 24" o.c.; with 1" sheathing; or 4" x 8", 48" o.c.; with 2" sheathing Insulation: Minimum of R-19 standards Cover: Wood, composition shingles, or steel Pitch: Medium to steep
<b>Floor Finish</b>	Average quality carpet or vinyl in kitchen and baths
<b>Interior Finish</b>	Drywall taped and textured, or average quality plywood veneer
<b>Bath Detail</b>	Two three-fixture baths; average quality fixtures
<b>Kitchen</b>	Base Cabinet: 8' to 12' average quality plywood veneer or painted Wall Cabinet: Plywood veneer or painted Drain Board: 8' to 12' plastic laminate
<b>Plumbing</b>	Seven average fixtures; water heater
<b>Electrical</b>	Romex wiring; average fixtures
<b>Special Features</b>	Drop-in range with hood; one sliding glass door

**MOUNTAIN RESIDENCES  
BUILDING SPECIFICATIONS  
"D" CONSTRUCTION**

**D-7 QUALITY**

**CONVENTIONAL**

<b>Foundation</b>	Reinforced concrete or concrete block
<b>Floor Structure</b>	4" x 8" girders, 48" o.c.; with a 5/4" plywood; or 2" tongue and groove sub-floor Alternate: 2" x 6" or 2" x 8", 16" o.c.; with 1" sub-floor Fully Insulated: Minimum of R-11 standards
<b>Walls and Exterior</b>	Framing: 2" x 6", 16" o.c. Siding: Average to good plywood, lap, or board and batten Alternate: Good wood shingles Fully Insulated: Minimum of R-11 standards Windows: Average quality wood or metal; double paned glass
<b>Roof</b>	Framing: 4" x 8", 48" o.c.; with 2" or 3" tongue and groove sheathing Alternate: 2" x 6", 12" o.c.; or 2" x 8", 16" o.c.; with 1" sheathing Insulation: To R-30 standards Cover: Medium shake, steel, or composition shingles Pitch: Medium steep
<b>Floor Finish</b>	Average to good quality carpet; sheet vinyl or good vinyl in kitchen and baths
<b>Interior Finish</b>	Drywall and texture; plywood veneer; or good quality knotty pine
<b>Bath Detail</b>	Two three-fixture baths; average ceramic tile or plastic laminate vanities; average ceramic tile or plastic laminate showers
<b>Kitchen</b>	Base Cabinet: 12' to 16' hardwood veneer Wall Cabinet: Hardwood veneer Drain Board: 12' to 16' average ceramic tile
<b>Plumbing</b>	Seven average quality fixtures; water heater
<b>Electrical</b>	Romex wiring; average fixtures
<b>Special Features</b>	One 8' sliding glass door; built-in range and oven, dishwasher, and garbage disposal

**MOUNTAIN RESIDENCES  
CONVENTIONAL TYPE  
SQUARE FOOT AREA COST TABLES**

**"D" CONSTRUCTION - SHAPE A**

Class	400	500	600	700	800	900	1000	1100	1200	1300	1400
D-4	168.39	151.11	139.72	130.54	123.81	118.58	113.98	110.60	107.25	104.80	102.40
D-4.5	182.61	163.86	151.37	141.54	134.22	128.45	123.57	119.78	116.43	113.48	110.98
D-5	197.96	177.52	164.19	153.43	145.56	139.24	133.90	129.85	126.15	123.17	120.26
D-5.5	214.64	192.44	177.90	166.41	157.79	151.02	145.16	140.86	136.62	133.44	130.46
D-6	232.60	208.61	192.88	180.24	171.05	163.60	157.32	152.68	148.19	144.73	141.34
D-6.5	254.52	228.32	210.91	197.27	187.10	179.06	172.30	167.06	162.22	158.28	154.64
D-7	278.52	249.79	230.90	215.94	204.75	195.88	188.39	182.80	177.44	173.14	169.20
D-7.5	390.25	350.09	323.53	302.58	286.79	274.52	263.97	256.23	248.54	242.59	237.07
D-8	449.77	403.37	372.80	348.69	330.66	316.39	304.37	295.11	286.59	279.72	273.17
D-8.5	512.42	459.45	424.84	397.26	376.80	360.51	346.79	336.10	326.53	318.74	311.36
D-9	582.79	522.63	483.29	451.80	428.73	410.10	394.58	382.18	371.58	362.43	354.11

**"D" CONSTRUCTION - SHAPE A**

Class	1500	1600	1700	1800	2000	2200	2400	2600	2800	3000	3200
D-4	100.71	98.83	97.34	95.92	93.41	91.12	89.63	87.91	87.04	85.59	84.64
D-4.5	109.13	107.17	105.52	104.07	101.33	98.78	97.28	95.32	94.34	92.75	91.54
D-5	118.30	116.16	114.34	112.74	109.75	107.12	105.50	103.41	102.28	100.55	99.54
D-5.5	128.20	125.84	124.10	122.13	118.92	116.02	114.30	112.07	110.91	108.99	107.93
D-6	138.99	136.50	134.29	132.49	129.01	125.71	123.85	121.54	120.23	118.16	116.93
D-6.5	152.05	149.31	147.03	144.94	141.11	137.64	135.49	133.00	131.44	129.25	128.00
D-7	166.52	163.34	160.86	158.60	154.53	150.65	148.39	145.40	143.83	141.51	139.93
D-7.5	233.17	229.00	225.44	222.20	216.44	211.05	207.74	203.85	201.57	198.23	196.18
D-8	268.94	263.91	259.85	256.13	249.60	243.23	239.57	234.96	232.28	228.52	226.11
D-8.5	305.19	300.58	296.06	291.80	284.31	277.28	272.85	267.65	264.72	260.38	257.67
D-9	348.87	341.84	336.81	331.93	323.36	315.58	310.32	304.52	301.00	296.03	293.18

**"D" CONSTRUCTION - SHAPE B**

Class	400	500	600	700	800	900	1000	1100	1200	1300	1400
D-4	171.49	154.17	142.35	133.37	126.71	121.28	116.64	113.22	110.02	107.38	105.06
D-4.5	185.81	167.17	154.29	144.58	137.35	131.38	126.40	122.79	119.30	116.44	113.94
D-5	201.38	181.17	167.25	156.69	148.80	142.42	136.99	133.05	129.26	126.26	123.44
D-5.5	218.35	196.39	181.31	169.95	161.46	154.39	148.52	144.25	140.17	136.83	133.82
D-6	236.65	212.93	196.67	184.21	174.87	167.35	160.98	156.18	151.94	148.35	145.08
D-6.5	259.02	232.96	215.15	201.51	191.37	183.23	176.23	170.96	166.17	162.23	158.78
D-7	283.44	254.97	235.33	220.54	209.38	200.38	192.73	187.14	181.97	177.50	173.68
D-7.5	397.11	357.15	329.73	308.91	293.39	280.78	270.14	262.28	254.81	248.72	243.23
D-8	457.52	411.66	379.96	355.93	338.19	323.62	311.29	302.33	293.77	286.72	280.50
D-8.5	521.38	469.03	432.89	405.49	385.29	368.72	354.66	344.46	334.73	326.78	319.60
D-9	592.97	531.62	492.13	461.22	438.15	419.29	403.39	391.73	380.85	371.86	363.77

**MOUNTAIN RESIDENCES  
CONVENTIONAL TYPE  
SQUARE FOOT AREA COST TABLES**

**"D" CONSTRUCTION - SHAPE B**

Class	1500	1600	1700	1800	2000	2200	2400	2600	2800	3000	3200
D-4	103.37	101.47	100.08	98.65	96.04	93.73	92.37	90.67	89.63	88.33	87.23
D-4.5	112.05	110.02	108.50	106.96	104.14	101.57	100.08	98.34	97.28	95.72	94.42
D-5	121.39	119.30	117.60	115.98	112.81	110.16	108.50	106.55	105.50	103.70	102.46
D-5.5	131.67	129.26	127.51	125.66	122.41	119.34	117.60	115.55	114.30	112.48	111.19
D-6	142.68	140.22	138.23	136.23	132.68	129.37	127.51	125.21	123.85	121.95	120.42
D-6.5	156.10	153.35	151.17	149.00	145.16	141.54	139.53	137.00	135.49	133.37	131.76
D-7	170.83	167.89	165.45	163.11	158.79	154.93	152.62	149.81	148.39	145.89	144.13
D-7.5	239.23	235.27	231.74	228.37	222.48	217.11	213.86	210.03	207.74	204.38	201.99
D-8	275.89	270.99	267.04	263.30	256.59	250.27	246.57	242.10	239.57	235.66	232.94
D-8.5	314.41	308.60	304.27	299.91	292.25	285.11	281.03	275.79	272.81	268.41	265.47
D-9	357.67	350.93	346.18	341.23	332.60	324.31	319.78	313.57	310.18	305.43	302.27

**"D" CONSTRUCTION - SHAPE C**

Class	400	500	600	700	800	900	1000	1100	1200	1300	1400
D-4	174.20	157.05	145.21	136.05	129.85	123.85	119.34	115.98	112.74	110.16	107.76
D-4.5	188.87	170.27	157.38	147.47	140.86	134.29	129.28	125.65	122.13	119.35	116.77
D-5	204.79	184.54	170.65	159.91	152.64	145.58	140.22	136.23	132.49	129.37	126.46
D-5.5	221.98	200.06	185.03	173.26	165.49	157.84	151.95	147.63	143.65	140.30	137.26
D-6	240.57	216.90	200.60	187.85	179.43	171.10	164.77	159.97	155.60	151.99	148.64
D-6.5	263.30	237.39	219.42	205.64	196.32	187.18	180.35	175.08	170.27	166.41	162.66
D-7	287.98	259.59	240.12	224.86	214.74	204.83	197.27	191.51	186.33	182.16	177.94
D-7.5	403.66	363.79	336.40	315.18	300.86	286.98	276.37	268.32	261.06	255.14	249.32
D-8	465.24	419.23	387.79	363.24	346.79	330.76	318.51	309.45	300.85	294.07	287.40
D-8.5	530.08	477.71	441.92	413.99	395.22	376.80	362.87	352.67	342.60	335.23	327.44
D-9	602.84	543.45	502.82	470.83	449.71	428.43	412.82	401.10	389.74	381.27	372.43

**"D" CONSTRUCTION - SHAPE C**

Class	1500	1600	1700	1800	2000	2200	2400	2600	2800	3000	3200
D-4	105.89	104.07	102.46	101.33	98.77	96.40	94.94	93.31	92.25	90.71	89.95
D-4.5	114.81	112.77	111.19	109.75	107.00	104.38	102.88	101.13	99.98	98.35	97.46
D-5	124.50	122.15	120.42	119.09	115.99	113.22	111.61	109.63	108.36	106.59	105.63
D-5.5	134.92	132.49	130.51	129.28	125.69	122.79	120.90	118.85	117.47	115.60	114.55
D-6	146.35	143.65	141.53	139.93	136.31	133.05	131.02	128.88	127.33	125.22	124.20
D-6.5	160.17	157.15	154.75	153.11	149.19	145.58	143.35	141.02	139.29	137.24	135.91
D-7	175.15	171.88	169.43	167.53	163.16	159.24	156.90	154.25	152.46	150.08	148.61
D-7.5	245.45	240.90	237.41	234.74	228.50	223.10	219.81	216.11	213.52	210.17	208.30
D-8	283.03	277.79	273.70	270.60	263.38	257.31	253.30	249.07	246.16	242.26	240.06
D-8.5	322.40	316.39	311.70	308.46	299.97	293.31	288.63	283.96	282.71	276.00	273.52
D-9	366.83	359.78	354.45	350.87	341.23	333.92	328.23	323.02	319.25	313.99	311.07

**MOUNTAIN RESIDENCES  
CONVENTIONAL TYPE  
SQUARE FOOT AREA COST TABLES**

**"D" CONSTRUCTION - SHAPE D**

Class	400	500	600	700	800	900	1000	1100	1200	1300	1400
D-4	177.33	159.91	148.10	138.91	132.11	126.71	122.07	118.72	115.55	112.81	110.48
D-4.5	192.19	173.26	160.49	150.56	143.23	137.35	132.44	128.56	125.19	122.40	119.66
D-5	208.38	187.85	174.00	163.20	155.30	148.80	143.47	139.48	135.69	132.55	129.75
D-5.5	225.83	203.72	188.63	176.94	168.28	161.46	155.50	151.11	147.06	143.76	140.65
D-6	244.68	220.74	204.45	191.85	182.41	174.87	168.71	163.86	159.47	155.82	152.50
D-6.5	267.85	241.66	223.75	209.90	199.57	191.37	184.54	179.16	174.46	170.61	166.78
D-7	293.08	264.31	244.77	229.62	218.43	209.38	201.79	196.14	190.89	186.45	182.49
D-7.5	410.58	370.24	342.99	321.73	305.99	293.39	282.78	274.73	267.39	261.27	255.81
D-8	473.29	426.78	395.22	370.83	352.76	338.19	326.07	316.74	308.38	301.32	294.86
D-8.5	539.10	486.23	450.30	422.46	402.02	385.29	371.57	360.90	351.44	343.33	335.97
D-9	613.15	553.01	512.10	480.49	457.47	438.15	422.71	410.52	399.89	390.87	382.18

**"D" CONSTRUCTION - SHAPE D**

Class	1500	1600	1700	1800	2000	2200	2400	2600	2800	3000	3200
D-4	108.87	106.96	105.15	103.95	101.40	98.87	97.62	95.97	95.03	92.86	92.49
D-4.5	118.02	115.98	114.07	112.73	109.95	107.24	105.88	104.13	102.92	100.71	100.14
D-5	127.87	125.65	123.66	122.07	119.27	116.31	114.74	112.77	111.63	109.13	108.65
D-5.5	138.67	136.23	134.06	132.44	129.25	126.07	124.32	122.40	120.92	118.30	117.85
D-6	150.26	147.63	145.28	143.51	140.05	136.62	134.85	132.51	131.11	128.20	127.75
D-6.5	164.45	161.58	158.92	157.11	153.32	149.63	147.50	144.96	143.47	140.37	139.73
D-7	180.00	176.73	174.00	171.81	167.66	163.72	161.44	158.68	157.05	153.46	152.82
D-7.5	252.07	247.53	243.79	240.74	234.91	229.24	226.19	222.45	219.91	215.12	214.26
D-8	290.64	285.44	281.03	277.36	270.89	264.18	260.74	256.19	253.39	247.96	246.87
D-8.5	331.39	325.24	320.16	315.87	308.74	301.04	297.20	291.83	288.78	282.51	281.14
D-9	376.89	370.00	364.14	359.22	351.18	342.56	338.04	331.77	328.30	321.26	319.51

**MOUNTAIN RESIDENCES  
BUILDING SPECIFICATIONS  
"D" CONSTRUCTION**

**D-4 QUALITY**

**A-FRAME**

<b>Foundation</b>	Wood piers; light concrete; light concrete block; light native stone
<b>Floor Structure</b>	2" x 6", 24" o.c.; with 1" sub-floor
<b>Gable Ends</b>	Framing: 2" x 4", 16" o.c. Siding: Low-cost wood siding or wood shingles Windows: Low-cost wood
<b>Roof</b>	Framing: 2" x 4", 16" o.c.; or 2" x 6", 24" o.c.; with 1" sheathing Cover: Composition shingles or corrugated metal Pitch: Steep
<b>Interior Finish</b>	Home-built with knotty pine or plywood
<b>Bath Detail</b>	One three-fixture bath
<b>Kitchen</b>	Base Cabinet: 6' home-built plywood Wall Cabinet: Home-built plywood
<b>Plumbing</b>	Four low-cost fixtures; water heater
<b>Electrical</b>	Knob and tube or Romex; low-cost fixtures
<b>Special Features</b>	None

**MOUNTAIN RESIDENCES  
BUILDING SPECIFICATIONS  
"D" CONSTRUCTION**

**D-5 QUALITY**

**A-FRAME**

<b>Foundation</b> Concrete block or standard concrete
<b>Floor Structure</b> 4" x 6" girders, 48" o.c.; with 5/4" plywood sub-floor; or 2" tongue and groove sub-floor Alternate: 2" x 6" joists, 16" o.c.; with 1" sub-floor
<b>Gable Ends</b> Framing: 2" x 4", 16" o.c. Siding: Low-cost plywood, lap, or board and batten Windows: Low-cost wood or metal
<b>Roof</b> Framing: 4" x 8", 48" o.c.; with 5/4" plywood; or 2" tongue and groove sheathing Cover: Composition shingles or corrugated iron Pitch: Steep
<b>Floor Finish</b> Vinyl tile
<b>Interior Finish</b> Low-cost wood paneling; drywall and texture
<b>Bath Detail</b> One three-fixture bath
<b>Kitchen</b> Base Cabinet: 6' to 8' low-cost plywood veneer or paint-grade cabinets Wall Cabinet: Low-cost plywood veneer or paint-grade cabinets
<b>Plumbing</b> Four low-cost fixtures; water heater
<b>Electrical</b> Romex wiring; low-cost fixtures
<b>Special Features</b> None

**MOUNTAIN RESIDENCES  
BUILDING SPECIFICATIONS  
"D" CONSTRUCTION**

**D-6 QUALITY**

**A-FRAME**

<b>Foundation</b>	Concrete block or standard concrete
<b>Floor Structure</b>	4" x 6" girders, 48" o.c.; with 5/4" plywood; or 2" tongue and groove sub-floor; or 2" x 6," 16" o.c.; with 1" sub-floor
<b>Gable Ends</b>	Framing: 2" x 4", 16" o.c. Siding: Average quality plywood; average quality lap, board and batten siding; average quality wood shingles Windows: Average quality metal or wood
<b>Roof</b>	Framing: 4" x 8", 48" o.c.; with 2" sheathing Cover: Wood or composition shingles Pitch: Steep
<b>Floor Finish</b>	Average quality carpet or vinyl tile in kitchen and baths
<b>Interior Finish</b>	Drywall taped and textured; average quality plywood veneer
<b>Bath Detail</b>	Two three-fixture baths; average quality fixtures
<b>Kitchen</b>	Base Cabinet: 8' to 12' average quality plywood veneer or painted cabinets Wall Cabinet: Plywood veneer or painted Drain Board: 8' to 12' plastic laminate
<b>Plumbing</b>	Seven average fixtures; water heater
<b>Electrical</b>	Romex wiring; average fixtures
<b>Special Features</b>	Drop-in range with hood; one sliding glass door

**MOUNTAIN RESIDENCES  
BUILDING SPECIFICATIONS  
"D" CONSTRUCTION**

**D-7 QUALITY**

**A-FRAME**

<b>Foundation</b>	Concrete block or standard concrete
<b>Floor Structure</b>	4" x 8" girders, 48" o.c.; with a 5/4" plywood; or 2" tongue and groove sub-floor Alternate: 2" x 6" or 2" x 8" 16" o.c.; with 1" sub-floor
<b>Gable Ends</b>	Framing: 2" x 4", 16" o.c. Siding: Average to good plywood, lap, or board and batten Alternate: Good wood shingles fully insulated Windows: Average quality wood or metal; double paned glass
<b>Roof</b>	Framing: 4" x 8", 48" o.c.; with 2" or 3" tongue and groove sheathing Cover: Medium wood or aluminum shakes Pitch: Steep
<b>Floor Finish</b>	Average to good quality carpet with sheet vinyl or good vinyl in kitchen and baths
<b>Interior Finish</b>	Drywall and texture, plywood, or good quality knotty pine
<b>Bath Detail</b>	Two three-fixture baths
<b>Kitchen</b>	Base Cabinet: 12' to 16' hardwood veneer Wall Cabinet: Hardwood veneer Drain Board: 12' to 16' plastic laminate or average ceramic tile
<b>Plumbing</b>	Seven average fixtures; water heater
<b>Electrical</b>	Romex wiring; average fixtures
<b>Special Features</b>	One 8' sliding glass door; built-in range and oven

**MOUNTAIN RESIDENCES  
BUILDING SPECIFICATIONS  
"D" CONSTRUCTION**

**D-8 QUALITY**

**A-FRAME**

<b>Foundation</b>	Concrete block or standard concrete
<b>Floor Structure</b>	4" x 8" girders, 48" o.c.; with 2" tongue and groove sub-floor Alternate: 2" x 6" or 2" x 8", 16" o.c.; with 1" sub-floor
<b>Gable Ends</b>	Framing: 2" x 4", 16" o.c. Siding: Good plywood, lap, or board and batten; fully insulated Windows: Good wood or metal; double paned glass
<b>Roof</b>	Framing: 4" x 8", 48" o.c.; with 2" or 3" tongue and groove sheathing Cover: Heavy shakes Pitch: Steep
<b>Floor Finish</b>	Good carpet or hardwood sheet vinyl in kitchen and baths
<b>Interior Finish</b>	Good quality hardwood veneer paneling
<b>Bath Detail</b>	Two three-fixture baths, and one two-fixture bath
<b>Kitchen</b>	Base Cabinet: 15' to 18' good hardwood veneer Wall Cabinet: Good hardwood veneer Drain Board: 15' to 18' good plastic laminate or ceramic tile
<b>Plumbing</b>	Nine good fixtures; one or two water heaters
<b>Electrical</b>	Romex wiring; good fixtures
<b>Special Features</b>	Built-in oven, range, garbage disposer, dishwasher, hood; large glass area; ornate entry doors

## MOUNTAIN RESIDENCES

### WOOD DECKS AND PORCHES

<u>2" wood deck with steps and railings</u>	<u>Cost Per Square Foot</u>	
1 foot above ground	22.68	26.33
4 to 6 feet above ground	26.33	34.02
6 to 9 feet above ground	27.07	35.84
9 to 12 feet above ground	28.53	37.31
12 to 15 feet above ground	29.99	38.77
15 to 18 feet above ground	30.72	40.96

### FIREPLACES

<u>Type</u>	<u>Unit Cost</u>	
Metal hood with concrete slab	2,611	3,226
Simple concrete block	4,608	7,681
Simple block with stone facing	6,145	9,217
Simple natural stone	10,753	15,362
Brick	7,681	up
Wood stove	2,847	6,646
Zero clearance	3,797	5,696

### FLATWORK

<u>Type</u>	<u>Cost Per Square Foot</u>	
Asphalt paving	4.02	6.03
4" concrete	4.02	5.04
6" concrete	5.04	8.04

### GARAGES AND CARPORTS

<u>Type</u>	<u>Cost Per Square Foot</u>	
Average carport, no slab	27.38	33.47
Average single garage with slab	57.81	68.46
Average double garage with slab	51.72	62.37

### HEATING

<u>Type</u>	<u>Unit Cost</u>	
Wall heaters		
35,000 BTU	1,223	
65,000 BTU	1,549	
Central heating, perimeter ducts (per square foot)	6.85	
Baseboard hot water (per square foot)	4.90	
Geothermal heat pumps	9,266	10,926

## MOUNTAIN RESIDENCES

### HALF-STORY FRACTIONS

<u>Conventional Mountain Residences</u>	<u>Cost Per Square Foot</u>
Use suggested fractions as discussed in <i>Building Additives</i> chapter, AH 531.40, page 2	
<u>A-Frame Mountain Residences</u>	
<b>Type I:</b> Simple platform construction; low-cost floor cover; minimum partitions; and minimum lighting	\$80.50 to \$87.80
<b>Type II:</b> Average quality construction; average quality carpet; average amount of partitions finished with drywall or plywood veneer; average lighting	\$84.85 to \$93.65
<b>Type III:</b> Good quality construction; good carpet; decorative rustic partitions and ceiling beams; good lighting	\$121.45 to \$136.05

### EXTRA PLUMBING

<u>Type</u>	<u>Unit Cost</u>
Lavatory	\$1,563 to \$2,334
Water Closet	\$1,910 to \$2,334
Tub	\$2,018 to \$2,653
Stall Shower	\$1,483 to \$2,121
Sink	\$1,594 to \$2,334

### SLOPE ADJUSTMENTS

Mountain cabins built on sloping lots will cost more than if they are built on level lots. If the land is a sloping lot, this extra cost should be included in the cost estimate of the building.

The cost of the walls of a building that are not a part of the area that square-foot costs are applied to are estimated using in-place costs. This estimate includes the in-place cost of all materials above a normal foundation (12" to 18" above ground) and the bottom of the next floor structure where square-foot costs have been applied.

The excessive cost of hillside construction called crippling should be included by adding an additional cost for the extra walls, structural members, and high foundation. This extra cost can be estimated by adding the following cost to the highest wall on the steepest side of the house.

<u>Wall Height</u>	<u>Cost Per Linear Foot</u>
4'	\$ 67.45
6'	123.90
8'	191.37
10'	247.58

## LOCATION ADJUSTMENTS

The building costs in the *Mountain Residences* chapter have been developed using the Lake Tahoe Basin area of California as the base area (with a factor of 1.00).

The map on page 24 of this chapter shows mountain residence locations in California and shows suggested factors that are intended to provide an appropriate adjustment for the variance in costs due to differences in location compared to the base. *These factors, however, are not intended to adjust for the significant variation in permit costs and other fees charged by different jurisdictions within a region. Due to the wide variance in these costs, both within and among the counties, it is necessary for the appraiser to research and analyze permit costs and fees of jurisdictions in the region and to make appropriate adjustments where necessary. AH 531 should serve as a guide, but an appraiser must also research the market to determine which costs are most applicable for the appraisal assignment. It may be necessary to supplement the data provided in AH 531 with local cost data.*

An additional adjustment for time should be considered if costs in the county have changed since the January publication date of this AH 531.

The appropriate mountain residence location adjustment should be applied to the *Square Foot Area Cost Tables* and *Costs of Additives* sections found in this chapter.

**NOTE:** When developing costs for mountain residences by using data from other AH 531 chapters that have the Sacramento area base (*Building Additives, Residential Garages, Yard Improvements, In-Place Costs, and Compact Costs*), *it is necessary to first make an upward adjustment using a 1.30 factor* to bring the costs up to the mountain residences base. Then, the appropriate mountain residence location adjustment factor (from the map on page 24 this chapter) should be applied.

Finally, all costs in this handbook, except for manufactured housing, should be adjusted to account for any extraordinary permit or other cost differences that exist in the county.

Various mountain counties have two or more location zones. The zone boundaries are as follows:

### **Alpine County**

Western Zone      All areas west of the summit of the Sierra Nevada Mountains.

### **Amador County**

Eastern Zone      All areas east of the 5,000-foot elevation line.

**Calaveras County**

Eastern Zone All areas east of the 5,000-foot elevation line.

**El Dorado County**

Eastern Middle Zone From the 5,000-foot elevation line to the summit of the Sierra Nevada Mountains.

Eastern Zone From the summit of the Sierra Nevada Mountains to the Nevada border.

**Fresno County**

Eastern Zone From the 5,000-foot elevation line to the eastern boundary of the county.

**Inyo County**

National Forest Zone All areas within the Inyo National Forest.

**Madera County**

Eastern Zone From the 5,000-foot elevation line to the eastern boundary of the county.

**Mariposa County**

Eastern Zone From the 5,000-foot elevation line to the eastern boundary of the county.

**Mono County**

Mammoth Lakes Zone To include Mammoth Lakes, June Lake Loop, and Lake Crowley areas.

**Nevada County**

Eastern Middle Zone From the 5,000-foot elevation level to the summit of the Sierra Nevada Mountains.

Eastern Zone From the summit of the Sierra Nevada Mountains to the Nevada border.

**Placer County**

Eastern Middle Zone From the western boundary of the Tahoe National Forest to the summit of the Sierra Nevada Mountains.

Eastern Zone From the summit of the Sierra Nevada Mountains to the Nevada border.

**Plumas County**

Mountain Zone All areas of Plumas County.

**San Bernardino County**

Big Bear/Lake Arrowhead Zone All areas around Lake Arrowhead and Big Bear Valley.

**Sierra County**

Middle Zone From the 5,000-foot elevation line to the summit of the Sierra Nevada Mountains.

Eastern Zone From the summit of the Sierra Nevada Mountains to the Nevada border.

**Tulare County**

Eastern Zone From the 5,000-foot elevation line to the eastern boundary of the county.

**Tuolumne County**

Eastern Zone From the 5,000-foot elevation line to the eastern boundary of the county.

# MOUNTAIN RESIDENCES

(Blue Area Shown on this Map)

Factors to adjust 1-1-2008 mountain costs  
(See AH 531.22, Mountain Residences Chapter)  
to other mountain locations in the State of  
California

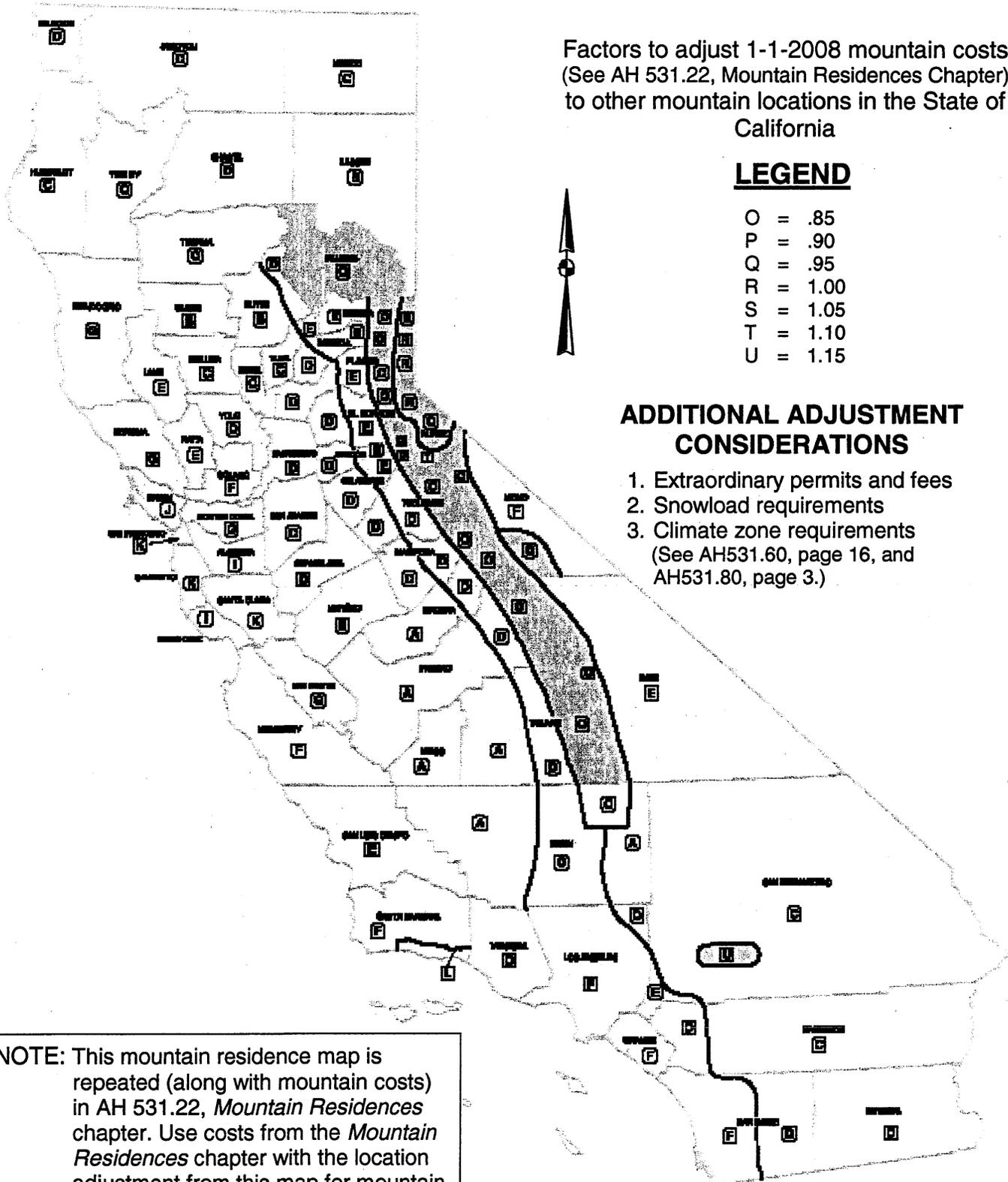
## LEGEND

O	=	.85
P	=	.90
Q	=	.95
R	=	1.00
S	=	1.05
T	=	1.10
U	=	1.15



## **ADDITIONAL ADJUSTMENT CONSIDERATIONS**

1. Extraordinary permits and fees
2. Snowload requirements
3. Climate zone requirements  
(See AH531.60, page 16, and AH531.80, page 3.)



**NOTE:** This mountain residence map is repeated (along with mountain costs) in AH 531.22, *Mountain Residences* chapter. Use costs from the *Mountain Residences* chapter with the location adjustment from this map for mountain residences.

**MULTIPLE-FAMILY RESIDENCES  
SQUARE FOOT AVERAGE UNIT AREA COST TABLES**

**"C" CONSTRUCTION - 2 or 3 UNITS**

Class	400	450	500	550	600	650	700	750	800	900	1000
C-4	81.50	77.80	75.77	74.23	72.87	71.70	70.72	69.75	69.03	67.84	66.80
C-4.5	88.16	84.25	82.08	80.39	78.96	77.69	76.65	75.54	74.77	73.44	72.39
C-5	95.55	91.26	88.88	87.07	85.50	84.18	82.96	81.86	81.02	79.59	78.39
C-5.5	103.48	98.87	96.29	94.25	92.53	91.14	89.87	88.59	87.73	86.15	84.85
C-6	112.06	107.06	104.33	102.04	100.26	98.65	97.38	95.98	95.03	93.31	91.88
C-6.5	122.56	117.02	114.01	111.62	109.64	107.84	106.37	104.86	103.92	102.03	100.48
C-7	133.19	127.94	124.63	122.02	119.82	117.96	116.34	114.67	113.52	111.48	109.76
C-7.5	153.03	146.15	142.41	139.43	136.86	134.77	132.91	131.10	129.74	127.39	125.56
C-8	174.49	166.72	162.39	159.05	156.12	153.62	151.53	149.50	147.94	145.26	143.11
C-8.5	198.74	189.78	184.88	181.04	177.69	174.95	172.63	170.08	168.37	165.48	162.98

**"C" CONSTRUCTION - 2 or 3 UNITS**

Class	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2200
C-4	66.03	65.38	64.71	64.30	63.84	63.35	63.09	62.84	62.55	62.39	62.10
C-4.5	71.50	70.83	70.15	69.64	69.16	68.59	68.31	68.05	67.83	67.55	67.30
C-5	77.44	76.68	75.92	75.41	74.93	74.34	73.96	73.66	73.42	73.15	72.87
C-5.5	83.84	83.02	82.29	81.67	81.14	80.46	80.09	79.85	79.52	79.16	79.01
C-6	90.80	89.88	89.09	88.44	87.86	87.13	86.77	86.48	86.12	85.82	85.54
C-6.5	99.31	98.30	97.38	96.72	96.00	95.33	94.90	94.48	94.16	93.70	93.49
C-7	108.53	107.44	106.40	105.64	105.06	104.11	103.64	103.33	102.90	102.53	102.08
C-7.5	123.99	122.76	121.67	120.79	119.96	118.97	118.49	118.02	117.58	117.17	116.73
C-8	141.38	140.04	138.74	137.70	136.79	135.70	135.08	134.62	134.10	133.71	133.11
C-8.5	160.97	159.45	157.92	156.84	155.78	154.54	153.82	153.20	152.65	152.09	151.53

All multiple-family residence costs assume one bath per unit. Use the following table for adding the cost of extra baths.

**2 or 3 UNITS**

Class	Cost Per Extra Bath		
	2-Fixture Bath	3-Fixture Bath	4-Fixture Bath
C-4	3,640	5,360	7,582
C-5	4,447	6,976	8,594
C-6	5,157	7,784	10,818
C-7	5,663	9,381	12,133
C-8	7,582	11,021	13,951

**MULTIPLE-FAMILY RESIDENCES  
SQUARE FOOT AVERAGE UNIT AREA COST TABLES**

**"C" CONSTRUCTION - 4 to 9 UNITS**

Class	400	450	500	550	600	650	700	750	800	900	1000
C-4	76.77	73.44	71.54	70.05	68.64	67.56	66.67	65.84	65.18	64.05	62.97
C-4.5	83.17	79.52	77.49	75.85	74.38	73.23	72.15	71.35	70.64	69.40	68.26
C-5	90.00	86.12	83.84	82.18	80.63	79.31	78.11	77.22	76.50	75.14	73.94
C-5.5	97.50	93.30	90.80	88.90	87.20	85.85	84.62	83.69	82.83	81.30	80.06
C-6	105.61	101.06	98.37	96.38	94.47	93.03	91.67	90.68	89.72	88.11	86.67
C-6.5	115.47	110.51	107.51	105.35	103.34	101.61	100.16	99.09	98.06	96.33	94.80
C-7	126.20	120.75	117.60	115.10	112.91	111.16	109.52	108.29	107.30	105.33	103.55
C-7.5	144.26	137.95	134.33	131.53	128.98	126.96	125.17	123.73	122.51	120.30	118.35
C-8	164.48	157.33	153.19	150.02	147.14	144.83	142.73	141.14	139.71	137.19	134.92
C-8.5	187.26	179.16	174.46	170.81	167.53	164.84	162.54	160.65	159.10	156.14	153.74

**"C" CONSTRUCTION - 4 to 9 UNITS**

Class	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2200
C-4	62.23	61.59	61.15	60.65	60.27	59.84	59.49	59.38	59.04	58.80	58.64
C-4.5	67.40	66.72	66.13	65.63	65.25	64.72	64.41	64.29	63.98	63.68	63.52
C-5	72.97	72.28	71.66	71.10	70.67	70.15	69.81	69.63	69.23	68.95	68.90
C-5.5	79.06	78.34	77.63	77.11	76.61	76.03	75.53	75.42	75.02	74.56	74.52
C-6	85.57	84.68	84.08	83.37	82.89	82.28	81.85	81.65	81.24	80.78	80.67
C-6.5	93.58	92.65	91.86	91.16	90.62	89.94	89.45	89.27	88.79	88.37	88.28
C-7	102.22	101.23	100.45	99.65	99.09	98.37	97.77	97.62	97.11	96.63	96.45
C-7.5	116.84	115.76	114.76	113.94	113.19	112.37	111.73	111.56	110.84	110.37	110.21
C-8	133.32	131.96	130.89	129.88	129.10	128.14	127.44	127.20	126.42	125.93	125.62
C-8.5	151.72	150.23	149.05	147.83	147.00	145.91	145.16	144.76	143.98	143.30	143.05

All multiple-family residence costs assume one bath per unit. Use the following table for adding the cost of extra baths.

**4 to 9 UNITS**

Class	Cost Per Extra Bath		
	2-Fixture Bath	3-Fixture Bath	4-Fixture Bath
C-4	3,337	4,946	6,597
C-5	4,045	6,287	7,937
C-6	4,851	7,731	9,588
C-7	5,360	8,762	11,544
C-8	6,976	9,894	13,709

**MULTIPLE-FAMILY RESIDENCES  
SQUARE FOOT AVERAGE UNIT AREA COST TABLES**

**"C" CONSTRUCTION - 10 or MORE UNITS**

Class	400	450	500	550	600	650	700	750	800	900	1000
C-4	72.52	69.40	67.56	66.13	64.99	63.91	62.97	62.23	61.54	60.50	59.52
C-4.5	78.62	75.14	73.23	71.59	70.34	69.16	68.26	67.40	66.69	65.56	64.51
C-5	85.16	81.30	79.31	77.61	76.14	74.95	73.94	72.97	72.16	71.01	69.86
C-5.5	92.21	88.11	85.85	84.08	82.46	81.15	80.06	79.06	78.20	76.85	75.69
C-6	99.81	95.47	93.03	91.06	89.34	87.90	86.67	85.57	84.67	83.26	81.92
C-6.5	109.09	104.38	101.61	99.49	97.63	96.10	94.80	93.58	92.59	91.07	89.59
C-7	119.30	114.03	111.16	108.73	106.77	105.09	103.55	102.22	101.21	99.51	97.86
C-7.5	136.33	130.32	126.96	124.20	122.00	120.02	118.35	116.84	115.70	113.66	111.94
C-8	155.47	148.71	144.83	141.68	139.16	136.91	134.92	133.32	131.93	129.73	127.53
C-8.5	177.04	169.20	164.84	161.35	158.36	155.89	153.74	151.72	150.20	147.62	145.21

**"C" CONSTRUCTION - 10 or MORE UNITS**

Class	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2200
C-4	58.83	58.25	57.68	57.25	56.85	56.54	56.28	55.98	55.82	55.60	55.38
C-4.5	63.72	63.08	62.50	62.03	61.54	61.22	60.89	60.66	60.43	60.24	59.93
C-5	68.97	68.30	67.75	67.11	66.69	66.31	66.00	65.71	65.46	65.17	65.02
C-5.5	74.73	73.95	73.30	72.66	72.16	71.80	71.47	71.13	70.86	70.63	70.35
C-6	80.95	80.08	79.45	78.75	78.20	77.70	77.33	77.15	76.77	76.47	76.14
C-6.5	88.41	87.56	86.82	86.07	85.48	84.98	84.51	84.23	83.93	83.53	83.26
C-7	96.72	95.76	94.89	94.12	93.39	92.86	92.44	92.11	91.08	91.39	91.08
C-7.5	110.49	109.44	108.47	107.58	106.70	106.14	105.63	105.28	104.84	104.37	104.09
C-8	125.99	124.75	123.63	122.66	121.73	121.04	120.44	120.07	119.59	119.07	118.65
C-8.5	143.34	142.02	140.79	139.66	138.64	137.80	137.12	136.62	136.05	135.56	135.10

All multiple-family residence costs assume one bath per unit. Use the following table for adding the cost of extra baths.

**10 or MORE UNITS**

Class	Cost Per Extra Bath		
	2-Fixture Bath	3-Fixture Bath	4-Fixture Bath
C-4	2,934	4,548	5,464
C-5	3,540	5,360	7,731
C-6	4,548	6,976	8,762
C-7	5,360	8,087	11,027
C-8	6,167	9,706	12,573

**MULTIPLE-FAMILY RESIDENCES  
BUILDING SPECIFICATIONS  
"D" CONSTRUCTION**

**D-4 QUALITY**

<b>Foundation</b> Light concrete
<b>Floor Structure</b> Joints: 2" x 4", 24" o.c.; or 4" concrete
<b>Walls and Exterior</b> Framing: 2" x 4" studs, 16" o.c. Sheathing: None Cover: 1/2" redwood siding painted, or light stucco Windows: Wood casements or double hung, painted
<b>Roof</b> Framing: 2" x 4" rafter, 24" o.c. Cover: 3 ply built-up 15# felt, mopped Overhang: 16", unceiled Gutters: None
<b>Floor Finish</b> 1" x 4" Douglas Fir tongue and groove; print vinyl tile in kitchen
<b>Interior Finish</b> Two coats of sand plaster on wood or gypsum lath glue size and calcimine
<b>Interior Detail</b> Trim: One member Douglas Fir, painted Closets: One closet per bedroom; minimum shelving
<b>Bath Detail</b> Floors: Print vinyl tile Walls: Plaster, painted Shower: None or metal shower in place of tub
<b>Kitchen</b> Base Cabinet: 4' Douglas Fir, painted Wall Cases: Small area; Douglas Fir, painted Drain Board: 4' wood or vinyl tile squares
<b>Plumbing</b> Fair quality fixtures
<b>Special Features</b> None
<b>Electrical</b> Knob and tube or Romex wiring; simple fixtures

**MULTIPLE-FAMILY RESIDENCES  
SQUARE FOOT AVERAGE UNIT AREA COST TABLES**

**"D" CONSTRUCTION - 2 or 3 UNITS**

Class	400	450	500	550	600	650	700	750	800	900	1000
D-4	74.40	71.18	69.37	67.81	66.62	65.51	64.61	63.80	63.19	61.98	61.03
D-4.5	80.61	77.02	75.11	73.41	72.04	70.91	70.03	69.02	68.43	67.17	66.09
D-5	87.29	83.41	81.33	79.48	78.08	76.81	75.76	74.74	74.11	72.80	71.59
D-5.5	94.52	90.33	88.12	86.08	84.54	83.24	82.16	80.97	80.25	78.81	77.56
D-6	102.37	97.80	95.38	93.28	91.59	90.12	88.87	87.75	86.88	85.32	83.99
D-6.5	111.86	106.91	104.31	101.88	100.07	98.51	97.21	95.89	94.97	93.33	91.82
D-7	122.30	116.97	114.01	111.46	109.45	107.63	106.29	104.79	103.82	101.97	100.36
D-7.5	139.77	133.62	130.27	127.28	125.05	123.02	121.45	119.77	118.64	116.50	114.67
D-8	159.38	152.35	148.57	145.19	142.54	140.30	138.53	136.48	135.32	132.90	130.81
D-8.5	181.40	173.48	169.14	165.29	162.35	159.68	157.67	155.36	154.02	151.36	148.88

**"D" CONSTRUCTION - 2 OR 3 UNITS**

Class	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2200
D-4	60.28	59.73	59.18	58.75	58.33	57.96	57.70	57.41	57.24	56.98	56.85
D-4.5	65.35	64.68	64.14	63.56	63.21	62.81	62.48	62.26	61.94	61.77	61.57
D-5	70.79	70.03	69.38	68.86	68.45	68.04	67.67	67.37	67.09	66.89	66.67
D-5.5	76.66	75.79	75.15	74.56	74.13	73.66	73.35	72.95	72.65	72.47	72.22
D-6	82.99	82.16	81.42	80.74	80.26	79.77	79.37	79.13	78.68	78.44	78.19
D-6.5	90.77	89.70	89.06	88.32	87.76	87.22	86.78	86.47	86.03	85.77	85.48
D-7	99.14	98.16	97.28	96.55	95.96	95.35	94.88	94.45	94.06	93.70	93.47
D-7.5	113.32	112.17	111.14	110.29	109.66	108.96	108.38	107.95	107.47	107.18	106.82
D-8	129.19	128.00	126.71	125.81	124.97	124.25	123.61	123.16	122.56	122.12	121.79
D-8.5	147.20	145.61	144.30	143.23	142.31	141.47	140.75	140.12	139.49	139.04	138.60

All multiple-family residence costs assume one bath per unit. Use the following table for adding the cost of extra baths.

**2 or 3 UNITS**

Class	Cost Per Extra Bath		
	2-Fixture Bath	3-Fixture Bath	4-Fixture Bath
D-4	3,583	5,132	7,259
D-5	4,356	6,680	8,228
D-6	5,132	7,454	10,357
D-7	5,713	9,003	11,617
D-8	7,259	10,841	13,358

**MULTIPLE-FAMILY RESIDENCES  
SQUARE FOOT AVERAGE UNIT AREA COST TABLES**

**"D" CONSTRUCTION - 4 to 9 UNITS**

Class	400	450	500	550	600	650	700	750	800	900	1000
D-4	70.08	66.96	65.24	63.88	62.67	61.68	60.98	60.08	59.47	58.36	57.41
D-4.5	75.87	72.53	70.74	69.16	67.85	66.77	66.01	65.05	64.47	63.24	62.26
D-5	82.18	78.51	76.60	74.90	73.50	72.32	71.39	70.46	69.84	68.49	67.37
D-5.5	89.06	85.05	82.84	81.08	79.63	78.37	77.35	76.21	75.65	74.20	72.95
D-6	96.40	92.16	89.74	87.83	86.13	84.81	83.83	82.55	81.92	80.27	79.13
D-6.5	105.38	100.70	98.16	96.04	94.25	92.75	91.63	90.31	89.54	87.78	86.47
D-7	115.18	110.13	107.28	104.99	103.05	101.40	100.15	98.70	97.80	95.99	94.45
D-7.5	131.59	125.80	122.55	120.02	117.70	115.86	114.49	112.84	111.86	109.74	107.95
D-8	150.15	143.47	139.79	136.83	134.31	132.14	130.53	128.72	127.55	125.15	123.16
D-8.5	170.83	163.27	159.13	155.76	152.80	150.40	148.59	146.52	145.17	142.38	140.12

**"D" CONSTRUCTION - 4 to 9 UNITS**

Class	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2200
D-4	56.89	56.30	55.77	55.27	54.96	54.63	54.34	54.13	53.88	53.60	53.52
D-4.5	61.58	60.98	60.40	59.86	59.47	59.15	58.83	58.61	58.30	58.09	57.93
D-5	66.69	66.01	65.40	64.88	64.47	64.05	63.80	63.49	63.19	62.92	62.76
D-5.5	72.27	71.39	70.81	70.20	69.79	69.37	69.02	68.75	68.43	68.11	67.99
D-6	78.27	77.35	76.68	76.14	75.65	75.11	74.74	74.40	74.04	73.87	73.59
D-6.5	85.54	84.62	83.83	83.14	82.71	82.18	81.73	81.37	80.92	80.65	80.48
D-7	93.51	92.52	91.68	90.91	90.33	89.77	89.35	88.91	88.51	88.20	87.97
D-7.5	106.84	105.69	104.79	103.90	103.22	102.55	102.08	101.62	101.14	100.81	100.53
D-8	121.81	120.58	119.45	118.48	117.79	116.99	116.40	115.89	115.32	114.96	114.67
D-8.5	138.72	137.22	135.98	134.89	134.06	133.14	132.48	131.94	131.29	130.82	130.53

All multiple-family residence costs assume one bath per unit. Use the following table for adding the cost of extra baths.

**4 to 9 UNITS**

Class	Cost Per Extra Bath		
	2-Fixture Bath	3-Fixture Bath	4-Fixture Bath
D-4	3,098	4,645	6,194
D-5	3,872	5,132	7,454
D-6	4,645	7,259	9,003
D-7	5,423	8,228	10,841
D-8	6,486	9,293	12,876

**MULTIPLE-FAMILY RESIDENCES  
SQUARE FOOT AVERAGE UNIT AREA COST TABLES**

**"D" CONSTRUCTION - 10 or MORE UNITS**

Class	400	450	500	550	600	650	700	750	800	900	1000
D-4	66.21	63.01	61.68	60.40	59.18	58.28	57.41	56.76	56.15	55.18	54.36
D-4.5	71.73	68.26	66.77	65.40	64.14	63.10	62.26	61.43	60.82	59.74	58.88
D-5	77.64	73.90	72.32	70.81	69.38	68.40	67.37	66.62	65.97	64.69	63.84
D-5.5	84.11	80.07	78.37	76.68	75.15	73.96	72.95	72.04	71.34	70.11	69.08
D-6	91.07	86.59	84.81	83.06	81.42	80.13	79.13	78.08	77.24	75.87	74.79
D-6.5	99.56	94.70	92.75	90.85	89.06	87.67	86.47	85.35	84.53	82.99	81.75
D-7	108.82	103.52	101.40	99.22	97.28	95.82	94.45	93.29	92.35	90.72	89.36
D-7.5	124.35	118.34	115.86	113.43	111.14	109.49	107.95	106.55	105.52	103.62	102.16
D-8	141.82	134.93	132.14	129.33	126.71	124.81	123.16	121.57	120.28	118.28	116.48
D-8.5	161.51	153.57	150.40	147.26	144.30	142.07	140.12	138.37	136.97	134.58	132.59

**"D" CONSTRUCTION - 10 or MORE UNITS**

Class	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2200
D-4	53.71	53.17	52.71	52.29	51.82	51.52	51.37	51.10	50.90	50.66	50.56
D-4.5	58.20	57.67	57.08	56.61	56.13	55.80	55.59	55.37	55.09	54.89	54.72
D-5	63.01	62.36	61.77	61.26	60.81	60.49	60.18	59.88	59.72	59.40	59.30
D-5.5	68.26	67.52	66.95	66.35	65.77	65.51	65.15	64.93	64.61	64.34	64.19
D-6	73.90	73.17	72.47	71.85	71.28	70.91	70.65	70.29	68.15	69.70	69.44
D-6.5	80.83	79.97	79.22	78.58	77.85	77.52	77.22	76.81	76.51	76.16	75.98
D-7	88.29	87.41	86.59	85.85	85.13	84.77	84.36	84.00	83.58	83.24	83.06
D-7.5	100.86	99.84	98.92	98.16	97.36	96.90	96.45	96.00	95.56	95.22	94.86
D-8	115.02	113.87	112.84	111.86	111.03	110.42	110.02	109.46	109.05	108.51	108.22
D-8.5	130.96	129.66	128.39	127.41	126.41	125.73	125.23	124.60	124.07	123.52	123.25

All multiple-family residence costs assume one bath per unit. Use the following table for adding the cost of extra baths.

**10 or MORE UNITS**

Class	Cost Per Extra Bath		
	2-Fixture Bath	3-Fixture Bath	4-Fixture Bath
D-4	3,098	4,356	5,132
D-5	3,583	5,132	5,381
D-6	4,356	6,486	8,228
D-7	5,423	7,743	10,357
D-8	6,194	8,809	11,617

**MANUFACTURED HOUSING  
BUILDING SPECIFICATIONS  
QUALITY CLASS 4**

This class of manufactured home is not in current production; however, older manufactured homes may be found which appear to be inferior to Class 5. No specifications are given for this class because of the great variation possible. Appraisal judgment must be used to estimate this class based on a comparison with Class 5.

**MANUFACTURED HOUSING  
BUILDING SPECIFICATIONS  
QUALITY CLASS 5**

This is the lowest quality manufactured home in current production. The features are of minimal quality and are similar to those found in a minimum quality tract home. These homes are typically found in older mobilehome parks.

<b>Roof</b>	Painted lightweight galvanized steel with minimum pitch; or asphalt shingles
<b>Exterior Walls</b>	Covering is pre-finished aluminum panels with exposed hex-head holding screw fasteners; panels of modified corrugated pattern; panels are not imitation siding or flush type; exterior wall thickness 3" to 4"; lightweight skirting
<b>Trim and Sash</b>	No ornamental trim; minimum window area and sash
<b>Interior</b>	Walls are pre-finished 3/16" fire rated paneling; hardboard or firtex ceiling cover with exposed fasteners and/or stapled holding strips; 7' 6" ceiling heights
<b>Floors</b>	Vinyl; lightweight carpet in living room and master bedroom only
<b>Heating</b>	Forced air furnace; minimum ducting and outlets
<b>Kitchen</b>	10± linear foot plastic laminate counter; minimum quality plywood cabinets; built-in or drop-in range and oven
<b>Baths and Plumbing</b>	One bath; fiberglass tub or shower with curtain; small 4' plastic marble vanity; minimum quality cabinets
<b>Bedrooms</b>	Five to six linear feet of wardrobe; plain plywood sliding doors
<b>Insulation</b>	Fully insulated floors, side walls, and ceilings
<b>Exterior Components</b>	Set on concrete and/or metal piers; axle and wheel assembly for each towable section

**MANUFACTURED HOUSING  
BUILDING SPECIFICATIONS  
QUALITY CLASS 6**

This is the average quality manufactured home in a price range usually found in the older type mobilehome parks.

<b>Roof</b>	One piece fabricated steel; minimum pitch; small overhang in front; or asphalt shingles
<b>Exterior Walls</b>	Covering is pre-finished aluminum siding or flush-type masonite panels with some concealed fasteners; exterior wall thickness is 3" to 4"; skirting is lightweight or masonite hardboard panels
<b>Trim and Sash</b>	No trim; exterior decoration two types of color; coordinated exterior covering; tract house size and quality windows; optional 6' sliding glass door
<b>Interior</b>	Pre-finished fire rated plywood paneling or partial gypsum board; acoustical tile ceiling; 8' ceiling height; drapes in living room, dining room, and bedrooms
<b>Floors</b>	Carpet with 1/2" thick pad in living, dining, and bedrooms; vinyl in other areas
<b>Heating</b>	Forced air furnace; ducting in all rooms; perimeter floor return system; optional air conditioning
<b>Kitchen</b>	12± linear foot plastic laminate counter; average quality plywood cabinets with raised panel doors; built-in range and oven, hood and fan; optional dishwasher
<b>Baths and Plumbing</b>	1 and 3/4 baths; fiberglass shower with glass or plastic door; fiberglass or enameled steel tub; 4 to 5 linear foot cultured marble vanity single basin; average quality cabinets; 30-gallon hot water heater
<b>Bedrooms</b>	8± linear feet wardrobe; pre-finished and grooved plywood doors; mirrored wardrobe door in master bedroom
<b>Insulation</b>	Fully insulated floors, side walls, and ceilings
<b>Exterior Components</b>	Set on concrete and/or metal piers; axle and wheel assembly for each towable section

**MANUFACTURED HOUSING  
BUILDING SPECIFICATIONS  
QUALITY CLASS 7**

This manufactured home is above average in quality. This class of home is usually found in the newer modern mobilehome parks.

<b>Roof</b>	One piece white baked enamel metal; asphalt shingles on gable accented roof
<b>Exterior Walls</b>	Pre-finished aluminum (shiplap) siding and/or flush-type masonite panels with concealed fasteners; designer coordinated exterior colors; 4" exterior wall thickness; aluminum skirting
<b>Trim and Sash</b>	Little or no trim; two-tone exterior coverings; large, good, house-type sash; some picture windows; optional 6' sliding glass door
<b>Interior</b>	Pre-finished and grooved hardwood, plywood paneling, or gypsum board; 8' acoustical plank-type ceilings; decorator coordinated drapes in all rooms except kitchen and baths; optional vaulted ceilings with decorative beams
<b>Floors</b>	Carpet with 1/2" thick pad in all rooms except baths and kitchen; vinyl in kitchen and baths
<b>Heating</b>	80,000 BTU upflow or downflow forced air furnace; ducting to all rooms; optional air conditioning and fireplace
<b>Kitchen</b>	14± linear foot plastic laminate counter; good quality cabinets; built-in range and oven with a hood and fan; optional dishwasher and pantry
<b>Baths and Plumbing</b>	2 baths; vent fans; fiberglass shower with glass or plastic door; fiberglass or enameled steel tub; 6 to 8 linear foot cultured marble vanity, twin basin master bath; good cabinets; 30 to 40 gallon water heater
<b>Bedrooms</b>	10± linear foot wardrobe; floor to ceiling mirrored sliding doors in master bedroom
<b>Insulation</b>	Fully insulated floors, walls, and ceilings
<b>Exterior Components</b>	Set on concrete and/or metal piers; axle and wheel assembly for each towable section

**MANUFACTURED HOUSING  
BUILDING SPECIFICATIONS  
QUALITY CLASS 8**

This is the highest price manufactured home in a price range usually found in the majority of modern mobilehome parks. This is a luxury type manufactured home. It not only has extensive features, but of more importance, they are of a good quality.

<b>Roof</b>	One piece white baked enamel metal; asphalt shingles on gable accented roof; residential-type front and rear overhangs
<b>Exterior Walls</b>	Pre-finished shiplap aluminum siding and/or flush-type masonite panels with concealed fasteners; designer coordinated exterior colors; exterior walls 4" thick; aluminum-skirting
<b>Trim and Sash</b>	Painted aluminum and/or imitation stone (fiberglass) trim; large amount of good house-type sash; picture windows; sliding glass door; recessed entry
<b>Interior</b>	Pre-finished and grooved hardwood paneling or gypsum board; careful workmanship throughout; vaulted, decorative beam, and/or acoustical plank-type ceilings; 8' to 8' 6" ceiling height; floor to ceiling drapes over sheer underlays in living room and dining room; raised panel doors; window sills
<b>Floors</b>	Carpet with 1/2" thick pad in all rooms except guest bath and utility room; vinyl tile in kitchen, utility, and guest bath
<b>Heating</b>	80,000 to 110,000 BTU upflow or downflow air condition ready furnace with exterior access door; ducting to all rooms; optional air conditioning and fireplace
<b>Kitchen</b>	Circular or elaborate kitchen; walk-in pantry; 16± linear feet of plastic laminate counter; good quality pre-finished wood cabinets with special hardware; lazy susan corner shelves; built-in range and oven, hood and fan, and dishwasher; dropped luminous ceiling with fluorescent lighting; island work space; microwave oven
<b>Baths and Plumbing</b>	2 baths; vent fans; master bath will have two basins, sunken tub, and stall shower; good quality medicine cabinets and fixtures; 6± linear foot cultured marble vanities; good cabinets; one piece fiberglass shower in guest bath; 30 to 40 gallon water heater; separate commode closet
<b>Bedrooms</b>	9 to 14 linear foot floor to ceiling mirrored sliding wardrobe doors in master bedroom, or walk-in closets
<b>Utility Room</b>	220 volt wiring or gas for dryer and plumbing for washer; built-in utility table; laundry sink
<b>Insulation</b>	Fully insulated floors, walls, and ceilings
<b>Exterior Components</b>	Set on concrete and/or metal piers; axle and wheel assembly for each towable section

**MANUFACTURED HOUSING  
BUILDING SPECIFICATIONS  
QUALITY CLASS 9**

This quality class is the most luxurious manufactured home listed. Care should be used before assigning this class because only a few manufacturers make a manufactured home of this overall quality level.

<b>Roof</b>	Gable accented roof; asphalt shingles; roof pitch of 3" in 12" or more; residential-type front and rear overhangs
<b>Exterior Walls</b>	Pre-finished shiplap aluminum (house type) horizontal siding or 1/2" masonite hardwood siding; decorative stone accent; skirting matches exterior wall material; designer coordinated exterior colors; 6" exterior wall construction
<b>Trim and Sash</b>	Painted aluminum and/or imitation stone (fiberglass) trim; large amount of good house-type sash; picture/bay windows; sliding glass doors; recessed entry; porch lights at exterior doors; dual glazed vinyl windows
<b>Interior</b>	Expensive hardwood paneling or gypsum board; careful workmanship throughout; coffered or vaulted ceiling with beams in living, dining, and family rooms; plank-type acoustical tile ceilings in bedrooms and utility room; 8' to 10' ceiling; wet bar; mirrored walls; built-in buffet cabinet in family and/or living rooms; custom drapes with sheer under-curtains in living room, dining room, and master bedroom; raised panel doors; skylights; window sills
<b>Floors</b>	Hardwood or ceramic tile entry, deluxe carpet with foam padding in bedrooms, dining, living, and family rooms; vinyl tile in utility and guest bath. Good quality vinyl tile or hardwood flooring in kitchen.
<b>Heating</b>	110,000 BTU upflow air condition ready forced air furnace with exterior access door; ducting to all rooms; optional air conditioning and fireplace; dual zone heating in larger units
<b>Kitchen</b>	18± linear feet of plastic laminate or ceramic tile counter top; good quality pre-finished wood cabinets; special hardware; lazy susan corner shelves; dropped luminous ceiling; built-in range and oven, hood and fan, microwave oven, and dishwasher; broom and storage cabinets; island work space; walk-in pantry; may have good quality vinyl tile flooring
<b>Baths and Plumbing</b>	2 to 2 ¾ baths; 8 fixtures; master bath has two basins, garden or sunken tub, one-piece fiberglass shower with glass door; good quality medicine cabinets; 4± linear feet of mirror over 8± linear feet of cultured marble or ceramic tile lavatory top; decorative faucets; 40 gallon water heater; separate commode closet
<b>Bedrooms</b>	9 to 14 linear feet of floor to ceiling sliding mirrored wardrobe doors, or spacious walk-in closets
<b>Utility Room</b>	220 volt wiring or gas for dryer and plumbing for washer; built-in utility table; laundry sink
<b>Insulation</b>	Fiberglass insulation; R-22 to R-33 in ceilings; R-15 to R-22 in floors and walls
<b>Exterior Components</b>	Set on concrete and/or metal piers; axle and wheel assembly for each towable section

**MANUFACTURED HOUSING  
SQUARE FOOT AREA COST TABLE**

	321-	501-	701-	901-	1101-	1301-	1501-	1701-	1901-	2101-	2301-
<b>Class</b>	<b>500</b>	<b>700</b>	<b>900</b>	<b>1100</b>	<b>1300</b>	<b>1500</b>	<b>1700</b>	<b>1900</b>	<b>2100</b>	<b>2300</b>	<b>2500</b>
4	47.06	45.98	44.91	40.64	39.65	38.57	37.56	36.58	35.57	34.66	33.54
4.5	49.46	48.40	47.31	42.87	41.88	40.86	39.84	38.84	37.82	36.83	35.77
5	52.20	51.15	50.05	45.42	44.39	43.39	42.40	41.35	40.36	39.36	38.36
5.5	55.47	54.36	53.31	49.84	47.41	46.42	45.42	44.39	43.39	42.40	41.35
6	59.03	57.96	56.86	53.25	50.72	49.71	48.68	47.66	46.68	45.65	44.64
6.5	63.39	62.27	61.23	57.41	54.74	53.74	52.71	51.72	50.72	49.71	48.68
7	67.73	66.68	65.51	61.54	58.78	57.74	56.77	55.76	54.74	53.74	52.71
7.5	72.67	71.52	70.47	66.21	65.16	64.12	63.08	62.05	61.03	59.96	58.97
8	77.78	76.70	75.63	72.47	71.43	70.40	69.29	68.28	67.16	66.14	65.11
8.5	82.99	81.88	80.81	79.76	78.61	77.53	76.40	75.36	74.25	73.18	72.09
9	88.15	87.05	85.98	84.86	83.78	82.68	81.61	80.51	79.44	78.36	77.26

**NOTE:** The above cost factors are to be used only in the valuation of manufactured homes that are in excess of 8 feet in width or in excess of 40 feet in length, and/or in excess of 320 square feet. To compute square footage, measure the exterior perimeter of the unit(s) at the floor level. **DO NOT INCLUDE THE TOW BAR.**

Cost factors for all manufactured home quality classes include a cost for forced-air heating. Air conditioning is an additive. These cost factors do **not** include an allowance for park location value.

**FOUNDATION**

<u>Single Story</u>		
For units on permanent foundations	1,000 sq. ft. to 1,800 sq. ft.	\$10,800 to \$20,400
	1,800 sq. ft. to 3,000 sq. ft.	\$20,400 to \$33,600
<u>Two Story</u>		
Use the footprint of the first story for square foot calculation of foundation.		

## MANUFACTURED HOUSING

### AIR CONDITIONING

<u>Type</u>	<u>Cost</u>
Central Air for Ready Furnace Using Existing Ducts	
2 Ton                      Approximately 800 - 1100 sq. ft.	2,703
2 1/2 - 3 Ton            Approximately 1101 - 1600 sq. ft.	3,105
4 - 5 Ton                 Approximately 1601 - 2500 sq. ft.	3,408    -    4,010
	<u>Cost Per Unit</u>
Thru-wall Small Unit (1/2 H.P. 6,000 BTU)	944
Thru-wall Large Unit (1 H.P. 12,000 BTU)	1,247
Evaporative Cooler--Roof Mounted	1,114    -    1,397
Wired Only for Air Conditioning	172    -    358

### BUILT-INS

<u>Type</u>	<u>Cost Each</u>	
Dishwasher (included in Class 7, 8, or 9)	721	-    893
Garbage Disposal (included in all base cost, deduct if missing)	144	-    893
Built-in Microwave Oven	570	-    1,138
Trash Compactor	654	-    824
Wet Bar (walk-up--if not included in class)	577	-    687
Wet Bar (walk behind--if not included in class)	1,880	-    2,058
Separate Shower Master Bath	654	-    824
One-half Bath: Toilet, Sink, and Pullman	1,298	-    1,374
Bathroom Sink or Laundry Sink		275
Fireplace (permanent--includes flue)	2,527	-    3,432
Fireplace (free standing--includes flue)	1,153	-    2,058
Built-in Buffet-Hutch (1 hutch included in Class 8)	872	-    1,098
Whirlpool Tub in Master Bath	1,057	-    1,291

### SKIRTING

<u>Type</u>	<u>Cost Per Linear Foot</u>	
Lightweight Aluminum Panels	7.01	
Lap Aluminum Siding	13.28	
Painted Masonite Panels	14.02	
Flagstone-type Aluminum Panels	13.28	
Concrete Composite Panels	17.15	-    21.20
Vinyl Panels	11.22	
Brick or Stone - Cost per Surface Foot	18.53	

### STORAGE BUILDINGS (Floor Included)

<u>Type</u>	<u>Cost Per Square Foot</u>
Aluminum Exterior	15.73
Enameled Steel Exterior	12.37
Masonite	24.71

### TIE DOWNS

<u>Type</u>	<u>Cost</u>	
Cork Screw Anchors and Straps	81	-    122 Each

## BUILDING ADDITIVES

### ELEVATORS, PASSENGER

<u>Electric</u>				
Car and Machinery Cost Per Shaft				
<u>Base-Six Floors</u>				
<u>Capacity</u>	<u>Speed</u>			
	<u>200 F.P.M.</u>	<u>250 F.P.M.</u>	<u>300 F.P.M.</u>	<u>350 F.P.M.</u>
2,000 lbs.	106,072	111,963	117,861	123,746
2,500 lbs.	111,963	117,861	126,103	130,816
3,000 lbs.	120,212	130,823	135,536	143,784
3,500 lbs.	130,816	139,071	147,319	153,211
4,000 lbs.	141,428	150,854	159,102	167,356
Add for deluxe cab \$8,265 per cab.				
Add for each stop for doors and door openers, \$8,815 per floor				
Baked enamel doors and frame \$2,205 per stop.				
Stainless steel doors and frame \$2,420 per stop.				
<u>Hydraulic</u>				
Car and Machinery Cost Per Shaft				
<u>Base-Two Floors</u>				
<u>Capacity</u>	<u>Speed</u>			
	<u>100 F.P.M.</u>	<u>200 F.P.M.</u>		
2,000 lbs.	42,897	49,030		
2,500 lbs.	46,580	55,157		
3,000 lbs.	49,030	60,059		
3,500 lbs.		63,735		
4,000 lbs.		67,412		
Add for deluxe car \$7,720 per car.				
Add for doors and door openers, \$6,620 per floor				
Baked enamel doors and frame \$2,205 per stop.				
Stainless steel doors and frame \$2,420 per stop.				

### FIRE ESCAPES

	<u>Unit</u>	<u>Cost</u>	
Second story	Each	4,004	-
Additional floors	Per story	2,357	-
			5,303
			3,535

### BURGLAR ALARMS

	<u>Cost</u>	
Total cost in place	1,716	-
		4,576

## BUILDING ADDITIVES

### FIREPLACES/INSTALLED

<u>Type</u>	<u>One Story</u>		<u>Cost Each</u>		<u>Two Story</u>	
Zero Clearance Metal Firebox, natural gas and/or wood burning Low Quality - Typically enclosed by painted or stuccoed wall board 36" width with 12.5' chimney pipe	1,700	-	2,122			
Medium Quality - Typically enclosed in attractive wood paneling, simulated materials, or moderate brickwork, has average wood mantel. 36" width with 15' chimney pipe	2,122	-	2,454	2,335	-	2,548
High Quality - Firebox unit has fire-brick back and floor and glass door. Unit typically enclosed by brick or stone, also has raised brick hearth. 48" width with 15' chimney pipe	2,917	-	4,576	3,501	-	6,292
Add: Insulation, gas line, mantel	972	-	1,144			
Pellet fed fireplace	1,750	-	2,334			
Free Standing Prefabricated Fireplace	1,750	-	2,334			
Masonry:						
5' base, common brick or concrete block, low cost Douglas fir or common brick mantel	4,618	-	5,148	5,148	-	5,720
6' base, common brick, used brick, or natural stone on interior face or with average wood mantel	5,148	-	5,720	5,720	-	9,152
6' base, common brick, face brick with good wood mantel	5,720	-	9,152	9,152	-	10,868
6' base, common brick, used brick, or natural stone on interior face, raised hearth	9,152	-	10,868	10,868	-	13,728
8' base, common brick, used brick, or natural stone on interior face, raised hearth	10,868	-	13,728	16,016	-	16,588
Add 25 to 40 percent to above costs for additional openings using a common chimney.						

**RESIDENTIAL GARAGES  
BUILDING SPECIFICATIONS  
"D" CONSTRUCTION**

**Post 1990 (Contd.)**

<b>Roof Cover</b>	
D-5	Standard wood or steel frame; composition shingle; concrete shake; 0" to 12" overhang, unceiled
D-6	Standard wood or steel frame; wood shingle; light wood shake; good composition shingle; concrete shake or tile; 0" to 18" overhang, unceiled
D-7	Standard wood or steel frame; medium wood shake; concrete shake or tile; 0" to 24" overhang, unceiled
D-8	Standard wood or steel frame; heavy wood shake; concrete shake or tile; 0" to 24" overhang, ceiled or unceiled
D-9	Standard wood or steel frame; heavy wood shake; concrete shake or tile; adobe tile; 0" to 36" overhang, unceiled, ceiled, or boxed
D-10	Standard wood or steel frame; heavy wood shake; adobe tile; copper; slate; 0" to 36" overhang, unceiled, ceiled, or boxed
<b>Lighting</b>	
D-5	One light with switch
D-6	One light with switch
D-7	One light with switch
D-8	One light with switch
D-9	Ample lighting
D-10	Ample lighting
<b>Interior Finish</b>	
D-5	Unfinished
D-6	Gypsum board
D-7	Gypsum board, painted
D-8	Gypsum board, painted
D-9	Fully finished with some cabinets and shelving
D-10	Fully finished with some cabinets and shelving

## RESIDENTIAL GARAGES

### ATTACHED SQUARE FOOT AREA COST TABLES

#### "D" CONSTRUCTION

Class	220	260	280	320	360	400	440	480	540	600	800	1000
D-1	11.76	11.32	11.17	10.84	10.52	10.35	10.21	10.04	9.90	9.75	9.52	9.48
D-1.5	16.91	16.21	16.02	15.45	15.21	14.82	14.39	14.03	13.68	13.33	12.91	12.84
D-2	21.91	21.14	20.81	20.17	19.57	19.09	18.52	18.06	17.62	17.17	16.63	16.54
D-3	24.39	23.48	23.00	22.45	21.63	21.10	20.47	19.97	19.47	18.98	18.39	18.29
D-3.5	26.93	25.85	25.26	24.54	23.85	23.27	22.57	22.01	21.47	20.93	20.26	20.16
D-4	29.30	28.00	27.54	26.75	25.84	25.20	24.46	23.85	23.26	22.68	21.96	21.85
D-4.5	31.48	29.92	29.44	28.54	27.54	26.85	26.05	25.41	24.77	24.16	23.38	23.26
D-5	33.60	31.85	31.36	30.33	29.16	28.43	27.59	26.91	26.24	25.58	24.76	24.64
D-5.5	38.35	36.21	35.41	34.04	32.77	31.95	31.00	30.23	29.48	28.74	27.83	27.69
D-6	43.21	40.58	39.62	38.11	36.47	35.57	34.51	33.65	32.82	32.00	30.98	30.82
D-6.5	46.15	43.66	42.69	41.28	39.79	38.81	37.66	36.72	35.80	34.92	33.80	33.63
D-7	48.93	46.67	45.84	44.58	43.10	42.03	40.78	39.77	38.78	37.81	36.61	36.43
D-7.5	55.26	53.03	52.11	50.53	48.70	47.48	46.07	44.93	43.82	42.72	41.37	41.16
D-8	56.91	54.60	53.65	52.03	50.15	48.89	47.44	46.27	45.11	43.98	42.60	42.39
D-8.5	58.61	56.24	55.27	53.60	51.65	50.36	48.86	47.65	46.47	45.30	43.89	43.66
D-9	60.37	57.93	56.93	55.20	53.21	51.88	50.33	49.09	47.87	46.66	45.20	44.97
D-9.5	62.18	59.67	58.63	56.86	54.80	53.43	51.84	50.55	49.30	48.06	46.55	46.32
D-10	64.05	61.45	60.39	58.56	56.44	55.03	53.39	52.07	50.78	49.50	47.95	47.72

### DETACHED SQUARE FOOT AREA COST TABLES

#### "D" CONSTRUCTION

Class	220	260	280	320	360	400	440	480	540	600	800	1000
D-1	12.95	12.09	11.75	11.31	11.06	10.82	10.58	10.42	10.27	10.11	9.89	9.83
D-1.5	18.20	17.03	16.56	15.94	15.71	15.21	14.55	14.18	13.84	13.49	13.06	12.99
D-2	23.32	22.01	21.48	20.56	20.30	19.66	18.80	18.33	17.88	17.43	16.87	16.79
D-3	27.00	25.22	24.55	23.29	22.91	22.18	21.22	20.69	20.17	19.67	19.05	18.95
D-3.5	29.46	27.52	26.82	25.44	25.16	24.36	23.31	22.73	22.17	21.61	20.92	20.81
D-4	32.09	30.04	29.19	27.80	27.31	26.45	25.30	24.67	24.05	23.45	22.70	22.59
D-4.5	33.99	31.71	30.92	29.37	29.20	28.27	27.04	26.37	25.72	25.08	24.28	24.16
D-5	36.38	33.59	32.64	30.98	30.54	29.58	28.29	27.58	26.90	26.23	25.40	25.27
D-5.5	41.76	38.55	37.23	35.30	34.71	33.61	32.15	31.35	30.56	29.81	28.85	28.71
D-6	49.62	45.42	43.82	41.30	40.40	39.13	37.42	36.48	35.58	34.69	33.58	33.41
D-6.5	52.53	48.88	47.46	44.70	44.51	43.10	41.23	40.20	39.20	38.23	37.00	36.82
D-7	56.84	52.93	51.34	48.82	48.09	46.57	44.54	43.43	42.36	41.30	39.98	39.79
D-7.5	64.45	59.99	58.18	55.38	54.56	52.82	50.52	49.27	48.05	46.85	45.36	45.12
D-8	66.36	61.76	59.90	57.03	56.17	54.39	52.02	50.73	49.48	48.24	46.71	46.48
D-8.5	68.36	63.62	61.70	58.73	57.86	56.01	53.59	52.25	50.95	49.68	48.11	47.88
D-9	70.41	65.53	63.55	60.50	59.59	57.70	55.19	53.82	52.49	51.18	49.56	49.31
D-9.5	72.52	67.49	65.45	62.31	61.39	59.43	56.85	55.43	54.06	52.71	51.05	50.79
D-10	74.70	69.52	67.43	64.18	63.23	61.21	58.55	57.09	55.68	54.29	52.57	52.31

**RESIDENTIAL GARAGES  
BUILDING SPECIFICATIONS  
"C" CONSTRUCTION**

<b>Foundation</b>	
C-4	Light concrete
C-5	Standard concrete
C-6	Reinforced concrete
C-7	Reinforced concrete
C-8	Reinforced concrete
<b>Floor</b>	
C-4	Light concrete
C-5	Concrete
C-6	Concrete
C-7	Concrete
C-8	Concrete
<b>Walls</b>	
C-4	6" reinforced or 8" nonreinforced concrete block; painted exterior
C-5	8" reinforced concrete block; painted exterior
C-6	8" reinforced colored concrete block
C-7	8" reinforced colored detailed block
C-8	8" reinforced colored detailed block
<b>Roof Cover</b>	
C-4	Wood shingles
C-5	Wood or composition shingle
C-6	Good wood or composition shingles; light shakes
C-7	Good wood shingles; medium shakes
C-8	Heavy shakes
<b>Doors</b>	
C-4	Good hinged or light sliding
C-5	Good hinged or light overhead
C-6	Plywood overhead
C-7	Plywood or metal overhead
C-8	Good wood or metal
<b>Lighting</b>	
C-4	One drop cord
C-5	One light with switch
C-6	One light with switch
C-7	One light with switch
C-8	Ample lighting
<b>Interior Finish</b>	
C-4	Unfinished
C-5	Unfinished
C-6	Unfinished
C-7	Gypsum board on walls
C-8	Gypsum board on all walls

**RESIDENTIAL GARAGES**

**ATTACHED  
SQUARE FOOT COST TABLES**

**"C" CONSTRUCTION**

<b>Class</b>	<b>220</b>	<b>260</b>	<b>280</b>	<b>320</b>	<b>360</b>	<b>400</b>	<b>440</b>	<b>480</b>	<b>540</b>	<b>600</b>	<b>720</b>
C-4	50.84	48.04	46.89	45.10	43.87	42.64	41.68	41.04	40.03	39.27	38.25
C-4.5	53.07	50.12	49.13	47.26	45.86	44.71	43.87	43.07	42.13	41.34	39.88
C-5	55.34	52.47	51.20	49.36	47.98	46.82	45.86	45.09	44.07	43.26	41.07
C-5.5	58.30	55.24	53.97	52.08	50.56	49.29	48.28	47.46	46.47	45.61	43.65
C-6	61.35	58.21	56.95	54.88	53.29	52.08	51.05	50.09	49.13	48.26	46.89
C-6.5	65.62	62.14	60.84	58.79	56.96	55.77	54.57	53.68	52.60	51.61	50.25
C-7	69.18	65.46	64.16	61.85	60.09	58.78	57.47	56.47	55.36	54.35	53.05
C-7.5	76.78	72.91	71.32	68.88	66.82	65.34	63.93	62.82	61.57	60.54	58.99
C-8	89.22	84.65	82.80	79.74	77.65	75.68	74.23	73.04	71.47	70.25	68.45

**DETACHED  
SQUARE FOOT COST TABLES**

**"C" CONSTRUCTION**

<b>Class</b>	<b>220</b>	<b>260</b>	<b>280</b>	<b>320</b>	<b>360</b>	<b>400</b>	<b>440</b>	<b>480</b>	<b>540</b>	<b>600</b>	<b>720</b>
C-4	59.75	54.96	53.21	50.00	47.58	45.69	44.09	42.87	41.26	39.96	38.32
C-4.5	62.15	57.28	55.27	53.57	49.59	47.72	46.14	44.86	43.25	41.94	40.14
C-5	64.73	59.60	57.54	54.31	51.73	49.66	48.12	46.64	45.23	43.73	41.76
C-5.5	67.94	62.66	60.58	57.02	54.47	52.33	50.61	49.24	47.45	46.01	45.06
C-6	74.88	68.97	66.76	63.06	60.15	57.80	55.91	54.27	52.37	50.40	48.61
C-6.5	79.73	73.61	71.19	67.17	64.17	61.71	59.77	57.95	56.04	54.47	51.89
C-7	84.11	77.61	75.04	70.84	67.60	65.05	62.90	61.18	59.04	57.26	54.92
C-7.5	93.69	86.33	83.48	78.87	75.31	72.31	69.92	68.08	65.70	63.83	61.02
C-8	103.53	95.38	92.38	87.31	83.28	80.09	77.54	75.32	72.84	70.64	69.20

# AH 531.51: YARD IMPROVEMENTS

## SWIMMING POOLS

Swimming pool costs are based on the total surface square footage of the basic pool area. To this total, additives should be added that differ for each pool. The basic square-foot costs include permits, excavation, rough plumbing, rough electrical, steel reinforcing, gunite, plaster, filter, tile work, decking, finish work, profit, and overhead.

Extra costs to be added to the basic pool include costs for the heater, whirlpool spa, pool sweep, ladders, lights, steps, diving board, slide, and swim outs. Additionally, extra decking, long runs for electrical, water, and gas lines are costly. Soil conditions, right-of-way access, fence, and other obstacle removal and replacement increase total pool costs.

Various finish decorations such as rock, brick, flagstone trim, cantilevered decking, fancy or special tile, waterfalls, etc., add costs to the total pool costs. Care must be used to separate landscaping costs that are sometimes included in the total pool contract.

The typical pool includes filter, light, one set of steps, and three feet of perimeter decking. It is usually three feet to eight and one-half feet deep and will average 440 surface feet in size.

Pools can be classified into three categories: concrete, fiberglass, or in-ground liner. Concrete pools are usually built of gunite, wet pack, or poured and are the most common of the typical residential pools in use today.

Because of savings in cost, and rapid installation time, fiberglass pools are less expensive than concrete. A key cost in fiberglass pools is the distance between the manufacturer and consumer. Delivery charges can add between **\$18.00** and **\$22.50** per mile to the cost of the pool. In-ground liner pools are usually of concrete block or redwood base covered with a plastic liner, which in turn is sealed to the base.

### SWIMMING POOLS

	<u>Cost Per Square Foot</u>	
Concrete Pools	\$50	- \$90
Fiberglass Pools	38	- 50
In-ground Liner	25	- 38

A typical 440 square foot concrete pool will cost between **\$65.00** and **\$90.00** per square foot.

Swim spas are narrow lap pools with powerful jets that create a current. The swimmer swims in place against the current—**\$36,000** to **\$48,000**.

**SWIMMING POOL ADDITIVES**

<u>Heaters</u>		<u>Other Additives</u>	
<u>Average MBH<sup>4</sup></u>	<u>Average Price</u>		
125	1,900	Slides	1,400 – 3,600
250	3,100	Diving Boards	700 – 1,300
400	3,700	Concrete decking per square foot	7.00
		Redwood decking per square foot	30.00

NOTE: Solar heating costs around three to four times more than standard gas heating, average **\$6,000 to \$8,000**. See AH 531.40, page 10, for additional data on solar heated pools.

Two typical types of filters are the cartridge and the diatomaceous earth. Typically, these costs are in the basic pool. Deduct for cartridge filter **\$500 - \$700**.

NOTE: Permit costs vary throughout the state ranging from **\$400 to \$1,800**.

NOTE: Pool sweeps average **\$1,500** but may be personal property.

**DETACHED SPAS (BELOW GROUND)**

	<u>With Pool</u>	<u>Without Pool</u>
Gunite	6,700 - 12,600	14,800 - 19,000
Fiberglass	4,500 - 8,500	10,600 - 13,500

**SPA ADDITIVES**

Remote Control	1,000
Solar Control	1,500

**RESIDENTIAL HOT TUBS AND SPAS**

Hot tubs are of wood construction, usually redwood, mahogany, or cedar. They sometimes have plastic liners.

Spas are usually constructed of formed fiberglass or acrylic. More expensive, but less often used, are units of ceramic tile on fiberglass backing.

Both spas and hot tubs commonly have pumps, filters, jets, blowers, and heaters that may be used in any class or size installation. Most units are gas and average about 8 percent more in cost than electric.

<sup>4</sup> One MBH = One thousand BTU's per hour.

## YARD IMPROVEMENTS

### CURBS

<u>Type</u>	<u>Cost Per Linear Foot</u>		
Asphalt 6" high	7.34	-	9.90
Concrete Bumper Strip 6" x 6"	9.33	-	10.01
Concrete 6" wide 12" high	10.01	-	10.67
Concrete 6" wide 18" high	11.34	-	13.33
Wood bumper rail 6" x 6"	10.67	-	12.67
Vertical curb and gutter	16.00	-	18.00

### FENCES

	<u>Cost Per Linear Foot</u> <u>Six Feet High</u>		
Redwood			
1" x 4"	21.19	-	22.77
1" x 6"	21.19	-	22.77
1" x 8"	22.77	-	26.57
1" x 10"	22.77	-	30.36
1" x 6" Picket	21.19	-	26.57
Cedar			
1" x 4"	21.19	-	22.77
1" x 6"	21.19	-	22.77
Douglas Fir	18.07	-	26.32
Tri Stake	27.09	-	32.26
Grape Stake	24.52	-	28.38
Good Neighbor	18.07	-	20.64
Basket Weave	21.93	-	25.81
Split Rail	11.83	-	17.09
Corral Fence			
Two Rail	11.83	-	17.09
Three Rail	14.19	-	21.93
Picket	12.68	-	18.10
Vinyl - 6' Solid (Add 10-15% for color)	18.00	-	29.10

### WOOD GATES

<u>Size</u>	<u>Range</u>		
3' x 6'	96.77	-	129.03
4' x 4'	96.77	-	129.03
5' x 6'	135.48	-	154.84

### CHAIN LINK GATES

Width	Height			
	3'	4'	5'	6'
3'	180	207	234	276
5'	209	250	341	386
15'	392	509	686	745

## YARD IMPROVEMENTS

### FENCES (Contd.)

Chain Link Fences: 11 Gauge, 2" Mesh, Top Rail	Per Linear Foot				
	Height				
	4'	6'	8'	10'	12'
	11.98	16.34	20.81	25.17	29.43

### PAVING

Type	Cost Per Square Foot		
	0 to 1,000	1,001 to 10,000	10,001 Up
2" asphalt on 4" rock base	3.18	3.03	2.04
2" pea gravel	0.61	0.54	0.48
4" concrete on 4" rock base	5.30	4.16	3.71
2" concrete aggregate on 4" rock base	6.04	5.13	4.48
2" concrete salt finish with color	8.27	7.26	-
Broom finish	6.53	5.89	4.72
Decorator concrete, stamped and stenciled		13.31	11.03

### UNCOVERED PATIOS

Type	Cost Per Square Foot
Brick in mortar	18.34
Brick in sand	16.94
Flagstone	19.97
Quarry tile	14.52

### GARDEN STEPS AND STAIRS

Type	Cost Per Square Foot
Concrete steps	29.65
Brick surface steps	29.65
Flagstone surface steps	29.65

### MOWING STRIP

Type	Cost Per Linear Foot		
6" wide concrete	8.98	-	9.68
12" wide concrete	11.20	-	13.31
12" wide/3" rise	14.83	-	16.34
1 row brick on top	14.95	-	17.25

### CONCRETE BLOCK WALLS - INCLUDING FOUNDATION AND CAPPING COSTS

Height	Cost Per Linear Foot		
	4" Thick	6" Thick	8" Thick
40"	32.99	37.71	44.00
48"	39.29	45.58	50.29
56"	44.00	53.44	58.14
64"	51.85	59.72	66.01
72"	58.14	73.87	72.29

## AH 531.60: IN-PLACE COSTS (SEGREGATED COSTS)

In-place costs are the total cost per unit, such as a square foot or cubic foot, of individual components or parts of a building. These *individual* costs can be used to build up square-foot costs or provide total costs of items or surfaces *not included in the basic square-foot costs*.

Costs in this chapter may be used for additions and construction-in-progress appraisals, as well as the unit-in-place cost estimating method. *Unit-in-place* is a cost estimating method in which the total building cost is estimated by adding together the unit costs for the various building components as installed. This method is also called the *segregated cost method*.

A replacement cost estimate is made by the unit-in-place method by first estimating the in-place costs per square foot of all flat surfaces such as floors, walls, ceilings, or roofs and multiplying them by the areas of the respective surfaces. The next step consists of computing the volume of other components such as foundations or footings and multiplying it by an in-place cost per unit of volume. The total cost is the sum of these costs plus the in-place cost of components such as plumbing systems, electrical systems, cabinets, doors, etc. The in-place costs used should include all elements of cost, e.g., a pro rata share of general costs such as overhead, profit, and financing fees as well as labor and material costs.

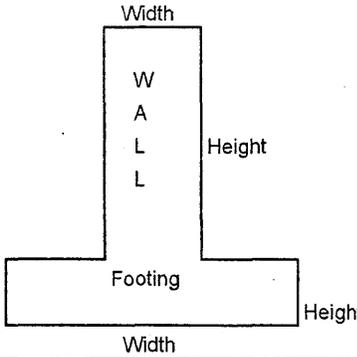
## IN-PLACE COSTS

### FOUNDATIONS - REINFORCED CONCRETE

<u>Type</u>	<u>Cost Per Cubic Foot</u>	
Footings	17.04	- 19.11
Walls	17.04	- 26.94

Foundation cost per linear foot - including footing.

	<u>Footing</u>		<u>Wall</u>		<u>Cost per Linear Foot</u>	
	<u>Width</u>	<u>Height</u>	<u>Width</u>	<u>Height</u>		
W	12"	6"	6"	6"	15.50	- 20.12
A	12	6	6	12	20.12	- 23.17
L	12	6	6	18	23.17	- 26.48
L	12	6	6	24	26.48	- 31.21
Footing	16	8	8	12	30.20	- 35.65
Height	16	8	8	24	41.86	- 46.10
Width	16	8	8	36	46.10	- 50.23

### HILLSIDE FOUNDATIONS

	<u>Cost</u>	
Retaining walls	25.42	- 36.02 per cubic foot
Reinforced concrete columns 16" circular	50.85	- 70.62 per linear foot
Steel columns: 6" diameter	66.00	- 99.00 per linear foot
8" diameter	82.50	- 132.00 per linear foot
10" diameter	107.25	- 165.00 per linear foot
Pipe columns: 4" diameter	38.50	- 40.00 per linear foot
6" diameter	40.50	- 42.00 per linear foot
8" diameter	42.50	- 44.00 per linear foot
Wood poles: 10" diameter	24.00	- 28.00 per linear foot
12" diameter	28.00	- 32.00 per linear foot
14" diameter	32.00	- 34.00 per linear foot
Caissons: 24" diameter (depending on depth to bedrock)	5,280	- 15,840 each

For Class 8 and above on 35% to 40% slope, add 30% to 40% to total building costs.

### FLOORS - REINFORCED CONCRETE

<u>Size and Type</u>	<u>Cost Per Square Foot</u>	
4" slab only	3.96	- 4.51
6" slab only	4.70	- 5.10
8" slab only	5.10	- 6.12
4" with 4" rockfill and waterproof membrane	4.36	- 5.10
6" with 6" rockfill and waterproof membrane	5.70	- 6.07
8" with 8" rockfill and waterproof membrane	6.07	- 7.13

### MUDSILLS

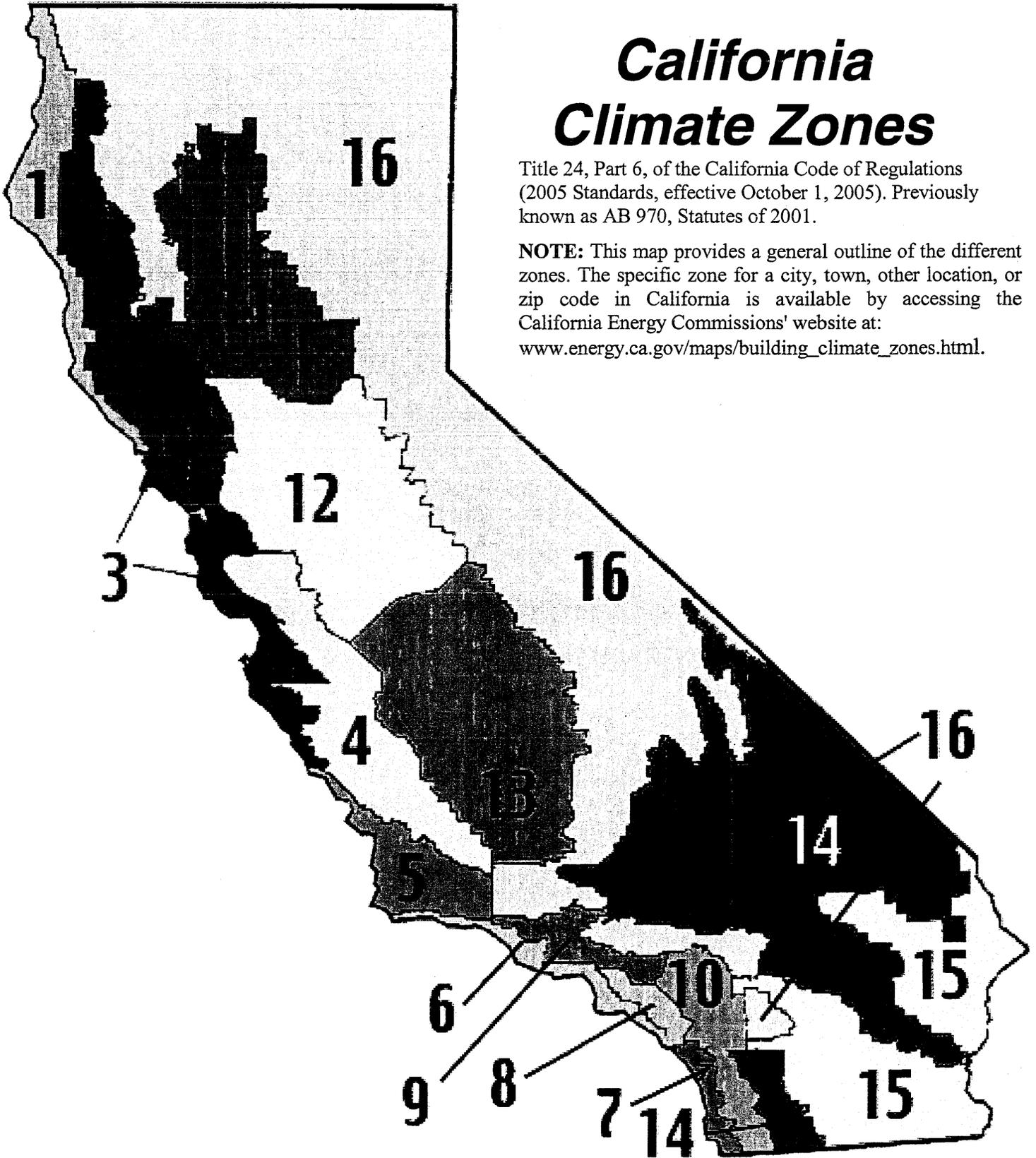
<u>Size and Type</u>	<u>Cost Per Linear Foot</u>	
2" x 4" redwood	3.11	- 3.47
2" x 6" redwood	3.47	- 4.20

Cost includes treating, boring, and bedding.

# California Climate Zones

Title 24, Part 6, of the California Code of Regulations (2005 Standards, effective October 1, 2005). Previously known as AB 970, Statutes of 2001.

**NOTE:** This map provides a general outline of the different zones. The specific zone for a city, town, other location, or zip code in California is available by accessing the California Energy Commissions' website at:  
[www.energy.ca.gov/maps/building\\_climate\\_zones.html](http://www.energy.ca.gov/maps/building_climate_zones.html).



# AH 531.90: COMPACT COSTS

## GENERAL

This chapter describes a method of costing intended to speed up the residential cost estimating process without reducing accuracy. Square-foot costs include the cost of typical additive items such as porches, yard improvements, fireplaces, and heating systems. Time is saved by eliminating the need for measuring and computing the cost of a number of items that comprise only a small part of the total cost.

NOTE: These compact costs do not apply to the *Mountain Residences* chapter of AH 531, due to the nature of building in mountainous areas which requires more individual analysis of construction site slope, construction materials, etc.

## COMPOSITION OF COMPACT COSTS

Compact costs include the following items as a part of the basic square-foot cost:

- Basic building costs
- Typical heating costs when applicable
- Typical fireplace costs when applicable
- Typical porch costs
- Typical yard improvement costs

Shape classification is not a consideration in this method. It is assumed that in a proper replacement cost the shape class will be relative to the quality class and size of the building. Small buildings of lower-quality class will tend to be "A" or "B" shape; larger, higher-quality class houses will tend to be of "C" or "D" shape. Basic square-foot costs will reflect what is a typical shape class for the quality and size of the building.

## PROCEDURE

Cost estimates are made by selecting a proper square-foot cost from a table and multiplying it by the living area of the building. If the building has air conditioning, a square-foot cost is added to the basic square-foot cost. If a garage is present, a lump sum amount for a single, double, triple, etc., garage is added.

Following is an example of a cost estimate made using the standard cost tables and a cost estimate using compact costs.

### STANDARD COST TABLES

Residence D7C (Modern Type)	2,200 sq. ft.	x	107.48	=	236,456
Concrete Covered Porch (1/3)	56 sq. ft.	x	35.83	=	2,006
HVAC	2,200 sq. ft.	x	4.58	=	10,076
Fireplace				=	2,122
Garage (Attached)	540 sq. ft.	x	38.78	=	20,941
Wood Covered Concrete Patio	300 sq. ft.	x	20.87	=	6,261
Fence (1" x 4" Redwood)	130 lin. ft.	x	21.19	=	2,755
Concrete Flatwork	1,000 sq. ft.	x	5.30	=	<u>5,300</u>
RCN					285,917

### COMPACT COST METHOD

Residence D7			117.87		
A-C (cool only)			<u>3.12</u>		
Residence	2,200 sq. ft.	x	120.99	=	266,178
Garage, Double					<u>18,100</u>
RCN					284,278

Extra items such as swimming pools, septic systems, or pressure systems should be added to the cost estimate.

### LOCATION ADJUSTMENTS

Compact costs are based on the cost to build in Sacramento as are all other residential building costs. The Single-Family Residence Map in the *Costing Information* chapter, AH 531.10, page 26, gives location adjustments for all locations in the State of California, *except mountainous areas*. These factors adjust for location only and reflect the typical adjustments necessary for the 2008 period. This map should not be confused with similar maps that contain factors for time as well as location.

### ADDITIONS

Additions can be cost estimated using a compact square foot cost based upon the quality class of the addition and the total area of the original house plus the addition. The square foot cost is applied to the addition area only.

If the addition has built-ins, plumbing fixtures, cabinets, or other additives that were not included in the original structure, the cost of the additives should be added by appropriately increasing the quality class of the addition.

The cost of the addition is then adjusted for location by using the Single-Family Residence Map in the *Costing Information* chapter, AH 531.10, page 26.

**Example:**

Assume an original 1,200 square foot, D6.5, air conditioned residence with a two-car garage in Mendocino County that was last sold in 1996.

On January 1, 2008, a 400 square foot addition with a quality class of D6.5 is built. The RCN of the addition is computed as follows:

Total Area for Modification			
Original Residence	=	1,200 sq. ft.	
Addition	=	<u>400</u> sq. ft.	
Total Square Feet	=	1,600 sq. ft.	

**COMPACT COSTS**

Addition	400 sq. ft.	x	110.65	=	44,260
Air Conditioning	400 sq. ft.	x	3.12	=	<u>1,248</u>
Total RCN January 1, 2008					45,508
Location Adjustment					<u>1.15</u>
RCN Addition					52,334

## COMPACT COSTS

All square-foot costs include typical porches, yard improvements, fireplaces, and heating systems. Air conditioning systems and garages are to be added. Built-ins and plumbing fixtures are included as per building quality class specifications.

### SINGLE-FAMILY RESIDENCES

	<u>Residence</u>	<u>Garage</u>
D1	40.70 S.F.	11.45 S.F.
D1.5	44.52 S.F.	15.80 S.F.
D2	52.84 S.F.	20.51 S.F.
D3	57.01 S.F.	23.72 S.F.
D3.5	61.33 S.F.	27.24 S.F.

	<u>Square-Foot Area</u>									
<u>Class</u>	<u>500</u>	<u>600</u>	<u>700</u>	<u>800</u>	<u>900</u>	<u>1,000</u>	<u>1,100</u>	<u>1,200</u>	<u>1,300</u>	<u>1,400</u>
D4	84.75	79.94	77.72	72.93	70.49	68.49	66.80	65.53	64.03	62.54
D4.5	93.46	87.91	84.02	80.32	77.55	75.88	72.93	72.19	69.97	68.64

Add: \$2.75 per square foot for central air conditioning, \$25.25 per square foot for garage area, or \$5,800 single, \$11,000 double, or \$17,800 triple garage.  
Fireplace not included.

	<u>Square-Foot Area</u>									
<u>Class</u>	<u>800</u>	<u>900</u>	<u>1,000</u>	<u>1,100</u>	<u>1,200</u>	<u>1,300</u>	<u>1,400</u>	<u>1,500</u>	<u>1,600</u>	<u>1,700</u>
D5	94.02	90.49	88.08	85.68	82.91	81.80	80.32	78.47	77.72	76.81
D5.5	103.09	99.75	96.62	93.82	91.61	89.77	88.27	86.81	85.15	84.02

Add: \$2.75 per square foot for central air conditioning, \$27.37 per square foot for garage area, or \$6,300 single, \$12,600 double, or \$19,000 triple garage.  
Fireplace not included.

	<u>Square-Foot Area</u>									
<u>Class</u>	<u>900</u>	<u>1,000</u>	<u>1,100</u>	<u>1,200</u>	<u>1,300</u>	<u>1,400</u>	<u>1,500</u>	<u>1,600</u>	<u>1,700</u>	<u>1,800</u>
D6	116.03	112.51	109.37	106.78	105.12	102.54	101.41	99.57	98.46	96.80
D6.5	128.08	124.92	121.60	118.45	115.85	113.83	112.33	110.65	109.19	106.60
<u>Class</u>	<u>2,000</u>	<u>2,200</u>	<u>2,400</u>	<u>2,600</u>	<u>2,800</u>	<u>3,000</u>	<u>3,200</u>	<u>3,400</u>	<u>3,800</u>	<u>4,200</u>
D6	92.61	90.62	89.09	87.56	86.05	—	—	—	—	—
D6.5	101.78	99.87	98.10	96.22	94.55	92.71	89.70	89.11	86.53	83.03

Add: \$3.12 per square foot for central air conditioning, \$31.60 per square foot for garage area, or \$7,300 single, \$14,500 double, or \$21,700 triple garage.

## COMPACT COSTS

### SINGLE-FAMILY RESIDENCES (Contd.)

	<u>Square-Foot Area</u>									
<u>Class</u>	<u>1,500</u>	<u>1,600</u>	<u>1,700</u>	<u>1,800</u>	<u>2,000</u>	<u>2,200</u>	<u>2,400</u>	<u>2,600</u>	<u>2,800</u>	<u>3,000</u>
D7	126.33	124.48	122.83	121.36	119.34	117.87	115.78	114.12	112.47	111.38
D7.5	150.48	147.66	144.68	142.25	140.00	137.92	136.24	134.94	133.99	133.24
<u>Class</u>	<u>3,400</u>	<u>3,800</u>	<u>4,200</u>	<u>4,600</u>	<u>5,000</u>					
D7	109.01	105.53	101.25	97.00	92.70					
D7.5	129.78	125.62	120.54	115.49	110.36					
Add:	\$3.12 per square foot for central air conditioning, \$38.76 per square foot for garage area, or \$9,700 single, \$18,100 double, or \$28,000 triple garage.									

	<u>Square-Foot Area</u>									
<u>Class</u>	<u>1,800</u>	<u>2,000</u>	<u>2,200</u>	<u>2,400</u>	<u>2,600</u>	<u>2,800</u>	<u>3,000</u>	<u>3,200</u>	<u>3,600</u>	<u>4,000</u>
D8	170.29	167.31	164.52	162.67	160.07	158.40	156.55	155.05	153.57	152.10
D8.5	223.36	215.32	208.27	204.73	201.99	199.46	197.31	194.94	193.37	192.02
<u>Class</u>	<u>4,400</u>	<u>4,800</u>	<u>5,200</u>	<u>5,600</u>	<u>6,000</u>					
D8	151.55	148.47	144.37	139.23	133.22					
D8.5	189.45	185.59	180.45	174.03	166.53					
Add:	\$3.75 per square foot for central air conditioning, \$48.94 per square foot for garage area, or \$13,400 single, \$25,100 double, or \$39,500 triple garage.									