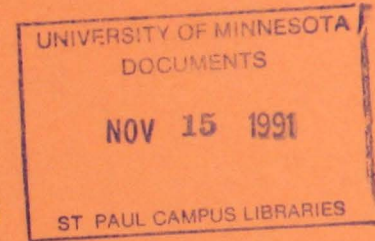
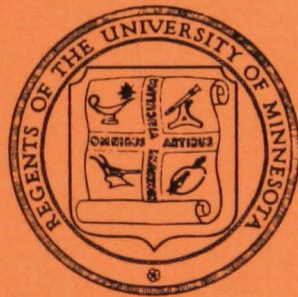


CONTINUING EDUCATION FOR MINNESOTA ASSESSORS

Property Valuation Short Courses for Minnesota Assessors

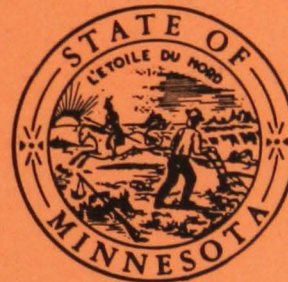


University of Minnesota



Extension Special Programs

State of Minnesota



State Board of Assessors

Property Valuation Reference

Minnesota Extension Service

This archival publication may not reflect current scientific knowledge or recommendations.
Current information available from University of Minnesota Extension: <http://www.extension.umn.edu>.

This reference book for Property Valuation Short Courses has been edited, assembled and produced by Reuben Rydeen, MN Dept. of Revenue, Gerald Wagner and Barbara Lee, Minnesota Extension Service. The University of Minnesota, Minnesota Extension Service and Extension Special Programs in cooperation with the State Board of Assessors wish to thank the various assessor Education Committees and all individuals who provided materials or other assistance in the development of this assessor Short Course Manual.

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* Standards of Professional Conduct

International Association of Assessing Officers

* Adopted by the Minnesota State Board of Assessors

In relations with assessing officers, an IAAO member will:

Cooperate within the legal and ethical boundaries of his office or profession with other members who request his cooperation in performing the functions of their offices or profession.

Treat information obtained in his professional capacity as confidential unless use of that information is authorized by law. It is proper for members employed by different jurisdictions to exchange factual information concerning property to aid either or both in the assessment of property legally subject to taxation.

Protect the professional reputation of other members who subscribe to and abide by these Standards of Professional Conduct.

Give full credit to the originator of any material he uses in his writings or speeches.

Conduct his activities in a manner that will reflect credit upon himself, other members, and the IAAO.

Cooperate with the officers of the IAAO in all matters, including but not limited to the investigation, censure, discipline, or expulsion of members whose conduct casts a shadow on their professional status or the reputation of the IAAO.

In relations with public officials, an IAAO member:

Has a duty to cooperate with public officials to improve the efficiency and economy of public administration.

Will always maintain an attitude of respect and cooperation toward public officials and governmental agencies to whom the law has assigned official duties relating to the work of the IAAO member.

In relations with the public and taxpayers, an IAAO member will:

Maintain at all times a courteous and respectful attitude in his relations with taxpayers, taxing officials, and the public generally, and will compel a similar attitude on the part of his subordinates.

Give full faith and allegiance to his oath of office.

Apply the law of his jurisdiction equitably.

Perform his duties in a manner consistent with statutory requirements without advocacy for accommodation of any particular interests; he will be factual, objective, unbiased, and honest in his conclusion.

Appraisal standards to be complied with by IAAO members:

Any appraisal by an IAAO member shall conform to the highest professional assessment/appraisal standards.

Any value estimate made for assessment purposes by an IAAO member shall be an estimate of true market value as defined by the courts having jurisdiction, regardless of the assessment percentage to be used, except when the law of his jurisdiction requires or the assessment practice in his jurisdiction permits special valuation techniques.

Any value estimate made by an IAAO member shall be a true opinion of value in accordance with generally accepted appraisal practices, except when the law of his jurisdiction requires or the assessment practice in his jurisdiction permits special valuation techniques.

Any fee appraisal assignment accepted by an IAAO member shall be one in which he has no unrevealed personal interest or bias, and one which he is competent to complete without placing his personal integrity or the assessing/appraisal profession in jeopardy.

It shall be unethical for a member of IAAO to accept an engagement for which the amount of his compensation is contingent upon reporting a predetermined value or upon the amount of the value estimate; or upon reporting a predetermined opinion, conclusion, or recommendation; or upon the amount of a tax reduction obtained by a client where his services are used; or upon any result, value, or subsequent transaction.

An IAAO member who accepts fee appraisal assignments which are in addition to his primary employment shall not accept fee appraisal assignments that will conflict with his primary employment, and he shall not become an advocate of any opinion other than his unbiased and objective value conclusion.

In relations with the International Association of Assessing Officers, an IAAO member:

Has a duty to conduct himself in such manner so as not to prejudice his professional status or the reputation of IAAO.

Shall not use an IAAO professional designation unless duly authorized by IAAO and shall not claim qualifications in reports, testimony, or elsewhere which are not factual or which may be subject to erroneous interpretation.

An IAAO member shall strive for individual and collective recognition of the assessing/appraisal field as a profession. It is likewise desirable that members of IAAO continually avail themselves of sources of current information and educational opportunity.

If widely divergent testimony, unethical practices, or other acts by members are such as to discredit IAAO or to lower the prestige of membership therein, it is the duty of each member to report such facts and circumstances to the Professional Ethics Committee or the President of IAAO, according to procedures established by the Professional Ethics Committee.

EXPLANATION OF TERMS

1. Tax Capacity Percentages-

Statutory classification percentage that applies to market value. For taxes payable in 1989, gross tax capacity percentages are used. Both gross and net tax capacity percentages are used for taxes payable in 1990 and subsequent years.

2. Tax Capacity-

Amount resulting from the multiplication of the market value by the appropriate tax capacity percentage. Gross Tax Capacity replaces assessed value as the basis for extending taxes for taxes payable in 1989. For taxes payable in 1990 and subsequent years, net tax capacity is used to extend taxes and gross tax capacity is used to determine an equivalent homestead credit and agricultural credit on the property tax statement.

$$\text{Tax Capacity} = \text{Market Value} \times \text{Tax Capacity Percentage}$$

3. Tax Capacity Rate-

Tax rate determined by dividing a taxing district's property tax levy amount by the taxing district's total tax capacity. The tax capacity rate will be expressed as a percentage of tax capacity.

$$\text{Tax Capacity Rate} = \text{Levy} / \text{Tax Capacity}$$

4. Unique Taxing Area-

Geographic area subject to the same set of tax capacity rates. The area with a unique total tax capacity rate.

5. Disparity Reduction Rate-

Tax rate reduction determined by dividing the disparity reduction aid for each taxing district within the unique taxing area by the gross tax capacity of the unique taxing area. The disparity reduction rate will be expressed as a percentage of tax capacity.

$$\text{Disparity Reduction Rate} = \text{Disparity Reduction Aid} / \text{Tax Capacity}$$

6. Tax Capacity Tax Extension Rate-

Tax rate actually applied to the tax capacity of a parcel of property to arrive at the gross tax for the parcel. The tax capacity tax extension rate is determined by subtracting the disparity reduction rate from the tax capacity rate. The tax capacity tax extension rate will be expressed as a percentage of tax capacity. A taxing district may have as many tax capacity tax extension rates as there are unique taxing areas located within the taxing district's borders.

$$\text{Tax Capacity Tax Extension Rate} = \text{Tax Capacity Rate} - \text{Disparity Reduction Rate}$$

**REAL CLASSIFICATION PERCENTAGES BY PROPERTY TYPE
TAXES PAYABLE 1988, 1989, AND 1990**

CLASS	REAL PROPERTY DESCRIPTION	1988 (ASSESSED VALUE)		CLASS	1989 (GROSS TAX CAPACITY)		1990 (NET TAX CAPACITY)	
1A	-RESIDENTIAL HOMESTEAD	1ST \$68,000	17%	1A	1ST \$68,000	2.17%	1ST \$68,000	1.000%
		OVER \$68,000	27%		\$68,000-\$100,000	2.50%	\$68,000-\$100,000	2.500%
					OVER \$100,000	3.30%	OVER \$100,000	3.300%
1B	-BLIND/PARA VET/ DISABLED HSTD.			1B	1ST \$32,000	0.87%	1ST \$32,000	0.400%
	AG:	1ST \$33,000	5%		Remainder uses tax capacity rates for class 2a property.			
		\$33,000 TO \$66,000	14%					
		OVER \$66,000	18%					
	NON AG:	1ST \$34,000	5%		1ST \$32,000	0.87%	1ST \$32,000	0.400%
		\$34,000 TO \$68,000	17%		Remainder uses tax capacity rates for class 1a property.			
		OVER \$68,000	27%					
1C	-COMMERCIAL SEASONAL RECREATIONAL RESIDENTIAL UNDER 200 DAYS & INCLUDES HSTD		12%	1C		0.90%		0.900%
2A	-AGRICULTURAL HOMESTEAD	1ST \$66,000	14%	2A	1ST \$65,000: HGA	1.75%	1ST \$65,000: HGA	0.805%
		OVER \$66,000	18%		REM TO 320A	1.75%	REM TO 320A	1.120%
					OVER 320A	1.75%	OVER 320A	1.295%
					OVER \$65,000: HGA	2.20%	OVER \$65,000: HGA	2.200%
					REM TO 320A	2.25%	REM TO 320A	1.440%
					OVER 320A	2.25%	OVER 320A	1.665%
2B	-TIMBERLANDS		18%	2B		2.25%		1.665%
2C	NON-HSTD AG LAND:		18%	2B		2.25%		1.665%
	HOUSE, GARAGE, 1 ACRE:		18%	4B (4)		2.70%		2.700%
3A	-COMMERCIAL, INDUSTRIAL, PUBLIC UTILITY (LAND & BLDGS)	1ST \$60,000*	28%	3A	1ST \$100,000*	3.30%	1ST \$100,000*	3.300%
		OVER \$60,000	43%		OVER \$100,000	5.25%	OVER \$100,000	5.250%*
3B	-EMPLOYMENT PROPERTY COMPETITIVE CITY OR ZONE	1ST \$50,000	20%	3B	1ST \$50,000	2.50%	1ST \$50,000	2.500%
		OVER \$50,000	21.50%		OVER \$50,000	3.50%	OVER \$50,000	3.500%
	BORDER CITY:	1ST \$60,000	28%		1ST \$100,000	3.30%	1ST \$100,000	3.300%
		OVER \$60,000	38.50%		OVER \$100,000	4.80%	OVER \$100,000	4.800%
3C	-VACANT LAND		40%	5C		5.25%		5.250%
4A	-RESIDENTIAL NON-HSTD A. APTS WITH 4 OR MORE UNITS		34%	4A		4.10%		4.100%
	B. APARTMENT LAND -LESS THAN 4 UNITS		28%	4C (1,2,3)&4D		3.50%		3.500%
	-4 OR MORE UNITS		34%			4.10%		4.100%
	C. PRIVATE FOR PROFIT HOSPITALS		34%	4A		4.10%		4.100%
4B	-PUBLIC UTILITY MACHINERY		33 1/3%	5A		4.60%		4.600%

**REAL CLASSIFICATION PERCENTAGES BY PROPERTY TYPE
TAXES PAYABLE 1988, 1989, AND 1990**

CLASS	REAL PROPERTY DESCRIPTION	1988 (ASSESSED VALUE)	CLASS	1989 (GROSS TAX CAPACITY)	1990 (NET TAX CAPACITY)
5A	-RES NON-HOMESTEAD 3 OR LESS UNITS (INCLUDING FRAT & SORORITY HOUSE)	28%	4B (1,2)	3.50%	3.500%
5B	-TYPE I & II APTS (5 OR MORE STORIES)	25%	4B (1)	3.50%	3.500%
5C	-UNCLASSIFIED MANUFACTURED HOMES	28%	4B (3)	3.50%	3.500%
6A	-SEASONAL REC RES COMMERCIAL:	21%	4C (5)	2.60%	2.600%
	NON-COMMERCIAL:	21%	4C (5)	2.30%	2.300%
6B	-NON PROFIT COMMUNITY SERVICE ORIENTED ORGAN.	21%	4C (6)	2.60%	2.600%
7A	-TITLE II NATIONAL HOUSING (STRUCTURES)	20%	4C (1)	2.50%	2.500%
7B	-SECTION 8 (STRUCTURES)	20%	4C (2)	2.50%	2.500%
7C	-FHA (MUNICIPALITIES UNDER 10,000 POPULATION)	10%	4D	1.50%	1.500%
7D	-NEIGHBORHOOD REAL ESTATE TRUST	20%	4C (4)	2.50%	2.500%
9A	-UNMINED IRON ORE	50%	5 (B)	5.25%	5.250%
9B	-LOW RECOVERY IRON ORE	30-48 1/2%	5 (B)	5.25%	5.250%
10	-ALL OTHER PROPERTY NOT INCLUDED IN ANY OTHER CLASS	43%	5 (D)	5.25%	5.250%
NEW	-SECTION 42 STRUCTURES		4C (3)	2.50%	2.500%

* One parcel per owner per county - locally assessed.
One parcel per state - state assessed.

** For payable 1991 - 5.20%
For payable 1992 and subsequent years - 5.15%

Prepared by: Local Government Services Division
MN Department of Revenue
May 31, 1988

ASSESSED VALUE AND GROSS TAX CAPACITY DETERMINATION EXAMPLES

RESIDENTIAL HOMESTEAD EXAMPLE

	Taxes Payable	
	1988	1989
Market Value	\$80,000	\$80,000
 Assessed Value Percentages		
1st \$68,000	17%	
Over \$68,000	27%	
 Gross Tax Capacity Percentages		
1st \$68,000		2.17%
\$68,000 - \$100,000		2.50%
Over \$100,000		3.30%
 Assessed Value	 \$14,800	
 Gross Tax Capacity		 \$1,776

FARM HOMESTEAD EXAMPLE

	Taxes Payable	
	1988	1989
Market Value		
House/Garage/1Acre	\$ 50,000	\$ 50,000
Bldgs/Land to 320 Acres	\$200,000	\$200,000
Land Over 320 Acres	<u>\$ 60,000</u>	<u>\$ 60,000</u>
Total Market Value	\$310,000	\$310,000
Assessed Value Percentages		
1st \$66,000	14%	
Over \$66,000	18%	
Gross Tax Capacity Percentages		
1st \$65,000		
House/Garage/1 Acre		1.75%
Bldgs/Land to 320 Acres		1.75%
Land Over 320 Acres		1.75%
Over \$65,000		
House/Garage/1 Acre		2.20%
Bldgs/Land to 320 Acres		2.25%
Land Over 320 Acres		2.25%
Assessed Value	\$ 53,160	
Gross Tax Capacity		\$ 6,650

COMMERCIAL PREFERRED PARCEL EXAMPLE
--

	<u>Taxes Payable</u>	
	<u>1988</u>	<u>1989</u>
Market Value	\$250,000	\$250,000
Assessed Value Percentages		
1st \$60,000	28%	
Over \$60,000	43%	
Gross Tax Capacity Percentages		
1st \$100,000		3.30%
Over \$100,000		5.25%
Assessed Value	\$ 98,500	
Gross Tax Capacity		\$ 11,175

SEASONAL CABIN EXAMPLE

	<u>Taxes Payable</u>	
	<u>1988</u>	<u>1989</u>
Market Value	\$ 50,000	\$ 50,000
Assessed Value Percentage	21%	
Gross Tax Capacity Percentage		2.30%
Assessed Value	\$ 10,500	
Gross Tax Capacity		\$ 1,150

TAX AND CREDIT CALCULATION EXAMPLES

RESIDENTIAL HOMESTEAD EXAMPLE

	<u>UP TO \$68,000 MKT VALUE</u>	<u>OVER \$68,000 MKT VALUE</u>	<u>TOTAL</u>
1. Market Value	\$68,000	\$12,000	\$80,000
2. Gross Tax Capacity	\$ 1,476	\$ 300	\$ 1,776
3. Tax Capacity Tax Extension Rates			
A. County	37.145%	37.145%	37.145%
B. Township	5.247	5.247	5.247
C. School District	60.368	60.368	60.368
D. Special Taxing District	2.222	2.222	2.222
E. Total Rate	104.982%	104.982%	104.982%
4. Tax Before Credits*			
A. County	\$ 548.26	\$111.44	\$ 659.70
B. Township	77.45	15.74	93.19
C. School District	891.03	181.10	1,072.13
D. Special Taxing District	32.80	6.67	39.47
E. Total Tax Before Credits	\$1,549.54	\$314.95	\$1,864.49
5. Homestead Credit **	725.00		725.00
6. Tax After Credits	\$ 824.54	\$314.95	\$1,139.49

*Gross tax capacity multiplied by tax capacity tax extension rates.

**54% of qualifying tax on first \$68,000 of market value with a maximum credit of \$725.

FARM HOMESTEAD EXAMPLE

1. Gross Tax Capacity

A. 1st \$65,000	
1) House/Garage/1 Acre	\$ 875
2) Bldgs/Land to 320 Acres	262
3) Land over 320 Acres	-
B. Over \$65,000	
1) House/Garage/1 Acre	-
2) Bldgs/Land to 320 Acres	\$ 4,163
3) Land over 320 Acres	1,350
C. Total	
1) House/Garage/1 Acre	\$ 875
2) Bldgs/Land to 320 Acres	4,425
3) Land over 320 Acres	<u>1,350</u>
4) Total Tax Capacity	\$6,650

2. Tax Capacity Tax Extension Rates

A. County	37.145%
B. Township	5.247
C. School District	60.368
D. Special Taxing District	<u>2.222</u>
E. Total Rate	104.982%

3. Tax Before Credits

A. House/Garage/1 Acre	\$ 918.59
B. Bldgs/Land to 320 Acres	4,645.45
C. Land over 320 Acres	<u>1,417.26</u>
D. Total Tax Before Credits	\$6,981.30

4. Agricultural Credit

A. House/Garage/1Acre	NA
B. Bldgs/Land to 320 Acres (3B X 36%)	\$ 1,672.36
C. Land over 320 Acres (3C X 26%)	<u>368.49</u>
D. Total Agricultural Credit	\$2,040.85

5. Tax After Ag Credit (3D - 4D) **\$4,940.45**

6. Homestead Credit (5 X 54%, Max \$725) **725.00**

7. Tax After Credits (5 - 6) **\$4,215.45**

COMMERCIAL PREFERRED EXAMPLE

1. Gross Tax Capacity

A. 1st \$100,000	\$ 3,300
B. Over \$100,000	<u>7,875</u>
C. Total Tax Capacity	\$ 11,175

2. Tax Capacity Tax Extension Rates

A. County	37.145%
B. Township	5.247
C. School District	60.368
D. Special Taxing District	<u>2.222</u>
E. Total Rate	104.982%

3. Tax Extension

A. County	\$ 4,150.95
B. Township	586.35
C. School District	6,746.12
D. Special Taxing District	<u>248.31</u>
E. Total Tax	\$11,731.73

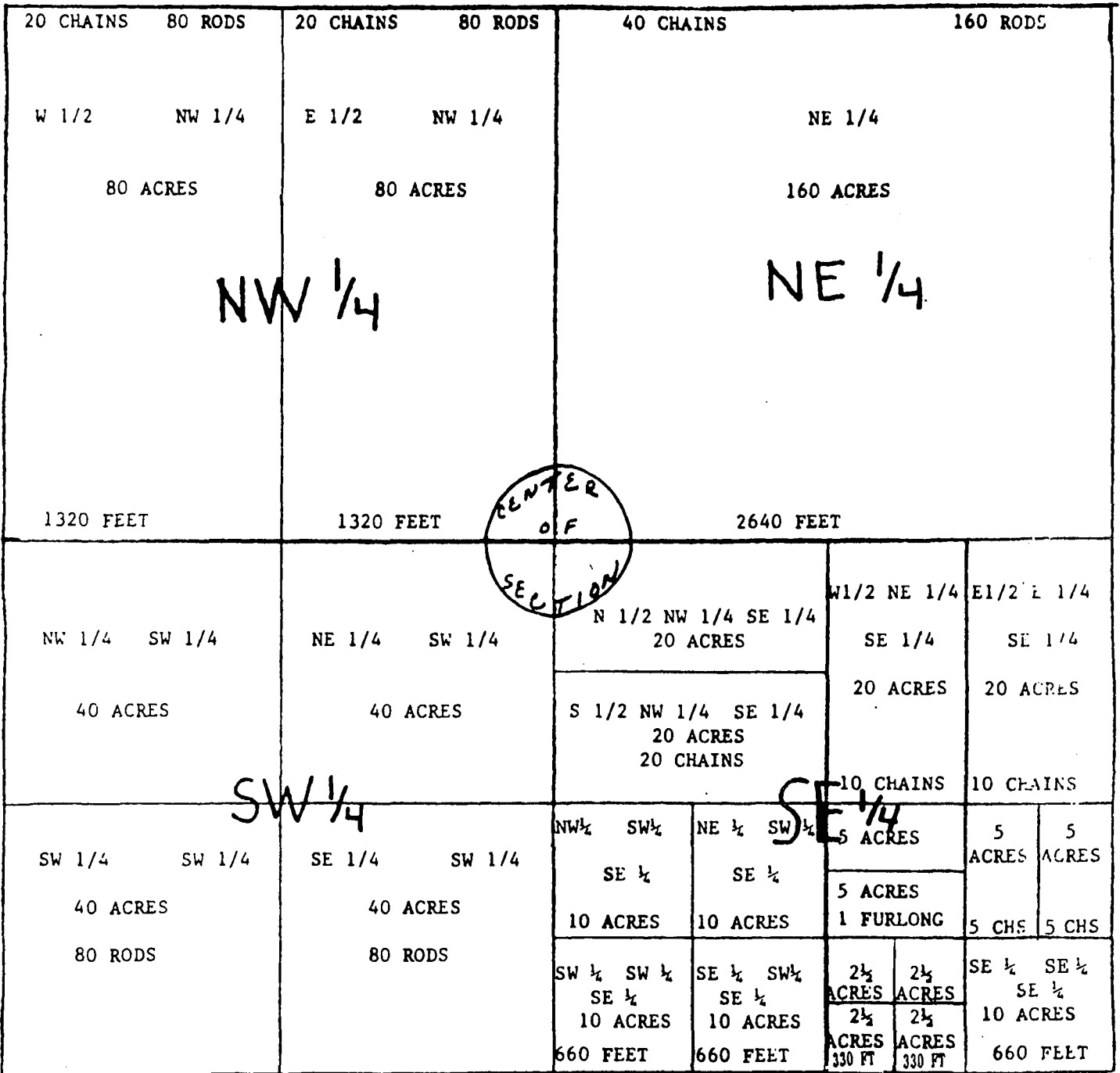
The small business credit is no longer in effect beginning with taxes payable in 1989.

SEASONAL CABIN EXAMPLE

1. Gross Tax Capacity	\$ 1,150
2. Tax Capacity Tax Extension Rates	
A. County	37.145%
B. Township	5.247
C. School District	60.368
D. Special Taxing District	<u>2.222</u>
E. Total Rate	104.982%
3. Tax Extension	
A. County	\$ 427.17
B. Township	60.34
C. School District	694.23
D. Special Taxing District	<u>25.55</u>
E. Total Tax	\$1,207.29

The agricultural credit is no longer given to seasonal recreational (cabin) properties beginning with taxes payable 1989.

LAND AREA CHART & TABLE



1 SECTION OF LAND CONTAINS 1 SQ. MILE OR 640 ACRES

1 ACRE = 43,560 SQ. FEET

1 ROD = 16 1/2 FEET

1 ACRE = 160 SQ. RODS

1 LINK = 7.92 inches

1 ACRE IS ABOUT 208-3/4 FEET SQUARE

5 1/2 YARDS = 25 LINKS

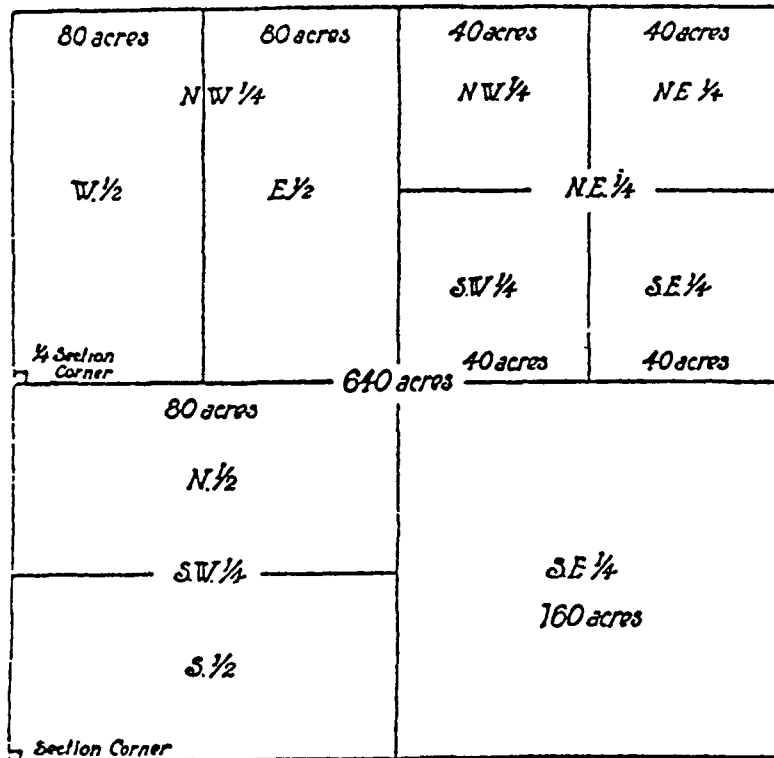
1 ACRE IS 8 RODS X 20 RODS OR ANY TWO NUMBERS OF RODS WHOSE PRODUCT IS 160

1 CHAIN = 66 FEET = 4 RODS = 100 LINKS

1 SQ. ROD = 272-1/2 SQ. FEET = 30 1/2 SQ. YARDS

1 MILE = 8 FURLONGS = 320 RODS = 80 CHAINS = 5,280 FEET

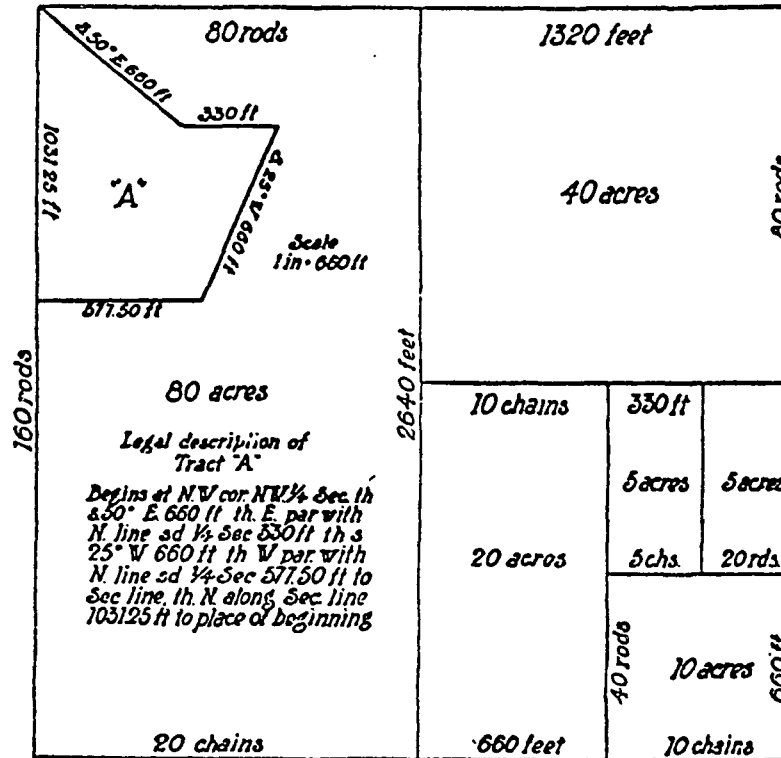
SUBDIVISION OF A SECTION



LINEAL MEASURE

- | | |
|-------------------------|--|
| 12 inches make 1 foot. | 7.92 inches equals 1 link. |
| 3 feet make 1 yard. | 25 links or 10 1/4 feet equals 1 rod. |
| 5 1/2 yards make 1 rod. | 4 rods or 60 feet or 100 links equals 1 chain. |
| 320 rods make 1 mile. | 80 chains or 5280 feet equals 1 mile. |

DIAGRAM OF A QUARTER SECTION



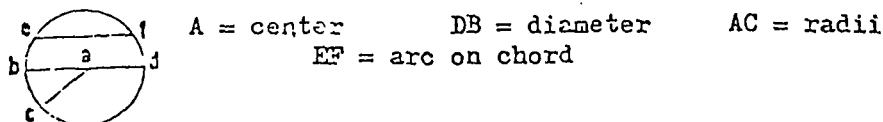
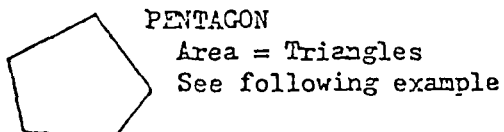
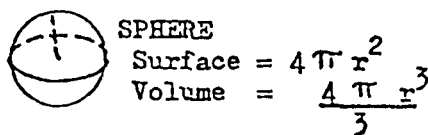
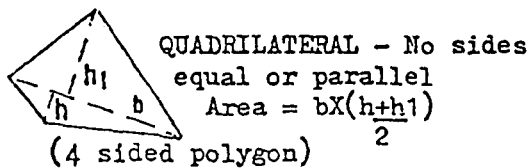
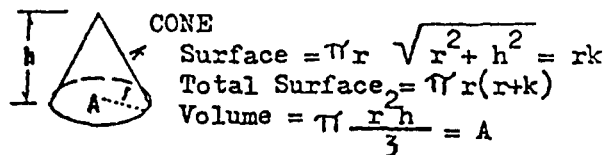
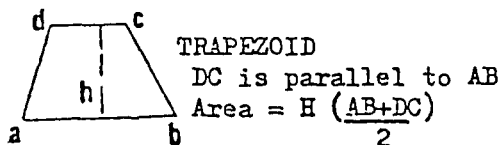
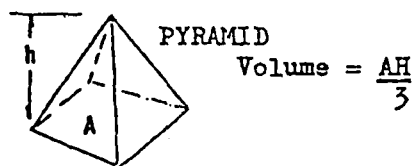
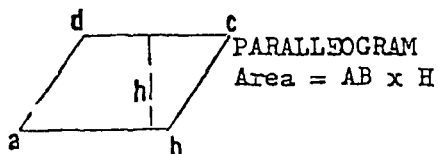
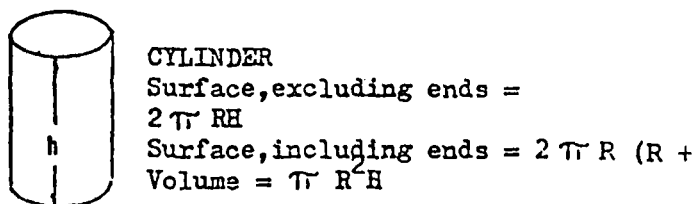
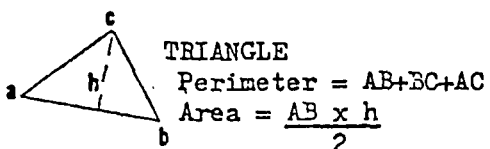
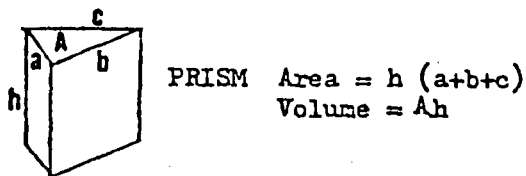
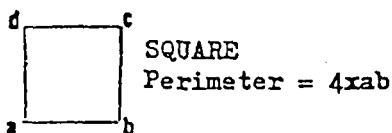
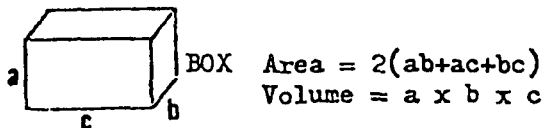
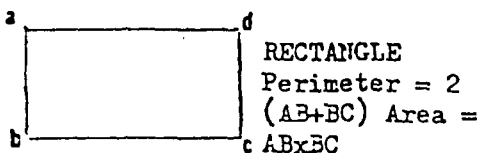
LAND OR SQUARE MEASURE

- | | |
|------------------------------------|--|
| 144 square inches make 1 sq. ft. | 1 acre makes 43,560 square feet. |
| 9 square feet make 1 sq. yd. | 1 acre makes 10 square chains. |
| 36 square yards make 1 sq. rd. | 1 acre makes 100 square rods. |
| 40 square rods make 1 rood. | 1 acre is 3 rods wide by 20 rods long or any two numbers (of rods) whose product is 160. |
| 4 rods make 1 acre. | |
| 640 acres make 1 sq. mi. or 1 Sec. | |
| 36 square miles make 1 township. | |

AREAS UNDER GOVERNMENT SURVEY METHOD OF LAND DESCRIPTION

ILLUSTRATION

CALCULATION OF AREAS AND VOLUMES



WORDS AND PHRASES

Consider these words which are used interchangeably and yet they are not strictly synonymous.

Adjacent— lying near or close to; implies that the two objects are not widely separated although they may not actually touch.

Adjoining— touching or contiguous as distinguished from lying near to or adjacent.

Contiguous— in close proximity; near, though not in contact; neighboring; adjoining; in actual close contact; touching; bounded or traversed by.

Contiguity— one parcel contacting another.

Coincident with— assures the conveyance of the meaning of constant and continuous contact along the line.

These two words are sometimes interchanged or used with the idea of carrying the same meaning when they have different meanings.

Conveyed— to impart or communicate by statement; to transfer or deliver to another.

Described— to represent or give an account of in words; to trace or traverse the outline.

A single word used in a collective sense to cover an aggregate total distance of several segments.

Along— by, on, or over;

WORDS AND PHRASES

These words have been cited in many cases as being determinative of a boundary by exclusion.

Between, by, from, on, to— establishes a limit to the subject property.

Due vs. True

"True"— is referred to as the direction of cardinal lines and is considered to be an astronomical direction.

"Due"— a general, rather than a finite, direction.

A word too often used in describing a strip of land.

Either— indicates a choice of one thing or another.

These words were used together or interchangeably in the old days, but they are not synonymous today.

Excepting— to pick out or leave out; or exclude; to omit; a cutting off of a portion of that which has been described.

Reserving— taking and keeping a certain right from a part of the whole area which has been given in the deed; the act or fact of a grantor's reserving some new thing out of the thing granted.

Phrases often used in writing legal descriptions.

"Except the interest in"— an interest which you do not wish to classify in that particular area.

WORDS OR PHRASES

"Front and Rear"— are not satisfactory words to use because of their indefiniteness.

"In a straight line"— is usually an unnecessary statement because it describes the shortest distance between two points; an exception might be if one was following a fence line which was not straight and you wanted to be certain that the described line followed on a straight course between angle points rather than the wandering fence.

"More or less"— is used where one knows, or strongly suspects from extrinsic evidence, that there is a problem; it has not value or meaning whatsoever.

Additional words used in writing legal descriptions:

Parallel— extending in the same direction, everywhere equidistant, and not meeting.

Point— the end of a line.

Prolongation— projection, extension, or continuation.

Right or left— the use of these words are not desirable from the stand point of safety or even clarification.

Running— it adds nothing to the meaning of the description; it would be well to omit it in inclusion.

Said and aforesaid— unnecessary repetition is prevented by these words; they refer to an immediately preceding matter of the same subject and never to a subsequent matter.

WORDS AND PHRASES

Subject to— refers to an already existing, a previously created, situation.

Thereof— refers to a previous item in the description.

* Watles, Gurdon H. Writing Legal Description. Orange, California: Parker and Son, Inc., 1979.

ASSESSMENT-APPRAISAL DEFINITIONS

- ACCRUED DEPRECIATION** - The difference between reproduction cost new or replacement cost of the improvements and the present worth of those improvements, both measured as of the date of appraisal. In measuring accrued depreciation, the appraiser is interested in identifying and measuring the loss in utility experienced by the subject structure in its present condition, as compared to the utility it would have as a new improvement representing the highest and best use of the site. Accrued depreciation is sometimes referred to as diminished utility.
- APPRAISAL** - An estimate or opinion of value. The act or process of estimating value. The resulting opinion of value derived from the appraisal may be informal, transmitted orally; or it may be formal, presented in written form. Usually it is a written statement setting forth an opinion of the value of an adequately described property as of a specified date, supported by the presentation and analysis of relevant data. Synonym: Valuation.
- APPRAISER** - One who estimates value; specifically, one who possesses the necessary qualifications, ability, and experience to execute or direct the appraisal of real or personal property. See also Professional Appraiser.
- APPRECIATION** - Increase in value due to increase in cost to reproduce, value over the cost, or value at some specified earlier point in time, brought about by greater demand, improved economic conditions, increasing price levels, reversal of depreciating environmental trends, improved transportation facilities, direction of community or area growth, or other factors.
- ARM'S LENGTH** - A transaction freely arrived at in the open market, unaffected by abnormal pressure or by the absence of normal competitive negotiation as might be true in the case of a transaction between related parties.
- ASSESSMENT RATIO** - The ratio of assessed value to some standard of value; usually market value.
- ASSESSMENT ROLL** - The official listing of all property by address and giving the name of taxable owner, legal description, and assessed value. Synonyms: abstract of rateables, assessment book, cadastre, grand list, rendition and tax role.
- ASSESSMENT-SALES RATIO** - The ratio derived by dividing the assessed value by the selling price; used as a measure of assessments to market value.
- BOARD OF EQUALIZATION** - A nonjudicial board whose function is to review assessments to see that all districts are assessed at a uniform level of value; to raise or lower the assessments to achieve this purpose, so that a uniform basis of taxation is achieved. Also referred to as Board of Tax Review, Board of Appeals.
- CAPITALIZATION RATE** - The sum of Discount Rate and a Capital Recapture Rate. It is applied to any income stream with a finite term over which the invested principal is to be returned to the investor or lender. The term "Capitalization Rate" (Cap Rate) has been traditionally used colloquially in reference to overall rate. Proper terminology would distinguish between these two terms and avoid the colloquial usage of the term "Cap Rate."
- CERTIFICATE OF TITLE** - A document usually given to a home buyer with the deed, stating that the title to the property is clear. It is usually prepared by an attorney or qualified person who has examined the abstract of title for the property. It is only an opinion that title is good; not to be confused with title insurance.
- CIRCUIT BREAKER** - In property taxation, a method of effecting property tax relief for the elderly and/or poor rebating to qualifying taxpayers, by income tax credits or cash payments, that portion of the taxpayers' property tax payments which exceeds a certain percentage of the taxpayers' incomes. Usually limited to tax relief for residential property taxes, and may apply to both homeowners and renters.
- COEFFICIENT OF DISPERSION** - In Statistics, the ratio of a measure of absolute dispersion to an appropriate average usually expressed as a ratio of the standard deviation to the mean. A measure of relative dispersion. In assessment administration, the median is frequently the "average" for which a coefficient of dispersion is calculated. Sometimes referred to as an "index of assessment inequality" or the "Russell Index." See also Coefficient of Variation.
- CONDEMNATION** - The act of government (federal, state, county, municipal), and of duly authorized units of government and public utility companies invested with right of eminent domain, to take private property for public use and benefit, upon the payment of just compensation. It is the act of the sovereign in substituting itself in place of the owner and/or the act of taking all or a part of the rights of an owner.
- CONDOMINIUM** - A form of fee ownership of whole units or separate portions of multi-unit buildings by statute which provides the mechanics and facilities for formal filing and recording of a divided interest in real property, where the division is vertical as well as horizontal. Fee ownership of units in a multi-unit property and joint ownership of the common areas. Not to be confused with "Cooperative."

COST APPROACH - That approach in appraisal analysis which is based on the proposition that the informed purchaser would pay no more than the cost of producing a substitute property with the same utility as the subject property. It is particularly applicable when the property being appraised involves relatively new improvements which represent the highest and best use of the land or when relatively unique or specialized improvements are located on the site and for which there exist no comparable properties on the market.

DATE OF APPRAISAL -

1. The date on which, or as of which, the value estimate applies.
2. Most frequently, the date of inspection for purposes of appraisal, though often fixed at some prior time, or, in the case of proposed construction or development, at some future time when the construction is presumed to be complete.

DEPRECIATION - A loss of utility and hence value from any cause. An effect caused by deterioration and/or obsolescence. Deterioration or physical depreciation is evidenced by wear and tear, decay, dry rot, cracks, encrustations, or structural defects. Obsolescence is divisible into two parts, functional and economic. Functional obsolescence may be due to poor plan, mechanical inadequacy or overadequacy, functional inadequacy or overadequacy due to size, style, age, etc. It is evidenced by conditions within the property. Economic obsolescence is caused by changes external to the property, such as neighborhood infiltrations of inharmonious groups or property uses, legislation, etc. It is the actual decline in market value of the improvement to land from time of purchase to the time of resale. See also Accrued Depreciation, Book Depreciation.

DETERIORATION - Impairment of condition; one of the causes of depreciation, reflecting the loss in value brought about by wear and tear, disintegration, use in service, and the auction of the elements. Also, synonymous with physical depreciation which may be further classified as curable or incurable depreciation. See also Depreciation, Curable Depreciation, Incurable Depreciation.

DIRECT CAPITALIZATION - The conversion of anticipated net income into present value by dividing the income by an appropriate rate which reflects the prevailing relationship of net income to selling price for comparable properties being sold in the open market; an alternate form of direct capitalization is the use of an appropriate "times earnings" multiplier instead of a rate, i.e., the reciprocal of the appropriate rate. Direct capitalization for land utilizes the Discount Rate, while direct capitalization for land and improvements combined uses an Overall Rate.

DIRECT SALES COMPARISON APPROACH - That approach in appraisal analysis which is based on the proposition that an informed purchaser would pay no more for a property than the cost to him of acquiring an existing property with the same utility. This approach is applicable when an active market provides sufficient quantities of reliable data which can be verified from authoritative sources. The direct sales comparison approach is relatively unreliable in an inactive market or in estimating the value of properties for which no real comparable sales data are available. It is also questionable when sales data cannot be verified with principals to the transaction. Also referred to as the Market Comparison or comparative sales (Market Data Approach is obsolete language).

ECONOMIC LIFE - The period over which improvements to real estate contribute to the value of the property. This establishes the capital recovery period for improvements in the traditional residual techniques of income capitalization. It is also used in the estimation of accrued depreciation (diminished utility) in the Cost Approach to value estimation. See also Remaining Economic Life.

ECONOMIC OBSOLESCENCE - Impairment of desirability or useful life arising from factors external to the property, such as economic forces or environmental changes which affect supply-demand relationships in the market. Loss in the use and value of a property arising from the factors of economic obsolescence is to be distinguished from loss in value from physical deterioration and functional obsolescence, both of which are inherent in the property. Also referred to as Locational or Environmental Obsolescence.

EFFECTIVE AGE - As applied to a structure, the age of a similar structure of equivalent utility, condition, and remaining life expectancy as distinct from chronological age; the years of age indicated by the condition and utility of the structure. If a building has had better than average maintenance, its effective age may be less than the actual age; if there has been inadequate maintenance, it may be greater. A 40-year old building may have an effective age of 20 years due to rehabilitation or modernization.

EQUALIZATION - The adjustment of assessed valuations of real property in a particular area to establish a more equitable division of the total tax burden within the area.

FARM INCOME - The sum of the annual receipts from sales, miscellaneous farm receipts, increase in farm inventory, and the value of living from the farm furnished to the operator, his family, and hired laborers.

FARM NET INCOME - The compensation, including the value of family living from the farm, for farm capital, and for labor and management of the operator. It is derived by deducting farm expenses from gross farm income.

FUNCTIONAL CURABLE OBSOLESCENCE - Functional obsolescence which may be corrected or cured when the cost of replacing the outmoded or unacceptable component is at least offset by the anticipated increase in utility, and hence ultimately in value, resulting from the replacement.

FUNCTIONAL INCURABLE OBSOLESCENCE - Functional obsolescence that results from structural deficiencies or superadequacies that the prudent purchaser or owner would not be justified in replacing, adding or removing, because the cost of effecting a cure would be greater than the anticipated increase in utility resulting from the replacement, addition or removal.

FUNCTIONAL OBSOLESCENCE - Impairment of functional capacity or efficiency. Functional obsolescence reflects the loss in value brought about by such factors as overcapacity, inadequacy, and changes in the art, that affect the property item itself or its relation with other items comprising a larger property. The inability of a structure to perform adequately the function for which it is currently employed.

GROSS INCOME (RENT) MULTIPLIER - The relationship (ratio) between sales price (value) and either Potential Gross Income or Effective Gross Income - these relationships are not to be intermingled, i.e., there must be consistency in the method of computing multipliers used for analysis. It is used to estimate value as a multiple of annual income (potential or effective).

HIGHEST AND BEST USE - That reasonable and probable use that will support the highest present value, as defined, as of the effective date of the appraisal. Alternatively, that use, from among reasonably probable and legal alternative uses, found to be physically possible, appropriately supported, financially feasible, and which results in highest land value.

The definition immediately above applies specifically to the highest and best use of land. It is to be recognized that in cases where a site has existing improvements on it, the highest and best use may very well be determined to be different from the existing use. The existing use will continue, however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use. See Interim Use.

Implied within these definitions is recognition of that specific use to community environment or to community development goals in addition to wealth maximization of individual property owners. Also implied is that the determination of highest and best use results from the appraiser's judgement and analytical skill, i.e., that the use determined from analysis represents an opinion, not a fact to be found. In appraisal practice, the concept of highest and best use represents the premise upon which value is based. In the context of most probable selling price (market value) another appropriate term to reflect highest and best use would be most probable use. In the context of investment value an alternative term would be most profitable use.

INCOME APPROACH - That procedure in appraisal analysis which converts anticipated benefits (dollar income or amenities) to be derived from the ownership of property into a value estimate. The income approach is widely applied in appraising income-producing properties. Anticipated future income and/or reversions are discounted to a present worth figure through the capitalization process.

LOCATIONAL (EXTRINSIC) OBSOLESCENCE - That loss in value experienced by a structure as a result of negative environmental forces outside the boundaries of the property. Is also known as environmental obsolescence or economic obsolescence.

MARKET VALUE - The highest price in terms of money which a property will bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller, each acting prudently, knowledgeably and assuming the price is not affected by undue stimulus.

Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. buyer and seller are typically motivated.
2. both parties are well informed or well advised, and each acting in what he considers his own best interest.
3. a reasonable time is allowed for exposure in the open market.
4. payment is made in cash or its equivalent.
5. financing, if any, is on terms generally available in the community at the specified date and typical for the property type in its locale.
6. the price represents a normal consideration for the property sold unaffected by special financing amounts and/or terms, services, fees, costs, or credits incurred in the transaction.

NET OPERATING INCOME (NOI) - Annual net income remaining after deducting all fixed and operating expenses but before deducting financial charges such as recapture or debt service; same as annual dividend. In mortgage-equity formulas, designated by the symbol *d*. Sometimes referred to as Net Income Before Recapture (NIBR) or Net Income Before Depreciation (NIBD).

OBSERVED CONDITION METHOD - A method of estimating accrued depreciation which considers and estimates separately the deductions for physical deterioration, functional obsolescence and economic obsolescence. The several estimates are then added to provide a lump-sum deduction from reproduction cost new.

OBSERVED DEPRECIATION - Signifies the loss in utility and value of a property, as compared with a new property or one capable of rendering maximum benefits, the estimate of which is based upon direct inspection, detailed estimates of accrued deterioration, studies of functional deficiencies, and other observable conditions affecting the property and its desirability.

OVERALL RATE - The direct ratio between Annual Net Operating Income (NOI) and Value or Sales Price. Denoted by symbol R or the formula d/V in the Ellwood formulation.

PHYSICAL CURABLE DETERIORATION - Physical deterioration which the prudent buyer would anticipate correcting upon purchase of the property. The cost of effecting the correction or cure would be no more than the anticipated addition to utility, and hence ultimately to value, associated with the cure. Curable physical deterioration is frequently termed "deferred maintenance" or rehabilitation, because these terms reflect the type of activity typically associated with correcting the condition.

PHYSICAL INCURABLE DETERIORATION - Physical deterioration which in terms of market conditions as of the date of the appraisal is not feasible or economically justified to correct. The cost of correcting the condition or effecting a cure is estimated to be greater than the anticipated increase in utility, and hence ultimately in value, of the property that will result from correcting or curing the condition. For purposes of appraisal analysis, incurable physical deterioration may be divided into short-lived and long-lived elements.

PRINCIPLE OF ANTICIPATION - Market value is the present worth of all the anticipated future benefits to be derived from the property. The benefits may be in the form of an income stream or amenities. Anticipated future benefits are those benefits anticipated by the market. The assessor should not allow personal opinion to influence the determination of anticipated future benefits. Past sales of the property and past income are of importance only when they are an indication of what may be expected in the future. The principle of anticipation works in conjunction with the principle of change.

PRINCIPLE OF BALANCE - The principle of balance has dual significance. When applied to an individual property, the principle states that maximum market value is reached when the four agents of production - labor, coordination or management, capital, and land - attain a state of equilibrium. In the case of individual properties, the principle works in conjunction with the principles of contribution, increasing and decreasing returns, and surplus productivity. When applied to a neighborhood, the principle of balance indicates that maximum market value is reached when the complementary uses of land attain an equilibrium. For example, a single-family residential neighborhood requires commercial facilities such as grocery stores, gasoline stations, drugstores, and so forth. It also needs residential support facilities such as churches, schools, recreational facilities, and the like. When these complementary uses are in balance, the individual properties (and the neighborhood) achieve maximum market value. When the principle of balance is applied to a neighborhood, it works in conjunction with the principle of competition.

PRINCIPLE OF CHANGE - This principle states that market value is never constant, because economic, social, and government forces are at work to change the property and its environment. In addition, property itself is constantly changing. For example, the quality of the soil can be changed by the forces of nature, and improvements changed by aging. Because change is continuous, the estimate of market value is valid only on the day it is made. The principle of change works in conjunction with the principle of anticipation.

PRINCIPLE OF COMPETITION - The principle states that when substantial profits are being made, competition is created. This leads to the aphorism that profit tends to breed competition and that excess profit breeds ruinous competition. A neighborhood can support only a certain number of bowling lanes, department stores, gasoline service stations, and shopping centers. An excess of any one type of facility will tend to decrease the value of most, if not all, other such facilities.

PRINCIPLE OF CONFORMITY - This principle states that maximum market value is reached when a reasonable degree of economic and social homogeneity is expected in the foreseeable future. When the principle is applied to improvements, reasonable homogeneity implies reasonable similarity, not monotonous uniformity. When it is applied to the residents, it means similarity in age, income, background, education, attitudes, and so on. Conformity works in conjunction with the principles of progression and regression.

PRINCIPLE OF CONSISTENT USE - This principle states that the property must be valued with a single use for the entire property. It is improper to value a property on the basis of one use for the land and another use for the improvements. This is not to say that consecutive uses for the entire property would violate the principle of consistent use. The principle of consistent use is especially applicable to a property in transition from one use to another. While the improvements on a parcel ready for a higher use may theoretically have a long physical life, their economic life may have already terminated. In this case the improvements may have a negative value, namely, the cost of demolition.

PRINCIPLE OF CONTRIBUTION - This principle states that the value of an agent of production (or a property component) depends upon its contribution to the whole. This is another way of saying that cost does not necessarily equal value. This principle is the basis for the adjustment process of the comparative sales approach to value and the direct sales comparison method of land valuation, for determining whether physical deterioration and functional obsolescence are curable or incurable, and for justifying remodeling and modernization. The principle of contribution works in conjunction with the principle of balance, increasing and decreasing returns, and surplus productivity.

PRINCIPLE OF INCREASING AND DECREASING RETURNS - This principle states that when successive increments of one agent of production are added to fixed amounts of the other agents, future net benefits (income or amenities) will increase up to a certain point (point of decreasing returns), after which successive increments will decrease future net benefits.

PRINCIPLES OF PROGRESSION AND REGRESSION - Progression indicates that the value of a less object is enhanced by association with better objects of the same type. For example, a \$12,000 house among \$25,000 homes could probably bring a higher price in the market. The principle of regression states that when there are dissimilar properties within the same general classification and in the same area, the better property will be adversely affected. Thus, when a \$50,000 house is located in an area where the typical home is in the \$25,000 category, the market value of the former will tend to fall. The \$50,000 house in this example, is an overimprovement for the neighborhood. The principles of progression and regression work in conjunction with the principle of conformity.

PRINCIPLE OF SUBSTITUTION - A property's market value tends to be set by the cost of acquiring an equally desirable and valuable substitute property, assuming that no costly delay is encountered in making the substitution. This principle serves as the basis of the three approaches to value - cost, comparative sales, and income.

PRINCIPLE OF SUPPLY AND DEMAND - This principle states that market value is determined by the interaction of the forces of supply and demand. A sudden increase in the population of an area would increase demand. If, at the same time, mortgage interest rates rose sharply, demand might lessen.

PRINCIPLE OF SURPLUS PRODUCTIVITY - This principle states that the net income remaining after the cost of the agents of production - labor, coordination, and capital - has been paid is considered surplus productivity. The surplus productivity is the income earned by the land. The agents in production must be satisfied in the following order: Labor (wages), coordination (management), capital (improvements), and land. As a result, land value tends to be set by the cost of labor, coordination, and capital. The principle of surplus productivity works in conjunction with the principals of balance, contribution, and increasing and decreasing returns.

PROPERTY - Any object that may be lawfully acquired or owned which may normally, but not necessarily, have value.

A group of rights inhering in a party's relation to the physical thing, as the right to possess, use, and dispose of it.

Property is a bundle of rights which, collectively, is designated as the fee simple. The right to the future benefits of economic goods - material and non-material - as determined by law. Although, technically, the term means a right or interest in things rather than the things themselves, common usage makes it applicable to the things rather than to the right or interest.

PROPERTY TAX - In general, a tax levied on any kind of property; that is, both real and personal.

REMAINING ECONOMIC LIFE - The number of years remaining in the economic life of the structure or structural component, as of the date of the appraisal.

In part a function of the attitudes and reactions of typical buyers in the market, and in part a function of the market reactions to competitive properties on the market.

REPLACEMENT COST - The cost of construction at current prices of a building having utility equivalent to the building being appraised but built with modern materials and according to current standards, design and layout. The use of the replacement cost concept presumably eliminates all functional obsolescence, and the only depreciation to be measured is physical deterioration and economic obsolescence.

REPLACEMENT COST LESS DEPRECIATION - The cost of replacement new at current prices less a deduction for depreciation. The deduction for depreciation is the total loss in value arising from physical, functional, and economic causes. It may be greater or less than that indicated by use of age-life guides; for example, the straight line method.

REPRODUCTION COSTS - The cost of construction at current prices of an exact duplicate or replica using the same materials, construction standards, design, layout, and quality of workmanship, embodying all the deficiencies, superadequacies and obsolescence of the subject building.

SQUARE FOOT COST

1. The result obtained by the division of the actual or estimated cost of a building by its gross floor area, or by the division of the actual or estimated cost of land improvement by its square foot area.
2. The unit (in terms of money) which, multiplied by the number of square feet in a building or land improvement, results in the actual or estimated cost.

UNITS OF COMPARISON - The reduction of properties to appropriate units in terms of which comparisons of otherwise not directly comparable properties can be made. These units of comparison can then be applied to individual properties to formulate estimates of value, income, cost, etc. Ideally, they should represent units in terms of which properties are in fact sold, rented, built, or valued.

VALUATION PRINCIPLES - Economic principles or laws concerning value which are applicable in the valuation of real property. Significant ones include: anticipation, supply and demand, change, substitution, highest and best use, increasing and decreasing returns, competition, contribution, conformity. (See Principles)

WARRANTY DEED - A deed conveying to the grantee title to the property free and clear of all encumbrances, except those specifically set forth in the document.

ZONING - The public regulation of the character and intensity of the use of real estate through employment of police power. This is accomplished by the establishment of districts or areas in each of which uniform restrictions relating to improvements, structure heights, areas, bulk, density of population, and other limitations are imposed upon the use and development of private property.

DEFINITIONS OF COMMONLY USED TERMS OF REAL ESTATE

Abandonment - A voluntary act of relinquishing a right to ownership. Giving up entirely without any intention of regaining possession or interest at a later time. Renunciation.

Abstract: Abstract of Title - A summarized, chronological compilation of all the recorded instruments and a history of ownership that has affected the title to a specific piece of land. A synopsis of its recorded documents. Also called Chain of Title.

Acknowledgement - The formal certification of a signature on a document before an authorized officer, such as a notary public or county clerk. A verification that the document which has been signed is that person's willful act and deed.

Acre - A measure of land equaling 160 square rods or 4840 square yards or 43,560 square feet.

Acreage - Unsubdivided land which is customarily measured in terms of acres rather than front feet or square feet.

Addition - A term sometime used to denote a subdivision.

Ademption - The disposal of specific property by a living person who has bequeathed the property in his will.

Adjacent - Lying near or close to; implies that the two objects are not widely separated although they may not actually touch.

Adjoining - Contiguous; attaching, an actual contact with

Adverse possession - The acquiring of property by one who does not have title or who has defective title, to it. That person must be in "actual, open, notorious, exclusive, and continuous" occupancy for a prescribed statutory period.

Affidavit - A written statement made under oath before a notary public or official qualified to administer oaths.

Agreement of Sale - The word agreement is identical in meaning with the work contract.

Along - by, on, or over;

Amortization - Paying back a debt by installment payments.

Annuity - A regular payment of a sum of money, monthly, quarterly or annually, which is protected or guaranteed in some manner so that the receiver can feel reasonably secure that he will receive the agreed payments for the agreed term.

Appurtenance - Something which is outside the property itself but belongs to the land and adds to its greater enjoyment, such as a right of way.

Arm's Length - A term which clearly implies that a person should approach all business and real estate transactions with due caution.

As Is - When these words are inserted in any contract, they mean that no guarantees whatsoever are given regarding the subject property. It is being conveyed in exactly the condition in which it is found.

Assemblage - The assembly of adjacent parcels of land into a single unit.

Assignment - Transfer of title or interest in writing from one person or group to another.

Assumption of Mortgage - Taking title to property that has an existing mortgage, and being personally liable for its payments.

Attachment - The taking of a debtor's property into legal custody.

Attorney-in-Fact - One who has the written authority of another to act in his place. This authority is limited by the extent of the written instrument appointing him. One need not be a lawyer to be an attorney in fact. Also called a power of attorney.

Balloon Mortgage - A mortgage that provides for periodic payments which do not completely amortize the loan at the time of its termination. As a consequence, a larger final payment becomes due.

Between, by, from, on, to -establishes a limit to the subject property.

Bilateral Contract - A term used to indicate that both principals have mutually agreed upon and have fully executed a contract, and are bound to fulfill its terms and conditions.

Bill of Sale - An instrument used in a real estate transaction when items other than real property are included in a sale. Furniture, fixtures, appliances, merchandise, and similar items of personalty are found in a bill of sale.

Binder - A preliminary agreement in writing, with a valuable consideration given, as evidence of good faith by the officer. It is an offer to purchase; an unilateral contract. Upon acceptance, it becomes a bilateral contract.

Blanket Mortgage - A mortgage which is a lien upon more than on parcel of real estate.

Bona-Fide - Made with sincere, good intentions. Honestly and openly done.

Bond - A formal instrument, usually under seal, acknowledging receipt of a loan and agreeing to repay it.

Breach of Contract - Not living up to the terms and conditions of a contract; refused to carry out the provisions therein. Failure to perform without legal

justification.

Business Trust - An unincorporated business association in which title to property is given to trustees to hold, manage, or sell. It is similar to the usual corporate organization in that a transferable certificate is issued to a shareholder, but unlike a corporate, the trustees must be principals and hold office in the trust on a permanent basis.

Certificate of Title - A document issued by a title company or an opinion rendered by an attorney that the seller has good, marketable and/or insurable title to the property.

Chattel - Personal property. Tangible property other than real estate. Chattels are classified as either personal or real: Chattels personal include property that can be transported such as: animals, merchandise, and furniture; Chattels real are any possessory interest in real property such as leases, life estates, estates at will.

Closed-End Mortgage - A mortgage that has no provisions for increasing the balance.

Closing - In real estate contracts this is the time at which the two promises made by the seller and the buyer are to be performed; the buyer is to complete payment to the seller and the seller is to deliver the deed to the buyer.

Cloud on Title - An apparent defect on the chain of ownership documents or an apparent encumbrance on the title. Until it is established that the apparent situation is not real, it will normally justify a buyer in refusing to accept the seller's title. When the apparent defect is shown to be a real defect then it becomes a flaw in the title. An example of a cloud would be a very old mortgage which had not been satisfied on the record.

Coincident with - Assures the conveyance of the meaning of constant and continuous contact along the line.

Commitment - An agreement or contract. It is used for agreements to make mortgage loans and in real is seldom used in any other sense.

Completion Bond - A performance bond posted by a contractor as a guarantee that he will satisfactorily complete a project and that it will be free of any liens. It is also called a performance bond.

Considerations - A promise made or an act performed by one contracting party in exchange for the promises of the other party. Consideration must be of value but the consideration on each side need not be equally valuable or even nearly so.

Constructive - A legal declaration or interpretation. Constructive notice, for example, is notification by recording documents in public records. Constructive possessions is having legal possession by virtue of title, but not necessarily occupying the property.

Contiguity - One parcel contacting another.

Contiguous - In close proximity; near, though not in contact; neighboring; adjoining in actual close contact; touching; bounded or traversed by.

Contract - A requested promise or act that traditionally contains the following elements: an offer, an acceptance, legal object, competent parties, and consideration.

Continuance - The up-dating of an abstract, noting changes in ownership, new liens and encumbrances.

Conventional Loan - The type of mortgage loan that is customarily granted by a bank or savings and loan association. A loan based on real estate as security.

Conveyance - An instrument, in writing, used to transfer title to property from one to another. A contract and deed are two familiar forms of conveyances.

Conveyed - To impart or communicate by statement; to transfer or deliver to another.

Covenant - An agreement between parties, written into legal instruments, promising to do or refrain from doing certain acts.

Curtesy - A husband's interest for the duration of his life in his wife's estate.

Declaratory Judgement - 1. A binding legal decree. 2. In real estate it is the court ruling sought by a third party holding money in trust, when a dispute concerning it arises between the principals.

Deed - A written instrument by means of which ownership of real property is transferred. The transferor is termed the grantor, the transferee the grantee. The grantor must sign and acknowledge the instrument before a notary public and deliver it to the grantee. It must contain a description which will identify the property; it must contain words of conveyance. There are four kinds of deeds in common use today. They are: Quitclaim Deed; Bargain and Sale Deed; Bargain and Sale Deed with covenants against grantor's acts; and Full Covenant and Warranty Deed.

Quitclaim Deed: This is used if the grantor is uncertain as to what rights he may have or is certain that his rights are limited and he merely wants to grant to the grantee whatever he has.

Bargain and Sale Deed: This basic instrument by which property is transferred. Under ordinary circumstances it gives no greater assurances of the grantor's title than does a quitclaim deed but local statutes would have to be checked to be sure that the use of certain words do not carry with them implied warranties under the provisions of state law.

Bargain and Sale Deed with covenants against grantor's acts: This is sometimes

called a special warranty or limited warranty deed and is the same as the bargain and sale deed with the addition of a warranty that the time of his ownership to adversely affect the title or to encumber it.

Full Covenant and Warranty Deed: Which simply adds to the bargain and sale form full warranties against defective title and against encumbrances.

Deed of Trust - Literally this would be a grant of real property to a trustee to hold for carrying out of the purposes of a trust and the term is sometimes so used but more frequently this kind of deed is called a trust deed in order to distinguish it from the more common use of deeds of trust in place of mortgages.

De Facto - In actual fact. In reality; actually.

Default - Nonperformance of a legally binding promise, such as the buyer's promise to pay the purchase price, the seller's promise to deliver a deed, the mortgagor's promise to repay the mortgage.

Deficiency Judgement - A judgement issued when the security for a loan is insufficient to satisfy the debt upon its going into default.

De Jure - Lawful title. Under authority of law. By right.

Depth, standard - The depth of a lot which is selected as a standard either arbitrarily or because it is representative of the majority of lots within a given area.

Described - To represent or give an account of in words; to trace or traverse the outline.

Devise - A gift or real property by will.

Direct Reduction Mortgage - A mortgage loan in which the periodic payments are applied to the outstanding principal balance. Only when this sum is completely satisfied, is interest or other charges deducted.

Documentary Stamps - A state tax, in the form of stamps, required on deeds and mortgage when real estate title passes from one owner to another.

Dower - The legal rights that a widow possesses to her husband's estate.

Due - A general, rather than a finite, direction.

Earnest Money - A purchaser's partial payment, as a show of good faith, to make a contract binding. A deposit; a down payment.

Easement - A limited right pertaining to one piece of real estate allowing its owners to pass over or use the property of another in a specified way for either a permanent or temporary period of time.

Either - Indicates a choice of one thing or another.

Eminent Domain - The right or power of the state or a public utility to expropriate private property for public use, upon paying just compensation.

Encroachment - An intrusion or infringement upon the property of another without his consent. Encroachments can be written into contract of sale with the buyer aware of, and accepting, the risk.

Encumbrances - A legal right or interest in land that diminishes its value. It can take numerous forms, such as zoning restrictions, easements, claims, mortgages, liens, charges, a pending legal action, unpaid taxes, or in the form of restrictive covenants. It does not prevent transfer of the property to another.

Equity - The difference between the current market value of a property and the liens that exist against it. It can also refer to the difference between the cost of the property and the liens against it.

Estate at Sufferance - This type of estate exists when one who was rightfully in possession or had lawful title, keeps it beyond the termination period of the agreement or after title was vested in another.

Estate at Will - An estate indefinite duration allowing the lessee possession as long as both lessor and lessee mutually agree to it. If this reciprocal agreement is changed by either party, the estate at will may be terminated.

Estate by Entirety - A single estate held by both husband and wife jointly. An estate in which husband and wife are as one. They are each in possession of the entire estate and when one dies the surviving spouse does not inherit the other's interest, but automatically comes into sole ownership and use.

Estate for Years - An estate established for a definite period of time, longer than a person's lifetime, for a year, or even less.

Estoppel Certificate - Estoppel is stopping or preventing a person from denying a state of facts previously admitted by his own words or acts. In real estate, an estoppel certificate is given by a mortgagor or in some cases by a mortgagee setting forth the balance that the mortgagor or mortgagee admits to be due.

Et Al - The term means "and other" or "and others". It is used in legal documents when a list of names are given that has to be repeated later in the instrument.

Et Uxor - It means "and wife". It frequently is abbreviated et ux.

Except the interest in - An interest which you do not wish to classify in that particular area.

Excepting - To pick out or leave out; or exclude; to omit; a cutting off of a portion of that which has been described.

Fee: Fee Simple: Fee Simple Absolute - All three terms are synonymous and mean that the owner has absolute, good and marketable title to property conveyed to him. It is complete ownership without condition. Fee simple is the largest and highest possible estate one can possess in real estate. The owner of an estate in fee simple has every legal possession with unconditional power and right to dispose of it in his lifetime or retain it for his heirs.

FHA Mortgages - A loan always made either by an institution or approved mortgage company in which the borrower pays for insurance against loss for the benefit of the lender.

Foreclosure - This is the legal proceeding whereby the mortgagee takes over the real property which has been mortgaged to him as security for the loan he made to the original mortgagor.

Freehold - A real estate interest in fee simple or one that is not less than an estate for life. For an estate to be a freehold, it must have (a) the qualities of immobility, meaning land or an interest that is derived from land, and (b) ownership of indeterminate duration.

Front and Rear - Are not satisfactory words to use because of their indefiniteness.

Front Foot - The unit of standard of linear measure used in measuring frontage.

Frontage - The extent of a parcel of land along a street, road, lake, river, or other major feature on which the parcel is said to face.

Good and Marketable Title - These terms have almost exactly the same meaning. A good title is a marketable title. Marketable title is one about which there can be no reasonable doubt.

Government Survey - A ground survey authorized by the Continental Congress in April 1785 and by subsequent congressional acts and conducted in Florida, Alabama, Mississippi, and all states (except Texas) north of the Ohio or west of the Mississippi, in which the land was divided into townships approximately six miles square, each township normally containing 36 sections and each section normally containing 640 acres.

Hard Money - Earnest money; down payment; good faith money.

Hereditament - Property that can be inherited. It may be real, personal, tangible or intangible property, or the combination of these.

Holographic Instrument - An instrument, such as a will, contract for deed completely written in the testor's own hand.

Hypothecate - The pledge of property as security for a debt, without giving up possession of it.

Improvement Assessment - A levy made under the power to tax. The purpose of

this type of levy is to collect, usually in annual installments, the cost of public improvements which benefit particular parcels of real estate.

Impoundment - This word is widely used to describe the reserves to pay taxes, fire insurance premiums, and special assessments collected by mortgagees by monthly payments made by the mortgagors when they pay their monthly installment of interest and principal.

In a straight line - Is usually an unnecessary statement because it describes the shortest distance between two points; an exception might be if one was following a fence line which is not straight and you wanted to be certain that the described line followed on a straight course between angle points rather than the wandering fence.

In-lot - Any lot within an original or subdivision plat other than an outlot.

Incurable Title - A cloud or other encumbrance on the title to property that cannot be removed, consequently preventing the transfer of ownership.

Installment Contract for Sale - There is no "installment contract" in real estate and all such forms of contract are adaptations of sales contracts to provide for periodic payments by the buyer and to put the buyer in possession.

Insurable Title - This term describes a title to real estate which is acceptable to a title insurance company and on which such a company will issue a policy of insurance. The importance of this term is in contradistinction to a good and marketable title.

Inter-Vivos Trust - A trust formed by living people. It is the opposite of one that is created upon death.

Interim Financing - Short term, temporary financing that is generally in effect during a building's construction or until a permanent, long-term loan can be obtained.

Interstate - A person who dies without having a will.

Joint Tenancy - An estate held by two or more people with equal and undivided interest and ownership. Upon the death of one, his interest automatically passes to the survivor(s).

Judgements - The decision of a court of the respective rights of parties to a law suit. In real estate where a judgement for a sum of money is placed on the record of a county recorder it will be a lien on all the real property of the judgement debtor located in that county but will have no effect whatsoever on the property owned by the debtor in any other county.

Junior Mortgage - A mortgage that is second or third in line to some other lien such as a first mortgage.

Jurat - A clause found at the end of an affidavit, acknowledgment or any other legal instrument stating when, before whom, and where the document was sworn to.

Land - A portion of the earth's surface, together with the earth below it, the space above it, and all things annexed thereto by nature or by man.

Land, Patented - Land formerly owned by a state or national government as part of the original public domain which has been voluntarily conveyed by such government to a private owner by a proceeding authorized by general statute, the conveyance being evidenced by an instrument known as a "land patent."

Land, Platted - Land which has been surveyed and divided into marketable lots delineated upon a plat; applied specially to urban land used or intended for use as building sites.

Land Grant - A gift of government land to a university, public utility, railroad or the like that would be in the best interest and benefit of the general public.

Lease - A lease is any rental agreement. The nature of a rental or lease is that an owner gives possession of his property to a tenant who pays an agreed amount periodically.

Leasehold - This is the tenant's right in real property.

Legal Description - A statement of the locational factors which serve to identify a parcel of land in a manner legally acceptable for conveyance of the property, assessment of property taxes, or other specific purposes.

Legality of Object - Having a legal purpose. It is an essential element of every contract. If the purpose is not legal, a contract is automatically void.

Lien - A right or claim attaching to a specific parcel of real estate. Also known as an encumbrance.

Life Estate - The right to use, occupy or receive the rents from a piece of real estate during the remaining lifetime usually of the owner of the life estate.

Line, Lot - A line bounding a lot.

Line, Property - A line bounding a parcel of land.

Locus Sigilli - Abbreviated "L.S." and found at the end of signature lines on legal documents it means "under seal" or "place of the seal".

Lot - Any one of the marketable parcels into which a tract of land is divided upon platting; applied especially to urban land.

Lot, Corner - A lot located in the angle formed by two intersecting streets.

Lot, Government - One of the non-rectangular areas into which sections not evenly or approximately divisible into square 40 acre tracts were divided in the course of the government survey.

Lot, Inside - A lot sufficiently far from the intersection of any streets to be assumed to be free to corner influence.

Lot, Irregular - A lot which is not rectangular in shape.

Lot, Standard - A lot which is selected as the standard in size, shape, grade, and alley influence, usually because it is representative of the majority of lots within a given area.

Lot, Through - A lot fronting on two streets which are parallel or which run in the same general direction.

Map, Aerial - A map constructed on the basis of aerial photographs.

Map, Lot and Block - A map of an urban area showing the division of land into lots and blocks with dimensions.

Mechanic' Lien - This is a lien created by law and existing in most of the states of the United States for the benefit of workmen and suppliers who have not been paid for work or materials which have benefited a piece of real estate.

Meridian - An imaginary line on the earth's surface running due north and south and used for measuring longitude.

Meridian, Principal - A true meridian from which range lines are established by the government survey. (North and South)

Mets and Bounds - A term used in describing the boundary line of land, setting forth all the boundary line together with their terminal points and angles.

Monument - A natural or artificial object of more or less permanent character, used primarily as a reference point in measuring horizontal distances; established by surveyors to establish land locations.

More or less - Is used where one knows, or strongly suspects from extrinsic evidence, that there is a problem; it has not value or meaning whatsoever.

Mortgage - As a practical matter a mortgage may be said to be a lien on real estate which an owner gives a lender as security for the repayment of the money which the owner borrowed from the lender.

Mortgagee - The one who holds the mortgage as security for the money he has loaned on property.

Mortgagor - The giver of a mortgage as security for money he borrows on his property.

Naked Contract - A contract in which there is no consideration given, and is, therefore, unenforceable.

Note - In real estate this is a negotiable promissory note. It is an instrument acknowledging receipt of a loan and promising to repay it and using words required by the negotiable instruments law.

Notorious Possession - Possession of land that is obvious and common knowledge to the neighbors or the public in general. It is a legal requirement before one can obtain property by Adverse Possession.

Open-End Mortgage - A mortgage which permits the borrower to reborrow the money paid on the principal, usually up to the original amount.

Open Mortgage - 1. A mortgage that can be paid off at any time before maturity without penalty. 2. When mortgage payments are overdue, it is sometimes referred to as an "open mortgage", in that it is open for a foreclosure action.

Opinion of Title - An attorney's opinion as to how good the title to a specified piece of property is after he studies the abstract.

Option - A contract whereby in exchange for some consideration an owner gives a prospective purchaser the right to purchase his property for a specified amount on specified terms within an agreed period of time.

Oral Contract - A contract that may be partly in writing and partly verbal, or one that is completely verbal. They are virtually unenforceable.

Origination Fee - In reference to mortgaging, it is a charge for establishing and processing a new mortgage loan

Outlot - A relatively large lot which is included within the boundaries of an original or subdivision plat but which is expected from the general platting pattern for building lots and is usually intended for occupancy as a truck farm or country estate.

Parallel - extending in the same direction, everywhere equidistant, and not meeting.

Parcel of land - A contiguous urban or rural land area which is considered as a unit, which is subject to single ownership, and which is legally recorded as a single piece.

Passing Title - The change of ownership of real property. A closing. The actual handing over of title to the new owner.

Patent - The instrument by which government lands are granted to private persons under proceedings set forth in the general statutes.

Payment Clause - A clause in a mortgage permitting the mortgagee to pay all or part of the unpaid balance before it becomes due, thereby saving the interest or clearing the way for a new mortgage.

P.I.T.I. - Abbreviation of Principal, Interest, Taxes, and Insurance when stating the monthly carrying charges of a mortgage.

Plat - Any map which is intended to show the division of land into lots or parcels.

Plat, Original - A plat constituting the original plan or layout of a municipality and showing its location and division into blocks and lots.

Plat, Private - A privately prepared plat which has not yet been accepted by the constituted authority.

Plat, Recorded - A plat which has been accepted by the constituted authority and which may henceforth be used as the basis for a legal description of land within its boundaries.

Plat, Subdivision - A plat showing the location of a subdivision and its layout into lots, streets, alleys, etc.

Plat, Township - A plat of a survey township prepared by, or under the direction of, the U.S. General Land Office.

Plat Book - A public record containing maps of land showing the division of such land and indicating the measurements of individual parcels.

Plot - A relatively small area of land.

Plottage - Increment in unity value of a plot of land created by assembling smaller ownerships into one ownership.

Point - A "point" represents 1 percent of the principal amount. The term is most frequently used when referring to mortgage premiums. It is a method used by lenders to obtain additional revenue over the interest rate. Or when using a legal description meaning the end of a line.

Possessory Interest - The rights and interest one has in possessing property; the use, benefits, and enjoyment of it.

Preliminary Sales Agreement - It is actually the contract of sale but it is called preliminary because at the closing when the transaction is consummated the buyer and seller will often sign another contract.

Prima Facie - On the face of it; an obvious fact; on the surface.

Privity - A mutual relationship of people having the same legal interest in a right or in property.

Pro Forma - According to a prescribed form; as a matter of form.

Probate Court - A court dealing with wills, estate settlements, intestate succession and guardianships.

Prolongation - projection, extension, or continuation.

Property - Any interest or aggregate of interests which is possessed by persons and which entitle such person to some or all of the benefits and services deriving from wealth or from free persons.

Property, Personal - All property other than real property.

Property, Real - Any estate of freehold.

Prorate - In real estate contracts, taxes, insurance, rents, interest, and certain other annual expenses of the property are charged to the seller and buyer at the time of closing or when the sale is recorded.

Purchase Money Mortgage - A mortgage which is taken at the time of closing by the seller in lieu of part or all of the money required to make up the purchase price.

Quality of Estate - The manner in which an estate is to be owned as to type of possession and time.

Quasi - "As if" having a limited legal status. Sufficiently similar but not actual; in some degree; almost.

Range - The area included between two range lines

Range Line - One of a series of survey lines running due north and south at six-mile intervals, used for locating parcels of land under government survey.

Ratification - Confirmation; affirmation. Making something binding by formally approving it.

Real Estate - An interest in land which (a) is or may become possessory and (b) is ownership measured in terms of duration.

Real Estate Investment Trust (REIT) - A group of real estate investors consisting of one or more trustees who hold title to the assets for the trust, and control its acquisitions, management, and sale.

Recasting a Mortgage - The act of reconstructing an existing mortgage by increasing its amount, interest rate or length of time.

Reconveyance -The transfer of title back to its former owner.

Record - 1. A written statement; to officially commit to writing; to transcribe for future use or reference. 2. Placing a document on the public records by recording it in the proper county office where the general public may examine it.

Recording - The act of writing or entering in a book of public record instruments affecting the title to real property.

Reddendum Clause - A clause in a conveyance that reserves something to the grantor out of what he has granted. It is the clause that first renders or yields, then reserves something out of it to be returned.

Remainder Estate - An estate that comes into being upon the termination of a prior estate.

Reserving - Taking and keeping a certain right from a part of the whole area which has been given in the deed; the act or fact of a grantor's reserving some new thing out of the thing granted.

Restrictive Covenants - Agreements written into instruments that curtail the full use of the property. Also referred to as Protective Covenants.

Reversionary Interest - The future interest a person has in property that is presently in another's possession.

Right - An interest in or title to property. A well founded established legal claim.

Right, Air - A right to use and occupy the space lying above a stated elevation or within certain distances above the ground surface, in conjunction with specified spaces on the surface for the support of foundations.

Right, Riparian - Any right attaching to a parcel of land which appertains to running water bordering on or flowing over such parcel.

Right, Water - The right to a supply of water.

Right of Way - An easement consisting of a right of passage through the servient estate.

Rule Against Perpetuities - A rule of law that disallows the granting of a future estate if it is not vested within the life or lives then in being, plus 21 years and the gestation period from the time the estate was created.

Running - It adds nothing to the meaning of the description; it would be well to omit it in inclusion.

Said and aforesaid - Unnecessary repetition is prevented by these words; they refer to an immediately preceding matter of the same subject and never to a subsequent matter.

Satisfaction - Payment of a debt and the term is most commonly used in connection with a mortgage debt.

Seal - The impression of a crest or coat of arms made on a document to attest its authenticity.

Section - A unit of land approximately one mile square and normally containing 640 acres, as laid out by the government survey.

Severalty - Sole ownership. An estate held by one person only; no other individual has any part or interest in the estate.

Squatter's Rights - A squatter may begin to obtain rights when his occupancy is considered in adverse possession. Occupancy must be in "actual, open, notorious, exclusive, and continuous" possession for a prescribed statutory period.

Statute - A law established by an act of the legislature.

Statute of Frauds - An early English statute recognized by all states that real estate contracts must be in writing and duly signed to be enforceable.

Statute of Limitations - A statute placing a time limit on the right of action in certain cases where a remedy is sought in a court of law.

Subdivision - A tract of land which has been divided into marketable building lots and such public and private ways as are required for access to such lots, and which is covered by a recorded plat.

Subject to - refers to an already existing, a previously created, situation.

Survey - The process by which a parcel of land is measured and its area ascertained.

Tenancy - The act of occupying property belonging to another.

Tenancy at Will - A tenant who is legally occupying property but has no fixed term or lease.

Tenancy by the Entirety - A joint estate equally owned by husband and wife, with the survivor receiving the entire estate.

Tenancy in Common - A tenancy where two or more people own property with each possessing a separate, undivided interest.

Tenancy in Partnership - One created when property is purchased with funds of a business partnership.

Tenant at Sufferance - A tenant who originally lawfully occupied but remained in possession after the tenancy has expired.

Tenant in Severalty - A tenancy held by one person only.

Tenants for Life - One who possesses property for the term of his life, or during the life or lives of others.

Tenendum - "to have and to hold"

Testimony Clause - A clause at the end of a document that reads, "In witness whereof, I hereunto set my hand and official seal at said County and State".

Thereof - Refers to a previous item in the description.

Tier - The area included between two township lines

Time is the Essence Clause - The clause in a contract that places great importance on completing the terms and conditions exactly when specified.

Title - Evidence that owner of land is in lawful possession thereof; evidence of ownership.

Title Company - This term may be used to mean a title abstract company or a title insurance company. A title abstract company is in the business of preparing histories of the recorded ownership of real property. A title insurance company is in the business of writing insurance against financial loss by reason of defects in recorded ownership of real property.

Title Report - A statement of the present ownership situation of a particular parcel of real property as revealed by the records in the county recorder's office.

Title Search - An examination of the recorded documents affecting the ownership of real property.

Torrens Title System - A method of official record-keeping for instruments affecting real property. The essence of the system is that the county recorder is charged with responsibility for maintaining an official register of ownership, encumbrances, and all facts pertaining to the title of every piece of real estate in the county.

Town - A small incorporated or unincorporated political subdivision of a state; a civil township, a small urban area.

Township, Civil - An unincorporated political subdivision of the state, usually coterminous with a survey township or with that portion thereof which remains after incorporation of cities and villages situated therein.

Township Survey - The area included between two township lines and two range lines, normally containing thirty-six sections or approximately 640 acres each.

Township Line - One of a series of survey lines running due east and west at

six-mile intervals, used for locating parcels of land under government survey.

True - Is referred to as the direction of cardinal lines and is considered to be an astronomical direction.

Unilateral Contract - A contract in which only one party expressly agrees to something.

Unit Foot - A rectangular portion of urban land with frontage of one foot and a depth equal to that of the standard lot.

Urban Property - City property; closely settled property.

Usury - The charging of excessively high or unlawful interest rates for the use of money.

VA Mortgage - A mortgage loan made to a veteran by a lending institution in which the institution is protected against loss by the government's guarantee of part of the loan. The veteran pays no fee for this guarantee.

Writ - A court order, under seal, directing a person or group to do or refrain from doing something.

Zone - An area set off by the proper authorities for specific use; subject to certain restrictions or restraints.

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ARCHITECTURAL TERMS

- APARTMENT HOTEL - A building designed for non-transient residential use, divided into dwelling units similar to an apartment house, but having such hotel accommodations as room furnishings, lounges, public dining room, maid service etc.
- APARTMENT HOUSE - A more or less modern building designed primarily for non-transient residential use and divided into three or more dwelling units having common stairs, halls and street entrances. Compare "Flat"; "Tenement"; "Terrace".
- ATTIC - An unfinished or semi-finished portion of a building lying between the highest finished story and the room and wholly or partly within the roof framing.
- BASEMENT - A building story which is wholly or partly below the grade level.
- BAY - (1) One of the intervals of space into which the elevation of a plan or a building is divided by columns or division walls. (2) An internal recess formed by causing a wall to project beyond its general line.
- BAY WINDOW - A window, or group of adjacent windows, projecting from the main wall of a building.
- BEAM - A long structural load-bearing member which is placed horizontally or nearly so and which is supported at both ends or at infrequent intervals along its length.
- BEAM, SPANDREL - A wall beam supporting portion of floor and wall above, usually in reinforced concrete buildings.
- BUILDING - Any structure partially or wholly above ground which is designed to afford shelter to persons, animals, or goods. See also "Construction".
- BUILDING, FIREPROOF - A building in which all parts carrying loads or resisting stresses and all exterior and interior walls, floors, and staircases are made of incombustible materials, and in which all metallic structural members are encased in materials which remain rigid at the highest probable temperature in case its contents are burned, or which provide ample insulation from such a temperature.
- BUILDING, LOFT - A building having three or more stories with few or no interior bearing walls and designed for storage, wholesaling, or light industrial purposes.
- BUILDING, SINGLE-PURPOSE - A building designed for a specific purpose which cannot be used for another purpose without substantial alterations; e.g., a theater or church.
- BUNGALOW - A one-story dwelling unit which is somewhat more pretentious than a cottage (q.v.)
- COLUMN - A structurally isolated vertical member which is at least 8 to 10 times as long as its least lateral dimension and which is designed to carry loads. Compare "Pier".
- CONDUIT - A tube or pipe, or small artificial tunnel used to enclose wires or pipes or to convey water or other fluids.
- CONSTRUCTION, BRICK - A type of construction in which the exterior walls are bearing walls (q.v.) made of solid brick or brick and tile masonry.
- CONSTRUCTION, BRICK VENEER - A type of construction in which the external walls are one-layer brick curtain walls backed by a wood frame.
- CONSTRUCTION, FIREPROOF - See "Building, Fireproof".
- CONSTRUCTION, MILL - A type of construction in which the exterior walls are substantial masonry bearing walls, in which the structural members are of heavy timber, and which is further characterized by an open design and by other safeguards against fire hazards. Sometimes called "Slow-Burning Construction".
- CONSTRUCTION, REINFORCED CONCRETE - A type of construction in which the principal structural members, such as the floors, columns, beams, etc., are made of concrete poured around isolated steel bars or steel meshwork in such a manner that the two materials act together in resisting forces.
- CONSTRUCTION, STEEL FRAME - A type of construction in which there is a framework of steel structural members for the support of all load and the resistance of all stresses.
- CONSTRUCTION, WOOD FRAME - A type of construction in which there is a framework of wooden structural members for the support of all loads and the resistance of all stresses. Loosely called "Frame Construction".
- COPING - A special capping at the top of a wall, serving principally as a watershed.
- CORNICE - A projecting element at the top of a wall, serving principally as a decoration or as part of the coping (q.v.).

COTTAGE - A one-to-two story dwelling unit of small size and humble character.

COURSE - A uniform horizontal layer of brick, stone, terra cotta, shingles or some other structural material, extending continuously around a building or along a wall.

COURT - An open space bordered on two or more sides by the walls of a single building, or of two or more buildings, and by a lot line or a yard on any side not so bordered.

DORMER - (1) A relatively small structure projecting from a sloping roof. (2) A window in the face of such a structure.

DWELLING - Any building or portion thereof designed or occupied in whole or in part as a place of residence.

DWELLING, ATTACHED - Synonymous with "Terrace."

DWELLING, DOUBLE - A two family dwelling in which the dwelling units are separated vertically, by means of a common or party wall. Synonymous with "Semi-detached Dwelling."

DWELLING, DUPLEX - A two-family dwelling in which the two dwelling units are separated horizontally with a private street entrance for each; i.e., a two-family flat.

DWELLING, MULTI-FAMILY - A building designed as a place of residence for more than two families or households; e.g., an apartment house or tenement.

DWELLING, ROW - Any one of a series of similar single-family, two family, or multi-family dwellings having one or more contiguous, common, or party walls. Compare "Terrace;" "Dwelling, Double."

DWELLING UNIT - Any room or group of rooms designed as the living quarters of one family or household, equipped with cooking and toilet facilities, and having an independent entrance from a public hall or from the outside.

EAVES - The portion of a sloping roof which projects beyond the outside walls of a building.

ELEVATION - A drawing representing a projection of any one of the vertical sides or vertical cross-sections of a building or of any other object. Compare "plan."

FACADE - The face of a building.

FIREWALL - A wall of fire-resisting material erected between two parts of a building to prevent the spread of fire from one part to the other.

FLASHING - Small metal strips used to prevent leaking of roofs around chimneys, dormers, hips and valleys.

FLAT - (1) Any one floor of a building two or more stories high each floor of which constitutes a single dwelling unit and has a private street entrance. (2) The building containing two or more such floors. Compare "Residence, Duplex."

FOOTING - A spreading base to a wall, column, or other supporting member which serves to widen the ground area to which structural loads are transmitted.

FOUNDATION - The structural members below grade level, or below the first tier of beams above grade level, which transmit the load of a super-structure to the ground

GABLE - (1) The triangular portion of a wall between the slopes of a double-sloping (i.e. gable) roof. (2) The whole of the wall containing such a triangular portion. (3) A portion of a building extending from the remainder of the building and covered with a gable roof.

GIRDER - A large or principal beam (q.v.) used to support concentrated loads at isolated points along its length. (Girders usually support the beams and structure above.)

HEADER - (1) A structural member which is laid perpendicularly to a parallel series of similar members and against which the latter members abut. (2) A brick or other piece of masonry which is laid in a wall in such manner that its longest dimension extends along the thickness of the wall. Contrast "Stretcher."

HIP - (1) A sloping line along which two roof surfaces meet to form an external angle of more than 180 degrees. (2) A hip rafter (q.v.) Compare "Ridge;" "Valley."

HOTEL - A building designed for transient or semi-transient residential use, divided into furnished single rooms and suites, and having such accommodations as lounges, public dining rooms and maid service, etc.

HOTEL, APARTMENT - See "Apartment Hotel."

JOIST - One of a series of small parallel beams laid on edge and used to support floor and ceiling loads, and usually supported in turn by larger beams and girders.

LINTEL - A beam over a wall opening, such as a door or windows, designed to carry the load of the wall over such opening.

LOFT - An unpartitioned or relatively unpartitioned upper story of a building, designed for storage, wholesaling, or light manufacturing. See also "Building, Loft."

LOUVER (or LOUVRE) - A ventilator containing slats which are placed lengthwise across the ventilator containing slats which are placed lengthwise across the ventilator opening, each slat being slanted in such manner as to overlap the next lower slat and to permit ventilation but exclude rain.

MARQUISE - A flat roof-like structure which shelters a doorway, which has no floor beneath it, and which is usually supported wholly from the walls or the building.

MEZZANINE - A low story formed by placing a floor between what would ordinarily be the floor and ceiling of a high story.
NOTE - The mezzanine floor frequently has a smaller area than other floors and, if present at all, is usually between the first and second stories.

MILLWORK - All of the wooden portions of a building, whether frame construction or otherwise, which are customarily purchased in finished form from a planing mill, such as doors, windows, trim, balusters, etc.

OVERHANG - A finished portion of a building having full story height which extends beyond the foundation wall line if part of the ground story, or beyond the exterior walls of the ground story if part of any higher story.

OVERHEAD STRUCTURE - Similar to overhang above ground story, as O.H. bridge or passage, O.H. walk, O.H. Addition.

PARTITION - See "Wall, Partition."

PIER - (1) A thick, solid mass of masonry which is fully or partially isolated from a structural standpoint and which is designed to transmit vertical loads to the earth. (2) A structure projecting from land into water for use in loading and unloading vessels. Compare "Column."

PILASTER - A flat-faced pillar projecting somewhat from, but engaged in, the wall of a building and used for decorative purposes or to help support truss and girder loads or both.

PILE - A heavy timber, metallic, or masonry pillar forced into the earth to form a foundation member.

PITCH - The slope of any structural member, such as a roof or rafter, usually expressed as a simple fraction representing the rise per lateral foot.

PLAN - A drawing representing a projection of any one of the floors or horizontal cross-sections of a building or of the horizontal plane of any other object or area. Compare "Elevation."

PURLIN - A beam running along the underside of a sloping roof surface and at right angles to the rafters, used to support the common rafters, and usually supported in turn by larger structural members, such as trusses or girders. (Usually run along length of building.)

RAFTER - A structural member placed, as a rule, in a sloping position and used as the supporting element for the structural material forming the plane of the roof. See also "Purlin."

RAFTER, HIP - A rafter placed in an inclined position to support the edges of two sloping roof surfaces which meet to form an external angle of less than 180 degrees.

RAFTER, VALLEY - A rafter placed in an inclined position to support the edges of two sloping roof surfaces which meet to form an external angle of less than 180 degrees.

RAMP - An inclined plane connecting two different floor levels and used in lieu of steps.

RESIDENCE - See "Dwelling."

RIDGE - A horizontal line along which the upper edges of two roof surfaces meet to form an external angle of more than 180 degrees. Compare "Hip;" "Valley."

RISE - (1) In general, any vertical distance. (2) Specifically, the rise of a roof, being the distance between the top of an exterior wall and the peak of the roof; the rise of a stair, being the distance from tread to tread.

ROOF, CURB (or CURBED) - A roof in which the pitch of the upper part of a sloping side is less than the pitch of the lower part.

ROOF, FLAT - A roof which is flat or sloped only enough to provide proper drainage.

ROOF, GABLE - A double-sloped roof having a cross section similar in general to the shape of the inverted letter "V".

ROOF, GAMBREL - A curbed gabled roof.

ROOF, HIP (or HIPPED) - (1) In general, any roof having one or more hips (q.v.). (2) Usually, a roof with four sloping sides meeting along four hips or along four hips and a ridge. Compare "Roof Pyramid."

ROOF, LEAN-TO - (1) A roof having a single sloping side which is supported at the upper edge by the wall of an attached building or of a larger and higher portion of the same building (preferred). (2) Any roof with a single slope. Compare "Roof, Pent."

ROOF, MANSARD - A special type of curb roof (q.v.) in which the pitch of the upper part of each of the four equally sloping sides is small or negligible and that the lower part very great, and from the lower part of which a series of dormers project.

ROOF, MONITOR - A type of gable roof, commonly found on industrial buildings, having a small raised portion along the ridge with openings for the admission of light and air.

ROOF, SINGLE PITCH - Any roof with a single slope other than a lean-to roof.

ROOF, PYRAMID - A hip roof having four sloping triangular sides, usually of equal pitch, meeting together at the peak.

ROOF, RIDGED - A roof having one or more ridges (q.v.)

ROOF, SAW TOOTH - A roof with a series of parallel sloping surfaces interspersed between a series of vertical surfaces which rise from the lower edges of such sloping surfaces and which contain windows for the admission of light and air.

SASH - The wooden or metal framework in which the glass of a door or window is set.

SHEATHING - The covering, usually of rough lumber, placed immediately over studding or rafters.

SILL - (1) The lower horizontal part of a door-case (the threshold) or of a window. (2) The lowest horizontal structural member of a frame building, upon which the superstructure is supported.

SLEEPER - A structural member laid horizontally on the ground or upon a masonry base as a support to a floor or other superstructures.

SPECIFICATIONS - A detailed description of the dimensions, materials, quantities, structural procedures, etc. applicable to a projected or completed piece of construction.

STORY - That portion of a building enclosed by a floor, a ceiling, and the exterior walls.

STORY, GROUND - The first story lying wholly above the ground level. Synonymous with "First Story."

STORY, HALF (or ONE-HALF) - (1) For buildings with a mansard or gambrel roof, a finished portion of a building which lies above the wall plate or cornice and which has a usable floor area substantially less than that of the next lower story. (2) For all other buildings, a finished portion of a building which is above one or more full stories, which is wholly or partly within the roof frame and which has one or more exterior walls substantially lower than the full height of the story.

STORY, ONE - A building having no finished story above the ground story.

STRETCHER - A brick or other piece of masonry which is laid lengthwise in a wall. Contrast "Header."

STRUT - Any structural member which holds apart two or more other members by counteracting a pressure which tends to bring them together. Contrast "Tie."

STUD - One of a series of small slender structural members placed vertically and used as the supporting element of exterior or interior walls. (Plural - "Studs" or "Studding.")

SUBFLOOR - The flooring laid directly on top of the floor joists but beneath the finish floor.

TENEMENT - A building, usually of obsolete nature, designed primarily for non-transient residential use and divided into three or more dwelling units having common stairs, halls, and street entrances, and sometimes common bath and toilet rooms. Compare "Apartment House;" "Flat;" "Terrace."

TERRACE - (1) An unroofed level area covered with grass or masonry or both, raised above the surrounding ground level, and having a vertical or sloping front. (2) A multi-family dwelling in which the dwelling units are separated vertically by means of common or party walls. Compare "Dwelling, Row;" "Dwelling, Double."

TERRA COTTA - A hard-baked pottery molded into decorative tiles, bricks, etc. and used particularly for facing and trim on buildings.

TIE - Any structural member which binds together two or more members by counteracting a stress which tends to draw them apart. Contrast "Strut."

TRIM - (1) The wooden portions of a plastered room, such as the doors, windows, wainscoting, and molding, or the corresponding portions of a room finished otherwise than with plaster. (2) The contrasting elements on the exterior of a building which serve no structural purpose but are intended to enhance its appearance; e.g., the cornice. (3) Occasionally, the hardware of a house, such as locks, hinges, doorknobs, etc.

TRUSS - A combination of structural pieces fastened together into a rigid open member which is supported at both ends and upon which loads are superimposed. Compare "Girder."

VALLEY - A sloping line along which two roof surfaces meet to form an external angle of less than 180 degrees. Compare "Hip;" "Ridge."

VENEER - A thin ornamental or protective facing which does not add appreciably to the strength of the body to which it is attached.

WAINSCOT (or WAINSCOTING) - (1) A wooden facing on the lower portion of a contrasting interior wall. (2) By extension, a facing of marble tile, or the like, on the lower portion of interior walls.

WALL, BEARING - A wall designed primarily to withstand vertical pressure in addition to its own weight.

WALL, COMMON - A wall owned by one party but jointly used by two parties, one or both of whom is entitled to such use under the provisions of a lease.

WALL, CURTAIN - A non-bearing wall which is supported by columns, beams or other structural members, and whose primary function is to enclose space.

WALL, FIRE - See "Firewall."

WALL, PARTITION - An interior bearing or non-bearing wall which separated portions of a story. Synonymous with "Partition."

WALL, PARTY - A wall jointly used by two parties under easement agreement and erected at or upon a line separating two parcels of land held under different ownership.

WALL, RETAINING - A wall designed primarily to withstand lateral pressures of earth or other filling or backing deposited behind it after construction.

WINDOW, BAY - See "Bay Window."

WINDOW, DORMER - See "Dormer."

WING - A subordinate part of a building extending from the main part, or any one of two or more substantially co-ordinate parts of a building which extend out from one or more common junctions.

Types of Deeds*

1. Warranty Deeds - It is referred to as a general warranty deed because the grantor is legally bound by certain covenants or warranties. It provides the greatest protection of any deed. The basic warranties are:

- a) Covenant of seizin: The grantor warrants that he or she is the owner of the property and has the right to convey title to it. The grantee may recover damages up to the full purchase price if this covenant is broken.
- b) Covenant against encumbrances: The grantor warrants that the property is free from any liens or encumbrances except those specifically stated in the deed. Encumbrances would generally include such items as mortgages, mechanics' liens, and easements. If this covenant is breached, the grantee may sue for expenses to remove the encumbrance.
- c) Covenant of quiet enjoyment: The grantor guarantees that the grantee's title is good against third parties who bring court actions to establish superior title to the property. In such cases, if the grantee's title is found to be inferior, the grantor is liable for damages.
- d) Covenant of further assurance: The grantor also promises to obtain and deliver any instrument needed in order to make the title good.
- e) Covenant of warranty forever: The grantor guarantees that if any time in the future the title fails, he or she will compensate the grantee for the loss sustained.

2. Limited Warranty Deed - Also called a Special Warranty Deed. It contains the covenants of the general warranty deed but limits their application to claims arising from acts that the grantor himself has done. In other words, he does not give the covenants as to anyone else in the chain of title except himself. He warrants that he will defend the title against claims, persons claiming by, through or under him. This type of deed is most often used when the grantor has acquired title by means other than a sale in the ordinary course of business. If he has obtained title as a result of the tax forfeit of the land or a mortgage foreclosure, he may want to use this deed.

3. Bargain and Sale Deeds - Deed containing no real warranties against encumbrances; however, it does imply that the grantor holds title and possession of the property. Thus, the grantee has little legal recourse if defects later appear in the title.

- a) Bargain and Sale Deed, with Covenants Against Grantor's Acts- contains covenants stating that the party of the first part (grantor) has not done or suffered anything whereby the premises have been encumbered in any way whatsoever.

b) Bargain and Sale Deed, without Covenants Against Grantor's Acts- used to convey all the rights, title and interest of the grantor and nothing more. This is one of the simplest forms of a deed and carries with it no promise by the grantor.

4. Quit Claim Deed - This deed conveys all of the right, title, and interest of the grantor in the property. It conveys whatever the grantor has. If he has only an easement right or a future interest, that is all that the deed conveys. This deed contains no warranties and it does not transfer after-acquired title unless it expressly so provides. The deed is a valid conveyance and does not make title questionable. Although there are many uses for a quit claim deed, it is particularly useful to clear title or purposes for transferring title by descent or will.

5. Corrective Deed - This is not a specific type of deed but rather is one of foregoing types that is intended not to convey title but to correct a mistake in the prior deed. An error in the legal description is corrected by the use of a corrective deed. This deed must be executed, acknowledged, and delivered just the same as the prior deed.

6. Grant Deed - A grant deed is not generally used in this area, but it is popular in California and many western states. In fact, this deed has replaced the warranty deed as the most popular form of conveyance in these parts. It carries two implied warranties: (1) that the owner has the right to convey the property as stated in the deed and (2) that the owner has not encumbered the property except as stated in the deed. In addition, the grant deed conveys to the grantee any future, or after-acquired, title to the property that the owner may later acquire. A grant deed contains fewer warranties than a warranty deed; specifically, it does not warrant against the acts of any previous owners.

7. Deed in Trust - It is used to convey real estate to a trustee, usually in order to establish a land trust. Under the terms of such an instrument, full powers to sell, contract to sell, mortgage, subdivide, and the like are granted to the trustee. The trustee's use of these powers is controlled by the beneficiary under the provisions of the trust agreement.

8. Trustee's Deed - It is a deed of conveyance executed by a trustee. This deed is usually used when a trustee named in a will, agreement, or deed in trust sells or conveys title of the trust real estate out of the trust. Such an instrument sets forth the fact that the trustee executes the instrument in accordance with the powers and authority granted to him or her by the trust instrument or the deed in trust.

9. Deeds Executed Pursuant to Court Order - These deeds include executor's deeds, masters' deeds, administrator's deeds, and sheriffs' deeds. Each deed is used to convey title to property that is transferred by court order or will. The deed executed must conform to the laws of the state where the property is located. One characteristic of such instruments is that the full consideration should be exactly stated in the document.

* Allaway, Wellington T. et al, Modern Real Estate Practice, Chicago, Illinois: Real Estate Education Co., 1978.

Denton, John H. Buying or Selling Your Home. New York: M. Barrows and Company, Inc., 1961.

Gross, Jerome S. Concise Desk Guide to Real Estate Practice and Procedure. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1976.

Roer, Kathleen M. Minnesota Legal Forms: Residential Real Estate. St. Paul, Minnesota: Mason Publishing Co., 1983.

Schumaker, Gordon W. Minnesota Real Estate. Rochester, New York: The Lawyers Co-Operative Publishing Co., 1981.

Elements of a Valid Deed

1. Competent Parties - A) Grantor: one who is mentally capable of understanding the nature and importance of the transaction, 18 years of age or over, and must not be under any court-determined legal disability. B) Grantee: one who is identified with reasonable certainty. A grantee may be a minor, an existing corporation, or a partnership.
2. Valuable Consideration - All deed must contain a clause acknowledging the grantor's receipt of an offer of money, personal services, merchandise, or other real estate. The full dollar amount of consideration is seldom set forth in the deed, except when the instrument is executed by a corporation, trustee, or pursuant to a court order.
3. Date - The deed should be dated and the acknowledgment should be dated. The date of the deed may have special importance because it carries with it a presumption of delivery.
4. Words of Conveyance - A deed of conveyance transfers a present interest in real estate. It must contain words of grant which state the grantor's intention to convey the property at this time; an expression of intent to convey at some future time is inadequate.
5. Accurate Legal Descriptions - For a deed to be valid it must contain an adequate description of the real conveyed. Land is considered adequately described if a competent surveyor can locate the property from the description used.
6. Habendum Clause - This clause follows the granting clause when it is necessary to define or explain the ownership to be enjoyed by the grantee. It begins with the words "to have and to hold." The provisions of the habendum clause must agree with those set down in the granting clause.
7. Statement of Exceptions and Reservations - A deed should specifically note any encumbrances, reservations, or limitations that affect the title being conveyed. Such exceptions to clear title may include mortgage liens, taxes, restrictions, and easements that run with the land.
8. Properly Signed and Sealed - To be valid, a deed must be signed by all grantors named in the deed. Most states permit a grantor's signature to be signed by an attorney-in-fact acting under a power of attorney. Seals as substitutes for consideration are not used, but corporate seals and governmental seals are still used and affixed to the deed.
9. Witnesses to the Deed - Witnesses are not necessary in Minnesota, but it is a good legal practice.
10. Delivered to the Grantee - The transfer of property is not effective until there has been a delivery of deed. Such delivery must be made during the lifetimes of the grantor and grantee. Title is said to pass when a deed is delivered.

11. Acknowledgement - It is a form of declaration made voluntarily by a person who is signing a formal, written document before a notary public or authorized public officer. The acknowledgement provides evidence that the signature is genuine and that person signing is doing so as his own free and voluntary act.
12. Documentary Deed Stamps - In order to be recordable the deed must indicate the amount of the state deed tax or must indicate that the transfer is exempt from state deed.
13. Draftman's Name and Address - In order to be recordable the draftsman's name and address must be set forth.
14. Address of Taxpayer - In order to be recordable, the deed must indicate the name and address of the person to whom the property tax statements should be mailed.
15. Certification of No Delinquent Taxes - In order to be recordable, the deed must contain the endorsement of the county auditor indicating that there are no delinquent taxes against the property and that he has entered the transfer of the property in his records.

The Local Board of Review

The Local Board of Review is one of the avenues available to the taxpayer in the appeal process when they feel aggrieved. The other avenues available to them are the County Board of Review, the State Board of Equalization, the Abatement Process, and through the Courts.

1. The Local Board of Review meets between April 1st and May 31st for no longer than 20 days, unless an extension is granted by the Commissioner of Review. Any Board of Review held after May 11th may not have the availability of a total 20 day extension being granted by the Commissioner. The date and time of the meeting are set by the County Assessor.
2. The Town Board of each township, the Council or other governing body of each city, except in cities where charters provide for a Board of Equalization, shall be a Board of Review.
3. Such Board shall meet at the office of the Clerk to review the assessment and classification of property in such town or district, and immediately proceed to examine and see that all taxable property in the town or district has been properly placed upon the list, and duly valued by the Assessor.
4. On application of any person feeling aggrieved, the Board shall review the assessment or classification or both, and correct it as shall appear just.
5. In case any property, real or personal, shall have been omitted, the Board shall place it upon the list with its Market Value, and correct the assessment so that each tract or lot of real property, and each article, parcel, or class of personal property, shall be entered on the assessment list at its Market Value. But, no assessment of the property of any person shall be raised until he has been duly notified of the intent of the Board so to do.
6. The Assessor shall attend, with his assessment books and papers, and take part in the proceedings, but shall have no vote. The County Assessor, or an Assistant delegated by him shall attend such meetings.
 - A) The County Assessor may provide the Board with information that will help them in their deliberation.
 - B) Land Valuation maps and Aerial Photos.
 - C) Charts with pictures to show sales of property in their township.
 - D) Composite of total valuation for a number of years.
 - E) Mill Rate Sheets
 - F) Provide Pi-Charts showing spending by town, cities, school districts, and county.
 - G) Explain briefly what law changes have taken place since the last Board of Review and how they effect the taxpayers in their town.
7. Any non-resident may, at any time, before the meeting of the Board of Review file written objection to his assessment or classification with the County Assessor and if any such objections are filed they shall be presented to the Board of Review at its meetings by the County Assessor for its consideration.
8. A Local Board of Review shall have the power to reduce assessment upon petition of the taxpayer but the total of such adjustments shall not reduce the aggregate assessment made by the County Assessor by more than one percent of said aggregate assessment.

Types of Contracts*

1. Installment Sales Contract - There is not "installment contract" in real estate and all such form of contracts are adaptations of sales contracts to provide for periodic payments by the buyer and to put the buyer in possession. For many years installment contracts were called "land Contracts" in order to distinguish them from ordinary real estate contracts but this distinction has become highly, inappropriate due to the fact that improved property as well as vacant land is sold by means of installment contracts. In the real estate business the attempt is often made to distinguish between a "sales contract" and a "contract for the sale of real estate" or a "contract to sell." Such a distinction can be made in the sale of personal property where there are immediate sales and contracts to sell, in the first instance the ownership of the property passing immediately to the buyer and in the second instance the ownership passing at a time later than that at which the contract is made. In real estate there is no basis for this distinction since there are no cash contracts - all contracts are executory from the time they are made until the time when the title has been searched and the preliminary details cleared.
2. Option Agreement - A contract whereby in exchange for some consideration usually a cash payment an owner gives a prospective purchaser the right to purchase his property for a specified amount on specified terms within an agreed period of time.
3. Exchange Contract - A written agreement between two parties necessary to transfer title to specific properties and complete and consummate an exchange. Each party shall supply Preliminary Title Reports for their respective properties. Evidences of title shall be Land Title Association standard coverage form policies of title insurance showing titles to be merchantable and free of all liens and encumbrances. If either party is unable to convey a marketable title, then this agreement shall be of no further effect. An Exchange Contract is sometimes a more convenient way of selling property because it helps develop more logical transactions.
4. Binder - In insurance a binder is a short-term agreement to insure pending the examination of the risk and the issuance of a longer term insurance contract. This is a correct use of a binder but its use in real estate is a poor adaptation. The use of the binder has been an outgrowth of the law in many states which prohibits a real estate broker from drawing a contract. Brokers in that situation have recourse to what they call a "binder" which is a memoranda of the terms and conditions of the sale signed by the buyer and seller which is supposed to hold them until a formal contract can be drawn by the lawyer representing one or the other of the parties. Since the law does not recognize a stop-gap contract it is obvious that a binder must be a contract if it is to be anything and if it is not a contract then it has no binding force and effect. A binder is nevertheless an important selling tool since it enable the buyer to clearly state and determine the price and terms at which he is willing to buy. In most states where brokers are permitted to draw sales contracts the use of binders has ceased.

5. Parol Contract - A contract that may be partly in writing and partly verbal, or one that is completely verbal. Though oral contracts are said to be binding, they are considered virtually unenforceable.

6. Letter of Intention - A statement or commitment to accomplish or attain something.

7. Leases - A lease is both a contract and a conveyance between the owner of property (lessor) and the tenant (lessee) for possession and use of the property for a stipulated period of time, and in consideration for the payment of an agreed upon rent or services rendered. A few common leases are: Short-term, long-term, ground, percentage, and net leases.

* Denton, John H. Buying or Selling Your Home. New York: M. Barrows and Company, Inc., 1961.

Gross, Jerome S. Concise Desk Guide to Real Estate Practice and Procedure. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1976.

Elements of a Valid Contract

1. Date - The contract should be dated because it carries with it a presumption of execution and delivery.
2. Parties to the Agreement - The parties to the agreement must be competent in the eyes of the law. They should be mentally capable of knowing and understanding what they are doing.
3. Offer and Acceptance - A valid contract must contain an offer and an acceptance. When the price, terms, and conditions are acceptable to all parties, a "meeting of the minds" is said to have taken place.
4. Legal Description - A contract will tolerate a reasonable but less than exact legal description in some instances. However, some contracts require a complete and exact description.
5. Consideration - The contract should contain a statement of the consideration - something of value offered by the purchaser. Consideration usually takes the form of money, but personal services, merchandise, other real estate or any other benefit may be equally acceptable.
6. Terms and Conditions - Provisions that are stated or offered for acceptance and that determine the nature and scope of an agreement.
7. Type of Deed to be Conveyed - Subject to performance by the buyer, the seller has agreed in writing to execute and deliver a specific instrument of conveyance.
8. Closing Date and Place - The contract should contain a statement where the seller agrees to deliver possession of property as of a specified date at a particular place such as an office.
9. Properly Witnessed Signatures - A contract has to be in writing and signed by all principals in order to become enforceable. Witnesses are not necessary in Minnesota, but it is a good legal practice.

DEPRECIATION CHART

Methods and procedures in analysis and measurement of loss of value resulting from consideration and application of the various forms of depreciation in the Cost Approach.

<u>DEPRECIATION NAME</u>	<u>HOW MEASURED</u>
1. PHYSICAL CURABLE (Deferred maintenance)	Cost to cure.
2. PHYSICAL INCURABLE Short Life Items (Physical Curable Postponed) Long Life Items (Basic or Bone Structure)	Effective age ÷ Total Economic Life Applied to Cost of item. Effective age ÷ Total Economic Life Applied to Cost of portion of building representing Basic Structure. (Rep. cost new <u>less</u> cost new of curable items and short life items).
3. FUNCTIONAL CURABLE A. Deficiency B. Lack of modernization C. Superadequacy	Excess of cost to cure over the rep. cost new of standard item had it been installed when structure was originally built. Cost of installing the modern fixture <u>less</u> the depreciated value of the existing fixture or component. Rep. cost new of the item <u>less</u> any physical deterioration already charged, <u>plus</u> the cost to install a normally adequate or standard item.
4. FUNCTIONAL INCURABLE	Actual or estimated rent loss x Gross Rent Multiplier (GRM).
5. ECONOMIC OBSOLESCENCE	Actual or estimated rent loss x Gross Rent Multiplier (GRM) x percentage of building value to total property value (Building-land ratio).

**EXTERNAL OBSOLESCENCE
(ECONOMIC)**

External obsolescence may be measured by two methods. In the first, the appraiser analyzes two properties that have sold that are of equal quality, age and condition. Assume the two properties are identical in all other respects except that one suffers from a negative factor and the other does not. The difference in the sale prices between the two properties may be attributed to the negative outside influence. The following is an example of this method:

Example: Subject property located on a major thoroughfare.

Sale No. 1: Not located on a major thoroughfare:	\$64,000
Sale No. 2: Located on a major thoroughfare:	\$57,000
Indicated loss in value:	\$ 7,000

In the second method, the loss in value is measured by capitalizing the rent loss. The appraiser estimates the loss in rent that is attributed to the negative feature and multiplies it times the indicated gross monthly rent multiplier (GMRM). The following is an example of this method:

Example: \$50 (rent loss) x 140 (GMRM) = \$7,000

After the loss to the entire property from external forces is estimated, it is necessary to allocate the loss in value attributable to the land and the loss attributable to the buildings. The rationale for this allocation is due to the fact that in the cost approach land is valued separately from the improvements. As any loss in value to the land has already been considered in the sales analysis of comparable sites, the allocation is critical in order to avoid double-counting any depreciation attributed to the land. Refer to the previous example where the total indicated land to building ratio is 1.4 or 20% of the value is attributed to the land and 80% is attributed to the buildings. In this example, the loss in value to the building is estimated to be \$7,000 x 80% = \$5,600. This allocation is applicable only in the cost approach as this is the only approach in which the land and building value are estimated separately.

Problem:

External Obsolescence

The subject residence is located in close proximity to a major airport. It is estimated that the loss in rent resulting from unusual noise pollution is \$40 per month. The indicated GMRM is 120 and the land to building ratio is 1.5.

What is the loss in value experienced by the entire property? \$

What is the loss in value experienced by the improvements? \$
(nearest \$100)

Depreciation Problem Example

You are appraising a 1,700 square foot single family residence which is 12 years old. It is typical of other improvements in the neighborhood and has an estimated effective age of 12 years. Items needing rehabilitation (Deferred Maintenance) at the time of appraisal include exterior and interior painting with an estimated cost of \$1,600, refinish flooring \$450, and replacement of shades and screens \$90.

The following short-lived items have been noted and their respective costs new, effective ages and normal life expectancies have been estimated:

Component	Reproduction Cost New	Effective Age	Normal Life Expectancy
Finish Flooring	\$440*	8 yrs.	15 yrs.
Roof Cover	500	12 yrs.	20 yrs.
Plumbing Fixtures	900	10 yrs.	30 yrs.
Electrical Fixtures	200	10 yrs.	30 yrs.
Heating Plant	2,990	10 yrs.	20 yrs.
Sheet Metal	300	8 yrs.	15 yrs.
Carpet	1,100	4 yrs.	8 yrs.
Kitchen Equipment	1,340	10 yrs.	15 yrs.

*Assumes \$450 curable physical deterioration is, in fact, cured. Therefore, total reproduction cost new (\$890) less cured items (\$450) leaves \$440.

The total estimated reproduction cost new of the house is \$34,800 as indicated by the Trade Breakdown Method (see below). After completion of the rehabilitation above, you estimate the house will have an effective age of 10 years. Similar houses in the neighborhood are estimated to have an economic life new of 50 years.

In terms of current day standards, the property suffers a deficiency in that it has only one bathroom. Today, similar properties are constructed with two bathrooms. The cost of adding an additional bath today is \$1,600 whereas if it had been added 12 years ago when the improvement was new, the cost would have been only \$1,200. The subject property suffers another functional deficiency based on an estimate of rental loss arising from crawl space and slab floor construction in lieu of a three-quarter or full basement. An analysis of similar properties with the same deficiency indicates a rent loss of \$15.00 per month. The gross rent multiplier for the subject property of 127 has been derived from the market.

Depreciated value of site improvements is estimated at \$1,200. The value of the site by the Direct Sales Comparison approach is \$5,800.

Estimation of Reproduction Cost New of Improvements
Trade Breakdown Method

I. Direct Costs (including labor, materials, equipment and subcontractor's fees)

A. Excavation and backfill	\$ 200
B. Iron and steel	250
C. Footings, piers, foundations	1,400
D. Rough-in framing	6,000
E. Concrete flat work	750
F. Exterior Siding	500
G. Finished millwork	3,000
H. Lath and plaster	2,000
I. Finished flooring	890
J. Insulation	300
K. Roofing	500
L. Plumbing	3,000
M. Electrical	1,000
N. Heating and cooling	2,990
O. Painting exterior and interior	1,500
P. Sheet metal	300
Q. Hardware	150
R. Shades and screens	100
S. Carpeting	1,100
T. Kitchen equipment	1,340
 Total Direct Costs	 \$27,270 (78.4%)

II. Indirect Costs (including profit and overhead, architect's fees, survey, legal fees, permits and licenses, insurance, taxes, financing charges, selling expenses and holding expenses)

Total Indirect Costs \$ 7,500 (21.6%)

III. Estimated Reproduction Cost New of Improvements \$34,770
Rounded to \$34,800

Estimate of Physical Depreciation:

Curable Physical Deterioration

<u>Item</u>	<u>Cost to Cure</u>
1. Painting	\$1,600
2. Flooring	450
3. Shades and Screens	<u>90</u>
Total Deferred Curable	\$2,140

Incurable Physical Deterioration (Short-Lived)

<u>Component</u>	<u>Reproduction Cost New</u>	<u>Life Expectancy</u>	<u>Effective Age</u>	<u>% Depreciation</u>	<u>\$ Depreciation</u>
1. Flooring	\$ 440	15	8	53%	\$ 233
2. Roof	500	20	12	60	300
3. Plumbing	900	30	10	33	300
4. Electrical	200	30	10	33	67
5. Heating	2,990	20	10	50	1,495
6. Sheet Metal	300	15	8	53	159
7. Carpet	1,100	8	4	50	550
8. Kitchen Equipment	<u>1,340</u>	15	10	67	<u>893</u>
	\$7,770				\$3,997
Total Incurable Physical (Short-Lived)					\$3,997

Incurable Physical Deterioration (Long-Lived)

1. Reproduction Cost New	\$34,800
2. Less Reproduction Cost New from	
(a) Physical Curable	\$2,140
(b) Physical Incurable (Short-Lived)	\$7,770
3. Total Long-Lived	<u>- 9,910</u> \$24,890
4. Effective Age - 10 years	
5. Economic Life (New) - 50 years	
6. Effective Age ÷ Economic Life	<u>x .20</u>
Total Incurable Physical (Long-Lived)	\$ 4,978

Curable Functional Obsolescence

Deficiency (Addition)

Addition of full bath:

Cost Now	\$ 1,600
Cost if added when new	<u>- 1,200</u>
Total Curable Functional	\$ 400

Incurable Functional Obsolescence

Deficiency (substructure)	
Rental Loss	\$ 15
GRM	x 127
Total Incurable Functional	<u>\$1,905</u>

Total Estimate of Accrued Depreciation

I. Physical Deterioration	
a. Curable	\$ 2,140
b. Incurable - Short-Lived	3,997
c. Incurable - Long-Lived	<u>4,978</u>
Total	\$11,115
II. Functional Obsolescence	
a. Curable	\$ 400
b. Incurable	<u>1,905</u>
Total	\$ 2,305
III. Locational Obsolescence	-0-
TOTAL ACCRUED DEPRECIATION	\$13,420
Rounded	\$13,400

Summation and Value Estimate by Cost Approach

Estimated Reproduction Cost New	\$34,800
Estimated Accrued Depreciation	<u>-13,400</u>
Estimated Reproduction Cost New less Accrued Depreciation	\$21,400
Estimated Depreciated Value Site Improvements	\$ 1,200
Estimated Value Site	<u>\$ 5,800</u>
ESTIMATED VALUE BY THE COST APPROACH	\$28,400

RATIO STUDIES

GLOSSARY OF TERMS

1. Aggregate ratio: a relationship calculated by dividing the total of all the estimated market values in a sample by the total of all the sales prices in the sample.
2. Assessment accuracy: refers to the level of assessment as well as the degree of uniformity.
3. Assessment level: overall ratio of the estimated market value in relation to full market value of all properties in a taxing district.
4. Assessment ratio: a relationship calculated by dividing the estimated market value of a property by its sale price.
5. Average absolute deviation: sum of all the differences between the individual observations and the mean or median, divided by the number of observations. Absolute means to ignore the arithmetic sign.
6. Coefficient of dispersion (COD): average absolute deviation divided by the median (or mean) and multiplied times 100 to yield a percentage.
7. Coefficient of variation: the standard deviation expressed as a percentage of the mean ratio.
8. Equalization: the process by which the assessor attempts to ensure that all property in his/her assessment district is valued at the same percentage of market value.
9. Mean ratio: a relationship calculated by adding up all the ratios within a group of property and dividing by the number of ratios.
10. Median ratio: the middle ratio where a sample is arrayed according to size, if the sample is an even number it is the arithmetic average of the middle two ratios.
11. Normal distribution: a distribution where the mean is the most frequently occurring ratio and lies at a point that divides the distribution exactly in half, with 50% of the ratios lying above the mean ratio and 50% lying below the mean ratio. An important characteristic of a normal distribution is that the mean and median ratios are equal.
12. Price-related differential: a relationship measured by dividing the mean ratio by the aggregate ratio.
13. Population: refers to all items in a specific category; e.g., total number of parcels in an assessment district.
14. Progressive: a situation where high dollar value properties are overassessed in relation to low dollar value properties.
15. Range: the difference between the smallest and largest ratio in a distribution.
16. Regressive: a situation where low dollar value properties are overassessed in relation to high dollar value properties.
17. Sample: a representative subset of a population.
18. Standard deviation: the square root of the sum of the squared differences between each ratio and the mean ratio, divided by the number of ratios minus one.
19. Variance: a measure of the tendency of individual ratios to vary from the mean ratio.

STATISTICS OF SALES RATIO STUDIES

A primary objective in property tax administration is the assessment of property on an equitable basis. Equity must be achieved and maintained among property owners within a taxing district to assure equal sharing of the local property tax burden. Equalization must also be attained between taxing districts because total property values serve as the basis for allocation of state aids, tax levies apportioned by overlapping governmental units, and determination of net bonded indebtedness.

A major responsibility of assessors is to estimate market value. The accuracy of these market value estimates is important because it represents the base for the assessed values on which the tax bills are calculated. The consequence of non-uniform estimates of market value result in unauthorized shifts in the property tax burden.

It is necessary for the assessor to adopt reasonable and acceptable statistical measures in order to measure assessment accuracy. Accuracy refers to the level as well as the degree of uniformity. The assessment level refers to the overall ratio of the assessor's estimated market value to full market value. Individual ratios are calculated by dividing the estimated market value by the sale price.

EXAMPLE: \$75,000 (EMV) ÷ \$90,000 (sale price) = .83

In Minnesota, property should be valued at full market value; however, in practice, it generally is valued at a fractional percentage of full market value.

There are several measures of central tendency used to determine the overall ratio of the assessor's estimated market value to full market value. The three most common measures are the mean, median and aggregate. The mean is calculated by adding up all the ratios within a group of property and dividing by the number of ratios.

EXAMPLE:	<u>EMV</u>	<u>Sale Price</u>	<u>Ratio</u>
	\$54,000	\$45,000	1.20
	52,000	55,000	.95
	51,000	60,000	.85
	56,000	70,000	.80
	56,000	80,000	.70
			<hr style="width: 50%; margin: 0 auto;"/> 4.50 ÷ 5 = .90

The mean in this example is .90 or 90%.

The median is found by arranging the ratios in order of magnitude from high to low or low to high, and then determining the middle ratio.

EXAMPLE:	<u>EMV</u>	<u>Sale Price</u>	<u>Ratio</u>
	\$54,000	\$45,000	1.20
	52,000	55,000	.95
	51,000	60,000	.85
	56,000	70,000	.80
	56,000	80,000	.70

The median, or middle ratio, is .85 or 85%. If there were an even number of ratios, the median would be calculated by determining the arithmetic average of the middle two ratios.

The aggregate is calculated by dividing the total of all the estimated market values in the sample by the total of all the sale prices.

EXAMPLE:	<u>EMV</u>	<u>Sale Price</u>	<u>Ratio</u>
	\$54,000	\$45,000	1.20
	52,000	55,000	.95
	51,000	60,000	.85
	56,000	70,000	.80
	56,000	80,000	.70
	<u>\$269,000</u>	<u>\$310,000</u>	

$$\$269,000 \div \$310,000 = .87$$

Assessment accuracy is also dependent upon the degree of uniformity as well as the overall level. Therefore, it is important to measure the average distance each individual ratio lies from the measure of central tendency. The closer the relationship, the higher the degree of uniformity. A very wide variation from the measure of central tendency indicates poor uniformity.

The most common measures of dispersion or variability are the range, the average absolute deviation, variance and the standard deviation. The range is simply the difference between the highest and lowest item in a distribution. The average absolute deviation is the sum of the absolute differences between the individual observations and the measure of central tendency, divided by the number of observations. The variance is the sum of the squares of all the deviations from the mean, divided by the number of ratios minus one. The main purpose of calculating the variance is to determine the standard deviation, which is the square root of the variance.

EXAMPLE:	<u>Ratio</u>	<u>Avg. Abs. Dev. \bar{x} med.</u>	<u>Avg. Abs. Dev. \bar{x}</u>	<u>Avg. Abs. Dev. \bar{x}^2</u>
	1.20	.35	.30	.09
	.95	.10	.05	.0025
	.85	-	.05	.0025
	.80	.05	.10	.01
	.70	.65	.20	.04
		<u>.65</u>		<u>.1450</u>

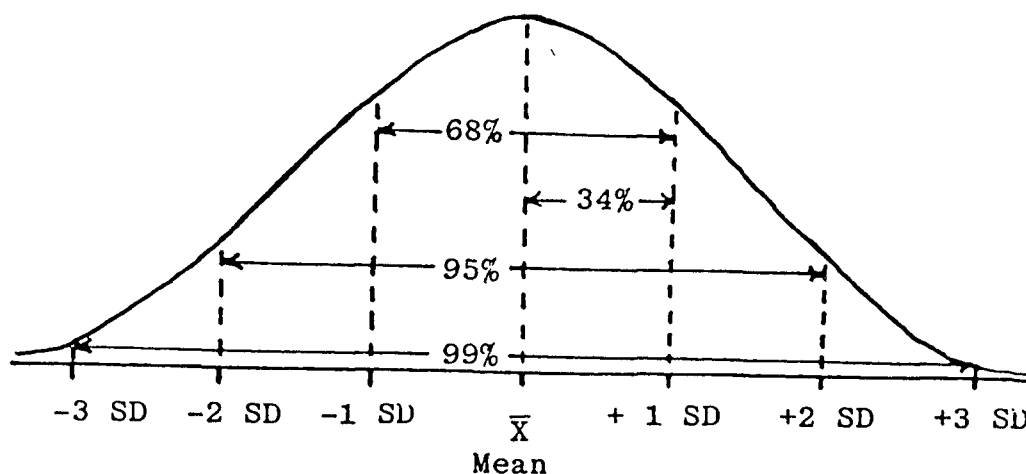
Range: $1.20 - .70 = .50$

Average Absolute Deviation: $.65 + 5 = .13$

Variance: $.1450 + 4 = .0363$

Standard Deviation: $\sqrt{.0363} = .1904$

The purposes of calculating the standard deviation is to determine how representative the mean is of the entire population. A low standard deviation indicates that the population is normally distributed, and that the mean is representative of the entire population. This is an important concept in prediction capabilities. If the mean is considered to be representative of the entire population, it can be predicted that the majority of values will fall within a narrow range. In a normal distribution, approximately 68 percent of the population will fall within plus or minus one standard deviation, approximately 95 percent of the population are included within plus or minus 2 standard deviations, and approximately 99 percent within plus or minus three standard deviations. The lower the standard deviation, the greater the degree of assessment uniformity.



Comparing average deviations and standard deviations by themselves can be misleading. For example, if the standard deviation for a group is calculated to be 6.50 and for another group to be 6.50, it does not necessarily mean that both groups have similar comparability.

EXAMPLE: SD for both groups is 6.50.
 Group A has a mean ratio of 100%.
 Group B has a mean ratio of 50%.

In Group A, assuming a normal curve, 68% of the population has a ratio of 93.5% to 106.5%. In Group B, assuming a normal curve, 68% of the population has a ratio of from 43.5% to 56.5%. However, compared on relative terms with Group A, the variability is from 87.0% to 113.0%. Therefore, it is obvious the variability in Group B is twice that of Group A.

The two most common measures of relative dispersion for assessment purposes are the coefficient of dispersion (COD) and the coefficient of variation (COV). These are measures which provide a percent by which the individual ratios differ, on the average, from the median ratio.

The coefficient of dispersion is the average absolute deviation divided by the median (or mean) and multiplied times 100 in order to yield a percentage.

$$\text{COD} = \frac{\text{average absolute deviation}}{\text{median (or mean)}} \times 100$$

The other most widely used measure of relative dispersion for assessment purposes is the coefficient of variation. It is defined as the standard deviation of the assessment ratios expressed as a percentage of the mean ratio.

EXAMPLE:	<u>Ratio</u>	<u>Avg. Abs. Dev. \bar{x} med.</u>	<u>Avg. Abs. Dev. \bar{x}</u>	<u>Avg. Abs. Dev. \bar{x}^2</u>
	1.20	.35	.30	.09
	.95	.10	.05	.0025
	.85	-	.05	.0025
	.80	.05	.10	.01
	.70	.15	.20	.04
		<u>.65</u>		<u>.1450</u>

Median: .85

Avg. Abs. Dev. \bar{x} med.: $.65 \div 5 = .13$

COD: $\frac{.13}{.85} \times 100 = 15.29$

Mean: .90

Variance: $.1450 \div 4 = .0363$

SD: $\sqrt{.0363} = .1904$

COV: $\frac{.1904}{.90} \times 100 = 21.15$

The price-related differential measures the relationship between the mean and the aggregate sales ratio. It is calculated by dividing the mean ratio by the aggregate ratio.

EXAMPLE: $\frac{.90}{.87} = 1.03$

A PRD greater than 100 indicates a regressive assessment; i.e., low dollar value properties are overassessed in relation to high dollar value properties. A PRD less than 100 indicates a progressive situation; i.e., high dollar value properties are overassessed in relation to low dollar value properties.

ADJUSTING FOR TERMS OF SALE

- I. Adjustments for financing terms are necessary to adjust to reflect market value in terms of cash.
 - A. Down payment - a higher risk may require a higher down payment.
 1. It will not be reflected in a higher sale price.
 2. Higher risk may also be reflected in a higher interest rate.
 3. The down payment is always treated as cash.
 - B. If 2nd, 3rd or 4th mortgages are involved, this does not mean the sale price is not a good indication of market value.
 1. If any of the mortgages are inadequately secured, this generally is reflected in the interest rate, not the sale price.
(i.e. higher risk).
 - a. Seller still receives the cash.
 - C. Term of loan - In recent past, real estate loans were paid off in 20, 25, or 30 year terms.
 1. The typical current loan does have a 30 year amortization but "Rapid Equity Mortgages" of 15 years are also available and becoming popular.
 2. A shorter amortization term will generally have a lower interest rate because the lender receives his money more rapidly.
 3. A \$75,000 mortgage with a 12% interest rate would have a payment of \$771.46 with a 30 year amortization and \$900.13 with a 15 year amortization.

- D. Interest rate - if set in the open market, they do not affect sale prices.
1. Two cases where the interest rate may indicate that a property has sold for something other than its market value:
 - a. Seller and lender are the same party (i.e. seller holds a Contract for Deed on the property).
 - b. Buyer assumes an existing mortgage at a below market interest rate.
 2. In some cases, the seller/lender may accept a low sale price in exchange for a high rate of interest or vice versa.
 - a. Income tax considerations (i.e. capital gain rates on sale price profit and ordinary income rates for interest income) will influence this trade-off.
 3. If the mortgage is well secured but the interest rate is above or below the current market rate*, the difference in monthly payments required under the current market and assumed rates of interest should be discounted to its present value.
 - a. This amount should be subtracted from the sale price when the assumed rate of interest is less than the current market rate and added to the sale price when the assumed rate exceeds the current market rate.
 4. When a buyer assumes an original mortgage, the sale price reflects both the cash value of the property and the difference between the assumed rate of interest and the current market rate.

*Note that "current market rate" refers to the interest rate at the time of sale (also referred to as going rate).

- a. If the assumed rate of interest is less than the current market rate, the present value of the difference in payments should be subtracted from the sale price.
 - b. If the assumed rate is higher than the current market rate, the present value of the differences in payments should be added to the sale price.
5. Existing leaseholds - when a property is encumbered by a contract lease, the buyer receives the right to the rent stated in the contract.
- a. Sale price will reflect how favorable this lease is -
 - 1. If contract rent exceeds market rent, the present value of the difference between the two income streams should be subtracted from the sale price. However there is additional risk in this situation in that the tenant may default on his leasehold obligation because of the unfavorable terms. A buyer would be likely to consider that risk in the selection of a discount rate to convert the rental premium to a present worth.
 - 2. If contract rent is less than market rent, the present value of the difference in rental streams should be added to the sale price.
 - a. Buyer will pay less than full market value since he is unable to realize the full market rent.
 - b. When appraising the property the scope of the rights appraised must be defined. For assessment

purposes, the market value of the entire property is valued. If the tenant has a leasehold interest because of favorable terms this should be added to the leased fee interest to derive the value of the entire property (i.e. base the appraisal on economic rent not contract rent).

6. Points are charges made by the lender for making money available to the buyer.
 - a. Charges arise because of interest rate limitations on VA and FHA loans.
 - b. When market rate of interest rises above legal limitations, lending institutions compensate by charging points.
 1. One point is one percent of the mortgage amount (NOT the sale price).
 - c. If points are charged to the seller, as with VA and FHA loans, they should be subtracted from the sale price.
 1. Seller must put property on the market at a higher price in order to realize same amount of money for it.
- or
 2. The buyer is willing to overpay for the property to secure an attractive financing plan.
7. Closing costs are expenses charged to the buyer and the seller for executing the transaction and mortgage.
 - a. Buyer - attorney's fees, cost of recording the deed and mortgage, survey costs, title insurance and state transfer taxes.

- b. Seller - pays attorneys fees, abstracting and recording costs, an escrow fee and state transfer taxes.
 - c. These costs do not affect the sale price of the property.
8. Property taxes are usually prorated to the buyer and the seller and have no bearing on the sale price.
1. If buyer agrees to pay delinquent taxes, this amount should be added to the sale price.
- II. Procedure to derive a cash equivalent price from a nominal sale price.
- A. The mechanics of adjusting are fairly standardized. The most subjective and controversial aspect is the selection of the proper discount rate to apply to the annuity and reversion.
1. Ideally the discount rate should be abstracted from the market.
 2. The Tax Court has commonly used the average interest rate for the three month period bracketing the sale date as published by the Federal Home Loan Mortgage Corporation (FHLMC).
 3. Although the FHLMC rate is residentially oriented, which may reduce its reliability with income property, it is easy to obtain and widely understood.
- B. Steps in obtaining the cash equivalent of the sale price.
1. Obtain ALL terms of the sale including: nominal price, down-payment, loan period, interest rate, monthly payments, balloon payments and any changes that may occur during the term of the mortgage.
 2. The typical holding period for the buyer should be estimated. When this is less than the term of the loan it will increase the cash equivalent price.

3. Select the appropriate discount rate.
4. Using the compound interest tables or a financial calculator such as a HP-12c or 38 at the selected discount rate determine the present value of the payments (both principal and interest) received by the seller (or C/D holder). Using compound interest tables it will be selecting a factor from "Present Value of an Ordinary Annuity of one per period".
5. If there is a balloon payment (or reversion) the nominal amount received by the C/D holder must be discounted to a present worth again using the selected discount rate. With the compound interest tables the appropriate factor will come from the column "Present Value Reversion of 1".
6. The final step is to add together the cash down payment, the present value of the mortgage (or C/D) and the present value of the balloon payment to arrive at a cash equivalent price for the sale.

EXAMPLES

Nominal Price:	\$385,000
Down Payment:	75,000
C/D Terms: 15 years, 9.5%	
Interest Rate, \$2606.65	
Monthly payments, balloon payment of \$249,625.21 due in 15 years.	
Discount Rate:	14%

Using Compound Interest Tables:

Present worth of \$1 per period, 14%
monthly payment, 15 years factor: 75.089654

Present worth of \$1, 14% annual, 15 years
factor: .140096

PW Annuity:

$$\$2606.65 \times 75.089654 = \$195,732.45$$

PW Reversion:

$$\$249,625.21 \times .140096 = \$34,971.49$$

Cash Equivalent Price:

Down Payment	\$ 75,000.00
Annuity	195,732.45
Reversion	<u>34,971.49</u>
	\$305,703.94

Assuming the discount rate of 14% is correct, the premium paid for the below market financing was
\$385,000 - 305.703.94 = \$79,296.06

The same process using a HP 12c, 38c, or 38E:

	Keystroke	Mortgage Display	Explanation
1.	\boxed{f} Clear reg	0.0000	Clears register
2.	2606.65 \boxed{CHS} \boxed{PMT}	- 2606.65	Stores payment (with minus sign for cash paid out)
3.	14 $\boxed{9}$ $\boxed{12\div}$	1.1667	Calculates and stores i (monthly interest rate)
4.	15 $\boxed{9}$ $\boxed{12x}$	180.00	Calculates and stores n (# of payments)
5.	\boxed{PV}	\$195,732.45	Present value of mortgage

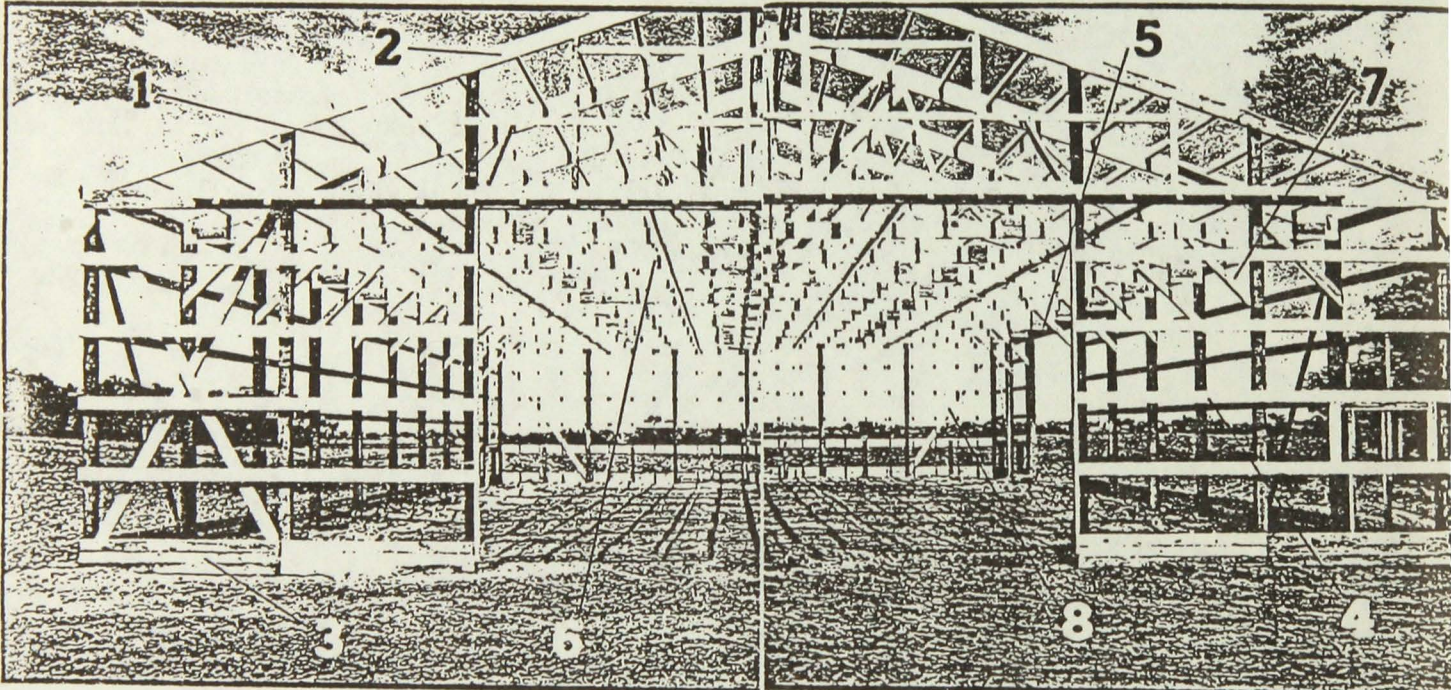
Balloon Payment

1.	[f] Clear reg	0.000	Clears register
2.	249,625.21 [CHS] [FV]	-249,625.21	Stores balloon payment (with minus sign for cash paid out)
3.	14 [i]	14.00	Stores i (discount rate of 14%)
4.	15 [n]	15.00	Stores n (payment due in 15 years)
5.	[PV]	34,971.61	Present value of balloon payment

THE ANATOMY OF POST FRAME BUILDINGS

Post frame buildings, more commonly referred to as pole buildings, vary in construction details depending upon the building company. What might be considered good quality construction by one firm, could possibly be considered only average construction by yet another firm.

The following is offered to show construction details generally accepted as quality workmanship.



(1) 2" x 6" roof purlins between trusses will provide the strongest roof system available. Purlins act as truss bridging, transmitting endwall windload throughout the entire roof system. Each purlin should be fastened to the truss with a strong metal pocket.

(2) Professionally engineered, heavy duty, prefabricated roof trusses should form a sturdy backbone to meet or exceed minimum load requirements. Each truss joint should be locked together with heavy gauge plates, having sharp teeth that are pressed firmly into each member without splitting or cutting wood fibers.

(3) Treated splash planking around a post frame building, at least two and in some cases three rows high depending upon the width of the building, will prevent the side metal from deteriorating because of eventual contact with the soil.

(4) Heavy-duty 2" by 6" sidewall girts will provide added strength at high stress areas on the walls as well as a wider nailing area.

(5) Slide door headers should be laminated or a steel I beam if it is to adequately handle the wider doors.

(6) Continuous truss ties should lock all truss members together transforming the entire building into a single rigid unit. Truss web braces and other diagonal bracing should also be used for maximum strength.

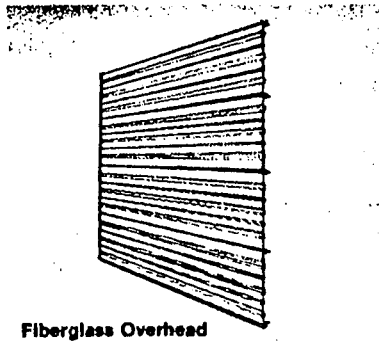
(7) Double knee braces should reach all the way to the top chord of every truss. These braces will make the sidewall more rigid and resistant to wind pressure.

(8) Wind and corner bracing should be nailed diagonally between the corner and first poles. These heavy duty corner braces will transfer side and end wall wind loads directly to the ground adding extra rigidity.

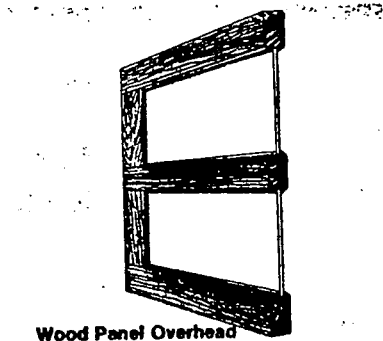
Builders of post frame buildings offer a large array of building accessories. Such features one can choose from include doors, building trims, windows, lighting, and insulation.

Overhead Doors-

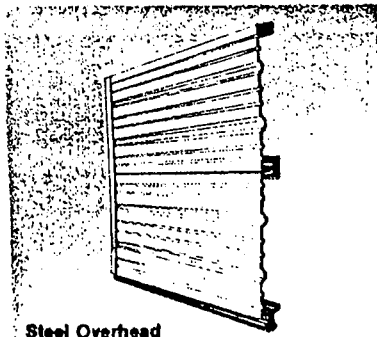
These doors are made of steel, fiberglass, or wood.



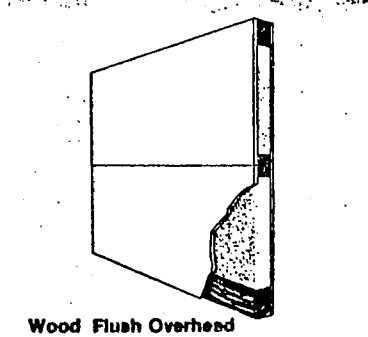
Fiberglass Overhead



Wood Panel Overhead



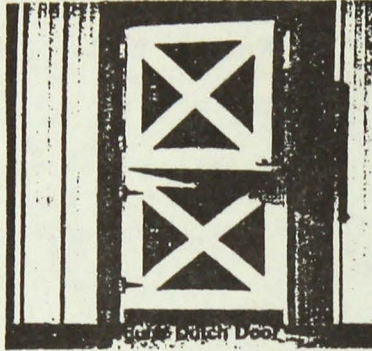
Steel Overhead



Wood Flush Overhead

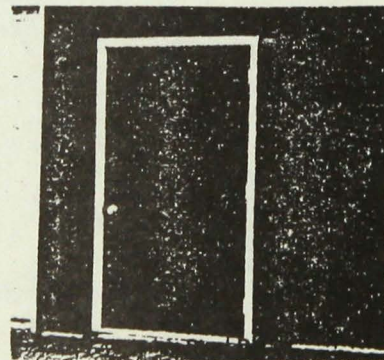
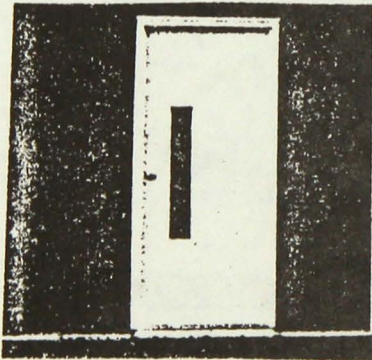
Dutch Doors-

These doors are made of solid wood. They are used in horse barns, dog kennels, hog barns, and dairy barns.



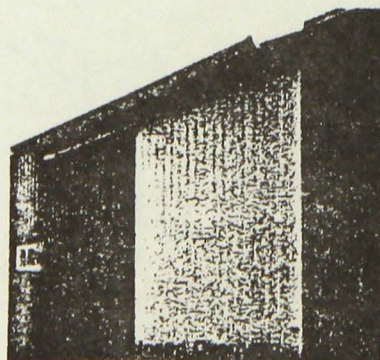
Service Doors-

Steel Service doors are available with a variety of glass options. Stanley doors are also available with only a primer paint coat.



Enclosed Roof Overhang-

Overhang can extend from the roof out beyond the sidewalls to help keep snow and rain away from doors and openings.



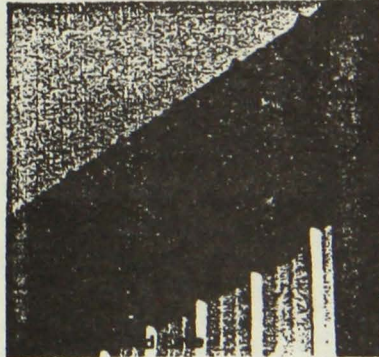
Boxed End Gables-

Steel soffits can extend from 6" - 24" from the end of post frame buildings. The extended ends enhance the appearance of the building and help keep rain and snow away from door openings.



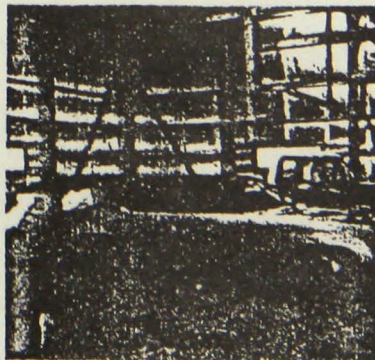
Boxed Eaves-

Steel soffits can extend from 6" - 24" from the sides of post frame buildings. They enhance the appearance of the buildings and help keep rain and snow away from door openings.



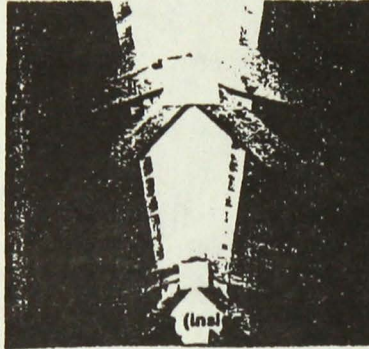
Fiberglass Blankets-

Varying thicknesses of fiberglass blankets are available. Most blankets have a foil backing that reduces condensation on the walls and roof of a building with proper ventilation.



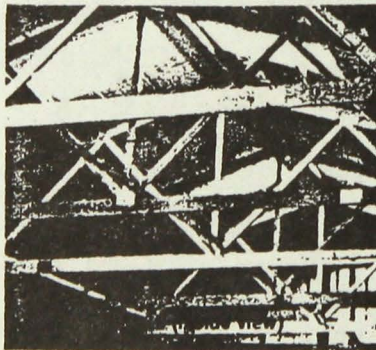
Ridgelites-

Fiberglass ridgelites can be installed the entire length of a building admitting diffused light to all areas.



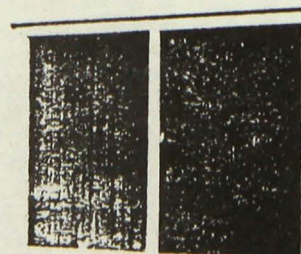
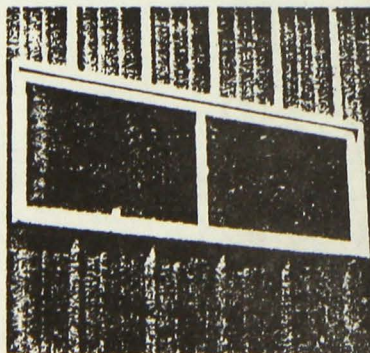
Skilites-

Translucent fiberglass skilite panels are available in green or white allow natural light to enter the interior of a post frame building.



Windows-

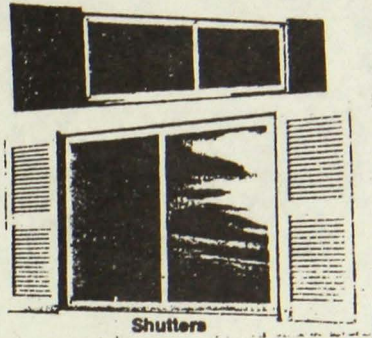
Windows are available with a standard screen unit or optional storm. Most of these units are maintenance-free with easy to open and close slide-by windows, weatherstripping, and locking latch.



400 Series Window
4' x 3'

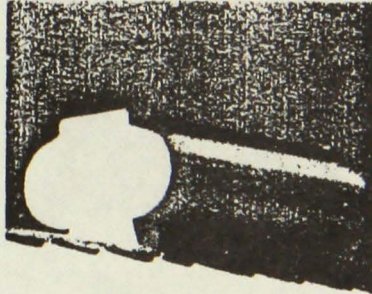
Shutters-

Metal shutters come in a variety of widths and are available in a variety of colors.



Roof Vents-

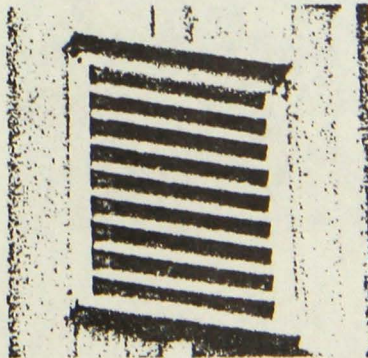
Roof vents can provide an economical way to control ventilation in a post frame building. Most vents feature a damper which regulates air flow.



Roof Vent

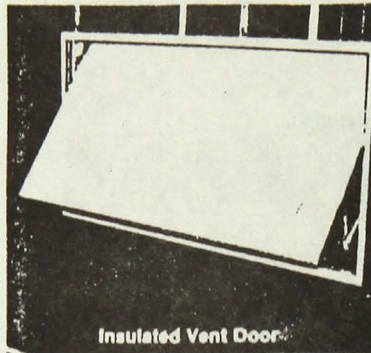
Louvers-

Aluminum louvers are available in different sizes. They also provide ventilation for a post frame building.



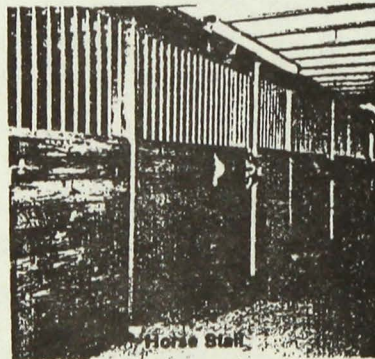
Insulated Vent Doors-

Heavy-duty aluminum insulated vent door comes with hardware, butterfly swing, weather stripping, and pivot pins.



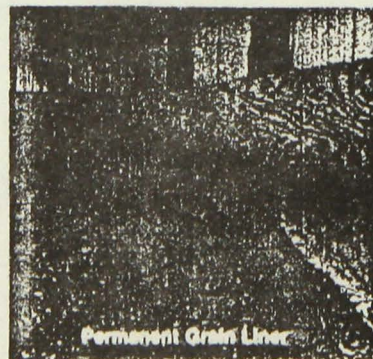
Horse Stalls-

Stall lengths and widths vary in size. They come with sliding door, protective grills, high wood kick boards, and hardware.



Permanent Grain Liners-

Grain liners can be installed to the inside of the building poles. Liners are available in 4 or 6 foot heights; designed to withstand pressures from grain peaked to the height of its natural slope.



Portable Grain Liners-

Portable liners can be adjusted. They are available in 4 or 6 foot lengths and can be assembled or dismantled within a short period of time.



Three color options are generally available such as the full color, colored sides and ends, and the galvanized. Post frame buildings usually carry a guarantee on its siding and roofing sheets for specified periods to protect against cracking, fading, checking, peeling, and chalking.

Information furnished by Lester's and Menard's Agri-Buildings.

THE VALUATION OF FARM BUILDINGS

The purpose of this section is to provide a guide to the farm appraiser in order that he may approach the valuation of a set of farm buildings in an objective manner.

Any reference to farm dwellings has been intentionally omitted. Rural dwellings are similar to urban dwellings in that their primary purpose is to provide a family with a home. As such, the appraiser should value them in the same manner as he values any other residence...using the same cost schedules and procedures set forth in the residential section of this manual.

It is also suggested that the appraiser differentiate between the buildings of working farms as opposed to those of rural homesites. The buildings found on working farms are considered to be utilitarian in nature and their value is directly related to their degree of usefulness. The buildings found on small acreage tracts usually located along a main highway serve primarily as a home and are not necessarily related to a farming operation and therefore should be considered as precisely what they are - rural or suburban residences.

CONTRIBUTION VALUE. The objective in appraising farm buildings is to arrive at that value which their presence adds to the productivity of the land. This means in effect, that farm buildings have value only in proportion to their degree of utility or usefulness.

This is an extension of the principle of contribution which affirms that the value of any factor in production is dependent upon the amount to which it contributes to the overall net return irrespective of the cost of its construction.

Any effective approach to value must reflect the action of investors. Informed farm owners and operators would not invest in buildings which could not pay for themselves by either maintaining or adding to the required level of productivity. Observation of present practices along with personal interviews with farm operators will assist the appraiser in developing applicable depreciation guidelines based upon the condition, desirability and usefulness of various structures. Consideration of these basic factors will direct him to a sound conclusion of contributory values.

VALUE IN USE. Market value is the justifiable price that an informed buyer will pay in the market. However, the price paid in the market is not always the same as the value that an item may have to a particular person. The distinction between these two concepts of value lies in the reference of value to buyers in general (market value) as opposed to value to a specific person (value in use).

In Farm Appraisals, Value in Use is generally applied with reference to the total farm as to land use rather than to any particular buildings. Farms are not bought and sold solely on their potential earning power as productive farms. Other considerations such as potential for residential, commercial or industrial uses are often influencing factors. Market value is dependent upon all the considerations of buyers and sellers.

The concept of Value in Use can also be applied to individual farm buildings. The value of farm buildings as a measure of their utility and usefulness. However, their use value need not equate with market value unless the particular use is in demand. For instance, a large hay barn is located on a farm which no longer has any need for hay storage. The present owner uses the barn extensively as a hobby workshop. The barn is very useful and therefore of value to the present owner. However, since it's value is not dependent upon its contribution to the productivity of the farm, it will not necessarily have the same value to a prospective buyer. In fact it may actually be a burden to the land for which the buyer may have to pay an additional cost for demolition.

One can see that value in use can be but is not necessarily the same as market value. Many

buildings because of the special nature of their design or use have very limited or nonexistent demand in the market. Their market value would be entirely dependent on being economically converted to a desired state of usefulness. This is not to imply, however, that such buildings are valueless. Their value however is contingent upon continued use. Any change in use would necessitate a revaluation.

REPLACEMENT COST. The replacement cost of a building is the cost of reproducing it with a building of like utility. Replacement cost is not necessarily the same as reproduction cost which refers to reproducing a replica building.

The concept of replacement cost evolves from the fundamental appraisal principle that the value of a property is no more than the cost of acquiring a site and improving the site in such a way as to reproduce an equally desirable substitute property. The upper limit of a building then is its replacement cost new. Determining this replacement cost is a starting point for the appraiser.

This section of the manual contains cost tables of various "model" farm buildings. The cost tables are developed on the basis of the size, the quality of construction, and the physical specifications of each building.

Application of the cost tables requires much the same procedures described in the residential cost section of this manual. The appraiser lists data describing the physical construction of the building, selects the comparable model, applies the unit price and adjusts the price to account for any variations between the specifications of the model and the subject buildings.

The cost tables represent replacement cost new. It is essential that the appraiser does not confuse construction quality with the physical condition of the buildings. The physical condition of the building is given consideration later in the selection of depreciation allowances. In order to aid the appraiser in making the proper construction quality judgement graded photographs of various farm buildings are also included.

DEPRECIATION. Once the replacement cost of a building has been estimated it becomes a starting point for the final determination of value. It remains then for the appraiser to accurately estimate the amount of accrued depreciation.

From the day of its completion every building is constantly attacked by forces which tend to lessen its value below the cost of its replacement new. Buildings depreciate not only because they wear out, but also because they go out of style and become less useful. Just as the forces of decay and the wear and tear from physical use cause them to deteriorate from a physical standpoint, other forces cause them to become less desirable from a functional and economical standpoint.

An estimate of accrued Physical Depreciation represents the opinion of the appraiser as to the degree that the present and future appeal of a property to a prospective purchaser has been diminished by its physical deterioration. The appraiser may observe the effects of wear and tear and the ravages of time and the elements upon a farm building by inspection. The physical condition of a building at a given time is dependent upon its overall age, the extent to which it has been exposed to the elements, the effects of use, and the initial quality of construction. Consideration of these factors along with the extent to which the building was maintained and repaired should guide the knowledgeable appraiser in determining the remaining physical life of the buildings and formulating an applicable rate of physical depreciation.

Functional Depreciation refers to the loss of value caused by certain characteristics, either deficiencies or excesses, peculiar to the building itself which cause it to become less useful and therefore less desirable. The undesirable condition is either one which is economically feasible to correct or one which is not. If the condition is correctable, the amount of depreciation is

measured by the cost of correcting it. On the other hand if it is not economically feasible to correct the condition, the loss is some measure of the decreased productivity and/or the increased cost of ownership resulting from it.

Some of the major causes of functional depreciation applicable to farm buildings are inadequacies in design, surplus capacity, and limited usefulness brought about by changes in farming techniques and practices.

Economic Depreciation refers to the loss of value caused by influences external to and not characteristic of the building itself. Among these are changes in land use, governmental regulations and controls, product supply and demand, marketing practices, and the prevailing economic conditions in general.

In the final analysis, the value left on a farm building is dependent upon its contribution to the overall productivity of the farm. The appraiser must distinguish between the building investment that is justified by use and one that is not. His estimate of depreciation must reflect not only the physical condition but also the degree of desirability and usefulness of each structure.

As with urban buildings, the appraiser is to weigh carefully the observed degree of condition, desirability and usefulness, for its age and type, of each farm building he examines. All factors of condition, design, location, and utility are to be considered in a similar manner as in the appraisal of a city property. Obviously, consideration must be given here as to whether or not the specific building is ideally suited or is even required at all for the proper operation of the farm upon which it is located. In many instances farms are overbuilt and the buildings have a capacity for use far beyond the degree to which they are being utilized. This is true also of many barns which were designed and built in the days of universal animal farming. The advent of mechanized farming has made many such buildings comparatively obsolete. At one time every farmer of means had from two to six horses which he was required to house and feed. Now a well matched team is difficult to find. The haylofts and stables once required to care for these animals are now virtually useless for the purpose for which they were originally intended.

Deterioration and obsolescence defy physical measurement. The accuracy of the appraiser's final estimate of depreciation is entirely dependent upon his appraisal experience and his use of sound judgement in considering the effects of all the forces which cause the loss of value. He should weigh very carefully all of the factors discussed above before arriving at final values. Above all, he should consider the contribution value of farm buildings. The sound value of any building can not exceed the depreciated cost of replacing it with a building of equal utility.

SUMMARY

The mechanics of making a farm appraisal are very similar to the procedure for valuating other types of real property. All buildings are inspected, measured, and sketched on a property record card. In most cases they are shown in the sketch space in their proper relative location one to the other. Buildings are numbered consecutively with the number designation carried over to a summary of buildings, types, sizes, general descriptions and tabulation of values.

Building replacement costs are computed from cost schedules developed for each type of structure and used uniformly throughout the community. Depreciation allowances are carefully determined based upon the condition, desirability, and degree of usefulness of each structure. The total of all building valuations should represent the value which their presence adds to the value of the land.

THE VALUATION OF IRRIGATED FARMLAND

Reference Information

The following information is based upon a valuation guideline established by the Minnesota Association of Assessing Officers (MAAO). It offers the technical assistance needed to uniformly treat all irrigated agricultural properties that are assessed in the mass appraisal system utilized by assessors in this state.

For Minnesota Counties using Crop Equivalent Ratings(CER) as the basis for their agricultural assessment and having irrigation, it is recommended that the ensuing table, Table I, be employed if irrigated agricultural properties are to be valued higher than non-irrigated agricultural properties. This index of adjustment is based upon the indices established in Diagram I and the supporting market evidence referenced towards the end of this discussion. Furthermore, it is suggested that since the value of irrigation may vary from one part of the state to another, this adjustment should not be made in the increased CER to be assigned, but rather by adjusting the CER by the multiplier used in a given market area or respective county.

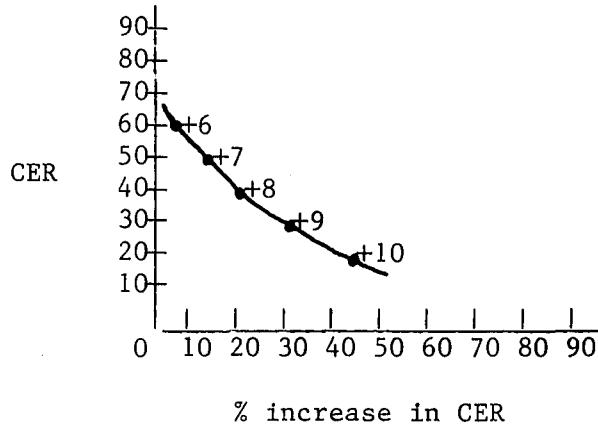
INDEX OF ADJUSTMENT

Table I

<u>Soil Group</u>	<u>CER</u>	<u>CER Increase Due to Irrigation</u>
I (18-33 CER)	20 30	+10 + 9
II (34-47 CER)	40	+ 8
III (48-55 CER)	50	+ 7
IV (56-60 CER)	60	+6

Estimated CER Increase Due to Irrigation

Diagram I



For Minnesota Counties using the A,B, and C designation and description of master soil horizons and layers rather than Crop Equivalent Ratings (CER) as the basis for their agricultural assessment and having irrigation, it is recommended that the ensuing table, Table II, be employed if irrigated agricultural properties are to be valued higher than non-irrigated agricultural properties. This index of adjustment is based upon the indices established in Diagram II and the supporting market evidence referenced towards the end of this discussion. Furthermore, it is suggested that since the value of irrigation may vary from one part of the state to another, this adjustment should not be made in the increased percentage to be assigned, but rather by adjusting the base dryland value using sales in that given market arch or respective county.

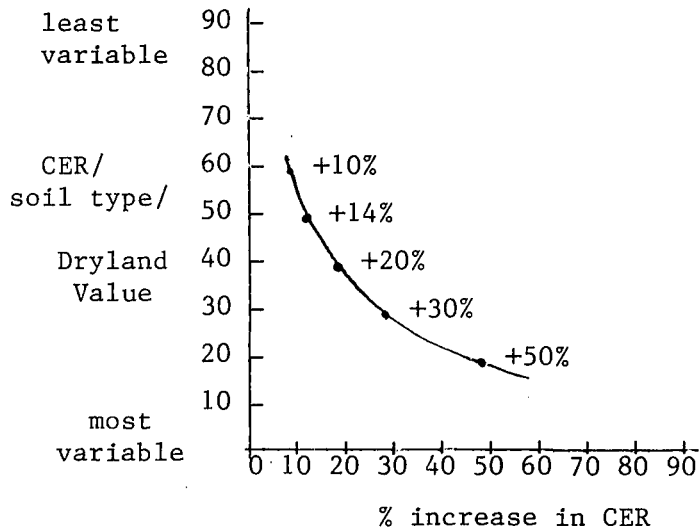
Index of Adjustment

Table II

<u>Soil Group</u>	<u>CER/Soil Type</u>	<u>% Increase Due To Irrigation</u>
I (18-33CER)	20 Sandy Croplands	+50%
	30 having the most variability	+30%
II (34-47CER)	40	+20%
III (48-55CER)	50	+14%
IV (56-60CER)	60 Sandy Cropland having the least variability	+10%

Estimated CER Increase Due To Irrigation

Diagram II



In support of each of these assessment models, it must be shown that there is market evidence which clearly supports an increase in the value of irrigated lands.

First, studies completed by the MAAO's Irrigation Sub-Committee have indicated that increases in corn yields due to the presence of irrigation ranges from about 20 to 45 bushels (conservative estimates in light of the present data available) for sandy soils associated with Soil Groups I-IV. When one considers the irrigation costs submitted by Wright and Benson as well as the current commodity prices quoted in the publication, "Minnesota Agricultural Statistics", an increase in the market value for these soils seems reasonable and justified.

Secondly, data reported in the 1986 summary of the "Farm Business Management" for Area 3 (Willmar) provides additional evidence for an increase in the value of irrigated lands. Data in this report were summarized for 29 farms for irrigated corn; 12 farms for irrigated soybeans; and 13 farms for irrigated alfalfa. Of these crops, alfalfa was, far and away, the most profitable

to irrigate. When land costs are not included, the average return for irrigated corn was \$10.50 per acre; for soybeans, it was \$40.00 per acre; and for alfalfa, the average return was \$92.00 per acre.

Even though in some instances, irrigation may not prove to be cost effective for some operators depending upon their crop selection, their operating costs, and the market-place, an increase in market value appears to be justified for two additional reasons:

- (1) Irrigations reduces risk. It offers less variability in yield expectations. The data collected by the Irrigation Sub-Committee seems to bear this out. (Please reference the attached summaries for details.)
- (2) The opportunity to grow a specialty crop such as potatoes, beans, cucumbers, and the like presents greater income expectations for the specialty should a market exist.

For these reasons, the two indices of adjustment as presented have merit and can be applied on a statewide basis. Each method of valuation is relatively simple and straightforward.

SUMMARY OF IRRIGATED AND NON-IRRIGATED CORN YIELDS
BY COUNTIES AND BY SOIL GROUPS
(1985 and 1986 DATA BASED UPON ASCS RECORDS)

<u>County/Soil Groups</u>	<u>Number</u>	<u>N-I Yield</u>	<u>I-Yield</u>	<u>Difference</u>
Sherburne (1986)	36	79	110	31
Group I	18	80 ± 3	113 ± 10	33
Group II	17	77 ± 3	107 ± 10	30
Pope (1985)	45	69	115	46
Group I	25	60 ± 18	108 ± 9	48
Group II	7	79 ± 4	120 ± 5	41
Group III	5	85 ± 4	123 ± 4	38
Group IV	8	76 ± 15	125 ± 8	49
Morrison (1985)	47	74 ± 6	95 ± 7	21
Group I	28	74 ± 6	95 ± 7	21
Group II	12	75 ± 5	92 ± 1	17
Hubbard (1986) (no groups) (no soil map)	(140) (21)	50	92	42

<u>County/Soil Groups</u>	<u>Number</u>	<u>N-I Yield</u>	<u>I-Yield</u>	<u>Difference</u>
East Otter Tail (1986) (no groups) (no soil map)	101	67 ± 6	98 ± 5	31
Swift (1986)	54	78 ± 15	113 ± 3	35
Group I	29	73 ± 17	113 ± 3	40
Group II	6	81 ± 10	114 ± 6	33
Group III	18	84 ± 10	113 ± 3	29
Group IV	1	84	117	33
Stearns (1985)	20	72 ± 12 (30)	116 ± 5	44
Group I	14	79 ± 7 (15)	109 ± 0	30
Group II	14	79 ± 7 (15)	109 ± 0	30
Group III	1	84 (1)	109	25?
Group IV	8	78 ± 5 (13)	111 ± 4	33

*Please note that the average corn yield with irrigation in Area 3 (Willmar) as reported in "Farm Business Management" was 127 bushels, but the range was from 102 to 152 (1986).

Remarks About Data:

- (1) Reported yields do not seem to express the variability that might be expected in several instances.
- (2) Both 1985 and 1986 were generally favorable years for non-irrigated yields.
- (3) Increases for irrigation ranges from about 20 to about 45 bushels, say, an average increase of about 35 bushels. Irrigation yields, as reported by ASCS, seem relatively low.
- (4) The increase is generally highest on Group I soils, as might be expected, averaging about 15 percent higher than on Group II. Group III and Group IV Numbers are really not sufficient to draw any firm observation. In Hubbard and (East) Otter Tail no soil maps were available so Soil Groups could not be formed.

Table 1. Sandy Soils Grouped According to Plant Available Water (to 60 inches) and Drainage Condition^{1,2}

<u>< I</u> <u>4.5 in</u>	<u>II</u> <u>4.5 - 6 in</u>	<u>III</u> <u>6-7.5 in</u>	<u>> IV</u> <u>7.5 in</u>
(20-38) ³	(27-47)	(40-55)	(46-75)
(30) Arvilla	(27) Chetek*	(40) Clontarf	(46) Anoka*
(32) Dorset*	(41) Cromwell	(54) Dakota*	(56) Estelline
(38) Estherville*	(37) Dickman*	(50) Dickinson	(62) Fairhaven*
(20) Hawick*	(30) Maddock	(55) Fordville	(60) Swenoda

◀ I 4.5 in	II 4.5-6 in	III 6-7.5 in	▶ IV 7.5 in
(35) Hubbard*	(29) Sartell	(40) Onamia	(70) Waukegan
- Meehan	(35) Sverdrup	(50) Wadena	(75) Waukee
	(35) Zimmerman	-P-	-P-
(28) Nymore*	-P-	- Halder	(57) Biscay*
	(40) Duelm*	(40) Litchfield*	(55) Darfur*
(25) Plainfield	(47) Forada	(54) Marysland	(65) Fieldon
(35) Renshaw	(35) Nokassippi	(40) Nokay*	
(20) Salida	(40) Soderville	- Warman	
(20) Sparta			
-P-			
(28) Isan*			
(30) Isanti			
(35) Lino			

* Occur in Stearns Co.

¹ Sandy throughout the rooting zone or in a significant part, e.g., silty or loamy over sandy.

² Soils which are mostly in cropland use and potentially irrigable.

³ Present range of CERs for non-irrigated cropland use on level or nearly level slopes. Climate adjusted for Stearns County units only.

9 1/2% MONTHLY COMPOUND INTEREST TABLE 9 1/2%

EFFECTIVE RATE = 19/24%

BASE = 1.00791667

	1	2	3	4	5	6	
	AMOUNT OF 1 AT COMPOUND INTEREST	ACCUMULATION OF 1 PER PERIOD	SINKING FUND FACTOR	PREL VALUE REVERSION OF 1	PRESENT VALUE ORD. ANNUITY 1 PER PERIOD	INSTALMENT TO AMORTIZE 1	n
MONTHS	$S^n = (1+i)^n$	$S-n = \frac{S^n - 1}{i}$	$1/S-n = \frac{i}{S^n - 1}$	$V^n = \frac{1}{S^n}$	$a-n = \frac{1 - V^n}{i}$	$1/a-n = \frac{i}{1 - V^n}$	MONTHS
1	1.007916	1.000000	1.000000	.992145	.992145	1.007916	1
2	1.015896	2.007916	.498028	.984352	1.976498	.505945	2
3	1.023938	3.023812	.330708	.976621	2.953119	.338624	3
4	1.032044	4.047751	.247050	.968950	3.922069	.254967	4
5	1.040215	5.079795	.196858	.961339	4.883409	.204774	5
6	1.048450	6.120010	.163398	.953788	5.837198	.171315	6
7	1.056750	7.168461	.139499	.946297	6.783495	.147416	7
8	1.065116	8.225211	.121577	.938864	7.722360	.129494	8
9	1.073548	9.290327	.107638	.931490	8.653850	.115555	9
10	1.082047	10.363876	.096488	.924173	9.578024	.104405	10
11	1.090613	11.445923	.087367	.916915	10.494939	.095284	11
YEARS							
1	1.099247	12.536536	.079766	.909713	11.404652	.087683	12
2	1.208345	26.317294	.037997	.827578	21.779615	.045914	24
3	1.328270	41.465759	.024116	.752858	31.217855	.032032	36
4	1.460098	58.117673	.017206	.684885	39.803946	.025123	48
5	1.605009	76.422248	.013085	.623049	47.614827	.021001	60
6	1.764302	96.543509	.010358	.566796	54.720488	.018274	72
7	1.939405	118.661756	.008427	.515621	61.184601	.016343	84
8	2.131886	142.975186	.006994	.469068	67.065089	.014910	96
9	2.343471	169.701664	.005892	.426717	72.414667	.013809	108
10	2.576055	199.080682	.005023	.388190	77.281211	.012939	120
11	2.831722	231.375496	.004321	.353141	81.708388	.012238	132
12	3.112764	266.875491	.003747	.321257	85.735849	.011663	144
13	3.421698	305.898776	.003269	.292252	89.399683	.011185	156
14	3.761293	348.795028	.002867	.265865	92.732722	.010783	168
15	4.134593	395.948629	.002525	.241861	95.764830	.010442	180
16	4.544941	447.782111	.002233	.220024	98.523179	.010149	192
17	4.996016	504.759941	.001981	.200159	101.032486	.009897	204
18	5.491858	567.392683	.001762	.182087	103.315236	.009679	216
19	6.036912	636.241573	.001571	.165647	105.391882	.009488	228
20	6.636061	711.923549	.001404	.150691	107.281036	.009321	240
21	7.294674	795.116779	.001257	.137086	108.999623	.009174	252
22	8.018653	886.566735	.001127	.124709	110.563045	.009044	264
23	8.814485	987.092880	.001013	.113449	111.985310	.008929	276
24	9.689301	1097.596002	.000911	.103206	113.279164	.008827	288
25	10.650941	1219.066291	.000820	.093888	114.456200	.008736	300
26	11.708021	1352.592212	.000739	.085411	115.526965	.008655	312
27	12.870014	1499.370259	.000666	.077699	116.501053	.008583	324
28	14.147332	1660.715673	.000602	.070684	117.387195	.008518	336
29	15.551421	1838.074228	.000544	.064302	118.193328	.008460	348
30	17.094862	2033.035192	.000491	.058497	118.926680	.008408	360
31	18.791485	2247.345562	.000444	.053215	119.593819	.008361	372
32	20.656495	2482.925719	.000402	.048410	120.200724	.008319	384
33	22.706602	2741.886634	.000364	.044040	120.752834	.008281	396
34	24.960178	3026.548797	.000330	.040063	121.255097	.008247	408
35	27.437415	3339.462993	.000299	.036446	121.712010	.008216	420
36	30.160512	3683.433163	.000271	.033155	122.127670	.008188	432
37	33.153870	4061.541545	.000246	.030162	122.505803	.008162	444
38	36.444312	4477.176271	.000223	.027439	122.849793	.008140	456
39	40.061322	4934.061735	.000202	.024961	123.162727	.008119	468
40	44.037311	5436.291983	.000183	.022708	123.447408	.008100	480
41	48.407908	5988.367370	.000166	.020657	123.706385	.008083	492
42	53.212276	6595.234905	.000151	.018792	123.941980	.008068	504
43	58.493466	7262.332571	.000137	.017095	124.156303	.008054	516
44	64.298801	7995.638076	.000125	.015552	124.351276	.008041	528
45	70.680302	8801.722381	.000113	.014148	124.528646	.008030	540
46	77.695151	9687.808598	.000103	.012870	124.690002	.008019	552
47	85.406207	10661.836740	.000093	.011708	124.836788	.008010	564
48	93.882567	11732.534820	.000085	.010651	124.970322	.008001	576
49	103.200185	12909.497090	.000077	.009689	125.091800	.007994	588
50	113.442554	14203.270040	.000070	.008815	125.202311	.007987	600

12% ANNUAL COMPOUND INTEREST TABLE 12%

EFFECTIVE RATE = 12%

BASE = 1.1200

YEARS	1	2	3	4	5	6	n
	AMOUNT OF 1 AT COMPOUND INTEREST	ACCUMULATION OF 1 PER PERIOD	SINKING FUND FACTOR	PREL VALUE REVERSION OF 1	PRESENT VALUE ORD. ANNUITY 1 PER PERIOD	INSTALLMENT TO AMORTIZE 1	
	$S^n = (1+i)^n$	$S_{\overline{n} i} = \frac{S^n - 1}{i}$	$\frac{1}{S_{\overline{n} i}} = \frac{i}{S^n - 1}$	$V^n = \frac{1}{S^n}$	$a_{\overline{n} i} = \frac{1 - V^n}{i}$	$\frac{1}{1 - V^n} = \frac{i}{1 - V^n}$	
1	1.120000	1.000000	1.000000	.892857	.892857	1.120000	1
2	1.254400	2.120000	.471698	.797194	1.690051	.591698	2
3	1.404928	3.374400	.296369	.711780	2.401831	.416369	3
4	1.573519	4.779328	.209234	.635518	3.037349	.329234	4
5	1.762362	6.352847	.157410	.567427	3.604776	.277410	5
6	1.973823	8.115189	.123226	.506631	4.111407	.243226	6
7	2.210681	10.089012	.099118	.452349	4.563757	.219118	7
8	2.475963	12.299693	.081303	.403883	4.967640	.201303	8
9	2.773079	14.775656	.067679	.360610	5.328250	.187679	9
10	3.105848	17.548735	.056984	.321973	5.650223	.176984	10
11	3.478550	20.654583	.048415	.287476	5.937699	.168415	11
12	3.895976	24.133133	.041437	.256675	6.194374	.161437	12
13	4.363493	28.029109	.035677	.229174	6.423548	.155677	13
14	4.887112	32.392602	.030871	.204620	6.628168	.150871	14
15	5.473566	37.279715	.026824	.182696	6.810864	.146824	15
16	6.130394	42.753280	.023390	.163122	6.973986	.143390	16
17	6.866041	48.883674	.020457	.145644	7.119630	.140457	17
18	7.689966	55.749715	.017937	.130040	7.249670	.137937	18
19	8.612762	63.439681	.015763	.116107	7.365777	.135763	19
20	9.646293	72.052442	.013879	.103667	7.469444	.133879	20
21	10.803848	81.698736	.012240	.092560	7.562003	.132240	21
22	12.100310	92.502584	.010811	.082643	7.644646	.130811	22
23	13.552347	104.602894	.009560	.073788	7.718434	.129560	23
24	15.178629	118.155241	.008463	.065882	7.784316	.128463	24
25	17.000064	133.333870	.007500	.058823	7.843139	.127500	25
26	19.040072	150.333934	.006652	.052521	7.895660	.126652	26
27	21.324881	169.374007	.005904	.046894	7.942554	.125904	27
28	23.883866	190.698887	.005244	.041869	7.984423	.125244	28
29	26.749930	214.582754	.004660	.037383	8.021806	.124660	29
30	29.959922	241.332684	.004144	.033378	8.055184	.124144	30
31	33.555113	271.292606	.003686	.029802	8.084986	.123686	31
32	37.581726	304.847719	.003280	.026609	8.111594	.123280	32
33	42.091533	342.429445	.002920	.023758	8.135352	.122920	33
34	47.142517	384.520979	.002601	.021212	8.156564	.122601	34
35	52.799620	431.663496	.002317	.018940	8.175504	.122317	35
36	59.135574	484.463116	.002064	.016910	8.192414	.122064	36
37	66.231843	543.598690	.001840	.015098	8.207513	.121840	37
38	74.179664	609.830532	.001640	.013481	8.220993	.121640	38
39	83.081224	684.010196	.001462	.012036	8.233030	.121462	39
40	93.050970	767.091420	.001304	.010747	8.243777	.121304	40
41	104.217087	860.142390	.001163	.009595	8.253372	.121163	41
42	116.723137	964.359477	.001037	.008567	8.261939	.121037	42
43	130.729914	1081.082614	.000925	.007649	8.269589	.120925	43
44	146.417503	1211.812527	.000825	.006830	8.276418	.120825	44
45	163.987604	1358.230031	.000736	.006098	8.282516	.120736	45
46	183.666116	1522.217634	.000657	.005445	8.287961	.120657	46
47	205.706050	1705.883750	.000586	.004861	8.292822	.120586	47
48	230.390776	1911.589800	.000523	.004340	8.297163	.120523	48
49	258.037669	2141.980576	.000467	.003875	8.301038	.120467	49
50	289.002189	2400.018245	.000417	.003460	8.304498	.120417	50
51	323.682452	2689.020434	.000372	.003089	8.307588	.120372	51
52	362.524346	3012.702886	.000332	.002758	8.310346	.120332	52
53	406.027268	3375.227233	.000296	.002463	8.312809	.120296	53
54	454.750540	3781.254500	.000264	.002199	8.315008	.120264	54
55	509.120605	4236.005040	.000236	.001963	8.316972	.120236	55
56	570.439077	4745.325645	.000211	.001753	8.318725	.120211	56
57	638.891767	5315.764723	.000188	.001565	8.320290	.120188	57
58	715.558779	5954.656489	.000168	.001398	8.321687	.120168	58

12% MONTHLY COMPOUND INTEREST TABLE 12%

EFFECTIVE RATE = 1%

BASE = 1.0100

	1 AMOUNT OF 1 AT COMPOUND INTEREST $S^n = (1 + i)^n$	2 ACCOMULATION OF 1 PER PERIOD $S_m = \frac{S^n - 1}{i}$	3 SINKING FUND FACTOR $\frac{1}{S_m} = \frac{i}{S^n - 1}$	4 PRES VALUE REVERSION OF 1 $V^n = \frac{1}{S^n}$	5 PRESENT VALUE ORD. ANNUITY PER PERIOD $P_n = \frac{1 - V^n}{i}$	6 INSTALMENT TO AMORTIZE 1 $\frac{1}{P_n} = \frac{i}{1 - V^n}$	
MONTHS							n MONTHS
1	1.010000	1.000000	1.000000	.990099	.990099	1.010000	1
2	1.020099	2.009999	.497512	.980296	1.970395	.507512	2
3	1.030300	3.030099	.330022	.970590	2.940985	.340022	3
4	1.040604	4.060400	.246281	.960980	3.901965	.256281	4
5	1.051010	5.101005	.196039	.951465	4.853431	.206039	5
6	1.061520	6.152015	.162548	.942045	5.795476	.172548	6
7	1.072135	7.213535	.138628	.932718	6.728194	.148628	7
8	1.082856	8.285670	.120690	.923483	7.651677	.130690	8
9	1.093685	9.368527	.106740	.914339	8.566017	.116740	9
10	1.104622	10.462212	.095286	.905286	9.471304	.105286	10
11	1.115668	11.566834	.086454	.896323	10.367628	.096454	11
YEARS							
1	1.126825	12.682503	.078848	.887449	11.255077	.088848	12
2	1.269734	26.973464	.037073	.787566	21.243387	.047073	24
3	1.430768	43.076878	.023214	.698924	30.107505	.033214	36
4	1.612226	61.222607	.016333	.620260	37.973959	.026333	48
5	1.816696	81.669669	.012244	.550449	44.955038	.022244	60
6	2.047099	104.709931	.009550	.488496	51.150391	.019550	72
7	2.306722	130.672274	.007652	.433515	56.648452	.017652	84
8	2.599272	159.927292	.006252	.384722	61.527703	.016252	96
9	2.928925	192.892579	.005184	.341422	65.857789	.015184	108
10	3.300386	230.038689	.004347	.302994	69.700522	.014347	120
11	3.718958	271.895856	.003677	.268892	73.110751	.013677	132
12	4.190615	319.061559	.003134	.238628	76.137157	.013134	144
13	4.722090	372.209054	.002686	.211770	78.822938	.012686	156
14	5.320969	432.096981	.002314	.187935	81.206433	.012314	168
15	5.995801	499.580197	.002001	.166783	83.321664	.012001	180
16	6.756219	575.621973	.001737	.148011	85.198823	.011787	192
17	7.613077	661.307750	.001512	.131352	86.864707	.011512	204
18	8.578606	757.860629	.001319	.116569	88.343095	.011319	216
19	9.666588	866.658829	.001153	.103449	89.655088	.011153	228
20	10.892533	989.255364	.001010	.091805	90.819416	.011010	240
21	12.274002	1127.400209	.000886	.081473	91.852697	.010886	252
22	13.830652	1283.065277	.000779	.072303	92.769683	.010779	264
23	15.584725	1458.472573	.000685	.064165	93.583461	.010685	276
24	17.561259	1656.125904	.000603	.056943	94.305647	.010603	288
25	19.788466	1878.846624	.000532	.050534	94.946551	.010532	300
26	22.298139	2129.813907	.000469	.044846	95.515320	.010469	312
27	25.126101	2412.610122	.000414	.039799	96.020074	.010414	324
28	28.312719	2731.271978	.000366	.035319	96.468018	.010366	336
29	31.903481	3090.348132	.000323	.031344	96.865546	.010323	348
30	35.949641	3494.964129	.000286	.027816	97.218330	.010286	360
31	40.508955	3950.895562	.000253	.024685	97.531409	.010253	372
32	45.646505	4464.650512	.000223	.021907	97.809251	.010223	384
33	51.435624	5043.562455	.000198	.019441	98.055821	.010198	396
34	57.958949	5695.894917	.000175	.017253	98.274641	.010175	408
35	65.309594	6430.959463	.000155	.015311	98.468831	.010155	420
36	73.592485	7259.248592	.000137	.013588	98.641165	.010137	432
37	82.925855	8192.585514	.000122	.012058	98.794103	.010122	444
38	93.442929	9244.292929	.000108	.010701	98.929827	.010108	456
39	105.293811	10429.383160	.000095	.009497	99.050277	.010095	468
40	118.647724	11764.772490	.000084	.008428	99.157169	.010084	480
41	133.695226	13269.522620	.000075	.007479	99.252029	.010075	492
42	150.651127	14965.112740	.000066	.006637	99.336214	.010066	504
43	169.757461	16875.746110	.000059	.005890	99.410924	.010059	516
44	191.286956	19028.695620	.000052	.005227	99.477225	.010052	528
45	215.546930	21454.693010	.000046	.004639	99.536064	.010046	540

11 1/2 % MONTHLY COMPOUND INTEREST TABLE 11 1/2 %

EFFECTIVE RATE = 23/24%

BASE = 1.00958333

	1 AMOUNT OF I AT COMPOUND INTEREST $S^n = (1+i)^n$	2 ACCUMULATION OF I PER PERIOD $S_n = \frac{S^n - 1}{i}$	3 SINKING FUND FACTOR $1/S_n = \frac{i}{S^n - 1}$	4 PRES. VALUE REVERSION OF I $V^n = \frac{1}{S^n}$	5 PRESENT VALUE ORD. ANNUITY I PER PERIOD $a_n = \frac{1 - V^n}{i}$	6 INSTALMENT TO AMORTIZE I $1/a_n = \frac{i}{1 - V^n}$		
MONTHS								n MONTHS
1	1.009583	1.000000	1.000000	.990507	.990507	1.009583		1
2	1.019258	2.009583	.497615	.981105	1.971613	.507198		2
3	1.029026	3.028841	.330159	.971792	2.943405	.339742		3
4	1.038887	4.057868	.246434	.962567	3.905973	.256018		4
5	1.048843	5.096756	.196203	.953430	4.859403	.205786		5
6	1.058895	6.145600	.162718	.944380	5.803784	.172301		6
7	1.069043	7.204495	.138802	.935415	6.739200	.148385		7
8	1.079288	8.273538	.120867	.926536	7.665736	.130450		8
9	1.089631	9.352826	.106919	.917741	8.583478	.116502		9
10	1.100073	10.442457	.095762	.909030	9.492508	.105346		10
11	1.110615	11.542531	.086636	.900401	10.392910	.096219		11
YEARS								
1	1.121259	12.653147	.079031	.891854	11.284764	.088615		12
2	1.257222	26.840606	.037256	.795404	21.349130	.046840		24
3	1.409672	42.748427	.023392	.709384	30.325079	.032976		36
4	1.580608	60.585220	.016505	.632667	38.330317	.026089		48
5	1.772271	80.584891	.012409	.564247	45.469824	.021992		60
6	1.987176	103.009708	.009707	.503226	51.837225	.019291		72
7	2.228140	128.153743	.007803	.448804	57.516018	.017386		84
8	2.498322	156.346727	.006396	.400268	62.580675	.015979		96
9	2.801267	187.958374	.005320	.356981	67.097611	.014903		108
10	3.140947	223.403227	.004476	.318375	71.126060	.014059		120
11	3.521816	263.146099	.003800	.283944	74.718850	.013383		132
12	3.948869	307.708166	.003249	.253237	77.923095	.012833		144
13	4.427707	357.673798	.002795	.225850	80.780815	.012379		156
14	4.964608	413.698230	.002417	.201425	83.329484	.012000		168
15	5.566613	476.516147	.002098	.179642	85.602527	.011681		180
16	6.241616	546.951321	.001828	.160214	87.629749	.011411		192
17	6.998471	625.927419	.001597	.142888	89.437737	.011180		204
18	7.847100	714.480104	.001399	.127435	91.050198	.010982		216
19	8.798635	813.770629	.001228	.113653	92.488279	.010812		228
20	9.865551	925.101055	.001080	.101362	93.770837	.010664		240
21	11.061841	1049.931334	.000952	.090400	94.914693	.010535		252
22	12.403193	1189.898450	.000840	.080624	95.934845	.010423		264
23	13.907196	1346.837883	.000742	.071905	96.844672	.010325		276
24	15.593573	1522.807687	.000656	.064128	97.656106	.010240		288
25	17.484439	1720.115470	.000581	.057193	98.379787	.010164		300
26	19.604591	1941.348663	.000515	.051008	99.025204	.010098		312
27	21.981830	2189.408445	.000456	.045492	99.600822	.010040		324
28	24.647332	2467.547787	.000405	.040572	100.114191	.009988		336
29	27.636051	2779.414122	.000359	.036184	100.572039	.009943		348
30	30.987180	3129.097156	.000319	.032271	100.980375	.009902		360
31	34.744665	3521.182519	.000283	.028781	101.344550	.009867		372
32	38.957780	3960.811894	.000252	.025668	101.669341	.009835		384
33	43.681774	4453.750427	.000224	.022892	101.959007	.009807		396
34	48.978597	5006.462360	.000199	.020417	102.217348	.009783		408
35	54.917709	5626.195765	.000177	.018209	102.447750	.009761		420
36	61.576993	6321.077626	.000158	.016239	102.653235	.009741		432
37	69.043778	7100.220401	.000140	.014483	102.836498	.009724		444
38	77.415980	7973.841498	.000125	.012917	102.999941	.009708		456
39	86.803390	8953.397310	.000111	.011520	103.145710	.009695		468
40	97.329111	10051.733390	.000099	.010274	103.275713	.009682		480
41	109.131174	11283.252980	.000088	.009163	103.391657	.009671		492
42	122.364346	12664.105790	.000078	.008172	103.495063	.009662		504
43	137.202165	14212.399890	.000070	.007288	103.587285	.009653		516
44	153.839207	15948.439100	.000062	.006500	103.669534	.009646		528
45	172.493646	17894.989250	.000055	.005797	103.742888	.009639		540
46	193.410110	20077.576770	.000049	.005170	103.808310	.009633		552
47	216.862889	22524.823370	.000044	.004611	103.866656	.009627		564
48	243.159538	25268.821450	.000039	.004112	103.918692	.009622		576
49	272.644900	28345.554910	.000035	.003667	103.965102	.009618		588
50	305.705637	31795.370980	.000031	.003271	104.006492	.009614		600

14% Annual Table

Years	1	2	3	4	5	6
	Amount of 1	Amount of 1 per Period	Sinking-Fund Factor	Present Worth of 1	Present Worth of 1 per Period	Partial Payment
1	1.140 000	1.000 000	1.000 000	.877 193	.877 193	1.140 000
2	1.299 600	2.140 000	.467 290	.769 468	1.646 661	.607 290
3	1.481 544	3.439 600	.290 731	.674 972	2.321 632	.430 731
4	1.688 960	4.921 144	.203 205	.592 080	2.913 712	.343 205
5	1.925 415	6.610 104	.151 284	.519 369	3.433 081	.291 284
6	2.194 973	8.535 519	.117 157	.455 587	3.888 668	.257 157
7	2.502 269	10.730 491	.093 192	.399 637	4.288 305	.233 192
8	2.852 586	13.232 760	.075 570	.350 559	4.638 864	.215 570
9	3.251 949	16.085 347	.062 168	.307 508	4.946 372	.202 168
10	3.707 221	19.337 295	.051 714	.269 744	5.216 116	.191 714
11	4.226 232	23.044 516	.043 394	.236 617	5.452 733	.183 394
12	4.817 905	27.270 749	.036 669	.207 559	5.660 292	.176 669
13	5.492 411	32.088 654	.031 164	.182 069	5.842 362	.171 164
14	6.261 349	37.581 065	.026 609	.159 710	6.002 072	.166 609
15	7.137 938	43.842 414	.022 809	.140 096	6.142 168	.162 809
16	8.137 249	50.980 352	.019 615	.122 892	6.265 060	.159 615
17	9.276 464	59.117 601	.016 915	.107 800	6.372 859	.156 915
18	10.575 169	68.394 066	.014 621	.094 561	6.467 420	.154 621
19	12.055 693	78.969 235	.012 663	.082 948	6.550 369	.152 663
20	13.743 490	91.024 928	.010 986	.072 762	6.623 131	.150 986
21	15.667 578	104.768 418	.009 545	.063 826	6.686 957	.149 545
22	17.861 039	120.435 996	.008 303	.055 988	6.742 944	.148 303
23	20.361 585	138.297 035	.007 231	.049 112	6.792 056	.147 231
24	23.212 207	158.658 620	.006 303	.043 081	6.835 137	.146 303
25	26.461 916	181.870 827	.005 498	.037 790	6.872 927	.145 498
26	30.166 584	208.332 743	.004 800	.033 149	6.906 077	.144 800
27	34.389 906	238.499 327	.004 193	.029 078	6.935 155	.144 193
28	39.204 493	272.889 233	.003 664	.025 507	6.960 662	.143 664
29	44.693 122	312.093 725	.003 204	.022 375	6.983 037	.143 204
30	50.950 159	356.786 847	.002 803	.019 627	7.002 664	.142 803
31	58.083 181	407.737 006	.002 453	.017 217	7.019 881	.142 453
32	66.214 826	465.820 186	.002 147	.015 102	7.034 983	.142 147
33	75.484 902	532.035 012	.001 880	.013 248	7.048 231	.141 880
34	86.052 788	607.519 914	.001 646	.011 621	7.059 852	.141 646
35	98.100 178	693.572 702	.001 442	.010 194	7.070 045	.141 442
36	111.834 203	791.672 881	.001 263	.008 942	7.078 987	.141 263
37	127.490 992	903.507 084	.001 107	.007 844	7.086 831	.141 107
38	145.339 731	1030.998 076	.000 970	.006 880	7.093 711	.140 970
39	165.687 293	1176.337 806	.000 850	.006 035	7.099 747	.140 850
40	188.883 514	1342.025 099	.000 745	.005 294	7.105 041	.140 745
41	215.327 206	1530.908 613	.000 653	.004 644	7.109 685	.140 653
42	245.473 015	1746.235 819	.000 573	.004 074	7.113 759	.140 573
43	279.839 237	1991.708 833	.000 502	.003 573	7.117 332	.140 502
44	319.016 730	2271.548 070	.000 440	.003 135	7.120 467	.140 440
45	363.679 072	2590.564 800	.000 386	.002 750	7.123 217	.140 386
46	414.594 142	2954.243 872	.000 338	.002 412	7.125 629	.140 338
47	472.637 322	3368.838 014	.000 297	.002 116	7.127 744	.140 297
48	538.806 547	3841.475 336	.000 260	.001 856	7.129 600	.140 260
49	614.239 464	4380.281 883	.000 228	.001 628	7.131 228	.140 228
50	700.232 988	4994.521 346	.000 200	.001 428	7.132 656	.140 200
51	798.265 607	5694.754 335	.000 176	.001 253	7.133 909	.140 176
52	910.022 792	6493.019 941	.000 154	.001 099	7.135 008	.140 154
53	1037.425 983	7403.042 733	.000 135	.000 964	7.135 972	.140 135
54	1182.665 620	8440.468 716	.000 118	.000 846	7.136 818	.140 118
55	1348.238 807	9623.134 336	.000 104	.000 742	7.137 559	.140 104
56	1536.992 240	10971.373 143	.000 091	.000 651	7.138 210	.140 091
57	1752.171 154	12508.365 383	.000 080	.000 571	7.138 781	.140 080
58	1997.475 115	14260.536 537	.000 070	.000 501	7.139 281	.140 070
59	2277.121 631	16258.011 652	.000 062	.000 439	7.139 720	.140 062
60	2595.918 660	18535.133 283	.000 054	.000 385	7.140 106	.140 054

$$\begin{array}{|c|c|c|c|c|c|}
 \hline
 S^n = (1+i)^n & S_{\overline{n}|i} = \frac{S^n - 1}{i} & \frac{1}{S_{\overline{n}|i}} = \frac{i}{S^n - 1} & V^n = \frac{1}{S^n} & A_{\overline{n}|i} = \frac{1 - 1/S^n}{i} & \frac{1}{A_{\overline{n}|i}} = \frac{i}{1 - 1/S^n} \\
 \hline
 \end{array}$$

15%

ANNUAL COMPOUND INTEREST TABLE

15%

EFFECTIVE RATE = 15% BASE = 1.15

YEARS	1	2	3	4	5	6	n YEARS
	AMOUNT OF 1 AT COMPOUND INTEREST	ACCUMULATION OF 1 PER PERIOD	SINKING FUND FACTOR	PRES. VALUE REVERSION OF 1	PRESENT VALUE ORD. ANNUITY 1 PER PERIOD	INSTALMENT TO AMORTIZE 1	
	$S^n = (1+i)^n$	$S_{\overline{n} } = \frac{S^n - 1}{i}$	$1/S_{\overline{n} } = \frac{i}{S^n - 1}$	$V^n = \frac{1}{S^n}$	$a_{\overline{n} } = \frac{1 - V^n}{i}$	$1/a_{\overline{n} } = \frac{i}{1 - V^n}$	
1	1.150000	1.0000	1.000000	.869565	.869565	1.150000	1
2	1.322500	2.1500	.465116	.756144	1.625709	.615116	2
3	1.520875	3.4725	.287976	.657516	2.283225	.437976	3
4	1.749006	4.9934	.200265	.571753	2.854978	.350265	4
5	2.011357	6.7424	.148315	.497177	3.352155	.298315	5
6	2.313061	8.7537	.114236	.432328	3.784483	.264236	6
7	2.660020	11.0668	.090360	.375937	4.160420	.240360	7
8	3.059023	13.7268	.072850	.326902	4.487322	.222850	8
9	3.517876	16.7858	.059574	.284262	4.771584	.209574	9
10	4.045558	20.3037	.049252	.247185	5.018769	.199252	10
11	4.652391	24.3493	.041068	.214943	5.233712	.191068	11
12	5.350250	29.0017	.034480	.186907	5.420619	.184480	12
13	6.152788	34.3519	.029110	.162528	5.583147	.179110	13
14	7.075706	40.5047	.024688	.141329	5.724476	.174688	14
15	8.137062	47.5804	.021017	.122894	5.847370	.171017	15
16	9.357621	55.7175	.017947	.106865	5.954235	.167947	16
17	10.761264	65.0751	.015366	.092926	6.047161	.165366	17
18	12.375454	75.8364	.013186	.080805	6.127966	.163186	18
19	14.231772	88.2118	.011336	.070265	6.198231	.161336	19
20	16.366537	102.4436	.009761	.061100	6.259331	.159761	20
21	18.821518	118.8101	.008416	.053131	6.312462	.158416	21
22	21.644746	137.6316	.007265	.046201	6.358663	.157265	22
23	24.891458	159.2764	.006278	.040174	6.398837	.156278	23
24	28.625176	184.1678	.005429	.034934	6.433771	.155429	24
25	32.918953	212.7930	.004699	.030378	6.464149	.154699	25
26	37.856796	245.7120	.004069	.026415	6.490564	.154069	26
27	43.535315	283.5688	.003526	.022970	6.513534	.153526	27
28	50.065612	327.1041	.003010	.019974	6.535508	.153010	28
29	57.575454	377.1697	.002651	.017369	6.550877	.152651	29
30	66.211772	434.7451	.002300	.015103	6.565980	.152300	30

50 1083.6574 7217.716 .0003855 .0009228

13%**REVERSION FACTORS
(Present Value of \$1)****Base: 2.718 282 1.010 833 1.032 500 1.065 000 1.130 000****Frequency of Conversion**

Months	Continuous	Monthly	Quarterly	Semiannual	Annual	Months
0	1.000 000	1.000 000	1.000 000	1.000 000	1.000 000	0
1	.989 225	.989 283	.989 283	.989 283	.989 283	1
2	.978 566	.978 680	.978 793	.978 793	.978 793	2
3	.968 022	.968 192	.968 523	.968 523	.968 523	3
4	.957 592	.957 815	.958 143	.958 466	.958 466	4
5	.947 274	.947 550	.947 983	.948 617	.948 617	5
6	.937 067	.937 395	.938 037	.938 967	.938 967	6
7	.926 971	.927 349	.927 984	.928 904	.929 512	7
8	.916 983	.917 410	.918 144	.919 054	.920 245	8
9	.907 102	.907 578	.908 510	.909 411	.911 162	9
10	.897 328	.897 851	.898 774	.899 969	.902 256	10
11	.887 660	.888 229	.889 243	.890 720	.893 522	11
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Years						Years
1	.878 095	.878 710	.879 913	.881 659	.884 956	1
2	.771 052	.772 130	.774 247	.777 323	.783 147	2
3	.677 057	.678 478	.681 270	.685 334	.693 050	3
4	.594 521	.596 185	.599 458	.604 231	.613 319	4
5	.522 046	.523 874	.527 471	.532 726	.542 760	5
6	.458 406	.460 333	.464 129	.469 683	.480 319	6
7	.402 524	.404 499	.408 393	.414 100	.425 061	7
8	.353 455	.355 437	.359 350	.365 095	.376 160	8
9	.310 367	.312 326	.316 197	.321 890	.332 885	9
10	.272 532	.274 444	.278 226	.283 797	.294 588	10
11	.239 309	.241 156	.244 815	.250 212	.260 698	11
12	.210 136	.211 906	.215 416	.220 602	.230 706	12
13	.184 520	.186 204	.189 547	.194 496	.204 165	13
14	.162 026	.163 619	.166 785	.171 479	.180 677	14
15	.142 274	.143 774	.146 756	.151 186	.159 891	15
16	.124 930	.126 336	.129 133	.133 295	.141 496	16
17	.109 701	.111 012	.113 626	.117 520	.125 218	17
18	.096 328	.097 548	.099 981	.103 613	.110 812	18
19	.084 585	.085 716	.087 974	.091 351	.098 064	19
20	.074 274	.075 319	.077 410	.080 541	.086 782	20
21	.065 219	.066 184	.068 114	.071 010	.076 798	21
22	.057 269	.058 156	.059 934	.062 606	.067 963	22
23	.050 287	.051 103	.052 737	.055 197	.060 144	23
24	.044 157	.044 904	.046 404	.048 665	.053 225	24
25	.038 774	.039 458	.040 831	.042 906	.047 102	25
26	.034 047	.034 672	.035 928	.037 829	.041 683	26
27	.029 897	.030 467	.031 614	.033 352	.036 888	27
28	.026 252	.026 771	.027 817	.029 405	.032 644	28
29	.023 052	.023 524	.024 477	.025 925	.028 889	29
30	.020 242	.020 671	.021 537	.022 857	.025 565	30
31	.017 774	.018 164	.018 951	.020 152	.022 624	31
32	.015 608	.015 961	.016 675	.017 767	.020 021	32
33	.013 705	.014 025	.014 673	.015 665	.017 718	33
34	.012 034	.012 324	.012 911	.013 811	.015 680	34
35	.010 567	.010 829	.011 360	.012 177	.013 876	35
36	.009 279	.009 516	.009 996	.010 736	.012 279	36
37	.008 148	.008 361	.008 796	.009 465	.010 867	37
38	.007 155	.007 347	.007 739	.008 345	.009 617	38
39	.006 282	.006 456	.006 810	.007 358	.008 510	39
40	.005 517	.005 673	.005 992	.006 487	.007 531	40

15%**REVERSION FACTORS****(Present Value of \$1)**

Base:	2.718 282	1.012 500	1.037 500	1.075 000	1.150 000	
Frequency of Conversion						
Months	Continuous	Monthly	Quarterly	Semiannual	Annual	Months
0	1.000 000	1.000 000	1.000 000	1.000 000	1.000 000	0
1	.987 578	.987 654	.987 654	.987 654	.987 654	1
2	.975 310	.975 461	.975 610	.975 610	.975 610	2
3	.963 194	.963 418	.963 855	.963 855	.963 855	3
4	.951 229	.951 524	.951 956	.952 381	.952 381	4
5	.939 413	.939 777	.940 347	.941 176	.941 176	5
6	.927 743	.928 175	.929 017	.930 233	.930 233	6
7	.916 219	.916 716	.917 548	.918 748	.919 540	7
8	.904 837	.905 398	.906 358	.907 544	.909 091	8
9	.893 597	.894 221	.895 438	.896 610	.898 876	9
10	.882 497	.883 181	.884 384	.885 936	.888 889	10
11	.871 534	.872 277	.873 598	.875 513	.879 121	11
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Years						Years
1	.860 708	.861 509	.863 073	.865 333	.869 565	1
2	.740 818	.742 197	.744 895	.748 801	.756 144	2
3	.637 628	.639 409	.642 899	.647 962	.657 516	3
4	.548 812	.550 856	.554 869	.560 702	.571 753	4
5	.472 367	.474 568	.478 892	.485 194	.497 177	5
6	.406 570	.408 844	.413 319	.419 854	.432 328	6
7	.349 938	.352 223	.356 725	.363 313	.375 937	7
8	.301 194	.303 443	.307 879	.314 387	.326 902	8
9	.259 240	.261 419	.265 722	.272 049	.284 262	9
10	.223 130	.225 214	.229 338	.235 413	.247 185	10
11	.192 050	.194 024	.197 935	.203 711	.214 943	11
12	.165 299	.167 153	.170 833	.176 277	.186 907	12
13	.142 274	.144 004	.147 441	.152 539	.162 528	13
14	.122 456	.124 061	.127 252	.131 997	.141 329	14
15	.105 399	.106 879	.109 828	.114 221	.122 894	15
16	.090 718	.092 078	.094 790	.098 839	.106 865	16
17	.078 082	.079 326	.081 810	.085 529	.092 926	17
18	.067 206	.068 340	.070 608	.074 011	.080 805	18
19	.057 844	.058 875	.060 940	.064 044	.070 265	19
20	.049 787	.050 722	.052 596	.055 419	.061 100	20
21	.042 852	.043 697	.045 394	.047 956	.053 131	21
22	.036 883	.037 645	.039 178	.041 498	.046 201	22
23	.031 746	.032 432	.033 814	.035 910	.040 174	23
24	.027 324	.027 940	.029 184	.031 074	.034 934	24
25	.023 518	.024 071	.025 188	.026 889	.030 378	25
26	.020 242	.020 737	.021 739	.023 268	.026 415	26
27	.017 422	.017 865	.018 762	.020 135	.022 970	27
28	.014 996	.015 391	.016 193	.017 423	.019 974	28
29	.012 907	.013 260	.013 976	.015 077	.017 369	29
30	.011 109	.011 423	.012 062	.013 046	.015 103	30
31	.009 562	.009 841	.010 411	.011 290	.013 133	31
32	.008 230	.008 478	.008 985	.009 769	.011 420	32
33	.007 083	.007 304	.007 755	.008 454	.009 931	33
34	.006 097	.006 293	.006 693	.007 315	.008 635	34
35	.005 248	.005 421	.005 777	.006 330	.007 509	35
36	.004 517	.004 670	.004 986	.005 478	.006 529	36
37	.003 887	.004 024	.004 303	.004 740	.005 678	37
38	.003 346	.003 466	.003 714	.004 102	.004 937	38
39	.002 880	.002 986	.003 205	.003 549	.004 293	39
40	.002 479	.002 573	.002 766	.003 071	.003 733	40

13%

ORDINARY LEVEL ANNUITY
(Present Value of \$1 per period)

Base:	1.010 833	1.032 500	1.065 000	1.130 000	
	Frequency of Payments				
Months	Monthly	Quarterly	Semiannual	Annual	Months
1	.989 283	—	—	—	1
2	1.967 963	—	—	—	2
3	2.936 155	.968 523	—	—	3
4	3.893 970	—	—	—	4
5	4.841 520	—	—	—	5
6	5.778 915	1.906 560	.938 967	—	6
7	6.706 264	—	—	—	7
8	7.623 674	—	—	—	8
9	8.531 253	2.815 070	—	—	9
10	9.429 104	—	—	—	10
11	10.317 333	—	—	—	11
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Years					Years
1	11.196 042	3.694 983	1.820 626	.884 956	1
2	21.034 112	6.946 247	3.425 799	1.668 102	2
3	29.678 917	9.807 076	4.841 014	2.361 153	3
4	37.275 190	12.324 358	6.088 751	2.974 471	4
5	43.950 107	14.539 346	7.188 830	3.517 231	5
6	49.815 421	16.488 343	8.158 725	3.997 550	6
7	54.969 328	18.203 292	9.013 842	4.422 610	7
8	59.498 115	19.712 297	9.767 764	4.798 770	8
9	63.477 604	21.040 090	10.432 466	5.131 655	9
10	66.974 419	22.208 433	11.018 507	5.426 243	10
11	70.047 103	23.236 473	11.535 196	5.686 941	11
12	72.747 100	24.141 059	11.990 739	5.917 647	12
13	75.119 613	24.937 016	12.392 373	6.121 812	13
14	77.204 363	25.637 389	12.746 477	6.302 488	14
15	79.036 253	26.253 656	13.058 676	6.462 379	15
16	80.645 952	26.795 918	13.333 929	6.603 875	16
17	82.060 410	27.273 061	13.576 609	6.729 093	17
18	83.303 307	27.692 905	13.790 570	6.839 905	18
19	84.395 453	28.062 332	13.979 210	6.937 969	19
20	85.355 132	28.387 395	14.145 527	7.024 752	20
21	86.198 412	28.673 422	14.292 161	7.101 550	21
22	86.939 409	28.925 102	14.421 443	7.169 513	22
23	87.590 531	29.146 557	14.535 426	7.229 658	23
24	88.162 677	29.341 419	14.635 919	7.282 883	24
25	88.665 428	29.512 881	14.724 521	7.329 985	25
26	89.107 200	29.663 752	14.802 637	7.371 668	26
27	89.495 389	29.796 506	14.871 509	7.408 556	27
28	89.836 495	29.913 317	14.932 230	7.441 200	28
29	90.136 227	30.016 101	14.985 766	7.470 088	29
30	90.399 605	30.106 542	15.032 966	7.495 653	30
31	90.631 038	30.186 123	15.074 580	7.518 277	31
32	90.834 400	30.256 146	15.111 270	7.538 299	32
33	91.013 097	30.317 761	15.143 618	7.556 016	33
34	91.170 119	30.371 977	15.172 138	7.571 696	34
35	91.308 095	30.419 682	15.197 282	7.585 572	35
36	91.429 337	30.461 658	15.219 452	7.597 851	36
37	91.535 873	30.498 593	15.238 997	7.608 718	37
38	91.629 487	30.531 093	15.256 230	7.618 334	38
39	91.711 747	30.559 691	15.271 423	7.626 844	39
40	91.784 030	30.584 854	15.284 818	7.634 376	40

15%

ORDINARY LEVEL ANNUITY
(Present Value of \$1 per period)

Base:	1.012 500	1.037 500	1.075 000	1.150 000	
Frequency of Payments					
Months	Monthly	Quarterly	Semiannual	Annual	Months
1	.987 654	—	—	—	1
2	1.963 115	—	—	—	2
3	2.926 534	.963 855	—	—	3
4	3.878 058	—	—	—	4
5	4.817 835	—	—	—	5
6	5.746 010	1.892 873	.930 233	—	6
7	6.662 726	—	—	—	7
8	7.568 124	—	—	—	8
9	8.462 345	2.788 311	—	—	9
10	9.345 526	—	—	—	10
11	10.217 803	—	—	—	11
Years					Years
1	11.079 312	3.651 384	1.795 565	.869 565	1
2	20.624 235	6.802 796	3.349 326	1.625 709	2
3	28.847 267	9.522 694	4.693 846	2.283 225	3
4	35.931 481	11.870 165	5.857 304	2.854 978	4
5	42.034 592	13.896 204	6.864 081	3.352 155	5
6	47.292 474	15.644 824	7.735 278	3.784 483	6
7	51.822 185	17.154 011	8.489 154	4.160 420	7
8	55.724 570	18.456 549	9.141 507	4.487 322	8
9	59.086 509	19.580 735	9.706 009	4.771 584	9
10	61.982 847	20.550 990	10.194 491	5.018 769	10
11	64.478 068	21.388 391	10.617 191	5.233 712	11
12	66.627 722	22.111 129	10.982 967	5.420 619	12
13	68.479 668	22.734 904	11.299 485	5.583 147	13
14	70.075 134	23.273 268	11.573 378	5.724 476	14
15	71.449 643	23.737 916	11.810 386	5.847 370	15
16	72.633 794	24.138 941	12.015 478	5.954 235	16
17	73.653 950	24.485 054	12.192 950	6.047 161	17
18	74.532 823	24.783 776	12.346 522	6.127 966	18
19	75.289 980	25.041 594	12.479 414	6.198 231	19
20	75.942 278	25.264 110	12.594 409	6.259 331	20
21	76.504 237	25.456 158	12.693 918	6.312 462	21
22	76.988 370	25.621 909	12.780 026	6.358 663	22
23	77.405 455	25.764 965	12.854 539	6.398 837	23
24	77.764 777	25.888 432	12.919 017	6.433 771	24
25	78.074 336	25.994 993	12.974 812	6.464 149	25
26	78.341 024	26.086 963	13.023 093	6.490 564	26
27	78.570 778	26.166 340	13.064 872	6.513 534	27
28	78.768 713	26.234 848	13.101 025	6.533 508	28
29	78.939 236	26.293 976	13.132 309	6.550 877	29
30	79.086 142	26.345 007	13.159 381	6.565 980	30
31	79.212 704	26.389 051	13.182 806	6.579 113	31
32	79.321 738	26.427 064	13.203 078	6.590 533	32
33	79.415 671	26.459 872	13.220 619	6.600 463	33
34	79.496 596	26.488 188	13.235 798	6.609 099	34
35	79.566 313	26.512 627	13.248 933	6.616 607	35
36	79.626 375	26.533 719	13.260 299	6.623 137	36
37	79.678 119	26.551 923	13.270 134	6.628 815	37
38	79.722 696	26.567 634	13.278 645	6.633 752	38
39	79.761 101	26.581 195	13.286 010	6.638 045	39
40	79.794 186	26.592 898	13.292 383	6.641 778	40